

Automation and control

Control and signalling components

Catalogue
February

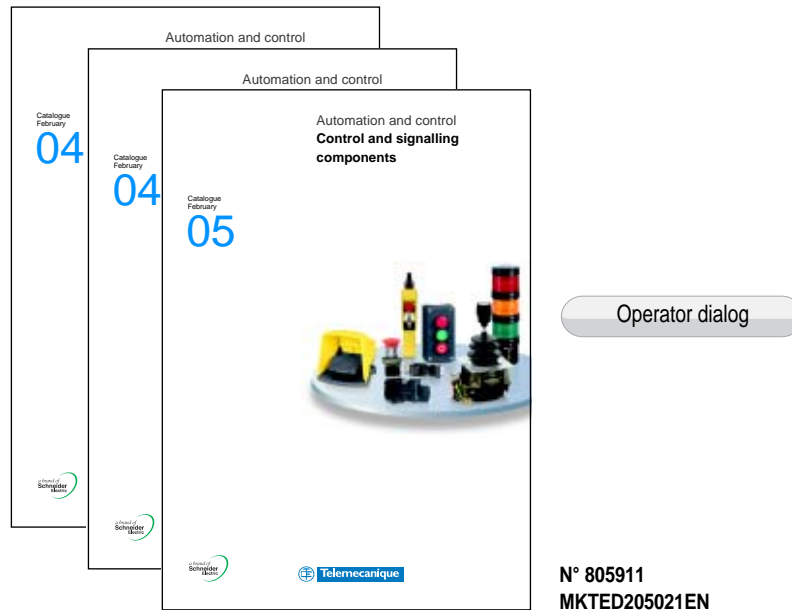
05



a brand of
Schneider
Electric



Telemecanique



Detection



**Global Detection
Electronic and
electromechanical sensors**
N° 54752 - MKTED203031EN

Limit switches
Proximity sensors
Photo-electric and ultrasonic
sensors
Pressure switches
Rotary encoders

Software

Safety mat configuration
software

Automation



**Modicon Momentum
automation platform**
AUTC201104124EN



**Automation platform
Modicon Quantum and
Unity - Concept Proworx
software**
N° 802621 - MKTED204071EN



**Automation platform
Modicon Premium and
Unity - PL7 software**
N° 802625 - MKTED204072EN



**Automation platform
Modicon TSX Micro and
PL7 software**
N° 70984 - MKTED204012EN

PLCs, PC based control
Distributed I/O
Communication



**Automation and relay
functions**
N° 70455 - MKTED204011EN

Plug-in relays
Electronic timers
Control relays
Counters
Smart relays

Software

PLCs and safety controllers
programming software

Operator dialog



**Control and signalling
components**
N° 805911 - MKTED205021EN

Control and signalling units
Cam switches
Beacons and indicator banks
Control and pendant stations
Controllers
Front panels, mounting kits
Emergency stops
Foot switches



Human/Machine interfaces
N° 96949 - MKTED2040401EN

Operator interface terminals,
industrial PCs, Web servers,
HMI and SCADA PC-based
software

Software

Operator terminal software

Motor control



**Motor starter solutions
Control and protection
components**
N° 27501 - MKTED201001EN

Contactors
Circuit-breakers, fuse carriers
Thermal relays
Combinations, motor
controllers

Mounting solutions
Motor starter mounting kits



**Soft starters and variable
speed drives**
N° 802660 - MKTED204091EN

Software,
Variable speed drives

Software

Motor control programming
software

..... all Automation & Control functions



Motion control	Machine safety	Interfaces & I/O	AS-Interface	Networks & communication
<p> Motion control Lexium N° 66692 - DIA7ED20310006EN</p>	<p>This catalogue contains Automation and Control function products relating to Safety</p>	<p> Interfaces, I/O splitter boxes and power supplies N° 70263 - MKTED203113EN</p>	<p>This catalogue contains Automation and Control function products relating to the AS-Interface cabling system</p>	<p> Ethernet TCP/IP Transparent Ready N° 802731 - MKTED204073EN</p>
<p> Twin Line Motion control N° 61233 - DIA7ED2030902EN</p> <p>Drives Brushless motors</p> <p>Software Software for drives and motors</p>	<p> Safety solutions using Preventa N° 67341 - MKTED203111EN</p> <p>Safety monitors and controllers on AS-Interface</p> <p>Switches, light curtains, mats</p> <p>Emergency stops, control stations, enabling switches, foot switches, beacons & indicator banks</p>	<p>Plug-in relays Analog converters Discrete interfaces Pre-wired interfaces IP67 Splitter boxes</p> <p>Connectors Cable ends, terminal blocks</p> <p>Software Software to design and install AS-Interface system, safety monitors and controllers on AS-Interface programming software</p>	<p> AS-Interface cabling system N° 804961 - MKTED204121EN</p> <p>IP20/IP67 interfaces, cables, repeaters, addressing and adjustment terminals</p> <p>Control stations, keypads, beacons & indicator banks</p> <p>Master modules for PLCs</p> <p>AS-Interface power supplies</p> <p>Motor controllers, enclosures, variable speed drives</p>	<p>Connecting Ethernet devices</p> <p>Web-enabling PLCs on Ethernet</p> <p>Application protocols and field buses</p>
<p>Power supplies</p> <p> Interfaces, I/O splitter boxes and power supplies N° 70263 - MKTED203113EN</p> <p>Switch mode power supplies</p> <p>Filtered rectified power supplies and transformers</p>	<p>Optimum and universal controllers</p> <p>Switch disconnectors, thermal-magnetic motor circuit breakers, enclosed D.O.L. starters</p>			

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1 - Control and signalling units

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1.5 Control and signalling units Ø 22, Harmony® style 7




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1.6 Digital display units and joystick controllers Ø 22

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1.7 Control and signalling units Ø 30, Harmony® style 9

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Applications		Pilot lights	Pushbuttons, selector switches and pilot lights			
						
						
						
						
Description of the range		<ul style="list-style-type: none"> ■ LED pilot lights 	<ul style="list-style-type: none"> ■ Pushbuttons ■ Mushroom head Emergency Stop buttons ■ Selector switches and key switches ■ Illuminated pushbuttons ■ Pilot lights 			
Features	Products	Monolithic, compact, low consumption	Complete units or sub-assemblies (body + head)	Complete units or sub-assemblies (body + head)	Complete units or sub-assemblies (body + head)	Monolithic
	Bezel	Double insulated	Double insulated	Metal, chromium plated or black	Double insulated	Double insulated
	Shape of head	Circular	Circular, square or rectangular	Circular	Circular or square	Circular
Drilling or cut-out for fixing		Ø 8 and Ø 12	Ø 16	Ø 22	Ø 22	Ø 22 and Ø 25
Degree of protection	Conforming to IEC 60529 and NF C 20-010	IP 40 IP 65 with seal	IP 65	IP 66	IP 66	IP 54
Cabling		Tags for 2.8 x 0.5 mm connectors, or threaded connector	Faston connectors Solder pins for printed circuit boards	Screw clamp terminal connections Connector With adaptor for printed circuit board	Screw clamp terminal connections Connector With adaptor for printed circuit board	Screw clamp terminal connections
Mounting	Panel thickness	1...8 mm	1...6 mm	1...6 mm	1...6 mm	1...6 mm
	On Profil KT● front panels	–	–	Yes	Yes	Yes, depending on model
Type references		XVL A	XB6	XB4	XB5	XB7 E
Pages		1/5	1/14 to 1/25	1/54 to 1/79	1/118 to 1/147	1/175

Digital display units	Pushbuttons, selector switches and pilot lights	Joystick controllers			Cam switches	Profil front panel
						
<ul style="list-style-type: none"> LED display (7 segment + decimal point) 	<ul style="list-style-type: none"> Pushbuttons Mushroom head Emergency Stop buttons Selector switches and key switches Illuminated pushbuttons Pilot lights 	<ul style="list-style-type: none"> 2 or 4 direction Stay put or spring return 			<ul style="list-style-type: none"> Switches Stepping switches Reversing and changeover switches Ammeter switches Voltmeter switches Reversing switches Star-delta and reversing star-delta switches Pole change switches 	<ul style="list-style-type: none"> 3 sizes of front panel for mounting 4, 8 or 12 Ø 22 mm control and signalling units With/without location for Emergency Stop pushbutton With/without printed circuit
Sub-assemblies (body + single-digit head)	Complete units or sub-assemblies (body + head)	Complete units or sub-assemblies (body + head with lever)			Complete units or sub-assemblies (body + front panel + head)	Aluminium front panels for mounting Ø 22 mm control and signalling units, double insulated and metal
Double insulated	Chromium plated metal or double insulated	Chromium plated metal	Double insulated, black	Metal, chromium plated or black Double insulated	–	
Circular	Hexagonal	Circular		Square	–	
Ø 22	Ø 30	Ø 22		Ø 16 or Ø 22: series K10 Ø 22 and multifixing: series K1/K2 4 holes, 48 or 68 centres: series K30...K150	–	
IP 65		IP 65	IP 66	IP 65	IP 65: series K10 IP 40, IP 65 with seal: series K1/K2 IP 40: series K30...K150	IP 65
Connector	Screw and captive cable clamp connections	Screw and captive cable clamp connections			Screw and captive cable clamp connections	–
1...5 mm	1...6 mm				0.5...6 mm (depending on model)	–
Yes	–	Yes			–	–
ZA2 VA	9001 K, 9001 SK	XD4 PA	XD2 GA	XD5 PA	K10, K1, K2, K30, K50, K63, K115, K150	KT●
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Presentation

This range of LED pilot lights meets the latest requirements in signalling techniques.

Due to their small size, Ø 8 and Ø 12 fixing pilot lights are particularly suitable for the following applications:

- Mounting on small control panels.
- Shallow depth mounting.
- Where a large number of signalling units are required on a control panel (low power dissipation).

Small diameter LED pilot lights also have sealed front faces (IP 65 option available). An unsealed Ø 8 mm fixing model with protruding LED and black bezel is however also available.

Advantages:

LED pilot lights have many advantages:

- Very long life and low maintenance costs (bulb test procedure no longer required),
- Highly resistant to shocks, vibrations, and overvoltage.
- Low power consumption which, for example, allows direct compatibility with programmable controller outputs.
- No sudden failures.

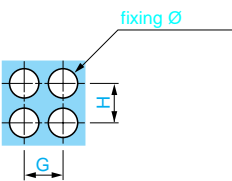
Quick installation assisted by tag connectors suitable for soldered connections on Ø 8 mm pilot lights, or by threaded connectors on Ø 12 mm pilot lights. Safe connection due to integral ballast resistor and reverse polarity protection device.

Characteristics

Product certifications			UL (Recognized), CSA
Protective treatment	Standard version		"TC"
Ambient air temperature	Operation	°C	- 25...+ 70
	Storage	°C	- 40...+ 70
Electric shock protection	Conforming to IEC 536 and NF C 20-030		Class III
Degree of protection	Conforming to IEC 529 and NF C 20-010		IP 40 (IP 65 with seal)
Current consumption		mA	5 V: 25 12 V: 18 24 V: 18 48 V: 10
Rated insulation voltage	Conforming to IEC 947-1		Ui: 50 V
Service life			≥ 100 000 hours
Voltage limits including ripple (on ---)			0.8 Un ≤ U ≤ 1.1 Un
Terminal referencing			Polarity marked +/-, for Ø 8 pilot lights, the "+" corresponds to the longer tag
Cabling	XVL A1●●, XVL A2●●		Tags for 2.8 x 0.5 Faston connectors, or for soldered connections (dual purpose)
	XVL A3●●		Threaded connectors, capacity: min. 1 x 0.2 mm ² , max. 1 x 1.5 mm ²

Dimensions

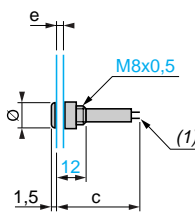
Panel drilling



(mm)	Ø min	G min	H min
XVL A1●●	8.2	12.5	12.5
XVL A2●●	8.2	10.5	10.5
XVL A3●●	12.2	16.5	16.5

LED pilot lights

XVL A1●●, A2●●

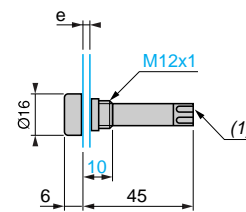


(mm)	c	Ø
XVL A1●●	32	12
XVL A2●●	34	10

e = panel thickness: 1 to 8 mm

(1) Tags for Faston connectors or soldered connections

XVL A3●●



e = panel thickness: 1 to 8 mm

(1) Threaded connector

Control and signalling units

Ø 8 and 12

LED pilot lights



XVL A1●●

References

Pilot lights with black bezel, protruding LED

Description	Supply voltage ---	Colour	Reference	Weight kg
Ø 8 mm Degree of protection: <input type="checkbox"/> IP 40 (with integral ballast resistor and reverse polarity protection diode)	5 V	Green	XVL A113	0.003
		Red	XVL A114	0.003
		Yellow	XVL A115	0.003
	12 V	Green	XVL A123	0.003
		Red	XVL A124	0.003
		Yellow	XVL A125	0.003
	24 V	Green	XVL A133	0.003
		Red	XVL A134	0.003
		Yellow	XVL A135	0.003
	48 V	Green	XVL A143	0.003
		Red	XVL A144	0.003
		Yellow	XVL A145	0.003

IP 40 version



XVL A2●●

IP 65 version



XVL A2●● + XVL Z911 (1)

Pilot lights with integral lens cap, covered LED

Description	Supply voltage ---	Colour	Reference	Weight kg
Ø 8 mm Degree of protection: <input type="checkbox"/> IP 40 <input type="checkbox"/> IP 65 with seal XVL Z911 (1) (with integral ballast resistor and reverse polarity protection diode)	5 V	Green	XVL A213	0.003
		Red	XVL A214	0.003
		Yellow	XVL A215	0.003
	12 V	Green	XVL A223	0.003
		Red	XVL A224	0.003
		Yellow	XVL A225	0.003
	24 V	Green	XVL A233	0.003
		Red	XVL A234	0.003
		Yellow	XVL A235	0.003
	48 V	Green	XVL A243	0.003
		Red	XVL A244	0.003
		Yellow	XVL A245	0.003
Ø 12 mm Degree of protection: <input type="checkbox"/> IP 40 <input type="checkbox"/> IP 65 with seal XVL Z912 (1) (with integral ballast resistor and reverse polarity protection diode)	5 V	Green	XVL A313	0.007
		Red	XVL A314	0.007
		Yellow	XVL A315	0.007
	12 V	Green	XVL A323	0.007
		Red	XVL A324	0.007
		Yellow	XVL A325	0.007
	24 V	Green	XVL A333	0.007
		Red	XVL A334	0.007
		Yellow	XVL A335	0.007
	48 V	Green	XVL A343	0.007
		Red	XVL A344	0.007
		Yellow	XVL A345	0.007

IP 40 version

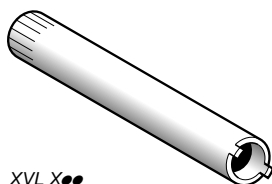


XVL A3●●

IP 65 version



XVL A3●● + XVL Z912 (1)



XVL X●●



XVL Z91●

Separate components

Description	For use with	Sold in lots of	Unit reference	Weight kg
Tightening tools (sold singly)	Ø 8 mm pilot lights	1	XVL X08	0.015
	Ø 12 mm pilot lights	1	XVL X12	0.030
Seals (IP 65)	Ø 8 mm pilot lights	10	XVL Z911	0.001
	Ø 12 mm pilot lights	10	XVL Z912	0.001

Other versions Ø 8 and Ø 12 mm LED pilot lights, without resistor, without reverse polarity protection diode (max. direct current: 30 mA ---). Please consult your Regional Sales Office.

(1) To be ordered separately.

Control and signalling units Ø 16

Harmony® style 6

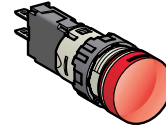
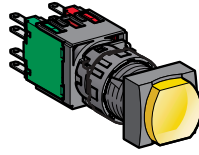
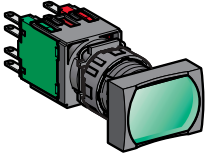
Pushbuttons, switches and pilot lights with double insulated bezel

1

Description

Complete units
XB6 pushbuttons, switches and pilot lights

The Ø 16 range of double insulated control and signalling units comprises:



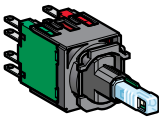
XB6 D with rectangular head

XB6 C with square head

XB6 A with circular head

1.2

Sub-assemblies for user assembly
ZB6 pushbuttons, switches and pilot lights
Body + head sub-assemblies



ZB6 D with rectangular head

ZB6 C with square head

ZB6 A with circular head

ZB component parts and accessories

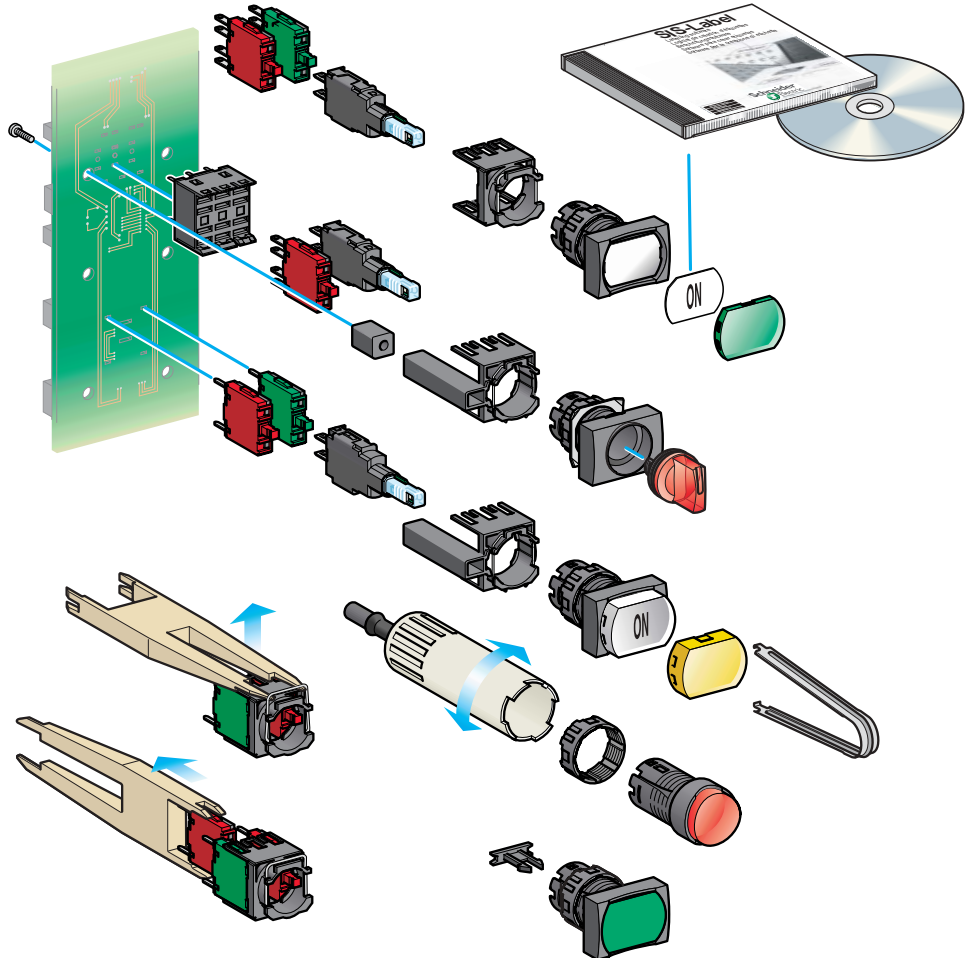
Any of the pushbuttons, switches or pilot lights in the range may be adapted by replacing certain component parts, such as:

For heads

- Caps or lenses
- Legends
 - Pre-printed legends
 - Special legends produced using labelling software
- Link enabling operation of the 3rd contact (cannot be fitted on illuminated pushbuttons)

For bodies

- LED, incandescent and neon bulbs
- N/C or N/O contact blocks, max. 3 contacts per block, with Faston connector or for printed circuit board
- Silver or gold flashed N/C or N/O contact blocks



Schematic library

Contact functions (pushbuttons and Emergency stop pushbuttons)



Pushbutton
N/O contact



Latching pushbutton
N/O contact



Pushbutton
N/C contact



Mushroom head spring return
N/O contact



Mushroom head Emergency stop
Turn to release, trigger action
N/O + 2 N/C contacts

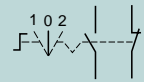


Mushroom head Emergency stop
Turn to release, trigger action key
release
N/O + 2 N/C contacts

Contact functions (selector switches)



Selector switch
2-position stay put
N/O contact



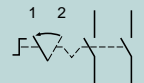
Selector switch
3-position stay put
N/O + N/C contacts



Selector switch
3-position
2 spring return to centre



Selector switch
2-position stay put,
key withdrawal from both positions
N/O contact



Selector switch
2-position stay put
N/O + N/O contacts

Signalling functions



Incandescent or neon pilot light

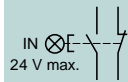


230 V neon pilot light

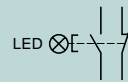


LED

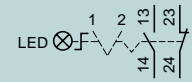
Combined functions, contact + signalling (pushbuttons and selector switches)



Illuminated pushbutton
BA 9s incandescent bulb
N/O + N/C contacts



Illuminated pushbutton with LED
N/O + N/C contacts



Illuminated selector switch
2-position stay put with LED
N/O + N/C contacts

1

1.2

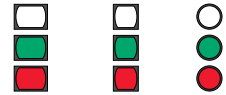
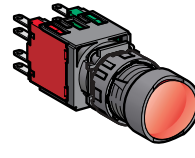
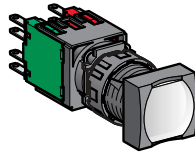
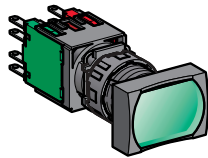
Complete units

Combined functions (contact + signalling)

Illuminated pushbuttons

Illuminated pushbuttons with rectangular, square or circular head

Head colours



Protected LED

Flush push with integral LED, spring return

XB6 DW see page 1/14

XB6 CW see page 1/14

XB6 AW see page 1/15

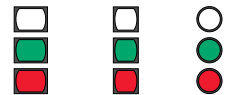
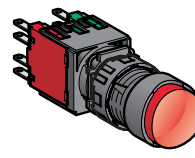
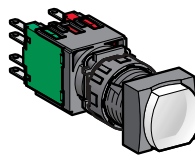
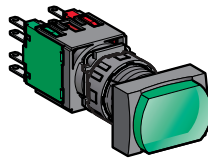
Protected LED

Flush push with integral LED, latching

XB6 DF see page 1/14

XB6 CF see page 1/14

XB6 AF see page 1/15



Protected LED

Projecting push with integral LED, spring return

XB6 DE see page 1/14

XB6 CE see page 1/14

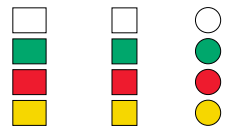
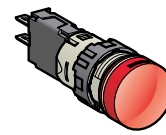
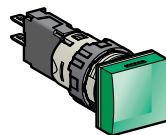
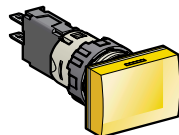
XB6 AE see page 1/15

Signalling functions

Pilot lights

Pilot lights with rectangular, square or circular head

Head colours



Protected LED

With integral LED

XB6 DV see page 1/15

XB6 CV see page 1/15

XB6 AV see page 1/15

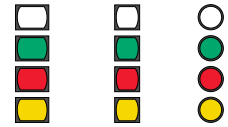
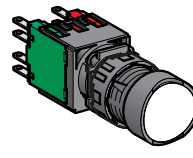
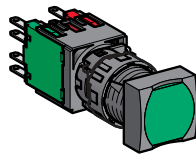
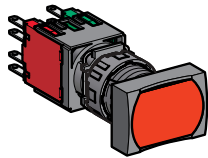
Complete units
(continued)

Contact functions

Pushbuttons, spring return

Pushbuttons with rectangular, square or circular head

Head colours

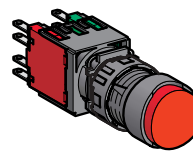
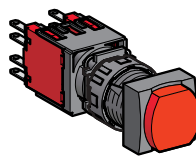
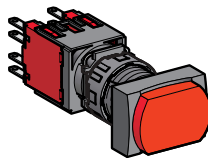


Flush push

XB6 DA see page 1/16

XB6 CA see page 1/16

XB6 AA see page 1/16



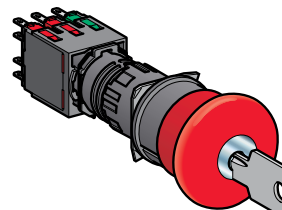
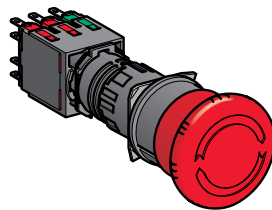
Projecting push

XB6 DL42B see page 1/16

XB6 CL42B see page 1/16

XB6 AL42B see page 1/16

Mushroom head, Emergency stop, Ø 30 pushbuttons, trigger action



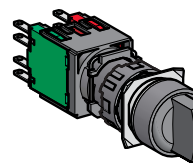
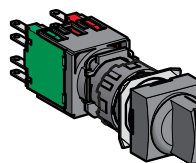
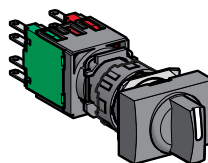
Turn to release

XB6 AS8349B see page 1/16

Key release

XB6 AS9349B see page 1/16

Selector switches and key switches

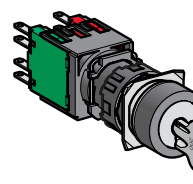
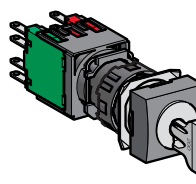
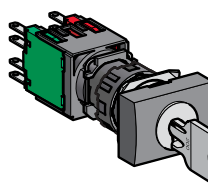


Standard handle operator

XB6 DD see page 1/17

XB6 CD see page 1/17

XB6 AD see page 1/17



Key switches

XB6 DG see page 1/17

XB6 CG see page 1/17

XB6 AG see page 1/17

Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

1

1.2

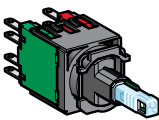
Illuminated units for user assembly

For illuminated pushbuttons



Body sub-assemblies

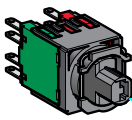
With integral LED



Faston

ZB6 ZB●●B
see page 1/18

Direct supply for incandescent bulb

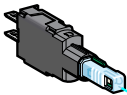


Faston

ZB6 ZH●●B
see page 1/18

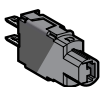
Body sub-assemblies

With integral LED



Faston

ZB6 EB●●B
see page 1/19



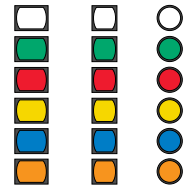
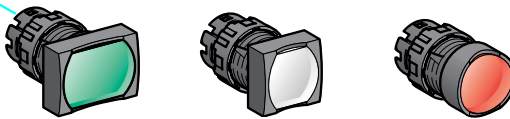
Faston

ZB6 E●0B
see page 1/19

Combined functions (contact + signalling)

Head sub-assemblies, rectangular, square or circular

Head colours



Flush push, spring return

ZB6 DW●●
see page 1/20

ZB6 CW●●
see page 1/20

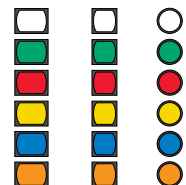
ZB6 AW●●
see page 1/20

Flush push, latching

ZB6 DF●●
see page 1/20

ZB6 CF●●
see page 1/20

ZB6 AF●●
see page 1/20

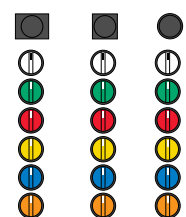
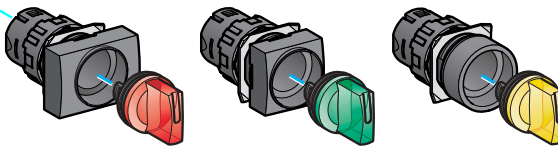


Projecting push, spring return

ZB6 DE●●
see page 1/20

ZB6 CE●●
see page 1/20

ZB6 AE●●
see page 1/20



Without handle

ZB6 DD●●●●
see page 1/23

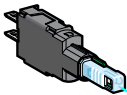
ZB6 CD●●●●
see page 1/23

ZB6 AD●●●●
see page 1/23

Signalling functions

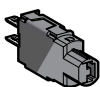
Body sub-assemblies

With integral LED



Faston

ZB6 EB●●B
see page 1/19

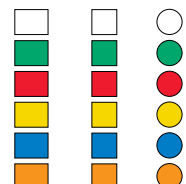
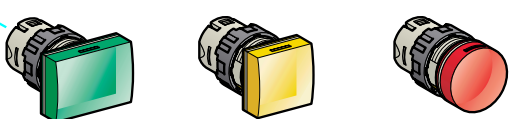


Faston

ZB6 E●0B
see page 1/19

Head sub-assemblies, rectangular, square or circular

Head colours



ZB6 DV●●
see page 1/21

ZB6 CV●●
see page 1/21

ZB6 AV●●
see page 1/21

Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

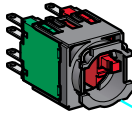
Non illuminated units for user assembly

Contact functions

For pushbuttons

Body sub-assemblies

Direct supply for incandescent bulb



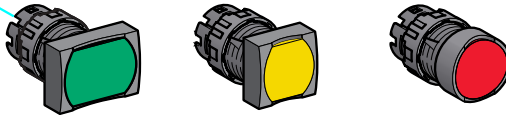
Faston

ZB6 ZB●B
see page 1/18

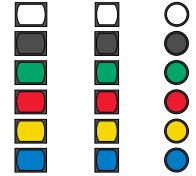
For mushroom head pushbuttons

For selector switches and key switches

Head sub-assemblies, rectangular, square or circular



Head colours

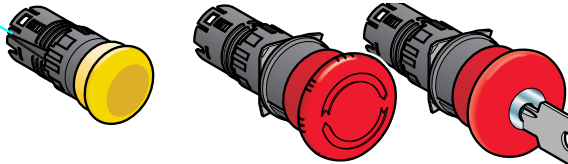


Flush push, spring return

ZB6 DA●
see page 1/21

ZB6 CA●
see page 1/21

ZB6 AA●
see page 1/21



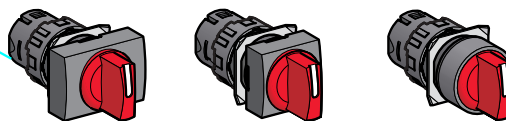
Spring return Ø 24

ZB6 AC●
see page 1/21

Latching, trigger action Ø 30

Turn to release
ZB6 A5834
see page 1/21

Key release
ZB6 A5934
see page 1/21

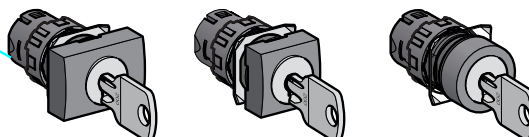


Standard handle operator

ZB6 DD●●
see page 1/22

ZB6 CD●●
see page 1/22

ZB6 AD●●
see page 1/22



Key switches

ZB6 DG●●
see page 1/22

ZB6 CG●●
see page 1/22

ZB6 AG●●
see page 1/22

1

1.2

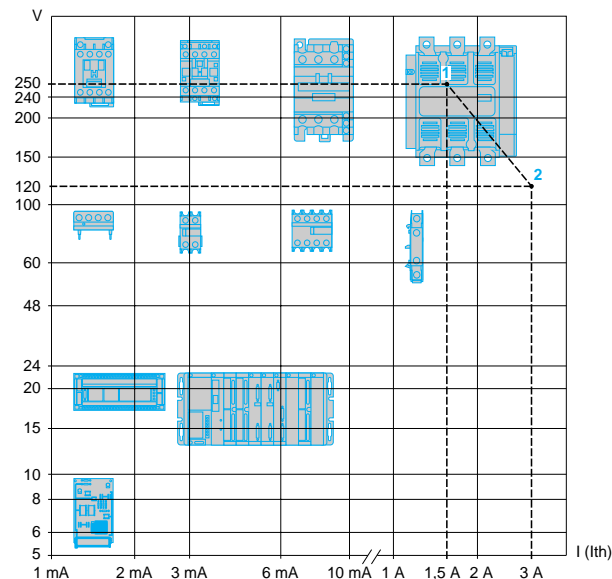
Environment			
Conforming to standards			IEC/EN 60947-1, IEC/EN 60947-5-1, IEC/EN 60947-5-4, JIS C 4520 and 852 UL 508, CSA C22-2 n° 14
Product certifications			UL, CSA ASE, BV, JIS, RINA, LROS, DNV, GL: pending
Protective treatment standard version			"TC"
Ambient air temperature around the device	Storage	°C	- 40...+ 70
	Operation	°C	- 25...+ 70
Vibration resistance	Conforming to IEC 68-2-6		(2...500 Hz) 3 mm peak to peak or 5 gn
Electric shock resistance	Conforming to IEC 68-2-27		Half sine wave 11 ms, 50 gn Half sine wave 18 ms, 30 gn
Electric shock protection	Conforming to IEC 536 and NF C 20-030		Class II
Degree of protection	Conforming to IEC 529 and NF C 20-010 Conforming to UL 50 and CSA C22-2		IP 65 NEMA type 4, 4X and 13 (except key switches)
Mechanical life (in operating cycles)	Spring return pushbuttons		2 million
	Latching pushbuttons		300 000
	Key switches		200 000
	Selector switches, standard handle		500 000
	Emergency stop mushroom head pushbuttons		100 000
Mounting positions			All positions

Electrical characteristics of LED pilot lights			
Voltage limits			≈ 12...24 V : 6...30 V ≈ 48...120 V : 40...132 V ≈ 230-240 V : 195...264 V
Current consumption	≈ 24 V	mA	15
Surge withstand	Conforming to IEC 61000-4-5	kV	2 (in free air / 1 (direct contact)
Resistance to fast transients	Conforming to IEC 61000-4-4	kV	2
Resistance to electromagnetic fields	Conforming to IEC 61000-4-3	V/m	10
Resistance to electrostatic discharges	Conforming to IEC 61000-2-6	kV	8/6
Electromagnetic emission	Conforming to IEC 55011		Class B

Electrical characteristics of contacts			
Rated operational characteristics	~ AC-15		B300 or Ue = 240 V and Ie = 1.5 A or Ue 120 V and Ie = 3 A
	--- DC-13		R300 or Ue = 250 V and Ie = 0.1 A or Ue = 125 V and Ie = 0.22 A
Rated insulation voltage	Conforming to IEC 60947-1		Ui = 250 degree of pollution 3 (Except pilot lights with incandescent or neon bulb: degree of pollution 2)

Electrical characteristics of contacts (continued)

Rated impulse withstand voltage	Conforming to IEC 60947-1	kV	Uimp = 4
Contact material	Normal environment and usage		Silver alloy
	Chemically corrosive environment or infrequent operation		Gold flashed
Contact operation	N/C or N/O		Slow break, with indication of change of state by the tactile feedback on push and audible signal
Differential travel of contacts	With pushbutton head	mm	Changing N/C state: 1 Changing N/O state: 2 Total travel: 3.5
Operating force	N/C contact	N	2.5
	N/O contact	N	1.6
	Pushbutton head + N/O contact	N	3.5
	Pushbutton head + N/C contact	N	4.5
Positive operation	Conforming to IEC/EN 60947-5-1 appendix K	N	Contact with positive opening operation Positive opening force: 20
Terminal referencing	Conforming to EN 50005 and EN 50013		
Short-circuit protection	Cartridge fuse mounted upstream		6A gG
Electrical reliability	Failure rate Conforming to IEC/EN 60947-5-4		With confidence level of 90 %: $\lambda_{90} = 10^{-8}$ 5 V - 1 mA, defect contact voltage drop = 0.5 V
Cabling		mm	By Faston connectors 2.8 x 0.5 By pins for printed circuit board connection 1 x 0.5
Electrical durability	Conforming to IEC/EN 60947-5-1 Appendix C Utilisation category AC-15 & DC-13 Operating rate 3600 operating cycles/hour. Load factor 0.5		1 million operating cycles - 200 VA-230 V



- Switching capacity conforming to IEC/EN 60947-5-1, utilisation category AC-15, DC-13

B300	240 V	1.5 A
R300	250 V	0.1 A
- Switching capacity conforming to IEC/EN 60947-5-1, utilisation category AC-15, DC-13

B300	120 V	3 A
R300	125 V	0.22 A

Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Complete units XB6, with Faston connectors

1

1.2



XB6 DW●●●B



XB6 DE●●●B




XB6 CW●●●B



XB6 CE●●●B

Illuminated pushbuttons (with 12...24 V LED included)

Shape of head	Type of push	Type of contacts		Colour	Reference	Weight kg		
		N/O	N/C					
	Flush, spring return	1	–	White	XB6 DW1B1B	0.022		
		–	–	Green	XB6 DW3B1B	0.022		
		–	1	Red	XB6 DW4B2B	0.022		
			1	1	White	XB6 DW1B5B	0.025	
			–	1	Green	XB6 DW3B5B	0.025	
			–	1	Red	XB6 DW4B5B	0.025	
	Flush, latching		1	–	Green	XB6 DF3B1B	0.022	
			–	1	Red	XB6 DF4B2B	0.022	
				1	1	White	XB6 DF1B5B	0.025
–				1	Green	XB6 DF3B5B	0.025	
–				1	Red	XB6 DF4B5B	0.025	
1				–	Green	XB6 DE3B1B	0.022	
Projecting, spring return		–	1	Red	XB6 DE4B2B	0.022		
		1	1	White	XB6 DE1B5B	0.025		
		–	1	Green	XB6 DE3B5B	0.025		
		–	1	Red	XB6 DE4B5B	0.025		
		Flush, spring return		1	–	White	XB6 CW1B1B	0.022
				–	–	Green	XB6 CW3B1B	0.022
			–	1	Red	XB6 CW4B2B	0.022	
			1	1	White	XB6 CW1B5B	0.025	
			–	1	Green	XB6 CW3B5B	0.025	
			–	1	Red	XB6 CW4B5B	0.025	
Flush, latching		1	–	Green	XB6 CF3B1B	0.022		
		–	1	Red	XB6 CF4B2B	0.022		
			1	1	White	XB6 CF1B5B	0.025	
–			1	Green	XB6 CF3B5B	0.025		
–			1	Red	XB6 CF4B5B	0.025		
Projecting, spring return		1	–	Green	XB6 CE3B1B	0.022		
		–	1	Red	XB6 CE4B2B	0.022		
		1	1	White	XB6 CE1B5B	0.025		
		–	1	Green	XB6 CE3B5B	0.025		
		–	1	Red	XB6 CE4B5B	0.025		


Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Complete units XB6, with Faston connectors

Illuminated pushbuttons (with 12...24 V LED included) (continued)

Shape of head	Type of push	Type of contacts		Colour	Reference	Weight kg	
		N/O	N/C				
 XB6 A●●●●B	Flush, spring return	1	–	White	XB6 AW1B1B	0.022	
				Green	XB6 AW3B1B	0.022	
		–	1	Red	XB6 AW4B2B	0.022	
			1	1	White	XB6 AW1B5B	0.025
					Green	XB6 AW3B5B	0.025
					Red	XB6 AW4B5B	0.025
	Flush, latching		1	–	Green	XB6 AF3B1B	0.022
			–	1	Red	XB6 AF4B2B	0.022
				1	1	White	XB6 AF1B5B
					Green	XB6 AF3B5B	0.025
					Red	XB6 AF4B5B	0.025
Projecting, spring return		1	–	Green	XB6 AE3B1B	0.022	
		–	1	Red	XB6 AE4B2B	0.022	
			1	1	White	XB6 AE1B5B	0.025
					Green	XB6 AE3B5B	0.025
				Red	XB6 AE4B5B	0.025	

Pilot lights (with 12...24 V LED included)

Shape of head	Colour	Reference	Weight kg
 XB6 DV●●BB	White	XB6 DV1BB	0.015
	Green	XB6 DV3BB	0.015
	Red	XB6 DV4BB	0.015
	Yellow	XB6 DV5BB	0.015
 XB6 CV●●BB	White	XB6 CV1BB	0.015
	Green	XB6 CV3BB	0.015
	Red	XB6 CV4BB	0.015
	Yellow	XB6 CV5BB	0.015
 XB6 AV●●BB	White	XB6 AV1BB	0.015
	Green	XB6 AV3BB	0.015
	Red	XB6 AV4BB	0.015
	Yellow	XB6 AV5BB	0.015

Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Complete units XB6, with Faston connectors

1

1.2

813769



XB6 DA●●B



813767



XB6 CA●●B



813768



XB6 AA●●B



813766



XB6 AS8349B



813765



XB6 AS9349B



Pushbuttons

Shape of head	Type of push	Type of contacts		Colour	Reference	Weight kg	
		N/O	N/C				
	Flush, spring return	1	–	White	XB6 DA11B	0.019	
				Green	XB6 DA31B	0.019	
	Projecting, spring return	–	1	1	Black	XB6 DA22B	0.019
					Red	XB6 DA42B	0.019
					White	XB6 DA15B	0.022
					Black	XB6 DA25B	0.022
	Projecting, spring return	–	1	1	Green	XB6 DA35B	0.022
					Red	XB6 DA45B	0.022
		Flush, spring return	1	–	White	XB6 CA11B	0.019
					Green	XB6 CA31B	0.019
Projecting, spring return		–	1	1	Black	XB6 CA22B	0.019
					Red	XB6 CA42B	0.019
					White	XB6 CA15B	0.022
					Black	XB6 CA25B	0.022
Projecting, spring return		–	1	1	Green	XB6 CA35B	0.022
					Red	XB6 CA45B	0.022
		Flush, spring return	1	–	White	XB6 AA11B	0.019
					Green	XB6 AA31B	0.019
	Projecting, spring return	–	1	1	Black	XB6 AA22B	0.019
					Red	XB6 AA42B	0.019
					White	XB6 AA15B	0.022
					Black	XB6 AA25B	0.022
	Projecting, spring return	–	1	1	Green	XB6 AA35B	0.022
					Red	XB6 AA45B	0.022
	Projecting, spring return	–	1	1	Red	XB6 AL42B	0.020

Trigger action Emergency stop mushroom head pushbuttons (red)




























Shape of head	Type of push	Type of contacts		Diameter of push	Reference	Weight kg
		N/O	N/C			
	Turn to release	1	2	30	XB6 AS8349B	0.041
	Key release (key n° 200)	1	2	30	XB6 AS9349B	0.056

Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Complete units XB6, with Faston connectors

Selector switches and key switches (switching angle: handle: 60°, key: 70°)							
Shape of head	Type of push	Type of contacts		Number and type of positions	Reference	Weight	kg
		N/O	N/C				
 813786 XB6 DD●●●B	 Standard handle, black	1	–	2 - stay put	 XB6 DD221B	0.021	
		1	1	2 - stay put	 XB6 DD225B	0.024	
				3 - stay put	 XB6 DD235B	0.024	
 813783 XB6 DG●●●B	 Key (1)	1	1	2 - stay put	 XB6 DGC5B	0.036	
				3 - stay put	 XB6 DGH5B	0.036	
 813784 XB6 CD●●●B	 Standard handle, black	1	–	2 - stay put	 XB6 CD221B	0.021	
		1	1	2 - stay put	 XB6 CD225B	0.024	
				3 - stay put	 XB6 CD235B	0.024	
 813783 XB6 CG●●●B	 Key (1)	1	1	2 - stay put	 XB6 CGC5B	0.036	
				3 - stay put	 XB6 CGH5B	0.036	
 813782 XB6 AD●●●B	 Standard handle, black	1	–	2 - stay put	 XB6 AD221B	0.021	
		1	1	2 - stay put	 XB6 AD225B	0.024	
				3 - stay put	 XB6 AD235B	0.024	
 813781 XB6 AG●●●B	 Key (1)	1	1	2 - stay put	 XB6 AGC5B	0.036	
				3 - stay put	 XB6 AGH5B	0.036	

(1) Key n° 200, withdrawal from all positions.

Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Sub-assemblies, ZB6: bodies

To combine with heads:
see pages 1/20 to 1/25

1



ZB6 ZB00B

1.2



ZB6 ZH00B



ZB6 Z0B

Complete bodies for illuminated pushbuttons (contact block + light source) (1)

Description	Supply voltage V	Type of contacts		Colour of light source	Reference	Weight kg
		N/O	N/C			
Faston connectors						
Integral LED (2)	≈ 12...24	1	-	White	ZB6 ZB11B	0.006
				Green	ZB6 ZB31B	0.006
				Yellow	ZB6 ZB51B	0.006
		-	1	Red	ZB6 ZB42B	0.006
				Yellow	ZB6 ZB52B	0.006
		1	1	White	ZB6 ZB15B	0.009
				Green	ZB6 ZB35B	0.009
				Red	ZB6 ZB45B	0.009
				Yellow	ZB6 ZB55B	0.009
				Blue	ZB6 ZB65B	0.009
Direct for incandescent bulb (not included) T1 1/4 (3)	3...24	1	-	-	ZB6 ZH01B	0.006
				-	ZB6 ZH02B	0.006
				1	ZB6 ZH05B	0.009

Complete bodies for pushbuttons, selector switches and key switches (contact block)

Description	Supply voltage V	Type of contacts		Reference	Weight kg
		N/O	N/C		
Faston connectors					
Direct	≤ 250	1	-	ZB6 Z1B	0.004
				ZB6 Z2B	0.004
		2	-	ZB6 Z3B	0.006
				ZB6 Z4B	0.006
		1	1	ZB6 Z5B	0.006

(1) It is possible to assemble illuminated selector switches by using an illuminated pushbutton body sub-assembly in conjunction with a selector switch head supplied without handle (see page 1/23), and a transparent handle (see page 1/30).

(2) The colour of the LED must be the same as that of the pushbutton cap.

(3) Bulb to be ordered separately (see page 1/33).

To combine with heads:
see pages 1/20 to 1/25



ZB6 EB0B



ZB6 E00B



ZB6 EB0A



ZB6 E00A



ZB6 E0B



ZB6 E0A

Complete bodies for pilot lights (light source)

Description	Supply voltage V	Sold in lots of	Colour of light source	Reference	Weight kg
Faston connectors (direct mounting by the head)					
Integral LED (1)	≈ 12...24	5	White	ZB6 EB1B	0.003
		5	Green	ZB6 EB3B	0.003
		5	Red	ZB6 EB4B	0.003
		5	Yellow	ZB6 EB5B	0.003
		5	Blue	ZB6 EB6B	0.003
		5	Orange	ZB6 EB8B	0.003
	≈ 48...120	5	White	ZB6 EG1B	0.003
		5	Green	ZB6 EG3B	0.003
		5	Red	ZB6 EG4B	0.003
		5	Yellow	ZB6 EG5B	0.003
		5	Blue	ZB6 EG6B	0.003
		5	Orange	ZB6 EG8B	0.003
	≈ 230...240	5	White	ZB6 EM1B	0.003
		5	Green	ZB6 EM3B	0.003
		5	Red	ZB6 EM4B	0.003
5		Yellow	ZB6 EM5B	0.003	
5		Blue	ZB6 EM6B	0.003	
5		Orange	ZB6 EM8B	0.003	
With resistor for 95 V neon bulb (not included) T1 1/4 (2) (3)	≈ 120	5	–	ZB6 EG0B	0.003
	≈ 230	5	–	ZB6 EM0B	0.003
Direct supply for 0.6 W max. incandescent bulb (not included) T1 1/4 (2)	≈ ≤ 24	5	–	ZB6 EH0B	0.003

Pins for printed circuit board connection (mounting by the body, see page 1/32)

Description	Supply voltage V	Sold in lots of	Colour of light source	Reference	Weight kg
Integral LED (1)	≈ 12...24	5	White	ZB6 EB1A	0.003
		5	Green	ZB6 EB3A	0.003
		5	Red	ZB6 EB4A	0.003
		5	Yellow	ZB6 EB5A	0.003
		5	Blue	ZB6 EB6A	0.003
		5	Orange	ZB6 EB8A	0.003
Direct supply for 0.6 W max. incandescent bulb (not included) T1 1/4 (2)	≈ 3...24	5	–	ZB6 EH0A	0.003

Separate contact blocks

Type of contacts	For use with bodies	Type of contacts		Sold in lots of	Reference	Weight kg
		N/O	N/C			
Silver alloy	Faston	1	–	10	ZB6 E1B	0.004
		–	1	10	ZB6 E2B	0.004
	Printed circuit ZB6 Y011	1	–	10	ZB6 E1A	0.004
		–	1	10	ZB6 E2A	0.004
Gold flashed	Faston	1	–	10	ZB6 E1E	0.004
		–	1	10	ZB6 E2E	0.004
	Printed circuit ZB6 Y011	1	–	10	ZB6 E1D	0.004
		–	1	10	ZB6 E2D	0.004

(1) The colour of the LED must be the same as that of the lens mounted on the head.

(2) Bulb to be ordered separately (see page 1/33).

(3) Neon bulbs must only be used with red, yellow or white lenses.

Control and signalling units Ø 16




Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Sub-assemblies, ZB6: heads

To combine with complete bodies and contact blocks: see pages 1/18 and 1/19

Heads for illuminated pushbuttons

Shape of head	Type of push	Colour of cap	Reference	Weight kg	
	Flush, spring return	White	ZB6 DW1	0.016	
		Green	ZB6 DW3	0.016	
		Red	ZB6 DW4	0.016	
		Yellow	ZB6 DW5	0.016	
		Blue	ZB6 DW6	0.016	
		Orange	ZB6 DW8	0.016	
		6 colours (1)	ZB6 DW9	0.016	
		Without cap (2)	ZB6 DW0	0.016	
		Flush, latching	White	ZB6 DF1	0.016
			Green	ZB6 DF3	0.016
Red	ZB6 DF4		0.016		
Yellow	ZB6 DF5		0.016		
Blue	ZB6 DF6		0.016		
Orange	ZB6 DF8		0.016		
6 colours (1)	ZB6 DF9		0.016		
Without cap (2)	ZB6 DF0		0.016		
Projecting, spring return	White		ZB6 DE1	0.016	
	Green		ZB6 DE3	0.016	
	Red	ZB6 DE4	0.016		
	Yellow	ZB6 DE5	0.016		
	Blue	ZB6 DE6	0.016		
	Orange	ZB6 DE8	0.016		
	6 colours (1)	ZB6 DE9	0.016		
	Without cap (2)	ZB6 DE0	0.016		
		Flush, spring return	White	ZB6 CW1	0.016
			Green	ZB6 CW3	0.016
Red			ZB6 CW4	0.016	
Yellow			ZB6 CW5	0.016	
Blue			ZB6 CW6	0.016	
Orange			ZB6 CW8	0.016	
6 colours (1)			ZB6 CW9	0.016	
Without cap (2)			ZB6 CW0	0.016	
Flush, latching			White	ZB6 CF1	0.016
			Green	ZB6 CF3	0.016
	Red	ZB6 CF4	0.016		
	Yellow	ZB6 CF5	0.016		
	Blue	ZB6 CF6	0.016		
	Orange	ZB6 CF8	0.016		
	6 colours (1)	ZB6 CF9	0.016		
	Without cap (2)	ZB6 CF0	0.016		
	Projecting, spring return	White	ZB6 CE1	0.016	
		Green	ZB6 CE3	0.016	
Red		ZB6 CE4	0.016		
Yellow		ZB6 CE5	0.016		
Blue		ZB6 CE6	0.016		
Orange		ZB6 CE8	0.016		
6 colours (1)		ZB6 CE9	0.016		
Without cap (2)		ZB6 CE0	0.016		
		Flush, spring return	White	ZB6 AW1	0.016
			Green	ZB6 AW3	0.016
	Red		ZB6 AW4	0.016	
	Yellow		ZB6 AW5	0.016	
	Blue		ZB6 AW6	0.016	
	Orange		ZB6 AW8	0.016	
	6 colours (1)		ZB6 AW9	0.016	
	Without cap (2)		ZB6 AW0	0.016	
	Flush, latching		White	ZB6 AF1	0.016
			Green	ZB6 AF3	0.016
Red		ZB6 AF4	0.016		
Yellow		ZB6 AF5	0.016		
Blue		ZB6 AF6	0.016		
Orange		ZB6 AF8	0.016		
6 colours (1)		ZB6 AF9	0.016		
Without cap (2)		ZB6 AF0	0.016		
Projecting, spring return		White	ZB6 AE1	0.016	
		Green	ZB6 AE3	0.016	
	Red	ZB6 AE4	0.016		
	Yellow	ZB6 AE5	0.016		
	Blue	ZB6 AE6	0.016		
	Orange	ZB6 AE8	0.016		
	6 colours (1)	ZB6 AE9	0.016		
	Without cap (2)	ZB6 AE0	0.016		

(1) 6 different coloured caps included with head (white, green, red, yellow, blue and orange) not fitted.

(2) To order caps separately, see page 1/26.

























Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Sub-assemblies, ZB6: heads

To combine with complete bodies and contact blocks: see pages 1/18 and 1/19

Heads for pilot lights								
Shape of head		Colour of lens	Reference	Weight kg				
 813823 ZB6 DV●		White	ZB6 DV1	0,015				
		Green	ZB6 DV3	0.015				
		Red	ZB6 DV4	0.015				
		Yellow	ZB6 DV5	0.015				
		Blue	ZB6 DV6	0.015				
		Orange	ZB6 DV8	0.015				
		6 colours (1)	ZB6 DV9	0.015				
		Without lens (2)	ZB6 DV0	0.015				
		 813822 ZB6 CV●		White	ZB6 CV1	0.015		
				Green	ZB6 CV3	0.015		
Red	ZB6 CV4			0.015				
Yellow	ZB6 CV5			0.015				
Blue	ZB6 CV6			0.015				
Orange	ZB6 CV8			0.015				
6 colours (1)	ZB6 CV9			0.015				
Without lens (2)	ZB6 CV0			0.015				
 813821 ZB6 AV●				White	ZB6 AV1	0.015		
				Green	ZB6 AV3	0.015		
		Red	ZB6 AV4	0.015				
		Yellow	ZB6 AV5	0.015				
		Blue	ZB6 AV6	0.015				
		Orange	ZB6 AV8	0.015				
		6 colours (1)	ZB6 AV9	0.015				
		Without lens (2)	ZB6 AV0	0.015				
		Heads for pushbuttons						
		Shape of head	Type of push	Colour of cap	Reference	Weight kg		
 813820 ZB6 DA●	Flush, spring return		White	ZB6 DA1	0.016			
			Black	ZB6 DA2	0.016			
			Green	ZB6 DA3	0.016			
			Red	ZB6 DA4	0.016			
			Yellow	ZB6 DA5	0.016			
			Blue	ZB6 DA6	0.016			
			6 colours (3)	ZB6 DA9	0.016			
			Without cap (2)	ZB6 DW0	0.016			
			 813819 ZB6 CA●	Flush, spring return		White	ZB6 CA1	0.016
						Black	ZB6 CA2	0.016
Green	ZB6 CA3	0.016						
Red	ZB6 CA4	0.016						
Yellow	ZB6 CA5	0.016						
Blue	ZB6 CA6	0.016						
6 colours (3)	ZB6 CA9	0.016						
Without cap (2)	ZB6 CW0	0.016						
 813818 ZB6 AA●	Flush, spring return					White	ZB6 AA1	0.016
						Black	ZB6 AA2	0.016
			Green	ZB6 AA3	0.016			
			Red	ZB6 AA4	0.016			
			Yellow	ZB6 AA5	0.016			
			Blue	ZB6 AA6	0.016			
 813824 ZB6 AC●	Spring return		White	ZB6 AC1	0.020			
			Black	ZB6 AC2	0.020			
			Green	ZB6 AC3	0.020			
			Yellow	ZB6 AC5	0.020			
 813817 ZB6 AC●	Spring return		Blue	ZB6 AC6	0.020			
			Without cap (2)	ZB6 AW0	0.016			
Ø 24 mushroom heads for pushbuttons								
 813818 ZB6 AA●	Flush, spring return		White	ZB6 AA1	0.016			
			Black	ZB6 AA2	0.016			
			Green	ZB6 AA3	0.016			
			Red	ZB6 AA4	0.016			
			Yellow	ZB6 AA5	0.016			
			Blue	ZB6 AA6	0.016			
 813824 ZB6 AC●	Spring return		6 colours (3)	ZB6 AA9	0.016			
			Without cap (2)	ZB6 AW0	0.016			
			 813817 ZB6 AS834	Turn to release		Red	ZB6 AS834	0.035
						 813816 ZB6 AS934	Key release (n° 200)	

(1) 6 different coloured lenses included with head (white, green, red, yellow, blue and orange) not fitted.

(2) To order caps or lenses separately, see pages 1/26 to 1/29.

(3) 6 different coloured caps included with head (white, black, green, yellow, red and blue) not fitted.

Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Sub-assemblies, ZB6: heads

To combine with complete bodies and contact blocks: see pages 1/18 and 1/19

1



ZB6 DD●●

1.2



ZB6 CD●●



ZB6 AD●●

Heads for selector switches with standard handle

Shape of head	Number and type of positions	Colour of handle	Reference	Weight kg
Switching angle: stay put positions 60°, spring return positions 45°				
	2 - stay put	Black Red	ZB6 DD22 ZB6 DD42	0.018 0.018
	3 - stay put	Black	ZB6 DD23	0.018
		Red	ZB6 DD43	0.018
	2 spring return to centre	Black	ZB6 DD24	0.018
		Red	ZB6 DD44	0.018
	3 spring return to centre	Black	ZB6 DD25	0.018
		Red	ZB6 DD45	0.018
	3 spring return from right to centre	Black	ZB6 DD26	0.018
		Red	ZB6 DD46	0.018
	3 spring return from left to centre	Black	ZB6 DD27	0.018
		Red	ZB6 DD47	0.018
		2 - stay put	Black Red	ZB6 CD22 ZB6 CD42
3 - stay put		Black	ZB6 CD23	0.018
		Red	ZB6 CD43	0.018
2 spring return to centre		Black	ZB6 CD24	0.018
		Red	ZB6 CD44	0.018
3 spring return to centre		Black	ZB6 CD25	0.018
		Red	ZB6 CD45	0.018
3 spring return from right to centre		Black	ZB6 CD26	0.018
		Red	ZB6 CD46	0.018
3 spring return from left to centre		Black	ZB6 CD27	0.018
		Red	ZB6 CD47	0.018
		2 - stay put	Black Red	ZB6 AD22 ZB6 AD42
	3 - stay put	Black	ZB6 AD23	0.018
		Red	ZB6 AD43	0.018
	2 spring return to centre	Black	ZB6 AD24	0.018
		Red	ZB6 AD44	0.018
	3 spring return to centre	Black	ZB6 AD25	0.018
		Red	ZB6 AD45	0.018
	3 spring return from right to centre	Black	ZB6 AD26	0.018
		Red	ZB6 AD46	0.018
	3 spring return from left to centre	Black	ZB6 AD27	0.018
		Red	ZB6 AD47	0.018
	Switching angle: stay put positions 90°			
	2 - stay put	Black	ZB6 DD28	0.018
		Red	ZB6 DD48	0.018
	2 - stay put	Black	ZB6 CD28	0.018
		Red	ZB6 CD48	0.018
	2 - stay put	Black	ZB6 AD28	0.018
		Red	ZB6 AD48	0.018

To combine with complete bodies and contact blocks: see pages 1/18 and 1/19



ZB6 DD0



ZB6 CD0



ZB6 AD0

Heads for illuminated selector switches, without handle (1)

Shape of head	Number and type of positions	Reference	Weight kg
Switching angle: stay put positions 60°, spring return positions 45°			
	2 - stay put	ZB6 DD02	0.016
	3 - stay put	ZB6 DD03	0.016
	2 spring return to centre	ZB6 DD04	0.016
	3 spring return to centre	ZB6 DD05	0.016
	3 spring return from right to centre	ZB6 DD06	0.016
	3 spring return from left to centre	ZB6 DD07	0.016
		2 - stay put	ZB6 CD02
3 - stay put		ZB6 CD03	0.016
2 spring return to centre		ZB6 CD04	0.016
3 spring return to centre		ZB6 CD05	0.016
3 spring return from right to centre		ZB6 CD06	0.016
3 spring return from left to centre		ZB6 CD07	0.016
		2 - stay put	ZB6 AD02
	3 - stay put	ZB6 AD03	0.016
	2 spring return to centre	ZB6 AD04	0.016
	3 spring return to centre	ZB6 AD05	0.016
	3 spring return from right to centre	ZB6 AD06	0.016
	3 spring return from left to centre	ZB6 AD07	0.016
	Switching angle: stay put positions 90°		
	2 - stay put	ZB6 DD08	0.016
	2 - stay put	ZB6 CD08	0.016
	2 - stay put	ZB6 AD08	0.016

(1) Handle to be ordered separately (see page 1/30) for bodies with 2 contact blocks maximum.

Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Sub-assemblies, ZB6: heads

To combine with complete bodies and contact blocks: see pages 1/18 and 1/19

1



ZB6 DG●

1.2



ZB6 CG●



























Heads for key switches (Ronis key n° 200) (1)

Shape of head	Number and type of positions	Key withdrawal	Reference	Weight kg	
Switching angle: stay put positions 70°, spring return positions 45°					
	2 - stay put		RH position	ZB6 DGA	0.030
			Centre position	ZB6 DGB (2)	0.030
			All positions	ZB6 DGC (2)	0.030
	2 - spring return		Centre position	ZB6 DGL	0.030
	3 - stay put		LH position	ZB6 DGD	0.030
			Centre position	ZB6 DGE (2)	0.030
			LH and Centre positions	ZB6 DGF	0.030
			RH position	ZB6 DGG	0.030
			All positions	ZB6 DGH (2)	0.030
			RH and LH positions	ZB6 DGJ	0.030
			RH and Centre positions	ZB6 DGK	0.030
		3 spring return from left to centre		RH position	ZB6 DGM
	Centre position		ZB6 DGN	0.030	
	RH and Centre positions		ZB6 DGP	0.030	
3 spring return from right to centre		LH position	ZB6 DGQ	0.030	
		Centre position	ZB6 DGR	0.030	
		LH and Centre positions	ZB6 DGS	0.030	
3 spring return to centre		Centre position	ZB6 DGT	0.030	
	2 - stay put		RH position	ZB6 CGA	0.030
			Centre position	ZB6 CGB (2)	0.030
			All positions	ZB6 CGC (2)	0.030
	2 - spring return		Centre position	ZB6 CGL	0.030
	3 - stay put		LH position	ZB6 CGD	0.030
			Centre position	ZB6 CGE (2)	0.030
			LH and Centre positions	ZB6 CGF	0.030
			RH position	ZB6 CGG	0.030
			All positions	ZB6 CGH (2)	0.030
			RH and LH positions	ZB6 CGJ	0.030
			RH and Centre positions	ZB6 CGK	0.030

(1) To order a key switch with DOM 311 key, add the suffix 1 to the references selected above.
Example: **ZB6 DGA1**.(2) Also available with Ronis key numbers: 201, 202 and 203. To order, add the key number to the end of the reference. Example: for key switch **ZB6 DGB** with Ronis key n° 201, the reference becomes: **ZB6 DGB201**.

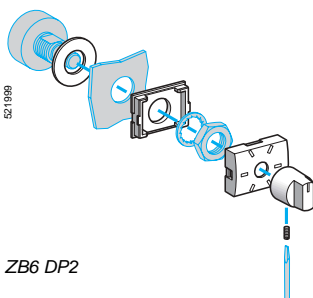
To combine with complete bodies and contact blocks: see pages 1/18 and 1/19

Heads for key switches (Ronis key n° 200) (1) (continued)

Shape of head	Number and type of positions	Key withdrawal	Reference	Weight kg		
Switching angle: stay put positions 70°, spring return positions 45°						
	3 spring return from left to centre		RH position	ZB6 CGM	0.030	
			Centre position	ZB6 CGN	0.030	
			RH and Centre positions	ZB6 CGP	0.030	
	3 spring return from right to centre		Left-hand position	ZB6 CGQ	0.030	
			Centre position	ZB6 CGR	0.030	
			LH and Centre positions	ZB6 CGS	0.030	
	3 spring return to centre		Centre position	ZB6 CGT	0.030	
		2 - stay put		RH position	ZB6 AGA	0.030
				Centre position	ZB6 AGB (2)	0.030
			All positions	ZB6 AGC (2)	0.030	
	2 spring return from right to centre		Centre position	ZB6 AGL	0.030	
		3 - stay put		Left-hand position	ZB6 AGD	0.030
			Centre position	ZB6 AGE (2)	0.030	
	LH and Centre positions		ZB6 AGF	0.030		
3 spring return from left to centre		RH position	ZB6 AGG	0.030		
		All positions	ZB6 AGH (2)	0.030		
		RH and LH positions	ZB6 AGJ	0.030		
3 spring return from right to centre		RH and Centre positions	ZB6 AGK	0.030		
	3 spring return from left to centre		RH position	ZB6 AGM	0.030	
			Centre position	ZB6 AGN	0.030	
		RH and Centre positions	ZB6 AGP	0.030		
3 spring return from right to centre		Left-hand position	ZB6 AGQ	0.030		
		Centre position	ZB6 AGR	0.030		
		LH and Centre positions	ZB6 AGS	0.030		
3 spring return to centre		Centre position	ZB6 AGT	0.030		




ZB6 AG



ZB6 DP2

Heads + mounting base for potentiometer

Shape of head	Description	For use with	Reference	Weight kg
	For potentiometer with shaft length 5...8 mm (potentiometer not included)	Ø 6.35 mm shaft	ZB6 DP2	0.032

(1) To order a key switch with DOM 311 key, add the suffix 1 to the references selected above. Example: **ZB6 CGM1**.

(2) Also available with Ronis key numbers: 201, 202 and 203. To order, add the key number to the end of the reference. Example: for key switch **ZB6 AGB** with Ronis key n° 201, the reference becomes: **ZB6 AGB201**.




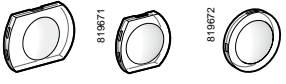


Control and signalling units Ø 16

Harmony® style 6




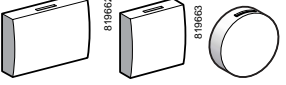
Pushbuttons, switches and pilot lights with double insulated bezel

Component parts, ZB6

Pushbutton caps - unmarked

For use with	Colour	Sold in lots of	Unit reference			Weight kg
			Head 	Head 	Head 	
 ZB6 YDW● ZB6 YCW● ZB6 YAW●	White	10	ZB6 YDW1	ZB6 YCW1	ZB6 YAW1	0.001
	Green	10	ZB6 YDW3	ZB6 YCW3	ZB6 YAW3	0.001
	Red	10	ZB6 YDW4	ZB6 YCW4	ZB6 YAW4	0.001
	Yellow	10	ZB6 YDW5	ZB6 YCW5	ZB6 YAW5	0.001
	Blue	10	ZB6 YDW6	ZB6 YCW6	ZB6 YAW6	0.001
	Orange	10	ZB6 YDW8	ZB6 YCW8	ZB6 YAW8	0.001
 ZB6 YDE● ZB6 YCE● ZB6 YAE●	White	10	ZB6 YDE1	ZB6 YCE1	ZB6 YAE1	0.001
	Green	10	ZB6 YDE3	ZB6 YCE3	ZB6 YAE3	0.001
	Red	10	ZB6 YDE4	ZB6 YCE4	ZB6 YAE4	0.001
	Yellow	10	ZB6 YDE5	ZB6 YCE5	ZB6 YAE5	0.001
	Blue	10	ZB6 YDE6	ZB6 YCE6	ZB6 YAE6	0.001
	Orange	10	ZB6 YDE8	ZB6 YCE8	ZB6 YAE8	0.001
 ZB6 YDA● ZB6 YCA● ZB6 YAA●	White	10	ZB6 YDA1	ZB6 YCA1	ZB6 YAA1	0.001
	Black	10	ZB6 YDA2	ZB6 YCA2	ZB6 YAA2	0.001
	Green	10	ZB6 YDA3	ZB6 YCA3	ZB6 YAA3	0.001
	Red	10	ZB6 YDA4	ZB6 YCA4	ZB6 YAA4	0.001
	Yellow	10	ZB6 YDA5	ZB6 YCA5	ZB6 YAA5	0.001
	Blue	10	ZB6 YDA6	ZB6 YCA6	ZB6 YAA6	0.001

Lens caps - unmarked

For use with	Colour	Sold in lots of	Unit reference			Weight kg
			Head 	Head 	Head 	
 ZB6 YDV● ZB6 YCV● ZB6 YAV●	White	10	ZB6 YDV1	ZB6 YCV1	ZB6 YAV1	0.001
	Green	10	ZB6 YDV3	ZB6 YCV3	ZB6 YAV3	0.001
	Red	10	ZB6 YDV4	ZB6 YCV4	ZB6 YAV4	0.001
	Yellow	10	ZB6 YDV5	ZB6 YCV5	ZB6 YAV5	0.001
	Blue	10	ZB6 YDV6	ZB6 YCV6	ZB6 YAV6	0.001
	Orange	10	ZB6 YDV8	ZB6 YCV8	ZB6 YAV8	0.001







Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Component parts, ZB6

Pushbutton caps - marked

Marking	Colour	Sold in lots of	Unit reference			Weight kg
			Head 	Head 	Head 	
White on coloured cap Black on white cap			Head 	Head 	Head 	
For non illuminated pushbuttons						
0	White	10	ZB6 YD100	ZB6 YC100	ZB6 YA100	0.001
	Black	10	ZB6 YD200	ZB6 YC200	ZB6 YA200	0.001
1	White	10	ZB6 YD101	ZB6 YC101	ZB6 YA101	0.001
	Black	10	ZB6 YD201	ZB6 YC201	ZB6 YA201	0.001
2	White	10	ZB6 YD102	ZB6 YC102	ZB6 YA102	0.001
	Black	10	ZB6 YD202	ZB6 YC202	ZB6 YA202	0.001
3	White	10	ZB6 YD103	ZB6 YC103	ZB6 YA103	0.001
	Black	10	ZB6 YD203	ZB6 YC203	ZB6 YA203	0.001
4	White	10	ZB6 YD104	ZB6 YC104	ZB6 YA104	0.001
	Black	10	ZB6 YD204	ZB6 YC204	ZB6 YA204	0.001
5	White	10	ZB6 YD105	ZB6 YC105	ZB6 YA105	0.001
	Black	10	ZB6 YD205	ZB6 YC205	ZB6 YA205	0.001
6	White	10	ZB6 YD106	ZB6 YC106	ZB6 YA106	0.001
	Black	10	ZB6 YD206	ZB6 YC206	ZB6 YA206	0.001
7	White	10	ZB6 YD107	ZB6 YC107	ZB6 YA107	0.001
	Black	10	ZB6 YD207	ZB6 YC207	ZB6 YA207	0.001
8	White	10	ZB6 YD108	ZB6 YC108	ZB6 YA108	0.001
	Black	10	ZB6 YD208	ZB6 YC208	ZB6 YA208	0.001
9	White	10	ZB6 YD109	ZB6 YC109	ZB6 YA109	0.001
	Black	10	ZB6 YD209	ZB6 YC209	ZB6 YA209	0.001
I	White	10	ZB6 YD111	ZB6 YC111	ZB6 YA111	0.001
	Green	10	ZB6 YD311	ZB6 YC311	ZB6 YA311	0.001
O	Black	10	ZB6 YD210	ZB6 YC210	ZB6 YA210	0.001
	Red	10	ZB6 YD410	ZB6 YC410	ZB6 YA410	0.001



ZB6 YD●10



ZB6 YC●10



ZB6 YA●10




Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Component parts, ZB6

Pushbutton caps - marked (continued)

Marking	Colour	Sold in lots of	Unit reference			Weight kg
White on coloured cap Black on white cap			Head 	Head 	Head 	
For non illuminated pushbuttons						
II	White	5	ZB6 YD112	ZB6 YC112	ZB6 YA112	0.001
	Black	5	ZB6 YD212	ZB6 YC212	ZB6 YA212	0.001
III	White	5	ZB6 YD113	ZB6 YC113	ZB6 YA113	0.001
	Black	5	ZB6 YD213	ZB6 YC213	ZB6 YA213	0.001
+	White	5	ZB6 YD114	ZB6 YC114	ZB6 YA114	0.001
	Black	5	ZB6 YD214	ZB6 YC214	ZB6 YA214	0.001
-	White	5	ZB6 YD115	ZB6 YC115	ZB6 YA115	0.001
	Black	5	ZB6 YD215	ZB6 YC215	ZB6 YA215	0.001
MARCHE	White	5	ZB6 YD116	ZB6 YC116	ZB6 YA116	0.001
	Green	5	ZB6 YD316	ZB6 YC316	ZB6 YA316	0.001
ON	White	5	ZB6 YD117	ZB6 YC117	ZB6 YA117	0.001
	Green	5	ZB6 YD317	ZB6 YC317	ZB6 YA317	0.001
START	Green	5	ZB6 YD340	ZB6 YC340	ZB6 YA340	0.001
EIN	White	5	ZB6 YD118	ZB6 YC118	ZB6 YA118	0.001
	Green	5	ZB6 YD318	ZB6 YC318	ZB6 YA318	0.001
ARRET	Black	5	ZB6 YD223	ZB6 YC223	ZB6 YA223	0.001
	Red	5	ZB6 YD423	ZB6 YC423	ZB6 YA423	0.001
STOP	Red	5	ZB6 YD441	ZB6 YC441	ZB6 YA441	0.001
OFF	Black	5	ZB6 YD224	ZB6 YC224	ZB6 YA224	0.001
	Red	5	ZB6 YD424	ZB6 YC424	ZB6 YA424	0.001
AUS	Black	5	ZB6 YD225	ZB6 YC225	ZB6 YA225	0.001
	Red	5	ZB6 YD425	ZB6 YC425	ZB6 YA425	0.001
R	Blue	5	ZB6 YD626	ZB6 YC626	ZB6 YA626	0.001
MONTEE	White	5	ZB6 YD129	ZB6 YC129	ZB6 YA129	0.001
	Black	5	ZB6 YD229	ZB6 YC229	ZB6 YA229	0.001

1

1.2



ZB6 YD●16






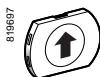
ZB6 YC●17



ZB6 YA●18

Pushbutton caps - marked (continued)

Marking	Colour	Sold in lots of	Unit reference			Weight kg
White on coloured cap Black on white cap			Head 	Head 	Head 	
For non illuminated pushbuttons						
UP	White	5	ZB6 YD127	ZB6 YC127	ZB6 YA127	0.001
	Black	5	ZB6 YD227	ZB6 YC227	ZB6 YA227	0.001
DESCENTE	White	5	ZB6 YD130	ZB6 YC130	ZB6 YA130	0.001
	Black	5	ZB6 YD230	ZB6 YC230	ZB6 YA230	0.001
DOWN	White	5	ZB6 YD128	ZB6 YC128	ZB6 YA128	0.001
	Black	5	ZB6 YD228	ZB6 YC228	ZB6 YA228	0.001
AB	White	5	ZB6 YD134	ZB6 YC134	ZB6 YA134	0.001
	Black	5	ZB6 YD234	ZB6 YC234	ZB6 YA234	0.001
FERME	White	5	ZB6 YD133	ZB6 YC133	ZB6 YA133	0.001
	Black	5	ZB6 YD233	ZB6 YC233	ZB6 YA233	0.001
CLOSE	White	5	ZB6 YD132	ZB6 YC132	ZB6 YA132	0.001
	Black	5	ZB6 YD232	ZB6 YC232	ZB6 YA232	0.001
ZU	White	5	ZB6 YD131	ZB6 YC131	ZB6 YA131	0.001
	Black	5	ZB6 YD231	ZB6 YC231	ZB6 YA231	0.001
↑	White	5	ZB6 YD119	ZB6 YC119	ZB6 YA119	0.001
	Black	5	ZB6 YD219	ZB6 YC219	ZB6 YA219	0.001
↓	White	5	ZB6 YD120	ZB6 YC120	ZB6 YA120	0.001
	Black	5	ZB6 YD220	ZB6 YC220	ZB6 YA220	0.001
→	White	5	ZB6 YD121	ZB6 YC121	ZB6 YA121	0.001
	Black	5	ZB6 YD221	ZB6 YC221	ZB6 YA221	0.001
←	White	5	ZB6 YD122	ZB6 YC122	ZB6 YA122	0.001
	Black	5	ZB6 YD222	ZB6 YC222	ZB6 YA222	0.001



ZB6 YD●19



ZB6 YC●19



ZB6 YA●19

Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

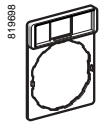
Component parts, spare parts and accessories, ZB6

1

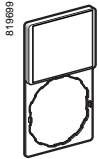


ZB6 YK●

1.2



ZB6 YD20



ZB6 YD30●



ZB6 Y1001



ZB6 Y3001

Handles

Description	Colour	Sold in lots of	Unit reference	Weight kg
Component parts				
Handles for illuminated selector switches (1)	White	5	ZB6 YK1	0.002
	Green	5	ZB6 YK3	0.002
	Red	5	ZB6 YK4	0.002
	Yellow	5	ZB6 YK5	0.002
	Blue	5	ZB6 YK6	0.002
	Orange	5	ZB6 YK8	0.002

Replacement parts

Handles for non illuminated selector switches	Black	1	ZB6 YD2	0.002
	Red	1	ZB6 YD4	0.002

Legend holder 24 x 48 mm (size 1) for 8 x 21 mm legend (2)

Description	Legend plate colour	Sold in lots of	Unit reference	Weight kg
Without legend	–	10	ZB6 YD20	0.001
With blank legend	White or yellow background	10	ZB6 YD21	0.001
	Black or red background	10	ZB6 YD22	0.001

Legend holder 24 x 36 mm (size 2) for 16 x 21 mm legend (2)

Description	Legend plate colour	Sold in lots of	Unit reference	Weight kg
Without legend	–	10	ZB6 YD30	0.001
With blank legend	White or yellow background	10	ZB6 YD31	0.001
	Black or red background	10	ZB6 YD32	0.001

Blank legends

Dimensions	For use with	Colour	Sold in lots of	Unit reference	Weight kg
8 x 21 mm	Size 1 legend holder ZB6 YD20	Yellow or white background	20	ZB6 Y1001	0.001
		Black or red background	20	ZB6 Y2001	0.001
16 x 21 mm	Size 2 legend holder ZB6 YD30	Yellow or white background	20	ZB6 Y4001	0.001
		Black or red background	20	ZB6 Y3001	0.001

Legends for engraving (3)

Dimensions	For use with	Colour	Sold in lots of	Unit reference	Weight kg
8 x 21 mm	Size 1 legend holder ZB6 YD20	Yellow or white background	10	ZB6 Y1900	0.001
		Black or red background	10	ZB6 Y2900	0.001
16 x 21 mm	Size 2 legend holder ZB6 YD30	Yellow or white background	10	ZB6 Y4900	0.001
		Black or red background	10	ZB6 Y3900	0.001

(1) Handle for use in conjunction with a head without a handle (see page 1/23) and a body sub-assembly for illuminated pushbuttons (see page 1/18).

(2) For legends, see below and also following page.

(3) Pre-engraved legends. When ordering, clearly state the background colour, text to be engraved (either 1 line for 8 x 21 mm or 2 lines for 16 x 21 mm legends - in both cases, 10 characters max. per line) and the quantity. Minimum quantity: 25 identical legends.

Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Accessories, ZB6

8 x 21 mm marked legends (for "size 1" 24 x 28 mm legend holders ZB6 YD20)



ZB6 Y2178



ZB6 Y2104



ZB6 Y2304



ZB6 Y2204



ZB6 Y2404

Colour	Marking		Sold in lots of	Unit reference	Weight kg	
Black or red background (1)	International	O-I	5	ZB6 Y2178	0.001	
		I-II	5	ZB6 Y2179	0.001	
		I-O-II	5	ZB6 Y2186	0.001	
		← O →	5	ZB6 Y2190	0.001	
	French	ARRET	5	ZB6 Y2104	0.001	
		ARRIERE	5	ZB6 Y2106	0.001	
		AVANT	5	ZB6 Y2105	0.001	
		DEFAULT	5	ZB6 Y2134	0.001	
		DESCENTE	5	ZB6 Y2108	0.001	
		DROITE	5	ZB6 Y2109	0.001	
		EN SERVICE	5	ZB6 Y2111	0.001	
		FERME	5	ZB6 Y2114	0.001	
		GAUCHE	5	ZB6 Y2110	0.001	
		HORS SERVICE	5	ZB6 Y2112	0.001	
		OUVERT	5	ZB6 Y2113	0.001	
		MAIN-O-AUTO	5	ZB6 Y2187	0.001	
		MARCHE	5	ZB6 Y2103	0.001	
		MONTEE	5	ZB6 Y2107	0.001	
		REARMEMENT	5	ZB6 Y2123	0.001	
		English	HAND-O-AUTO	5	ZB6 Y2387	0.001
			CLOSE	5	ZB6 Y2314	0.001
			DOWN	5	ZB6 Y2308	0.001
	FORWARD		5	ZB6 Y2305	0.001	
	FAULT		5	ZB6 Y2334	0.001	
	LEFT		5	ZB6 Y2310	0.001	
	OFF		5	ZB6 Y2312	0.001	
	ON		5	ZB6 Y2303	0.001	
	OPEN		5	ZB6 Y2313	0.001	
	RESET		5	ZB6 Y2323	0.001	
	REVERSE		5	ZB6 Y2306	0.001	
	RIGHT		5	ZB6 Y2309	0.001	
	RUN		5	ZB6 Y2311	0.001	
	STOP		5	ZB6 Y2304	0.001	
	UP		5	ZB6 Y2307	0.001	
	German		AB	5	ZB6 Y2208	0.001
		AUF	5	ZB6 Y2207	0.001	
		AUS	5	ZB6 Y2212	0.001	
		BETRIEB	5	ZB6 Y2211	0.001	
		EIN	5	ZB6 Y2203	0.001	
		HALT	5	ZB6 Y2204	0.001	
		HAND-O-AUTO	5	ZB6 Y2287	0.001	
		LINKS	5	ZB6 Y2210	0.001	
ÖFFNEN		5	ZB6 Y2213	0.001		
RECHTS		5	ZB6 Y2209	0.001		
RÜCKSTELLUNG		5	ZB6 Y2223	0.001		
SCHLIESSEN		5	ZB6 Y2214	0.001		
STÖRUNG		5	ZB6 Y2234	0.001		
VOR		5	ZB6 Y2205	0.001		
ZURÜCK		5	ZB6 Y2206	0.001		
Spanish		ADELANTE	5	ZB6 Y2405	0.001	
	APERTURA	5	ZB6 Y2413	0.001		
	ATRAS	5	ZB6 Y2406	0.001		
	BAJADA	5	ZB6 Y2408	0.001		
	CIERRE	5	ZB6 Y2414	0.001		
	DEFECTO	5	ZB6 Y2434	0.001		
	DERECHA	5	ZB6 Y2409	0.001		
	EN SERVICIO	5	ZB6 Y2411	0.001		
	FUERA SERV.	5	ZB6 Y2412	0.001		
	IZQUIERDA	5	ZB6 Y2410	0.001		
	MARCHA	5	ZB6 Y2403	0.001		
	PARADA	5	ZB6 Y2404	0.001		
	REARME	5	ZB6 Y2423	0.001		
	SUBIDA	5	ZB6 Y2405	0.001		

(1) "Start" functions: white letters on black background. "Stop" and "Fault" functions: white letters on red background.

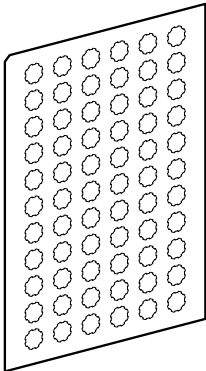
Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

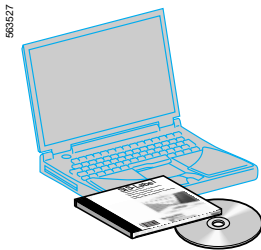
Accessories, ZB6

1



ZB6 YA003

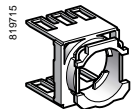
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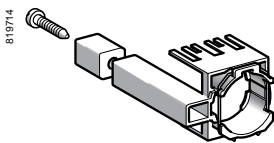
XBY2U



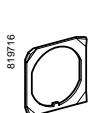
ZB6 Y7330



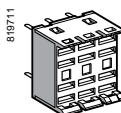
ZB6 Y009



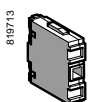
ZB6 Y011



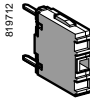
ZB6 Y003



ZB6 Y010



ZB6 Y006



ZB6 Y006A

Sheets of peel-off legends

Description	For use with	Sold in lots of	Unit reference	Weight kg
Sheets of 66 circular peel-off transparent self-adhesive legends	Rectangular pilot lights	10	ZB6 YD003	0.030
	Square pilot lights	10	ZB6 YC003	0.030
	Circular pilot lights	10	ZB6 YA003	0.030
	Rectangular illuminated pushbuttons	10	ZB6 YD013	0.030
	Square illuminated pushbuttons	10	ZB6 YC013	0.030
	Circular illuminated pushbuttons	10	ZB6 YA013	0.030

"SIS Label" labelling software

Application	Reference	Weight kg
Legend design for English, French, German, Italian, Spanish	XBY 2U	0.100

Circular legends for Emergency stop mushroom head pushbuttons (yellow)

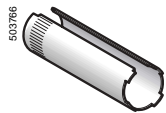
Diameter mm	Marking on yellow background	Reference	Weight kg
45	Without	ZB6 Y7001	0.001
	ARRET D'URGENCE	ZB6 Y7130	0.001
	EMERGENCY STOP	ZB6 Y7330	0.001
	PARADA EMERGENCIA	ZB6 Y7430	0.001
	ARRESTO EMERGENZA	ZB6 Y7630	0.001
	NOT-AUS	ZB6 Y7230	0.001

Accessories

Description	Application	Sold in lots of	Unit reference	Weight kg	
Body/fixing collar	For mounting contact blocks	10	ZB6 Y009	0.002	
Body bracket (fixing screws included)	Printed circuit board mounting	4	ZB6 Y011	0.010	
Anti-rotation plate	Selector switches	10	ZB6 Y003	0.001	
Nut	Securing head on support	10	ZB6 Y002	0.001	
Plug-in socket adaptor	Printed circuit board mounting	10	ZB6 Y010	0.004	
Dummy contact block housing (without contacts)	Printed circuit board mounting	Without pins for printed circuit	10	ZB6 Y006	0.001
		With pins for printed circuit	10	ZB6 Y006A	0.001



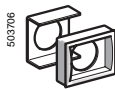
ZB6 Y905



ZB6 Y906



ZB6 YC002



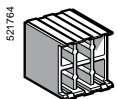
ZB6 YD002



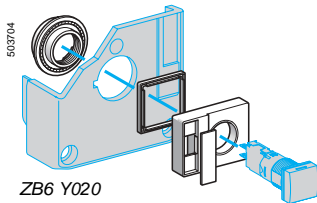
ZB6 YA001



ZB6 YD001



ZB6 Y001



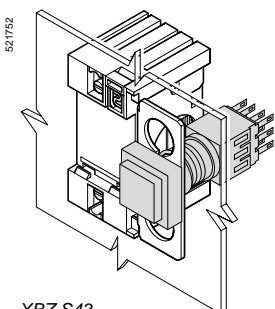
ZB6 Y020



ZB6 Y005



ZB6 Y007



XBZ S43

Accessories (continued)

Description	Application	Sold in lots of	Unit reference	Weight kg
Dismantling tool	Removal of contact blocks from body/fixing collar	5	ZB6 Y018	0.005
Extractor	Removal of pushbutton caps	5	ZB6 Y016	0.010
Bezel tightening tool + bulb extractor	Tightening and slackening the bezel and changing bulbs	2	ZB6 Y905	0.006
Metal assembly tool	Tightening of fixing nut	1	ZB6 Y906	0.022
Dismantling tool kit, comprising 3 tools	Removal of contacts, fixing nuts and pushbutton caps	1	ZB6 Y019	0.030
Connecting cable with 2 pin connector (5 mm pitch) and 2 pin Faston connector Length: 50 mm Wire c.s.a.: 0.75 mm ²	Ø 16 units	8	APE 1C1250	0.130
Adaptors for flush mounting	For flush mounting a circular pushbutton, switch or pilot light in a Ø 22 hole	10	ZB6 YA002	0.030
	For flush mounting a square pushbutton, switch or pilot light in a 21 x 21 square hole	5	ZB6 YC002	0.032
	For flush mounting a rectangular pushbutton, switch or pilot light in a 21 x 27 rectangular hole	5	ZB6 YD002	0.032
Protective cover	Protection of contacts against direct finger contact	10	ZB6 Y001	0.005
Protective shutters	Circular and square pushbuttons and switches	1	ZB6 YA001	0.003
	Rectangular pushbuttons and switches	1	ZB6 YD001	0.003
Adaptor for XAL control station (Ø 22 to Ø 16 reducer)	Ø 16 circular, square or rectangular units	5	ZB6 Y020	0.038
Female Faston connector	–	100	ZB6 Y004	0.002
Blanking plug	–	10	ZB6 Y005	0.001
Ronis key	Key switches	2	ZB6 Y007	0.006
DOM 311 key	Key switches	2	ZB6 Y008	0.006
Incandescent bulbs, bayonet T1 1/4	6 V	6	ZB6 YA006	0.002
	12 V	10	ZB6 YJ012	0.002
	24 V (1)	20	ZB6 YB028	0.002
Neon bulbs	110/230V (2)	5	ZB6 YG095	0.002
Link	Operation of 3rd contact	10	ZB6 Y017	0.002

AS-Interface module S7.F profile



Description	Indicator "on" signalling mode	Reference	Weight kg
Panel fixing, in conjunction with a Harmony pushbutton or switch			
Interface 4 inputs/ 4 outputs	Steady	XBZ S43	0.185
Inputs for digital contacts	Steady or flashing depending on parameter settings	XBZ S44	0.185
Outputs for indicators			
Bracket for use when mounting on DIN rail	–	ZBZ S6	0.085

(1) 28 V bulb supplied for use on 24 V.

(2) 95 V bulb supplied for use on 110/230 V.

1

1.2

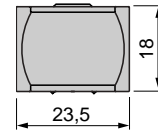
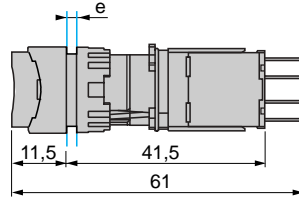
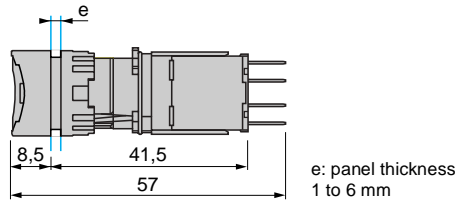
Pushbuttons (illuminated and non illuminated)

Rectangular head

XB6 DW●●●●, DF●●●●, DA●●●●

XB6 DE●●●●

Common face view

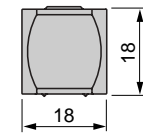
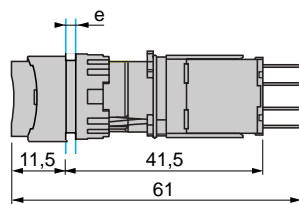
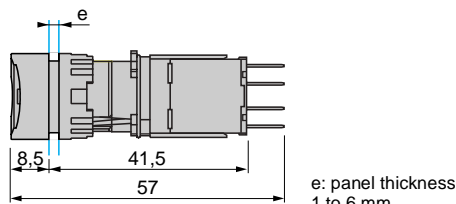


Square head

XB6 CW●●●●, CF●●●●, CA●●●●

XB6 CE●●●●

Common face view

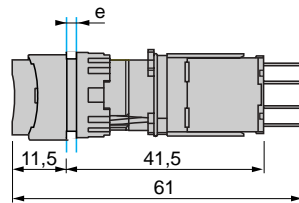
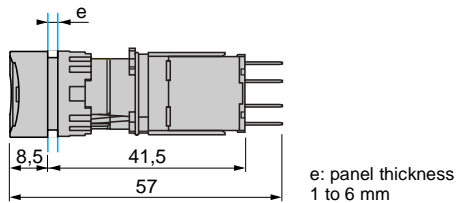


Circular head

XB6 AW●●●●, AF●●●●, AA●●●●

XB6 AE●●●●

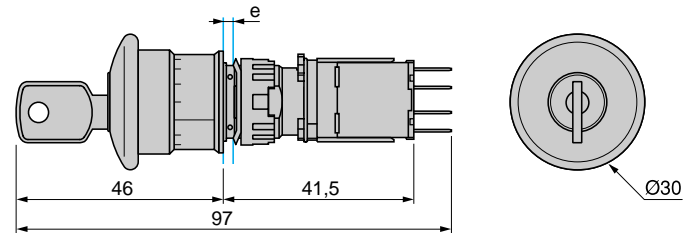
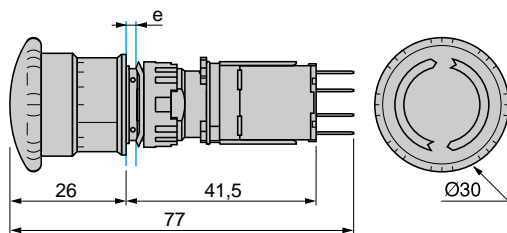
Common face view



Mushroom head pushbuttons

XB6 AS8349B

XB6 AS9349B



e: panel thickness 1 to 6 mm

Pilot lights

Common side view

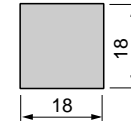
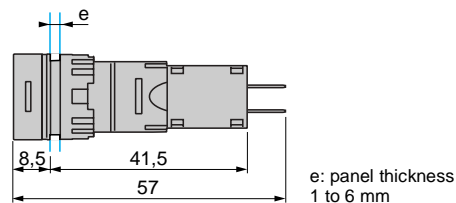
XB6 DV●●●, XB6 CV●●●

Rectangular head

XB6 DV●●●

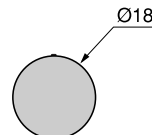
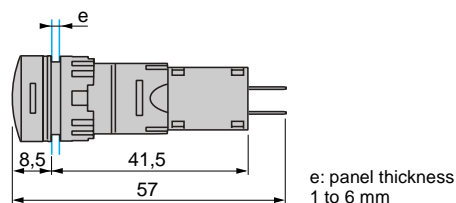
Square head

XB6 CV●●●



Circular head

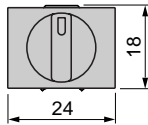
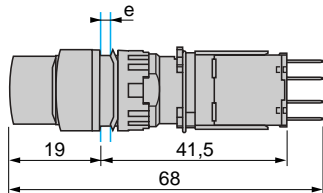
XB6 AV●●●



Selector switches, standard handle

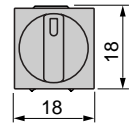
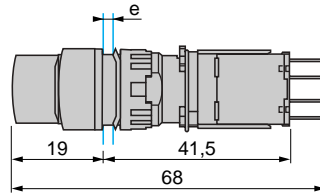
Rectangular head

XB6 DD●●●●



Square head

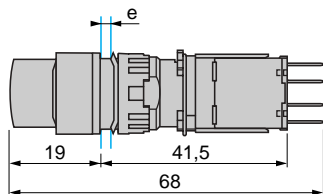
XB6 CD●●●●



e: panel thickness 1 to 6 mm

Circular head

XB6 AD●●●●

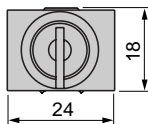
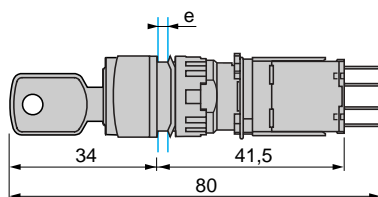


e: panel thickness 1 to 6 mm

Key switches

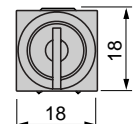
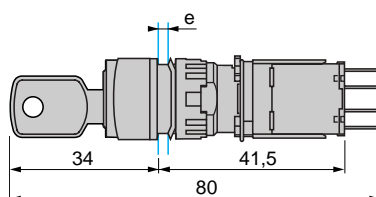
Rectangular head

XB6 DG●●●●



Square head

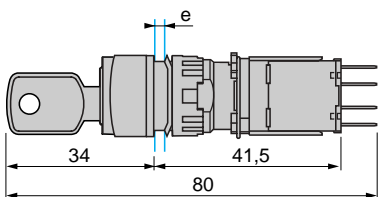
XB6 CG●●●●



e: panel thickness 1 to 6 mm

Circular head

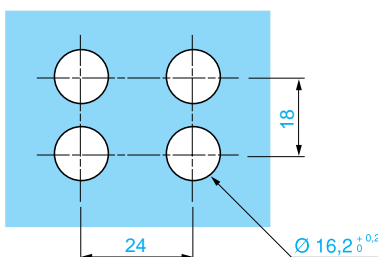
XB6 AG●●●●



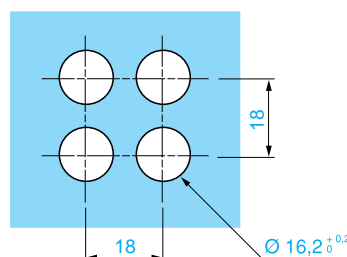
e: panel thickness 1 to 6 mm

Panel cut-out and mounting

For rectangular head



For square or circular head



Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Sub-assemblies, ZB6

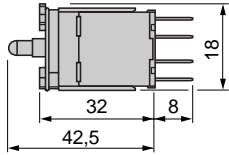
1

1.2

Pushbuttons

Bodies for illuminated pushbuttons

ZB6 Z●●B



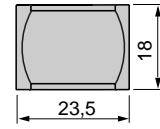
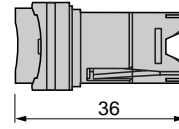
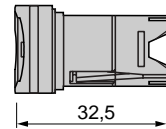
Heads for illuminated and non illuminated pushbuttons

Rectangular

ZB6 DW●●, DF●, DA●

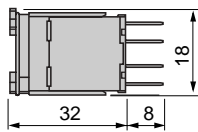
ZB6 DE●

Common face view



Bodies for non illuminated pushbuttons

ZB6 Z●B

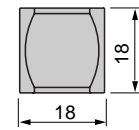
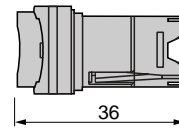
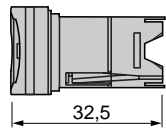


Square

ZB6 CW●●, CF●, CA●

ZB6 CE●

Common face view

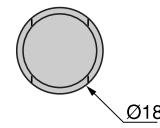
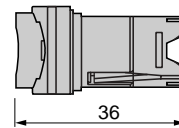
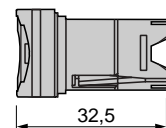


Circular

ZB6 AW●●, AF●, AA●

ZB6 AE●

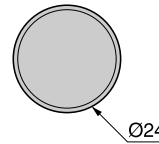
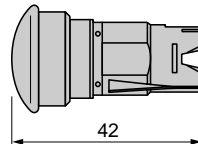
Common face view



Heads for mushroom head pushbuttons

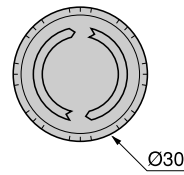
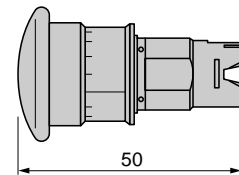
Spring return

ZB6 AC●

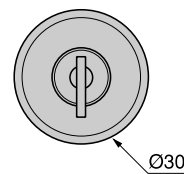
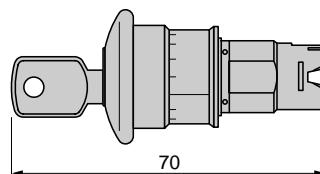


Trigger action

ZB6 AS834



ZB6 AS934



Pilot lights

Bodies

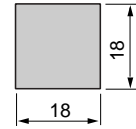
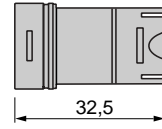
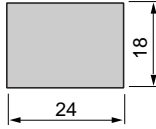
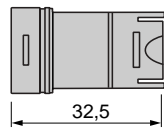
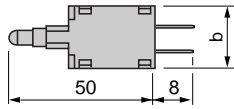
ZB6 EB●●

Rectangular head

ZB6 DV●

Square head

ZB6 CV●



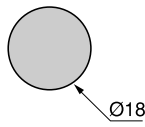
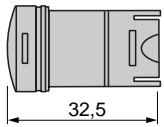
b

ZB6 EB●B 13.5

ZB6 EB●A 15.5

Circular head

ZB6 AV●



Selector switches, standard handle

Bodies

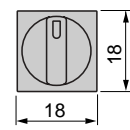
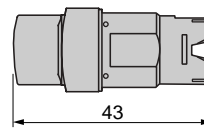
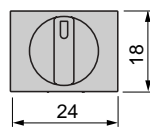
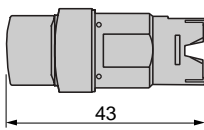
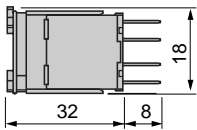
ZB6 Z●B

Rectangular head

ZB6 DD●●

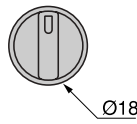
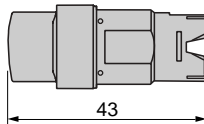
Square head

ZB6 CD●●



Circular head

ZB6 AD●●



Key switches

Bodies

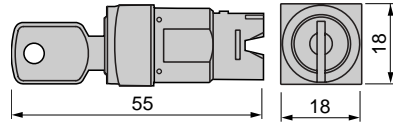
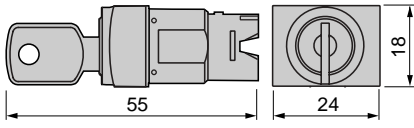
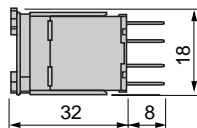
ZB6 Z●B

Rectangular head

ZB6 DG●

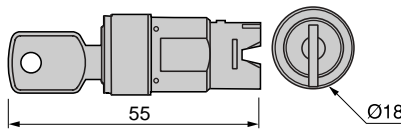
Square head

ZB6 CG●



Circular head

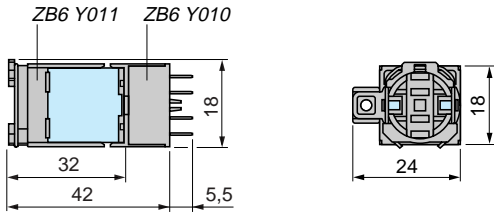
ZB6 AG●



1

Plug-in socket adaptor for printed circuit board mounting and body bracket

ZB6 Y010 + ZB6 Y011



1.2

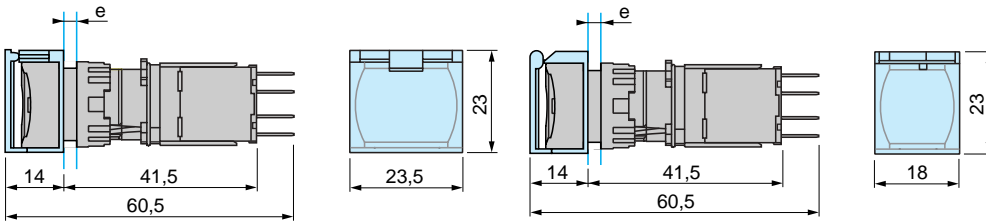
Protective shutter

For rectangular head

ZB6 YD001

For square or circular head

ZB6 YA001

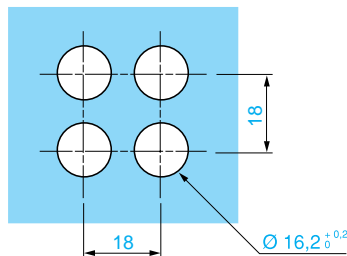
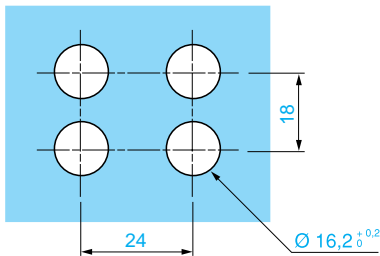


e: panel thickness 1 to 6 mm

Panel cut-out and mounting

Rectangular head

Square or circular head



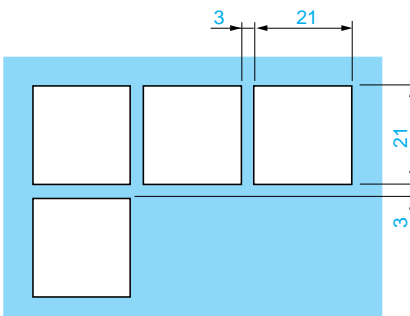
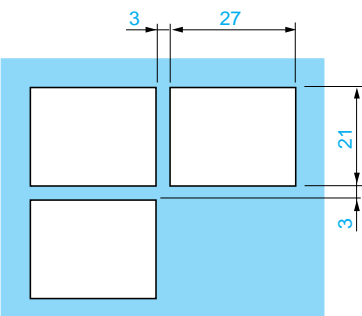
With flush mounting kit

For rectangular head

ZB6 YD002

For square head

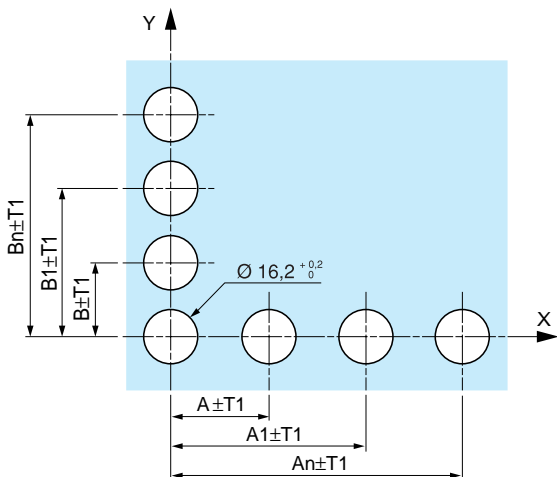
ZB6 YC002



Pushbuttons, switches and pilot lights for printed circuit board connection

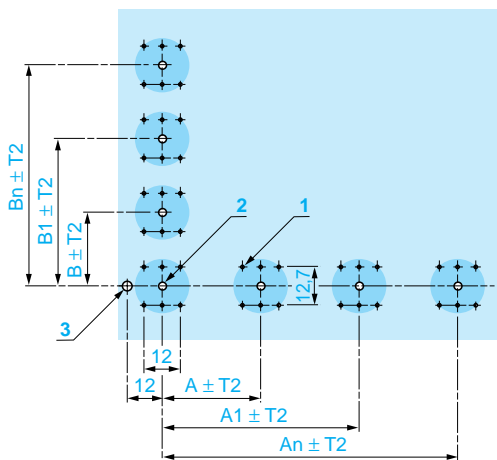
Front panel cut-out (viewed from installer's side)

Dimensions in mm



Printed circuit board drillings (viewed from electrical block side) (1)

Dimensions in mm



A: 24 minimum for rectangular heads
18 minimum for square or circular heads

B:: 18 minimum

1 6 x Ø 1.1 mm holes.

2 1 x Ø 2.6 $\frac{0}{-0.2}$ hole for locating pin, only when using socket adaptor ZB6 Y010.

3 1 x Ø 3.2 $\frac{0}{-0.2}$ hole for fixing of printed circuit board onto the front panel using body bracket ZB6 Y011.

This hole must be drilled on the left-hand side, when heads are positioned at the normal angle.

Fit a body bracket ZB6 Y011 every 72 mm maximum for cut-outs on 24 mm centres (rectangular heads) and 54 mm maximum for cut-outs on 18 mm centres (square or circular heads).

General tolerances of the panel and printed circuit board: T1, T2

The cumulative tolerance must not exceed 0.3 mm: **T1 + T2 = 0.3 mm maximum.**

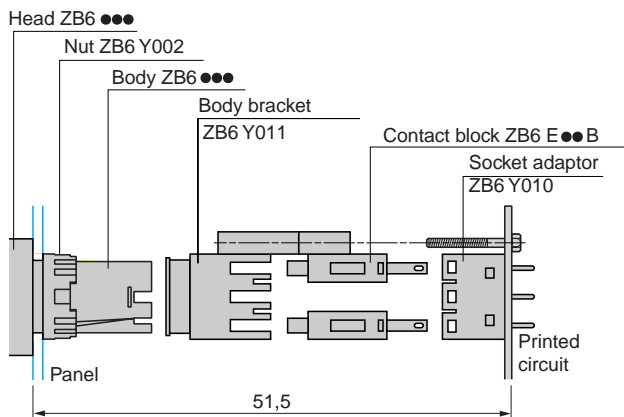
Installation precautions:

Thickness of printed circuit board: 1.6 mm minimum.

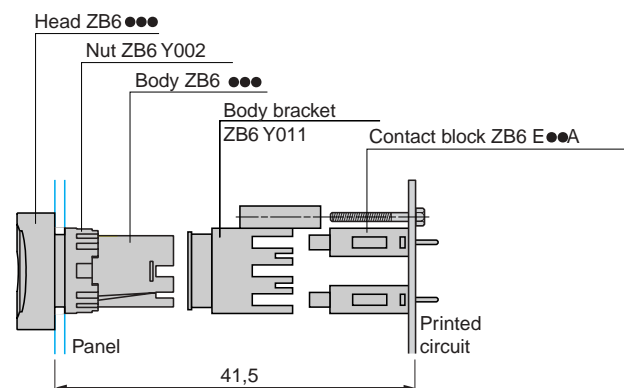
(1) The cut-out dimensions are the same for direct mounting and for mounting using socket adaptor ZB6 Y010.

Mounting with body bracket

With socket adaptor ZB6 Y010



Direct mounting without socket adaptor ZB6 Y010



Order form

(specimen suitable for photocopying)

Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Legends with special markings, ZB6 (sold in lots of 10)

1

Customer			Schneider Electric	
Company	Order N°	Delivery	Sales Office - Subsidiary Company	Order N°

Lot reference of legends with special marking	Total number of legends	Total price
ZB6 ACD3S		

1.2

Legends for illuminated pushbuttons

Rectangular shape

TOTAL



Number of lots:

Square shape

TOTAL



Number of lots:

Circular shape

TOTAL



Number of lots:

Legends for pilot lights

Rectangular shape

TOTAL



Number of lots:

Square shape

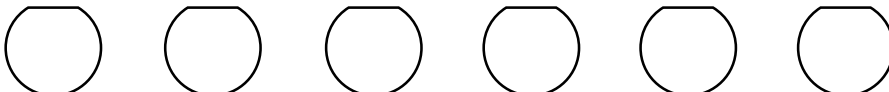
TOTAL



Number of lots:

Circular shape

TOTAL



Number of lots:

Control and signalling units Ø 16

Harmony® style 6

Pushbuttons, switches and pilot lights with double insulated bezel

Legends with special markings, ZB6 (sold in lots of 10)

1

1.2

Customer			Schneider Electric	
Company	Order N°	Delivery	Sales Office - Subsidiary Company	Order N°

Lot reference of pushbutton caps with special marking	Total no. of pushbutton caps	Total price
ZB6 YACDS		

Pushbutton caps

Rectangular shape

							TOTAL
Colour (1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Number of lots:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Square shape

							TOTAL
Colour (1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Number of lots:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Circular shape

							TOTAL
Colour (1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Number of lots:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(1) Indicate, in each box, the number corresponding to the colour of the required pushbutton cap:

White: 1 Black: 2 Green: 3 Red: 4 Yellow: 5 Blue: 6

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

1

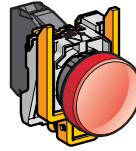
Description

The Ø 22 range of metal control and signalling units comprises:

Complete units XB4 B

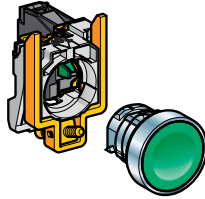


Pushbuttons and switches

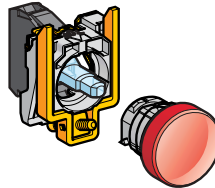


Pilot lights

Sub-assemblies ZB4 B



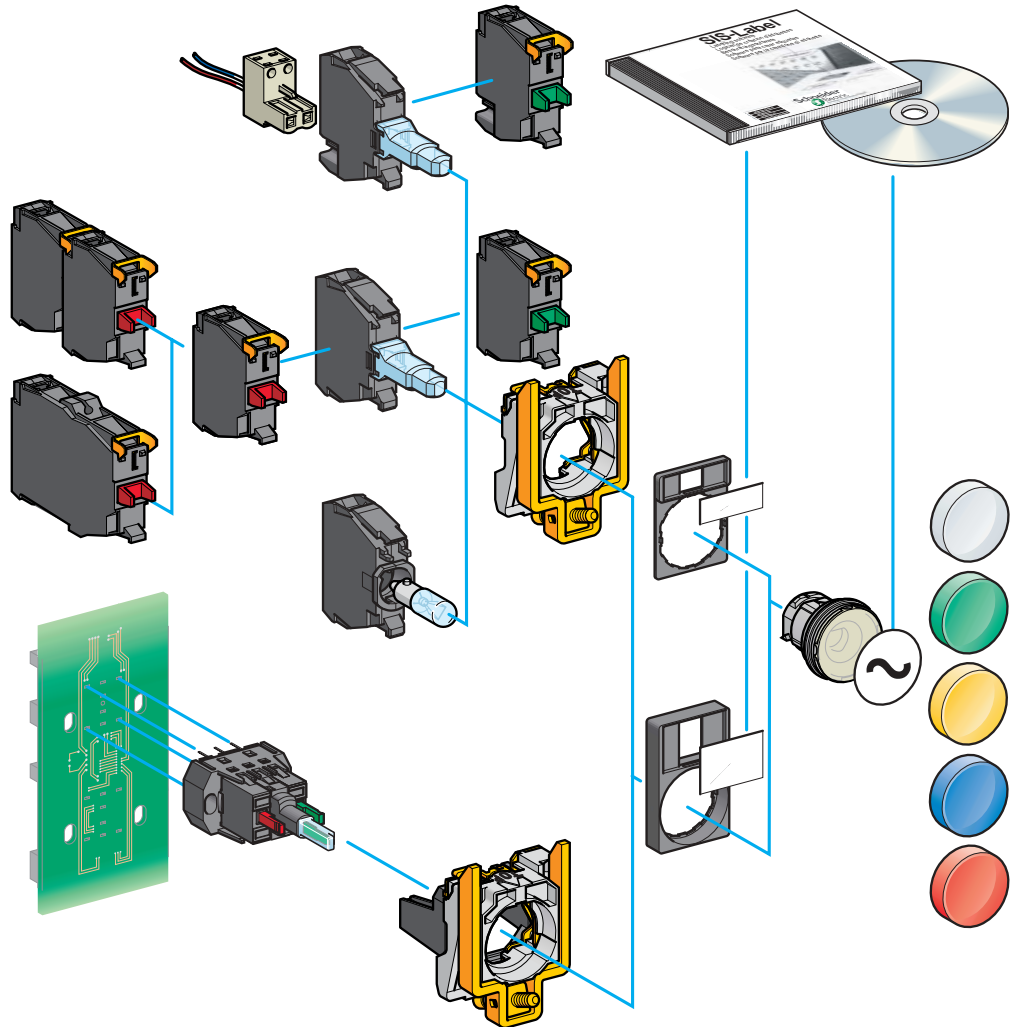
Pushbuttons and switches: body + head sub-assemblies



Pilot lights: body + head sub-assemblies

1.3

ZB component parts and accessories



Schematic library

Contact functions (pushbuttons and Emergency stop pushbuttons)

Pushbutton N/O contact	Pushbutton N/C contact	Mushroom head spring return N/O contact	Emergency stop mushroom head - Push-pull N/C contact
Emergency stop trigger action mushroom head Push-pull N/O + N/C contacts	Emergency stop mushroom head Turn to release N/C contact	Emergency stop mushroom head Turn to release, with key N/C contact	Emergency stop trigger action mushroom head Turn to release N/O + N/C contacts
Emergency stop mushroom head Trigger action Turn to release, with key N/O+ N/C contacts	Double-headed pushbutton N/O+ N/C contacts	Early make contact block N/O contact	Late break contact block N/C contact

Contact functions (selector switches)

Selector switch 2-position stay put N/O contact	Selector switch 3-position stay put N/O + N/O contacts	Selector switch 3-position, 2 spring return to centre N/O + N/O contacts	Selector switch 2-position stay put, key withdrawal from LH position - N/O contact
Selector switch 2-position spring return from right to left, key withdrawal from LH position - N/O contact			

Signalling functions

Pilot light with BA 9s incandescent bulb	LED pilot light	Pilot light with integral transformer ~ 230 V primary, 6 V secondary BA 9s incandescent bulb or LED

Combined functions, contact + signalling (pushbuttons and selector switches)

Illuminated pushbutton BA 9s incandescent bulb N/O + N/C contacts	Illuminated pushbutton with LED N/O + N/C contacts	Illuminated pushbutton with integral transformer, ~ 230 V 50/60 Hz primary, 6 V secondary BA 9s incandescent bulb or LED N/O + N/C contacts
Double-headed pushbutton with LED pilot light	Illuminated selector switch with LED - 2-position stay put N/O + N/C contacts	

Joystick controller functions

<p>2 direction</p> <p>Without spring return</p> <p>With spring return</p>	<p>4 direction</p> <p>Without spring return</p> <p>With spring return</p>
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Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

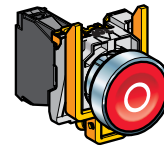
Complete units, XB4 B

1

Complete units

Contact functions

Pushbuttons, spring return

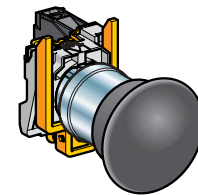
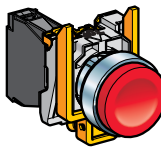


Flush push

XB4 BA61/BA42
see page 1/54

XB4 BA3311
see page 1/54

XB4 BA4322
see page 1/54



Booted flush push

XB4 BP61/BP42
see page 1/54

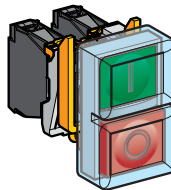
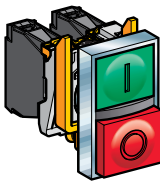
Projecting push

XB4 BL42
see page 1/54

Mushroom head

XB4 BC21
see page 1/54

Double-headed pushbuttons, spring return



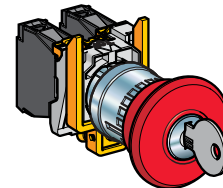
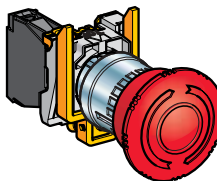
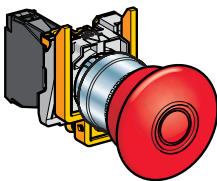
Flush push + projecting push

XB4 BL845
see page 1/54

Booted flush push + projecting push

XB4 BL945
see page 1/54

Ø 40 Emergency stop mushroom head pushbuttons with or without trigger action



Push-pull

XB4 BT42/BT845
see page 1/55

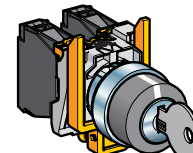
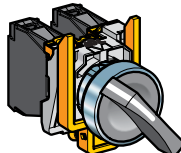
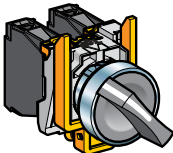
Turn to release

XB4 BS542/BS8445
see page 1/55

Key release

XB4 BS142/BS9445
see page 1/55

Selector switches and key switches



Standard black handle

XB4 BD
see page 1/55

Long black handle

XB4 BJ
see page 1/55

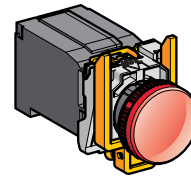
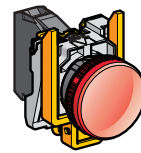
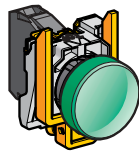
Key switches

XB4 BG
see page 1/55

Complete units

Signalling functions

Pilot lights



With integral LED

XB4 BVB/BVG/BVM
see page 1/56

For BA 9s bulb
Direct supply

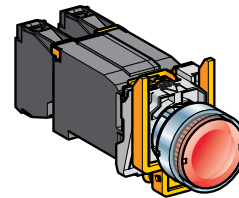
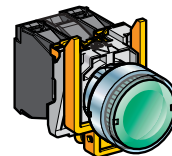
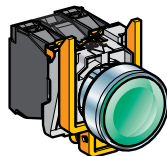
XB4 BV6
see page 1/57

Via integral transformer

XB4 BV3/BV4
see page 1/57

Combined functions (contact + signalling)

Illuminated pushbuttons, spring return, flush push



With integral LED

XB4 BW3•B5/BW3•G5/BW3•M5
see page 1/58

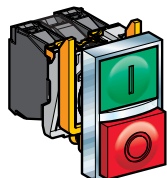
For BA 9s bulb
Direct supply

XB4 BW3•65
see page 1/58

Via integral transformer

XB4 BW3•35/BW3•45
see page 1/59

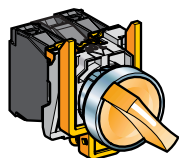
Double-headed pushbuttons, spring return, with pilot light



With integral LED

XB4 BW84•5
see page 1/59

Illuminated selector switches, standard handle



With integral LED

XB4 BK12•B5/BK12•G5/BK12•M5
see page 1/59

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Sub-assemblies, ZB4 B

1

Non illuminated units for user assembly

For pushbuttons, spring return, without marking

1.3

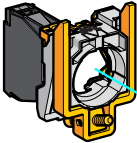
For pushbuttons, spring return, with marking

For "push-push to release" pushbuttons

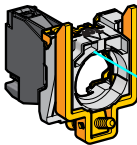
For double-headed pushbuttons, spring return

Contact functions

Body sub-assemblies



Screw clamp terminals
ZB4 BZ10/BZ141
see page 1/60



Plug-in connector
ZB4 BZ104/BZ1414
see page 1/60

Head sub-assemblies



Flush push without cap
ZB4 BA0
see page 1/61



Flush push with set of 6 caps
ZB4 BA9
see page 1/61



Flush push
ZB4 BA
see page 1/61



Flush push for insertion of legend
ZB4 BA8
see page 1/61



Projecting push
ZB4 BL
see page 1/61



Recessed push
ZB4 BA6
see page 1/61



Booted flush push
ZB4 BP
see page 1/61



Booted flush push for insertion of legend
ZB4 BP8
see page 1/61



Flush push
ZB4 BA33/34
ZB4 BA334/335
see page 1/62



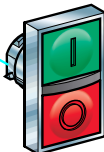
Projecting push
ZB4 BL3
see page 1/62



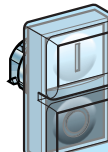
Flush push
ZB4 BH0
see page 1/62



Projecting push
ZB4 BH
see page 1/62



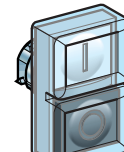
Flush pushes (IP 40/IP 66)
Without/with marking
ZB4 BA81
ZB4 BA82
see page 1/63



ZB4 BA91
ZB4 BA92
see page 1/63



Flush push + projecting push (IP 40/IP 66)
Without/with marking
ZB4 BL83
ZB4 BL84
see page 1/63



ZB4 BL93
ZB4 BL94
see page 1/63

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

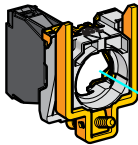
Sub-assemblies, ZB4 B

Non illuminated units for user assembly (continued)

Contact functions

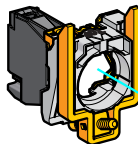
For mushroom head pushbuttons, spring return

Body sub-assemblies



Screw clamp terminals
ZB4 BZ10/BZ141
see page 1/60

For mushroom head pushbuttons, latching, with or without trigger action

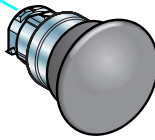


Plug-in connector
ZB4 BZ10/4/BZ1414
see page 1/60

For selector switches and key switches

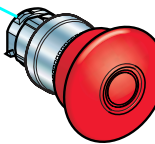
For toggle switches

Head sub-assemblies



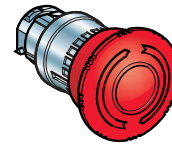
• •
• •
• •
Ø 30
Ø 40
Ø 60

Spring return
ZB4 BC/BR
see page 1/64



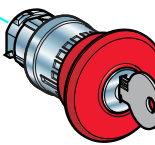
• •
• •
Ø 40
Ø 60

Push-pull
ZB4 BT84, ZB4 BT/ BX
see page 1/65



• •
• •
• •
Ø 30
Ø 40
Ø 60

Turn to release
ZB4 BS9/4, ZB4 BS4/BS5/BS6
see page 1/65



• •
• •
Ø 30
Ø 40
Ø 60

Key release
ZB4 BS9/4/BS7/BS1/BS2
see page 1/65



Standard black handle (1)
ZB4 BD
see page 1/66



Long black handle (1)
ZB4 BJ
see page 1/66



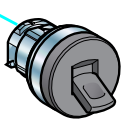
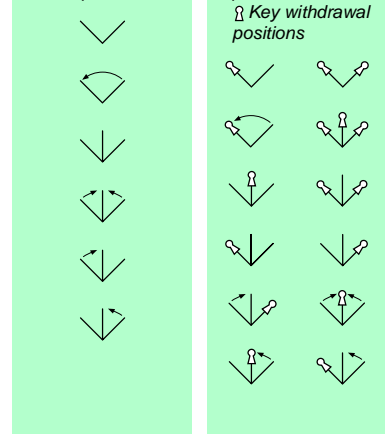
Knurled black knob (1)
ZB4 BD/3
see page 1/66



Key switch (2)
ZB4 BG
see page 1/67

(1) Switch handle and knob positions

(2) Key switch positions



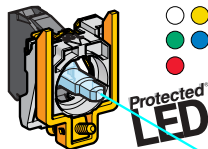
2-position
ZB4 BD/3
see page 1/96

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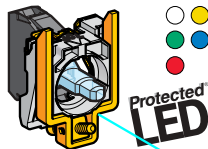
Pilot lights for user assembly

Signalling functions

Body sub-assemblies with integral LED

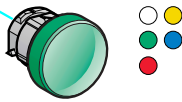


Screw clamp terminals
ZB4 BVB/BVG/BVM
see page 1/68

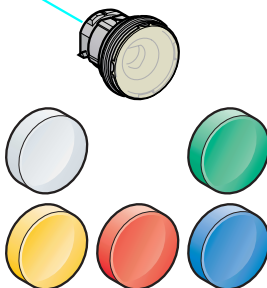


Plug-in connector
ZB4 BVB•4/BVC•4/
BVM•4
see page 1/68

Head sub-assemblies



With lens mounted
ZB4 BV0•3
see page 1/69

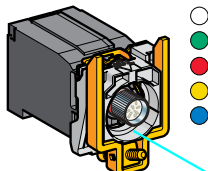


With 5 separate lenses not mounted
ZB4 BV003
see page 1/69

Body sub-assemblies for BA 9s bulb

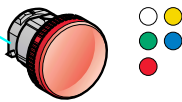


Direct supply
Screw clamp terminals
ZB4 BV6
see page 1/69



Via integral transformer
Screw clamp terminals
ZB4 BV•/BV3D•/
BV5D• see page 1/69

Head sub-assemblies



With lens mounted
ZB4 BV0•Z
see page 1/69

Control and signalling units Ø 22

Harmony® style 4

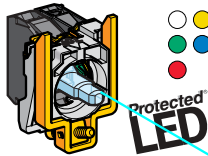
Pushbuttons, switches and pilot lights with chromium plated metal bezel

Sub-assemblies, ZB4 B

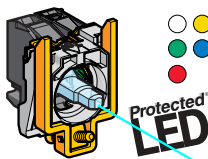
Illuminated pushbuttons for user assembly

For illuminated pushbuttons, spring return

Body sub-assemblies with integral LED



Screw clamp terminals
ZB4 BW08/BW0G/BW0M see pages 1/72 and 1/43



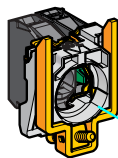
Plug-in connector
ZB4 BW08...4/BW0G...4/BW0M...4 see pages 1/74 and 1/43

For double-headed pushbuttons, spring return, with pilot light

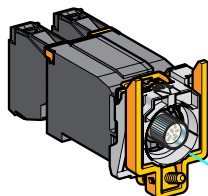
For illuminated, "push-push to release" push-buttons and illuminated selector switches with standard handle

For illuminated pushbuttons, spring return

Body sub-assemblies for BA9s bulb



Direct supply
Screw clamp terminals
ZB4 BW06 see page 1/76



Via integral transformer
Screw clamp terminals
ZB4 BW03/4/5/3D/5D see page 1/76

Combined functions (contact + signalling)

Head sub-assemblies



Flush push

ZB4 BW3p3 see page 1/77



Flush push with illuminated ring

ZB4 BW9...3 see page 1/77



Flush push for insertion of legend

ZB4 BA...8 see page 1/77



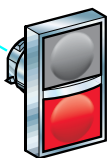
Booted flush push

ZB4 BW5...3 see page 1/77



Projecting push

ZB4 BW1...3 see page 1/77



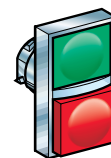
Flush push Without/with marking

ZB4 BW81...3 see page 1/78

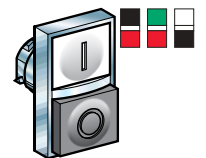


Flush push + projecting push Without/with marking

ZB4 BW82...3 see page 1/78



ZB4 BW83...3 see page 1/78



ZB4 BW84...3 see page 1/78



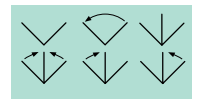
Flush or projecting "push-push to release"

ZB4 BH0...3/BH...3 see page 1/78



Selector switches with standard handle

ZB4 BK1...3 see page 1/79



1

1.3

Environment			
Protective treatment standard version			"TH" treatment
Ambient air temperature around the device	Storage	°C	- 40...+ 70
	Operation	°C	- 25...+ 70: LED and neon bulb versions - 25...+ 55: incandescent bulb version
Electric shock protection	Conforming to IEC 60536		Class I
Degree of protection	Conforming to IEC 60529		IP 66
	Conforming to NEMA		NEMA type 4X and 13, unless otherwise stated
Resistance to high pressure washer		Pa	70 x 10 ⁵ (70 bar); distance: 0.1 m Temperature: 55 °C
Mechanical shock protection	Conforming to IEC 50102		Non illuminated heads: IK 03
			Illuminated heads: IK 05
Conforming to standards			IEC/EN 60947-1, IEC/EN 60947-5-1, IEC/EN 60947-5-4, IEC/EN 60947-5-5, EN 418 (trigger action Emergency stop, see pages 1/55 and 1/65) JIS C 4520, UL 508, CSA C22-2 n° 14
Product certifications	UL Listed, CSA		Standard single contacts with screw clamp terminals: A600; Q600 Double contacts with screw clamp terminals: A600; Q600 Light blocks with screw clamp terminals Joystick controllers XD4 PA/ZD4 PA: A600; R300 Special contact blocks: □ ZBE 201: A300; Q300 □ ZBE 202: A600; Q600
	UL Recognized, CSA		Standard single contacts for plug-in connector: A300; R300 Standard contacts for printed circuit board: B300; R300
	BV, RINA, LROS, DNV, GL		Standard single contacts and double contacts with screw clamp terminals:
Terminal referencing	Conforming to EN 50005 and EN 50013		

Characteristics of contact or combined contact and light functions

Mechanical characteristics			
Contact operation	N/C or N/O		Slow break
Positive operation	Conforming to IEC/EN 60947-5-1 appendix K		All functions incorporating an N/C contact are positive opening operation
Operating travel (to change the electrical state)	Pushbutton	mm	Changing N/C state: 1.5 Changing N/O state: 2.6 Total travel: 4.3
Operating force	Pushbutton	N	Changing N/C state: 3.5 Changing N/O state: 3.8
	Additional contact only (extra to change state)	N	Single N/C contact: 2 Single N/O contact: 2.3
		N	Double N/C contact: 3.4 Double N/O contact: 5 Double contact N/C + N/O: 4.6
	Emergency stop with N/C + N/O	N	Standard push-pull: 45 Trigger action push-pull: 50
N		Standard turn to release and key release: 40 Standard turn to release and key release, trigger action: 44	

Characteristics of contact or combined contact and light functions (continued)

Mechanical characteristics (continued)

Operating torque (to change the electrical state)	Selector switches	N.m	N/O contact: 0.14
	Additional contact only	N.m	N/O contact: 0.05
Mechanical durability (in millions of operating cycles)	Pushbutton	Spring	5
		Double-headed	1
		Push-push to release	0.5
	Selector switch	Non illuminated	3
		Illuminated	1
	Toggle switches		0.5
	Emergency stop pushbuttons		0.3 with 3 contacts
	Joystick controllers		1
	Standard contact block only		5
	Low power switching contact block only (dust protected)		0.5
Vibration resistance	Conforming to IEC 60068-2-6		Frequency: 2 to 500 Hz: 5 gn
Electric shock resistance	Conforming to IEC 60068-2-27		All functions except mushroom head pushbuttons, spring return: <input type="checkbox"/> half sine wave acceleration 11 ms: 50 gn <input type="checkbox"/> half sine wave acceleration 18 ms: 30 gn
			Mushroom head pushbutton, spring return: <input type="checkbox"/> half sine wave acceleration 11 ms: 10 gn
Electrical characteristics			
Cabling capacity	Conforming to IEC 60947-1	mm²	Screw clamp terminals Min: 1 x 0.22 without cable end Max: 2 x 1.5 with cable end Cross headed screw (Pozidrive or Philips type 1), slotted for flat 4 and 5.5 mm screwdriver Tightening torque: 0.8 N.m (max. 1.2 N.m)
Contact material	Silver alloy (Ag / Ni)		Standard single and double blocks with screw clamp terminals Blocks for plug-in connector Standard blocks for printed circuit board connection
	Gold flashed (Ag / Ni / Au)		Low power switching contact blocks with screw clamp terminals Low power switching contact blocks for printed circuit board connection
Short-circuit protection	Conforming to IEC/EN 60947-5-1	A	Standard single and double blocks with screw clamp terminals: 10 (gG cartridge fuse conforming to IEC 60269-1) Blocks for plug-in connector: 4 (gG cartridge fuse conforming to IEC 60269-1) Standard blocks for printed circuit board connection: 4 (gG cartridge fuse conforming to IEC 60269-1)
Rated thermal current	Conforming to IEC/EN 60947-5-1	A	Standard single and double blocks with screw clamp terminals: 10 Blocks for plug-in connector: 10 Standard blocks for printed circuit board connection: 6
Rated insulation voltage	Conforming to IEC 60947-1	V	Standard single and double blocks with screw clamp terminals: $U_i = 600$, degree of pollution 3 Blocks for plug-in connector or Faston connectors: $U_i = 250$, degree of pollution 3 Standard blocks for printed circuit board connection: $U_i = 250$, degree of pollution 3
Rated impulse withstand voltage	Conforming to IEC 60947-1	kV	Standard single and double blocks with screw clamp terminals: $U_{imp} = 6$ Blocks for plug-in connector: $U_{imp} = 4$ Standard blocks for printed circuit board connection: $U_{imp} = 4$

1

1.3

Characteristics of contact or combined contact and light functions (continued)

Electrical characteristics (continued)

Rated operational characteristics
Conforming to IEC/EN 60947-5-1

a.c. supply:
utilisation category AC-15

Standard single and double blocks with screw clamp terminals: A600: $U_e = 600\text{ V}$ and $I_e = 1.2\text{ A}$ or $U_e = 240\text{ V}$ and $I_e = 3\text{ A}$ or $U_e = 120\text{ V}$ and $I_e = 6\text{ A}$

Blocks for plug-in connector:
A300: $U_e = 120\text{ V}$ and $I_e = 6\text{ A}$ or $U_e = 240\text{ V}$ and $I_e = 3\text{ A}$

Standard blocks for printed circuit board connection:
B300: $U_e = 120\text{ V}$ and $I_e = 3\text{ A}$ or $U_e = 240\text{ V}$ and $I_e = 1.5\text{ A}$

Special contact blocks:

□ ZBE 201: A300: $U_e = 240\text{ V}$ and $I_e = 3\text{ A}$ or $U_e = 120\text{ V}$ and $I_e = 6\text{ A}$ (with insulation voltage $U_i = 500\text{ V}$)

□ ZBE 202: A600: $U_e = 600\text{ V}$ and $I_e = 1.2\text{ A}$ or $U_e = 240\text{ V}$ and $I_e = 3\text{ A}$ or $U_e = 120\text{ V}$ and $I_e = 6\text{ A}$

d.c. supply:
utilisation category DC-13

Standard single and double blocks with screw clamp terminals:
Q600: $U_e = 600\text{ V}$ and $I_e = 0.1\text{ A}$ or $U_e = 250\text{ V}$ and $I_e = 0.27\text{ A}$ or $U_e = 125\text{ V}$ and $I_e = 0.55\text{ A}$

Joystick controllers XD4 PA/ZD4 PA:

R300: $U_e = 125\text{ V}$ and $I_e = 0.22\text{ A}$ or $U_e = 250\text{ V}$ and $I_e = 0.1\text{ A}$

Blocks for plug-in connector:

R300: $U_e = 125\text{ V}$ and $I_e = 0.22\text{ A}$ or $U_e = 250\text{ V}$ and $I_e = 0.1\text{ A}$

Standard blocks for printed circuit board connection:

R300: $U_e = 125\text{ V}$ and $I_e = 0.22\text{ A}$ or $U_e = 250\text{ V}$ and $I_e = 0.1\text{ A}$

Special contact blocks:

□ ZBE 201: Q300: $U_e = 125\text{ V}$ and $I_e = 0.55\text{ A}$ or $U_e = 250\text{ V}$ and $I_e = 0.27\text{ A}$

□ ZBE 202: Q600: $U_e = 600\text{ V}$ and $I_e = 0.1\text{ A}$ or $U_e = 250\text{ V}$ and $I_e = 0.27\text{ A}$ or $U_e = 125\text{ V}$ and $I_e = 0.55\text{ A}$

Characteristics of special contact blocks for low power switching

VA
A
V

P max: 12
I max: 0.1
U max: 24

Electrical durability
Conforming to IEC/EN 60947-5-1 appendix C
Operating rate 3600 operating cycles/hour
Load factor: 0.5

a.c. supply for 1 million operating cycles
utilisation category AC-15

V
A

Standard single blocks with screw clamp terminals:

24	120	230
4	3	2

V
A

Standard double blocks with screw clamp terminals and blocks for plug-in connector:

24	120	230
3	1.5	1

d.c. supply for 1 million operating cycles
utilisation category DC-13

V
A

Standard single blocks with screw clamp terminals:

24	110
0.5	0.2

V
A

Standard double blocks with screw clamp terminals and blocks for plug-in connector:

24	110
0.4	0.15

Electrical reliability

Failure rate
Conforming to IEC/EN 60947-5-4

In clean environment

Standard blocks:
- at 17 V and 5 mA, $\lambda < 10^{-8}$
- at 5 V and 1 mA, $\lambda < 10^{-6}$

Special blocks with gold flashed contacts, for low power switching:
- at 5 V and 1 mA, $\lambda < 10^{-7}$

In dusty environment

Special blocks with gold flashed contacts and dust protection for low power switching only:
- at 5 V and 1 mA, $\lambda < 10^{-7}$

Characteristics of illuminated units (pilot lights)

Mechanical characteristics

Vibration resistance	Conforming to IEC 60068-2-6		Frequency: 12 to 500 Hz: 5 gn
Electric shock resistance	Conforming to IEC 60068-2-27		Half sine wave acceleration 11 ms: 50 gn Half sine wave acceleration 18 ms: 30 gn

Electrical characteristics

Cabling capacity	Conforming to IEC 60947-1	mm ²	Screw clamp terminals Min: 1 x 0.22 without cable end (1 x 0.34 for linking) Max: 2 x 1.5 with cable end
Rated insulation voltage	Conforming to IEC 60947-1	V	Direct supply pilot light blocks (BA 9s bulb): Ui = 250 degree of pollution 3 Pilot light blocks with integral LED: Ui = 250 degree of pollution 3 Pilot light blocks with transformer: Ui = 600 degree of pollution 3
Rated impulse withstand voltage	Conforming to IEC 60947-1	kV	Direct supply pilot light blocks (BA 9s bulb): Uimp = 4 Pilot light blocks with integral LED: Uimp = 4 Pilot light blocks with transformer: Uimp = 6

Specific characteristics of single light blocks with integral LED

Voltage limits	For rated voltage	V	12 V: 10 to 15 $\overline{=}$; 10.2 to 13.8 \sim 24 V: 19.2 to 30 $\overline{=}$; 21.6 to 26.4 \sim 24 to 120 V: 20 to 132 \approx 48 to 120 V: 40 to 132 \sim 240 V: 195 to 264 \sim
Current consumption	Applicable to all colours	mA	Blocks with \approx 12 V supply: 18 Blocks with \approx 24 V supply: 18 Blocks with \sim 120 V supply: 14 Blocks with \sim 240 V supply: 14
Service life	At rated voltage and at an ambient temperature of 25 °C	H	100 000
Surge withstand	Conforming to IEC 61000-4-5	kV	1
Resistance to fast transients	Conforming to IEC 61000-4-4	kV	2
Resistance to electromagnetic fields	Conforming to IEC 61000-4-3	V/m	10
Resistance to electrostatic discharges	Conforming to IEC 61000-4-2	kV	8: in free air, on insulating parts 6: on contact, on metal parts
Direct parallel connection across inductive load E.g. contactor coil or solenoid	Maximum power of load	VA	For high power applications (\geq 30 VA), a ZBZ V● LED suppressor must be connected across the light block terminals (see page 1/83)
Electromagnetic emission	Conforming to EN 55011		Class B

Specific characteristics

Body/fixing collar

Tightening torque of fixing screw		N.m	0.8 (max. 1.2)
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Hour counters and annunciators

Voltage limits	Hour counter and annunciator		\pm 10% of the nominal voltage
Current consumption	Hour counter	mA	XB5 DSB: 7 to 15 XB5 DSG: 8 XB5 DSM: 8
	Annunciator	mA	5

User assembly of other units
using body + head sub-assemblies:
see pages 1/60 to 1/64

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons and switches with chromium plated metal bezel

Complete units, XB4 B

1



814084
XB4 BA31

1.3



814085
XB4 BA322



814086
XB4 BP51



814087
XB4 BL42



814088
XB4 BC21



814089
XB4 BL845

Pushbuttons, spring return (screw clamp terminal connections)




Shape of head	Type of push	Type of contact		Marking	Colour of push	Reference	Weight
		N/O	N/C				
	Flush	1	-	-	Black	XB4 BA21 (ZB4 BZ101 + ZB4 BA2)	0.080
					Green	XB4 BA31 (ZB4 BZ101 + ZB4 BA3)	0.080
					Yellow	XB4 BA51 (ZB4 BZ101 + ZB4 BA5)	0.080
					Blue	XB4 BA61 (ZB4 BZ101 + ZB4 BA6)	0.080
	Flush	1	-	-	Red	XB4 BA42 (ZB4 BZ102 + ZB4 BA4)	0.080
					Green	XB4 BA3311 (ZB4 BZ101 + ZB4 BA331)	0.080
	Flush	-	1	"O" (white)	Red	XB4 BA4322 (ZB4 BZ102 + ZB4 BA432)	0.080
	Flush (1)	1	-	↑ (black)	White	XB4 BA3341 (ZB4 BZ101 + ZB4 BA334)	0.080
	Flush (1)	1	-	↑ (white)	Black	XB4 BA3351 (ZB4 BZ101 + ZB4 BA335)	0.080
	Booted, clear silicone (colour of push unobscured)	1	-	-	Black	XB4 BP21 (ZB4 BZ101 + ZB4 BP2)	0.082
					Green	XB4 BP31 (ZB4 BZ101 + ZB4 BP3)	0.082
					Yellow	XB4 BP51 (ZB4 BZ101 + ZB4 BP5)	0.082
					Blue	XB4 BP61 (ZB4 BZ101 + ZB4 BP6)	0.082
	Projecting	-	1	-	Red	XB4 BP42 (ZB4 BZ102 + ZB4 BP4)	0.082
					Red	XB4 BL42 (ZB4 BZ102 + ZB4 BL4)	0.081
	Mushroom head Ø 40	1	-	-	Black	XB4 BC21 (ZB4 BZ101 + ZB4 BC2)	0.122




Double-headed pushbuttons, spring return (screw clamp terminal connections)

Shape of head	Description	Type of contact		Degree of protection	Reference	Weight
		N/O	N/C			
	1 green flush push (marked "I") 1 red projecting push (marked "O")	1	1	IP 40	XB4 BL845 (ZB4 BZ105 + ZB4 BL8434)	0.106
				IP 66	XB4 BL945 (ZB4 BZ105 + ZB4 BL9434)	0.111

(1) Product supplied with cap not clipped-in, allowing orientation through 360° in 90° steps.

User assembly of other units
using body + head assemblies:
see pages 1/65 to 1/67

Emergency stop and mushroom head pushbuttons, Ø 40 (red) (screw clamp terminal connections)						
Shape of head	Type of push	Type of contact		Reference	Weight	kg
		N/O	N/C			
 550275 XB4 BT845	Trigger action Push-pull (2)	1	1	XB4 BT845 (1) (ZB4 BZ105 + ZB4 BT84)	0.136	
		1	1			
 550276 XB4 BS9445	Trigger action Turn to release (2)	1	1	XB4 BS8445 (1) (ZB4 BZ105 + ZB4 BS844)	0.130	
		–	2			
	1	2	XB4 BS8444 (1) (ZB4 BZ104 + ZB4 BS844)	0.130		
	1	2	XB4 BS84441 (1) (ZB4 BZ141 + ZB4 BS844)	0.140		
 550277 XB4 BS542	Trigger action Key release (key n° 455) (2)	1	1	XB4 BS9445 (1) (ZB4 BZ105 + ZB4 BS944)	0.170	
	Push-pull	–	1	XB4 BT42 (1) (ZB4 BZ102 + ZB4 BT4)	0.125	
	Turn to release	–	1	XB4 BS542 (1) (ZB4 BZ102 + ZB4 BS54)	0.118	
	Key release (key n° 455)	–	1	XB4 BS142 (1) (ZB4 BZ102 + ZB4 BS14)	0.133	


Selector switches and key switches (screw clamp terminal connections)						
Shape of head	Type of operator	Type of contact		Number and type of positions (3)	Reference	Weight
		N/O	N/C			
 814108 XB4 BD33	Standard handle, black	1	–	2 - stay put	XB4 BD21 (ZB4 BZ101 + ZB4 BD2)	0.095
		1	–	2 - spring return from right to left		0.105
		1	1	2 - stay put		0.105
		2	–	3 - stay put		0.105
		3 - spring return to centre	0.105			
 814109 XB4 BJ33	Long handle, black	1	–	2 - stay put	XB4 BJ21 (ZB4 BZ101 + ZB4 BJ2)	0.096
		2	–	3 - stay put		0.105
		3 - spring return to centre	0.105			
		1	–	2 - stay put		XB4 BJ53 (ZB4 BZ103 + ZB4 BJ5)
2	–	3 - stay put	0.117			
 814110 XB4 BG33	Key switches (key n° 455)	1	–	2 - stay put	XB4 BG21 (ZB4 BZ101 + ZB4 BG2)	0.117
		1	–	2 - spring return to left		0.117
		2	–	3 - stay put		0.117
		2	–	3 - stay put		0.127
		2	–	3 - stay put		0.127

(1) Mushroom for Emergency stop pushbuttons conform to standard IEC/EN 60947-5-5 and to Machinery Directive 98/37/EC.

Mushroom for trigger action Emergency stop pushbuttons conform to standard EN 418.

Please consult your Regional Sales Office for full details of these standards and directives.

(2) Maximum number of additional contacts: 2.

(3) The symbol  indicates key withdrawal position(s).

User assembly of other units
using body + head sub-assemblies:
see pages 1/68 and 1/69


1



XB4 BVB5

1.3

Pilot lights with integral LED (screw clamp terminal connections)

Shape of head	Supply voltage (V)	Colour	Reference	Weight kg	
	≈ 24	White	XB4 BVB1 (ZB4 BVB1 + ZB4 BV013)	0.080	
		Green	XB4 BVB3 (ZB4 BVB3 + ZB4 BV033)	0.080	
		Red	XB4 BVB4 (ZB4 BVB4 + ZB4 BV043)	0.080	
		Yellow	XB4 BVB5 (ZB4 BVB5 + ZB4 BV053)	0.080	
		Blue	XB4 BVB6 (ZB4 BVB6 + ZB4 BV063)	0.080	
		~ 48...120	White	XB4 BVG1 (ZB4 BVG1 + ZB4 BV013)	0.080
	~ 48...120	Green	XB4 BVG3 (ZB4 BVG3 + ZB4 BV033)	0.080	
		Red	XB4 BVG4 (ZB4 BVG4 + ZB4 BV043)	0.080	
		Yellow	XB4 BVG5 (ZB4 BVG5 + ZB4 BV053)	0.080	
		Blue	XB4 BVG6 (ZB4 BVG6 + ZB4 BV063)	0.080	
		~ 230...240	White	XB4 BVM1 (ZB4 BVM1 + ZB4 BV013)	0.080
			Green	XB4 BVM3 (ZB4 BVM3 + ZB4 BV033)	0.080
Red	XB4 BVM4 (ZB4 BVM4 + ZB4 BV043)		0.080		
Yellow	XB4 BVM5 (ZB4 BVM5 + ZB4 BV053)		0.080		
Blue	XB4 BVM6 (ZB4 BVM6 + ZB4 BV063)		0.080		

User assembly of other units
using body + head sub-assemblies:
see pages 1/68 and 1/69




XB4 BV64




XB4 BV33

Pilot lights for BA 9s bulb (screw clamp terminal connections)

Shape of head	Supply voltage (V)	Colour	Reference	Weight kg
Direct supply, for BA 9s U ≤ 250 V, 2.4 W bulb (bulb not included)				
	≤ 250	White	XB4 BV61 (ZB4 BV6 + ZB4 BV01)	0.075
		Green	XB4 BV63 (ZB4 BV6 + ZB4 BV03)	0.075
		Red	XB4 BV64 (ZB4 BV6 + ZB4 BV04)	0.075
		Yellow	XB4 BV65 (ZB4 BV6 + ZB4 BV05)	0.075

Via integral transformer 1.2 VA, 6 V secondary, BA 9s incandescent bulb
(bulb included)



	~ 110...120 50/60 Hz	White	XB4 BV31 (ZB4 BV3 + ZB4 BV01)	0.152
		Green	XB4 BV33 (ZB4 BV3 + ZB4 BV03)	0.152
		Red	XB4 BV34 (ZB4 BV3 + ZB4 BV04)	0.152
		Yellow	XB4 BV35 (ZB4 BV3 + ZB4 BV05)	0.152
	~ 230 - 50 Hz ~ 220...240 - 60 Hz	White	XB4 BV41 (ZB4 BV4 + ZB4 BV01)	0.152
		Green	XB4 BV43 (ZB4 BV4 + ZB4 BV03)	0.152
		Red	XB4 BV44 (ZB4 BV4 + ZB4 BV04)	0.152
		Yellow	XB4 BV45 (ZB4 BV4 + ZB4 BV05)	0.152

User assembly of other units
using body + head sub-assemblies:
see pages 1/72 to 1/77

Illuminated pushbuttons, spring return, flush push



Shape of head	Description	Type of contact		Supply voltage	Colour of push	Reference	Weight
		N/O	N/C				

Screw clamp terminal connections

Shape of head	Description	Type of contact	Type of contact	Supply voltage	Colour of push	Reference	Weight	
		N/O	N/C	V			kg	
 XB4 BW33B5	Integral LED Protected LED	1	1	≈ 24	White	XB4 BW31B5 (ZB4 BW0B15 + ZB4 BW313)	0.097	
					Green	XB4 BW33B5 (ZB4 BW0B35 + ZB4 BW333)	0.097	
					Red	XB4 BW34B5 (ZB4 BW0B45 + ZB4 BW343)	0.097	
					Yellow	XB4 BW35B5 (ZB4 BW0B55 + ZB4 BW353)	0.097	
					Blue	XB4 BW36B5 (ZB4 BW0B65 + ZB4 BW363)	0.097	
					~ 48...120	White	XB4 BW31G5 (ZB4 BW0G15 + ZB4 BW313)	0.097
					Green	XB4 BW33G5 (ZB4 BW0G35 + ZB4 BW333)	0.097	
					Red	XB4 BW34G5 (ZB4 BW0G45 + ZB4 BW343)	0.097	
					Yellow	XB4 BW35G5 (ZB4 BW0G55 + ZB4 BW353)	0.097	
					59	Blue	XB4 BW36G5 (ZB4 BW0G65 + ZB4 BW363)	0.097
					~ 230...240	White	XB4 BW31M5 (ZB4 BW0M15 + ZB4 BW313)	0.097
					Green	XB4 BW33M5 (ZB4 BW0M35 + ZB4 BW333)	0.097	
Red	XB4 BW34M5 (ZB4 BW0M45 + ZB4 BW343)	0.097						
Yellow	XB4 BW35M5 (ZB4 BW0M55 + ZB4 BW353)	0.097						
Blue	XB4 BW36M5 (ZB4 BW0M65 + ZB4 BW363)	0.097						
 XB4 BW34G5	Direct supply, for BA 9s 2.4 W max bulb not included	1	1	≤ 250	White	XB4 BW3165 (ZB4 BW065 + ZB4 BW31)	0.097	
					Green	XB4 BW3365 (ZB4 BW065 + ZB4 BW33)	0.097	
					Red	XB4 BW3465 (ZB4 BW065 + ZB4 BW34)	0.097	
					Yellow	XB4 BW3565 (ZB4 BW065 + ZB4 BW35)	0.097	


User assembly of other units
using body + head sub-assemblies:
see pages 1/72 to 1/79

Illuminated pushbuttons, spring return, flush push (continued)

Shape of head	Description	Type of contact		Supply voltage	Colour of push	Reference	Weight				
		N/O	N/C								
Screw clamp terminal connections											
	Via integral transformer 1.2 VA 6 V secondary, BA 9s incandescent bulb included	1	1	~ 110...120 50/60 Hz	White	XB4 BW3135 (ZB4 BW035 + ZB4 BW31)	0.169				
					Green	XB4 BW3335 (ZB4 BW035 + ZB4 BW33)	0.169				
					Red	XB4 BW3435 (ZB4 BW035 + ZB4 BW34)	0.169				
					Yellow	XB4 BW3535 (ZB4 BW035 + ZB4 BW35)	0.169				
					White	XB4 BW3145 (ZB4 BW045 + ZB4 BW31)	0.170				
					Green	XB4 BW3345 (ZB4 BW045 + ZB4 BW33)	0.170				
				Red	XB4 BW34M5 (ZB4 BW045 + ZB4 BW34)	0.170					
				Yellow	XB4 BW3545 (ZB4 BW045 + ZB4 BW35)	0.170					
				Double-headed pushbuttons, spring return, with integral LED pilot light (IP 40) (1)							
				Screw clamp terminal connections							
					1 flush green push (marked "I") 1 yellow pilot light 1 projecting red push (marked "O") Protected LED	1	1	~ 24	–	XB4 BW84B5 (ZB4 BW0B55 + ZB4 BW843743)	0.116
								~ 48...120	–	XB4 BW84G5 (ZB4 BW0G55 + ZB4 BW843743)	0.116
~ 230...240	–	XB4 BW84M5 (ZB4 BW0M55 + ZB4 BW843743)	0.116								

XB4 BW3545

Illuminated selector switches with integral LED (2-position stay put)

Shape of head	Type of operator	Type of contact		Supply voltage	Colour of handle	Reference	Weight
		N/O	N/C				
Screw clamp terminal connections							
	Standard handle Protected LED	1	1	~ 24	Green	XB4 BK123B5 (ZB4 BW0B35 + ZB4 BK1233)	0.111
					Red	XB4 BK124B5 (ZB4 BW0B45 + ZB4 BK1243)	0.111
					Yellow	XB4 BK125B5 (ZB4 BW0B55 + ZB4 BK1253)	0.111
					Green	XB4 BK123G5 (ZB4 BW0G35 + ZB4 BK1233)	0.111
					Red	XB4 BK124G5 (ZB4 BW0G45 + ZB4 BK1243)	0.111
					Yellow	XB4 BK125G5 (ZB4 BW0G55 + ZB4 BK1253)	0.111
				Green	XB4 BK123M5 (ZB4 BW0M35 + ZB4 BK1233)	0.111	
				Red	XB4 BK124M5 (ZB4 BW0M45 + ZB4 BK1243)	0.111	
				Yellow	XB4 BK125M5 (ZB4 BW0M55 + ZB4 BK1253)	0.111	

XB4 BK124B5

(1) For IP 66 degree of protection, fit a clear sealing boot: **ZBW 008** or **ZBW 008A**. See page 1/95.

To combine with heads:
see pages 1/61 to 1/67

1



ZB4 BZ101



ZB4 BZ102



ZB4 BZ106



ZB4 BZ107



ZB4 BZ1014



ZB4 BZ1024

1.3

Complete bodies with screw clamp terminal connections

Description	Type of contact		Reference	Weight kg
	N/O	N/C		
Fixing collar + single contact block	1	–	ZB4 BZ101	0.053
	–	1	ZB4 BZ102	0.053
	2	–	ZB4 BZ103	0.062
	–	2	ZB4 BZ104	0.062
	1	1	ZB4 BZ105	0.062
	1	2	ZB4 BZ141	0.072

Description	Type of contact		Reference	Weight kg
	N/O+N/C	N/O+N/O		
Fixing collar + specific contact block for overlapping contacts function	1	–	ZB4 BZ106	0.062
Fixing collar + specific contact block for sequencing contacts function	–	1	ZB4 BZ107	0.062

Complete bodies for plug-in connector (1)

Description	Type of contact		Reference	Weight kg
	N/O	N/C		
Fixing collar + single contact block	1	–	ZB4 BZ1014	0.050
	–	1	ZB4 BZ1024	0.050
	2	–	ZB4 BZ1034	0.058
	–	2	ZB4 BZ1044	0.058
	1	1	ZB4 BZ1054	0.058
	1	2	ZB4 BZ1414	0.064

Contact blocks

Description	Reference
Separate contact blocks	See page 1/82
(1) Connecting cables and connector for plug-in connector contact blocks: see page 1/84.	
Other versions	Complete bodies with Faston connector terminals (6.35 or 2 x 2.8). Please consult your Regional Sales Office.

To combine with bodies:
see page 1/60

Heads for spring return pushbuttons - unmarked					
Shape of head	Type of push	Colour	Reference	Weight kg	
 814141 ZB4 BA0	Without cap (1)	–	ZB4 BA0	0.028	
 ZB4 BA9	Flush, with set of 6 coloured caps	6 colours (2)	ZB4 BA9	0.038	
 814142 ZB4 BA4	Flush	White	ZB4 BA1	0.029	
		Black	ZB4 BA2	0.029	
		Green	ZB4 BA3	0.029	
		Red	ZB4 BA4	0.029	
		Yellow	ZB4 BA5	0.029	
		Blue	ZB4 BA6	0.029	
		Grey	ZB4 BA8	0.029	
 814143 ZB4 BA38	Flush with transparent cap, for insertion of legend (3)	White	ZB4 BA18	0.028	
		Green	ZB4 BA38	0.028	
		Red	ZB4 BA48	0.028	
		Yellow	ZB4 BA58	0.028	
		Blue	ZB4 BA68	0.028	
 103842 ZB4 BP2S	Booted (clear silicone) (colour of push unobscured)	White	ZB4 BP1	0.031	
		Black	ZB4 BP2	0.031	
		Green	ZB4 BP3	0.031	
		Red	ZB4 BP4	0.031	
		Yellow	ZB4 BP5	0.031	
		Blue	ZB4 BP6	0.031	
 814144 ZB4 BP18	Booted (coloured silicone) can be replaced without dismantling the head, compatible with legend holder	White	ZB4 BP1S	0.034	
		Black	ZB4 BP2S	0.034	
		Green	ZB4 BP3S	0.034	
		Red	ZB4 BP4S	0.034	
		Yellow	ZB4 BP5S	0.034	
		Blue	ZB4 BP6S	0.034	
 814144 ZB4 BP183	Booted (clear silicone) for insertion of legend (colour of push unobscured)	White	ZB4 BP18	0.034	
		Green	ZB4 BP38	0.034	
		Red	ZB4 BP48	0.034	
		Yellow	ZB4 BP58	0.034	
		Blue	ZB4 BP68	0.034	
 814144 ZB4 BP183	Booted (clear), integral boot (colour of push unobscured)	White	ZB4 BP183	0.026	
		Green	ZB4 BP383	0.026	
		Red	ZB4 BP483	0.026	
		Yellow	ZB4 BP583	0.026	
		Blue	ZB4 BP683	0.026	
 103841 ZB4 BL1	Projecting	White	ZB4 BL1	0.030	
		Black	ZB4 BL2	0.030	
		Green	ZB4 BL3	0.030	
		Red	ZB4 BL4	0.030	
		Yellow	ZB4 BL5	0.030	
		Blue	ZB4 BL6	0.030	
 XXXXXX ZB4 BA34	Flush (high guard)	White	ZB4 BA14	0.034	
		Black	ZB4 BA24	0.034	
		Green	ZB4 BA34	0.034	
		Red	ZB4 BA44	0.034	
		Yellow	ZB4 BA54	0.034	
		Blue	ZB4 BA64	0.034	
 814146 ZB4 BA36	Recessed (high guard)	White	ZB4 BA16	0.034	
		Black	ZB4 BA26	0.034	
		Green	ZB4 BA36	0.034	
		Red	ZB4 BA46	0.034	
		Yellow	ZB4 BA56	0.034	
		Blue	ZB4 BA66	0.034	

Heads with black metal bezel

To order, add the suffix 7 to the references selected above.
Example: ZB4 BA0 becomes ZB4 BA07.

(1) Coloured cap to be ordered separately: see page 1/86.

(2) Head supplied with 6 different coloured caps (white, black, green, red, yellow, blue).




(3) For legend ordering information, see page 1/92.

Other versions



For booted heads with flush push, please consult your Regional Sales Office.

To combine with bodies:
see page 1/60

Heads for spring return pushbuttons - marked

Shape of head	Type of push	Marking		Colour of push	Reference	Weight kg	
		Text	Colour				
	Flush	I	White	Green	ZB4 BA331	0.029	
			Black	White	ZB4 BA131	0.029	
		II	White	Green	ZB4 BA336	0.029	
			Black	White	ZB4 BA136	0.029	
		START	White	Green	ZB4 BA333	0.029	
			Black	White	ZB4 BA133	0.029	
		ON	White	Green	ZB4 BA341	0.029	
			Black	White	ZB4 BA141	0.029	
		MARCHE	White	Green	ZB4 BA342	0.029	
			Black	White	ZB4 BA142	0.029	
			O	White	Black	ZB4 BA245	0.029
				Black	White	ZB4 BA145	0.029
		ARRET	STOP	White	Red	ZB4 BA432	0.029
				Black	Black	ZB4 BA232	0.029
		OFF	↑ (1)	White	Red	ZB4 BA433	0.029
				Black	Black	ZB4 BA233	0.029
		ARRET	STOP	White	Red	ZB4 BA434	0.029
				Black	Black	ZB4 BA234	0.029
OFF	↑ (1)	White	Red	ZB4 BA435	0.029		
		Black	Black	ZB4 BA235	0.029		
	Projecting	O	White	Red	ZB4 BL432	0.030	
			Black	Black	ZB4 BL232	0.030	
		ARRET	White	Red	ZB4 BL433	0.030	
			Black	Black	ZB4 BL233	0.030	
		STOP	White	Red	ZB4 BL434	0.030	
			Black	Black	ZB4 BL234	0.030	
		OFF	↑ (1)	White	Red	ZB4 BL435	0.030
				Black	Black	ZB4 BL235	0.030

Heads for "push-push to releas" pushbuttons (2)

Shape of head	Type of push	Colour of push	Reference	Weight kg
	Flush	White	ZB4 BH01	0.029
		Black	ZB4 BH02	0.029
		Green	ZB4 BH03	0.029
		Red	ZB4 BH04	0.029
		Yellow	ZB4 BH05	0.029
		Blue	ZB4 BH06	0.029
	Projecting	White	ZB4 BH1	0.029
		Black	ZB4 BH2	0.029
		Green	ZB4 BH3	0.029
		Red	ZB4 BH4	0.029
		Yellow	ZB4 BH5	0.029
		Blue	ZB4 BH6	0.029

Heads with black metal bezel

To order, add the suffix 7 to the references selected above.
Example: ZB4 BA331 becomes ZB4 BA3317.

(1) Head supplied with cap not clipped-in, allowing orientation through 360° in 90° steps.
(2) Maximum of 1 row of 3 contact blocks on associated body/fixing collar sub-assembly.

1



ZB4 BA331

1.3



ZB4 BA334



ZB4 BL432



ZB4 BH02

To combine with bodies:
see page 1/60



ZB4 BA8134



ZB4 BL8312



ZB4 BL9312



ZB4 BL8434



ZB4 BL8412

Heads for double-headed, spring return pushbuttons

Shape of head	Description	Colour of pushes	Degree of protection	Reference	Weight kg
Without function marking on pushes					
	2 flush pushes	Green	IP 40 (1)	ZB4 BA8134	0.047
		Red			
			IP 66	ZB4 BA9134	0.052
		White	IP 40 (1)	ZB4 BA8112	0.047
		Black			
			IP 66	ZB4 BA9112	0.052
	1 flush push 1 projecting push	Green	IP 40 (1)	ZB4 BL8334	0.046
		Red			
			IP 66	ZB4 BL9334	0.051
		White	IP 40 (1)	ZB4 BL8312	0.046
		Black			
			IP 66	ZB4 BL9312	0.051
With function marking on pushes					
	2 flush pushes (marked "I") (marked "O")	Green	IP 40 (1)	ZB4 BA8234	0.047
		Red			
			IP 66	ZB4 BA9234	0.052
		White	IP 40 (1)	ZB4 BA8212	0.047
		Black			
			IP 66	ZB4 BA9212	0.052
	1 flush push (marked "I") 1 projecting push (marked "O")	Green	IP 40 (1)	ZB4 BL8434	0.046
		Red			
			IP 66	ZB4 BL9434	0.051
		White	IP 40 (1)	ZB4 BL8412	0.046
		Black			
			IP 66	ZB4 BL9412	0.051





Heads with black metal bezel

To order, add the suffix 7 to the references selected above.
Example: ZB4 BA8134 becomes ZB4 BA81347.

(1) NEMA type 1

To combine with bodies:
see page 1/60

Mushroom heads for spring return pushbuttons







Shape of head	Diameter of push mm	Colour of push	Reference	Weight kg
	30	Black	ZB4 BC24	0.075
		Green	ZB4 BC34	0.075
		Red	ZB4 BC44	0.075
		Yellow	ZB4 BC54	0.075
		Blue	ZB4 BC64	0.075
	40	Black	ZB4 BC2	0.074
		Green	ZB4 BC3	0.074
		Red	ZB4 BC4	0.074
		Yellow	ZB4 BC5	0.074
		Blue	ZB4 BC6	0.074
	60	Black	ZB4 BR2	0.093
		Green	ZB4 BR3	0.093
		Red	ZB4 BR4	0.093
		Yellow	ZB4 BR5	0.093
		Blue	ZB4 BR6	0.093
	60 Hemispherical	Black	ZB4 BR216	0.054
		Green	ZB4 BR316	0.054
		Red	ZB4 BR416	0.054
		Yellow	ZB4 BR516	0.054
		Blue	ZB4 BR616	0.054

Heads with black metal bezel

To order, add the suffix 7 to the references selected above.
Example: ZB4 BC24 becomes ZB4 BC247.

To combine with bodies:
see page 1/60

Mushroom heads for latching pushbuttons (Emergency stop: colour red)

Shape of head	Type of push	Push Ø (mm)	Colour	Reference	Weight kg
	Trigger action Push-pull (2)	40	Red	ZB4 BT84 (1)	0.078
	Trigger action Turn to release (2)	30	Red	ZB4 BS834 (1)	0.068
		40	Red	ZB4 BS844 (1)	0.073
		60	Red	ZB4 BS864 (1)	0.093
	Trigger action Key release (key n° 455) (2 keys included with head) (2) (4)	30	Red	ZB4 BS934 (1)	0.094
		40	Red	ZB4 BS944 (1) (3)	0.098
		60	Red	ZB4 BS964 (1)	0.118
	Push-pull	40	Black	ZB4 BT2	0.077
			Red	ZB4 BT4 (1)	0.077
		60	Black	ZB4 BX2	0.095
			Red	ZB4 BX4 (1)	0.095
	Turn to release	30	Black	ZB4 BS42	0.066
			Red	ZB4 BS44 (1)	0.066
		40	Black	ZB4 BS52	0.070
			Red	ZB4 BS54 (1)	0.070
		60	Yellow	ZB4 BS55	0.070
			Black	ZB4 BS62	0.090
	Key release (key n° 455) (2 keys included with head) (4)	30	Black	ZB4 BS72	0.066
			Red	ZB4 BS74 (1)	0.066
		40	Black	ZB4 BS12	0.070
			Red	ZB4 BS14 (1) (3)	0.070
		60	Black	ZB4 BS22	0.090
			Red	ZB4 BS24 (1)	0.090



ZB4 BS834



ZB4 BT4



ZB4 BS64



ZB4 BS74

Heads with black metal bezel

To order, add the suffix **7** to the references selected above.
Example: **ZB4 BT84** becomes **ZB4 BT847**.

(1) Mushroom heads for Emergency stop pushbuttons conform to standard IEC/EN 60947-5-5 and to Machinery Directive 98/37/EC.

Mushroom heads for trigger action Emergency stop pushbuttons conform to standard EN 418.
Please consult your Regional Sales Office for full details of these standards and directives.

(2) Maximum number of contacts fitted to the associated body: 4.

Example: 4 single contact blocks, 2 double contact blocks, or 2 single contact blocks + 1 double contact block. See page 1/82.

(3) Other key numbers:





































- key n° 421E: add suffix **12** to the reference.
- key n° 458A: add suffix **10** to the reference.
- key n° 520E: add suffix **14** to the reference.
- key n° 3131A: add suffix **20** to the reference.

Example: To order a Ø 40 red mushroom head for a trigger action, latching pushbutton, with release by key n° 421E, the reference becomes: **ZB4 BS94412**.

(4) For specific keys with other numbers, please consult your Regional Sales Office.

To combine with bodies:
see page 1/60

Heads for selector switches (1)

Shape of head	Type of operator	Number and type of positions (2)	Reference	Weight kg		
	Standard handle, black (3)	2 - stay put	 ZB4 BD2	0.044		
		2 - stay put with actuation of the centre contact	 ZB4 BD2M	0.044		
		2 - spring return from right to left	 ZB4 BD4	0.044		
		2 - spring return from right to left with actuation of centre contact	 ZB4 BD4M	0.044		
		3 - stay put	 ZB4 BD3	0.044		
		3 - spring return to centre	 ZB4 BD5	0.044		
		3 - spring return from left to centre	 ZB4 BD7	0.044		
		3 - spring return from right to centre	 ZB4 BD8	0.044		
			Long handle, black	2 - stay put	 ZB4 BJ2	0.044
				2 - stay put with actuation of the centre contact	 ZB4 BJ2M	0.044
2 - spring return from right to left	 ZB4 BJ4			0.044		
2 - spring return from right to left with actuation of centre contact	 ZB4 BJ4M			0.044		
3 - stay put	 ZB4 BJ3			0.044		
3 - spring return to centre	 ZB4 BJ5			0.044		
3 - spring return from left to centre	 ZB4 BJ7			0.044		
3 - spring return from right to centre	 ZB4 BJ8			0.044		
	Long handle, padlockable			2 - stay put	 ZB4 BJ291	0.044
					 ZB4 BJ292	0.044
			 ZB4 BJ294	0.044		
		2 - spring return from right to left	 ZB4 BJ491	0.044		
		3 - stay put	 ZB4 BJ391	0.044		
			 ZB4 BJ392	0.044		
			 ZB4 BJ393	0.044		
			 ZB4 BJ394	0.044		
			 ZB4 BJ395	0.044		
			 ZB4 BJ396	0.044		
			 ZB4 BJ397	0.044		
		3 - spring return to centre	 ZB4 BJ593	0.044		
		3 - spring return from right to centre	 ZB4 BJ891	0.044		
			 ZB4 BJ893	0.044		
			 ZB4 BJ895	0.044		
		3 - spring return from left to centre	 ZB4 BJ792	0.044		
	 ZB4 BJ793	0.044				
	 ZB4 BJ796	0.044				

Heads with black metal bezel

To order, add the suffix 7 to the references selected above. Example: ZB4 BD2 becomes ZB4 BD27.

(1) Can only be used for actuation of end row (side) mounted contacts.

(2) The symbol ◦ indicates the padlocking positions.

(3) For handles in other colours, please consult your Regional Sales Office

To combine with bodies:
see page 1/60

ZB4 BD29

Heads for selector switches (continued) (1)

Shape of head	Type of operator	Number and type of positions (2)	Reference (3)	Weight kg
	Knurled knob, black	2 - stay put	ZB4 BD29	0.046
		2 - spring return from right to left	ZB4 BD49	0.046
		3 - stay put	ZB4 BD39	0.046
		3 - spring return to centre	ZB4 BD59	0.046
		3 - spring return from left to centre	ZB4 BD79	0.046
		3 - spring return from right to centre	ZB4 BD89	0.046
			Key (n° 455) (4)	2 - stay put
	ZB4 BG4			0.069
2 - stay put with actuation of the centre contact	ZB4 BG2M			0.069
	ZB4 BG4M			0.069
2 - spring return from right to left	ZB4 BG6			0.069
2 - spring return from right to left with actuation of centre contact	ZB4 BG6M			0.069
3 - stay put	ZB4 BG0			0.069
	ZB4 BG3			0.069
	ZB4 BG5			0.069
	ZB4 BG9			0.069
	ZB4 BG09			0.069
3 - spring return from left to centre	ZB4 BG1			0.069
3 - spring return to centre	ZB4 BG7			0.069
3 - spring return from right to centre	ZB4 BG8			0.069
	ZB4 BG08	0.069		



ZB4 BG8

Heads for toggle switches (black lever)

Shape of head	Description	Type of position	Reference	Weight kg
	2-position	Stay put	ZB4 BD28	0.026
		Spring return	ZB4 BD48	0.026



ZB4 BD28

Heads with black metal bezel

To order, add the suffix 7 to the references selected above.
Example: ZB4 BG2 becomes ZB4 BG27.

(1) Can only be used for actuation of end row (side) mounted contacts.

(2) The symbol indicates key withdrawal position(s).

(3) Other key numbers:

- key n° 421E: add suffix 12 to the reference.
- key n° 458A: add suffix 10 to the reference.
- key n° 520E: add suffix 14 to the reference.
- key n° 3131A: add suffix 20 to the reference.

Example:

For a switch head with key n° 421E, 2-position stay put with key withdrawal from the left-hand position, the reference becomes: ZB4 BG212.

(4) For specific keys with other numbers, please consult your Regional Sales Office.

To combine with heads for integral LED:
see page 1/71

1

8114207



ZB4 BV●●

Complete bodies (fixing collar + light block with integral LED)

Light source	Supply voltage V	Colour of light source	Reference	Weight kg
Screw clamp terminal connections				
Integral LED Protected LED	≈ 12	White	ZB4 BVJ1	0.054
		Green	ZB4 BVJ3	0.054
		Red	ZB4 BVJ4	0.054
		Yellow	ZB4 BVJ5	0.054
		Blue	ZB4 BVJ6	0.054
		White	ZB4 BVB1	0.054
	≈ 24 (1)	Green	ZB4 BVB3	0.054
		Red	ZB4 BVB4	0.054
		Yellow	ZB4 BVB5	0.054
		Blue	ZB4 BVB6	0.054
		White	ZB4 BVBG1	0.054
		Green	ZB4 BVBG3	0.054
	≈ 24...120	Red	ZB4 BVBG4	0.054
		Yellow	ZB4 BVBG5	0.054
		Blue	ZB4 BVBG6	0.054
		White	ZB4 BVG1	0.054
		Green	ZB4 BVG3	0.054
		Red	ZB4 BVG4	0.054
≈ 48...120 (1)	Yellow	ZB4 BVG5	0.054	
	Blue	ZB4 BVG6	0.054	
	White	ZB4 BVM1	0.054	
	Green	ZB4 BVM3	0.054	
	Red	ZB4 BVM4	0.054	
	Yellow	ZB4 BVM5	0.054	
≈ 230...240 (1)	Blue	ZB4 BVM6	0.054	

Complete bodies with 3-terminal "test" function (fixing collar + light block with integral LED + block for "test light" function)

Light source	Supply voltage V	Colour of light source	Reference	Weight kg
Screw clamp terminal connections				
Integral LED Protected LED	≈ 24 (2)	White	ZB4 BVB1156	0.054
		Green	ZB4 BVB3156	0.054
		Red	ZB4 BVB4156	0.054
		Yellow	ZB4 BVB5156	0.054
		Blue	ZB4 BVB6156	0.054

Complete bodies with flashing pilot light (fixing collar + light block with integral LED)

Light source	Supply voltage V	Colour of light source	Reference	Weight kg
Screw clamp terminal connections				
Integral LED Protected LED	≈ 24	White	ZB4 BV18B1	0.054
		Green	ZB4 BV18B3	0.054
		Red	ZB4 BV18B4	0.054
		Yellow	ZB4 BV18B5	0.054
		Blue	ZB4 BV18B6	0.054
		White	ZB4 BV18G1	0.054
	≈ 48...120	Green	ZB4 BV18G3	0.054
		Red	ZB4 BV18G4	0.054
		Yellow	ZB4 BV18G5	0.054
		Blue	ZB4 BV18G6	0.054
		White	ZB4 BV18M1	0.054
		Green	ZB4 BV18M3	0.054
	≈ 230...240	Red	ZB4 BV18M4	0.054
		Yellow	ZB4 BV18M5	0.054
		Blue	ZB4 BV18M6	0.054

(1) Complete bodies with Faston connector terminals (6.35 or 2 x 2.8).

Please consult your Regional Sales Office.

(2) For a 120 or 230 V ~ supply, use complete body ZB4 BVG● or ZB4 BVM● with block for test function type ZBZ M156, see page 1/83.

To combine with heads for integral LED:
see page 1/71

814209



ZB4 BV...4

Complete bodies (fixing collar + light block with integral LED)

Light source	Supply voltage V	Colour of light source	Reference	Weight kg
Plug-in connector (1)				
Integral LED Protected LED	~ 24	White	ZB4 BVB14	0.053
		Green	ZB4 BVB34	0.053
		Red	ZB4 BVB44	0.053
		Yellow	ZB4 BVB54	0.053
		Blue	ZB4 BVB64	0.053
		~ 48...120	White	ZB4 BVG14
	Green	ZB4 BVG34	0.053	
	Red	ZB4 BVG44	0.053	
	Yellow	ZB4 BVG54	0.053	
	Blue	ZB4 BVG64	0.053	
	~ 230...240	White	ZB4 BVM14	0.053
	Green	ZB4 BVM34	0.053	
Red	ZB4 BVM44	0.053		
Yellow	ZB4 BVM54	0.053		
Blue	ZB4 BVM64	0.053		

(1) Connecting cables and connector for plug-in connector light blocks: see page 1/84.

Other versions

Complete bodies with Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office.

To combine with heads for BA 9s bulb:
see page 1/71

1



ZB4 BV6

1.3



ZB4 BV156



ZB4 BV

Complete bodies (fixing collar + light block for BA 9s bulb, incandescent, neon or LED)**Screw clamp terminal connections**

Description	Light source	Supply voltage	Colour of light source	Reference	Weight
		V			kg
Direct supply	BA 9s bulb, 2.4 W max Not included (1)	≤ 250	–	ZB4 BV6	0.052
Direct supply "Test" function (3 terminals)	BA 9s bulb, 2.4 W max Not included (1)	≤ 250	–	ZB4 BV156	0.062
Via integral transformer 1.2 VA 6 V secondary	BA9s incandescent bulb, included	~ 110...120 50/60 Hz	–	ZB4 BV3	0.130
		~ 230 50 Hz	–	ZB4 BV4	0.130
		~ 220...240 60 Hz	–	ZB4 BV5	0.131
		~ 400 50 Hz	–	ZB4 BV8	0.128
		~ 440...480 60 Hz	–	ZB4 BV9	0.131
		~ 550...600 60 Hz	–	ZB4 BV3D1	0.134
		BA9s base fitting LED included	White	ZB4 BV3D3	0.134
			Green	ZB4 BV3D4	0.134
			Red	ZB4 BV3D5	0.134
			Yellow	ZB4 BV3D6	0.134
			Blue	ZB4 BV4D1	0.134
			~ 230 50 Hz	White	ZB4 BV4D3
		~ 220...240 60 Hz	Green	ZB4 BV4D4	0.134
			Red	ZB4 BV4D5	0.134
	Yellow	ZB4 BV4D6	0.134		
	Blue	ZB4 BV5D1	0.134		
~ 400 50/60 Hz	White	ZB4 BV5D3	0.134		
	Green	ZB4 BV5D4	0.134		
	Red	ZB4 BV5D5	0.134		
	Yellow	ZB4 BV5D6	0.134		
	Blue				

(1) Bulbs to be ordered separately.

Other versions

Complete bodies with Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office.



ZB4 BV063



ZB4 BV04

Heads

Shape of head	For use with body comprising light source type	Colour of lens	Reference	Weight kg		
With plain lens						
	Integral LED only Protected LED	White	ZB4 BV013	0.026		
		Green	ZB4 BV033	0.026		
		Red	ZB4 BV043	0.026		
		Yellow	ZB4 BV053	0.026		
		Blue	ZB4 BV063	0.026		
	BA 9s bulb (incandescent, neon or LED only)	White	ZB4 BV01	0.027		
		Green	ZB4 BV03	0.027		
		Red	ZB4 BV04	0.027		
		Yellow	ZB4 BV05	0.027		
		Blue	ZB4 BV06	0.027		
	Integral LED only Protected LED	White	ZB4 BV013E	0.026		
		Green	ZB4 BV033E	0.026		
		Red	ZB4 BV043E	0.026		
		Yellow	ZB4 BV053E	0.026		
		Blue	ZB4 BV063E	0.026		
		With plain lens, for insertion of legend (1)				
			Integral LED only Protected LED	White	ZB4 BV013S	0.026
Green	ZB4 BV033S			0.026		
Red	ZB4 BV043S			0.026		
Yellow	ZB4 BV053S			0.026		
Blue	ZB4 BV063S			0.026		
BA 9s bulb (neon or LED only)	White		ZB4 BV01S	0.027		
	Green		ZB4 BV03S	0.027		
	Red		ZB4 BV04S	0.027		
	Yellow		ZB4 BV05S	0.027		
	Blue		ZB4 BV06S	0.027		
	Integral LED only Protected LED	White	ZB4 BV013S	0.026		
		Green	ZB4 BV033S	0.026		
		Red	ZB4 BV043S	0.026		
		Yellow	ZB4 BV053S	0.026		
		Blue	ZB4 BV063S	0.026		
		BA 9s bulb (neon or LED only)	White	ZB4 BV01S	0.027	
			Green	ZB4 BV03S	0.027	
Red	ZB4 BV04S		0.027			
Yellow	ZB4 BV05S		0.027			
Blue	ZB4 BV06S		0.027			
	Integral LED only Protected LED	White	ZB4 BV013S	0.026		
		Green	ZB4 BV033S	0.026		
		Red	ZB4 BV043S	0.026		
		Yellow	ZB4 BV053S	0.026		
		Blue	ZB4 BV063S	0.026		
		BA 9s bulb (neon or LED only)	White	ZB4 BV01S	0.027	
			Green	ZB4 BV03S	0.027	
Red	ZB4 BV04S		0.027			
Yellow	ZB4 BV05S		0.027			
Blue	ZB4 BV06S		0.027			
	Integral LED only Protected LED	White	ZB4 BV013S	0.026		
		Green	ZB4 BV033S	0.026		
		Red	ZB4 BV043S	0.026		
		Yellow	ZB4 BV053S	0.026		
		Blue	ZB4 BV063S	0.026		
		BA 9s bulb (neon or LED only)	White	ZB4 BV01S	0.027	
			Green	ZB4 BV03S	0.027	
Red	ZB4 BV04S		0.027			
Yellow	ZB4 BV05S		0.027			
Blue	ZB4 BV06S		0.027			

(1) For legend ordering information, see page 1/92.

(2) For use in bright ambient light conditions (outdoors in sunlight, for example). For heads with grooved lens, the use of "high luminosity" LEDs is recommended, see page 1/83.

Control and signalling units Ø 22

Harmony® style 4

Illuminated pushbuttons and switches with chromium plated metal bezel

Sub-assemblies, ZB4 B: bodies

To combine with heads for integral LED:
see pages 1/77 to 1/79

1



ZB4 BW0...3

1.3

Complete bodies (fixing collar + single contact block + light block with integral LED)

Light source	Supply voltage	Type of contact (1)		Colour of light source	Reference	Weight
		N/O	N/C			
	V					kg
Screw clamp terminal connections						
Integral LED Protected LED	≈ 24	1	-	White	ZB4 BW0B11	0.064
				Green	ZB4 BW0B31	0.064
				Red	ZB4 BW0B41	0.064
				Yellow	ZB4 BW0B51	0.064
				Blue	ZB4 BW0B61	0.064
		-	1	White	ZB4 BW0B12	0.064
				Green	ZB4 BW0B32	0.064
				Red	ZB4 BW0B42	0.064
				Yellow	ZB4 BW0B52	0.064
				Blue	ZB4 BW0B62	0.064
	2	-	White	ZB4 BW0B13	0.074	
			Green	ZB4 BW0B33	0.074	
			Red	ZB4 BW0B43	0.074	
			Yellow	ZB4 BW0B53	0.074	
			Blue	ZB4 BW0B63	0.074	
	1	1	White	ZB4 BW0B15	0.074	
			Green	ZB4 BW0B35	0.074	
			Red	ZB4 BW0B45	0.074	
			Yellow	ZB4 BW0B55	0.074	
			Blue	ZB4 BW0B65	0.074	
~ 48...120	1	-	White	ZB4 BW0G11	0.064	
			Green	ZB4 BW0G31	0.064	
			Red	ZB4 BW0G41	0.064	
			Yellow	ZB4 BW0G51	0.064	
			Blue	ZB4 BW0G61	0.064	
	-	1	White	ZB4 BW0G12	0.064	
			Green	ZB4 BW0G32	0.064	
			Red	ZB4 BW0G42	0.064	
			Yellow	ZB4 BW0G52	0.064	
			Blue	ZB4 BW0G62	0.064	

Other versionsComplete bodies with Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office.

(1) Can be fitted with additional contact blocks: see page 1/82.

Control and signalling units Ø 22

Harmony® style 4

Illuminated pushbuttons and switches with chromium plated metal bezel

Sub-assemblies, ZB4 B: bodies

To combine with heads for integral LED:
see pages 1/77 to 1/79

ZB4 BW0003

Complete bodies (fixing collar + single contact block + light block with integral LED) (continued)							
Light source	Supply voltage	Type of contact (1)		Colour of light source	Reference	Weight	
		N/O	N/C				
	V					kg	
Screw clamp terminal connections (continued)							
Integral LED Protected LED	~ 48...120	2	-	White	ZB4 BW0G13	0.074	
				Green	ZB4 BW0G33	0.074	
				Red	ZB4 BW0G43	0.074	
				Yellow	ZB4 BW0G53	0.074	
				Blue	ZB4 BW0G63	0.074	
		1	1	White	ZB4 BW0G15	0.074	
				Green	ZB4 BW0G35	0.074	
				Red	ZB4 BW0G45	0.074	
				Yellow	ZB4 BW0G55	0.074	
				Blue	ZB4 BW0G65	0.074	
		~ 230...240	1	-	White	ZB4 BW0M11	0.064
					Green	ZB4 BW0M31	0.064
					Red	ZB4 BW0M41	0.064
					Yellow	ZB4 BW0M51	0.064
					Blue	ZB4 BW0M61	0.064
-	1		White	ZB4 BW0M12	0.064		
			Green	ZB4 BW0M32	0.064		
			Red	ZB4 BW0M42	0.064		
			Yellow	ZB4 BW0M52	0.064		
			Blue	ZB4 BW0M62	0.064		
400 V, 50 Hz	2	-	White	ZB4 BW0M13	0.074		
			Green	ZB4 BW0M33	0.074		
			Red	ZB4 BW0M43	0.074		
			Yellow	ZB4 BW0M53	0.074		
			Blue	ZB4 BW0M63	0.074		
	1	1	White	ZB4 BW0M15	0.074		
			Green	ZB4 BW0M35	0.074		
			Red	ZB4 BW0M45	0.074		
			Yellow	ZB4 BW0M55	0.074		
			Blue	ZB4 BW0M65	0.074		
400/460 V, 60 Hz	1	1	White	ZB4 BW05B15	0.168		
			Green	ZB4 BW05B35	0.168		
			Red	ZB4 BW05B45	0.168		
			Yellow	ZB4 BW05B55	0.168		
			Blue	ZB4 BW05B65	0.168		
400/460 V, 60 Hz	1	1	White	ZB4 BW08B15	0.168		
			Green	ZB4 BW08B35	0.168		
			Red	ZB4 BW08B45	0.168		
			Yellow	ZB4 BW08B55	0.168		
			Blue	ZB4 BW08B65	0.168		
550/600 V, 60 Hz	1	1	White	ZB4 BW09B15	0.168		
			Green	ZB4 BW09B35	0.168		
			Red	ZB4 BW09B45	0.168		
			Yellow	ZB4 BW09B55	0.168		
			Blue	ZB4 BW09B65	0.168		

Other versionsComplete bodies with Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office.

(1) Can be fitted with additional contact blocks: see page 1/82.

To combine with heads for integral LED:
see pages 1/77 to 1/79

1



ZB4 BW00014

1.3

Complete bodies (fixing collar + single contact block + light block with integral LED) (continued)

Light source	Supply voltage	Type of contact (1)		Colour of light source	Reference	Weight
		N/O	N/C			
	V					kg
Plug-in connector (2)						
Integral LED	≈ 24	1	-	White	ZB4 BW0B114	0.060
				Green	ZB4 BW0B314	0.060
Protected LED				Red	ZB4 BW0B414	0.060
				Yellow	ZB4 BW0B514	0.060
				Blue	ZB4 BW0B614	0.060
		-	1	White	ZB4 BW0B124	0.060
				Green	ZB4 BW0B324	0.060
				Red	ZB4 BW0B424	0.060
				Yellow	ZB4 BW0B524	0.060
				Blue	ZB4 BW0B624	0.060
		2	-	White	ZB4 BW0B134	0.067
				Green	ZB4 BW0B334	0.067
				Red	ZB4 BW0B434	0.067
				Yellow	ZB4 BW0B534	0.067
				Blue	ZB4 BW0B634	0.067
		1	1	White	ZB4 BW0B154	0.067
				Green	ZB4 BW0B354	0.067
				Red	ZB4 BW0B454	0.067
				Yellow	ZB4 BW0B554	0.067
				Blue	ZB4 BW0B654	0.067
	≈ 48...120	1	-	White	ZB4 BW0G114	0.060
				Green	ZB4 BW0G314	0.060
				Red	ZB4 BW0G414	0.060
				Yellow	ZB4 BW0G514	0.060
				Blue	ZB4 BW0G614	0.060
		-	1	White	ZB4 BW0G124	0.060
				Green	ZB4 BW0G324	0.060
				Red	ZB4 BW0G424	0.060
				Yellow	ZB4 BW0G524	0.060
				Blue	ZB4 BW0G624	0.060

Other versions

Complete bodies with Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office.

(1) Can be fitted with additional contact blocks: see page 1/84.

(2) Connecting cables and connector for plug-in connector electrical blocks: see page 1/84.

Control and signalling units Ø 22

Harmony® style 4

Illuminated pushbuttons and switches with chromium plated metal bezel

Sub-assemblies, ZB4 B: bodies

To combine with heads for integral LED:
see pages 1/77 to 1/79

ZB4 BW00034

Complete bodies (fixing collar + single contact block + light block with integral LED) (continued)						
Light source	Supply voltage	Type of contact (1)		Colour of light source	Reference	Weight
		N/O	N/C			
	V					kg
Screw clamp terminal connections (2) (continued)						
Integral LED Protected LED	~ 48...120	2	-	White	ZB4 BW0G134	0.067
				Green	ZB4 BW0G334	0.067
				Red	ZB4 BW0G434	0.067
				Yellow	ZB4 BW0G534	0.067
				Blue	ZB4 BW0G634	0.067
		1	1	White	ZB4 BW0G154	0.067
				Green	ZB4 BW0G354	0.067
				Red	ZB4 BW0G454	0.067
				Yellow	ZB4 BW0G554	0.067
				Blue	ZB4 BW0G654	0.067
	~ 230...240	1	-	White	ZB4 BW0M114	0.060
				Green	ZB4 BW0M314	0.060
				Red	ZB4 BW0M414	0.060
				Yellow	ZB4 BW0M514	0.060
				Blue	ZB4 BW0M614	0.060
		-	1	White	ZB4 BW0M124	0.060
				Green	ZB4 BW0M324	0.060
				Red	ZB4 BW0M424	0.060
				Yellow	ZB4 BW0M524	0.060
				Blue	ZB4 BW0M624	0.060
2	-	White	ZB4 BW0M134	0.067		
		Green	ZB4 BW0M334	0.067		
		Red	ZB4 BW0M434	0.067		
		Yellow	ZB4 BW0M534	0.067		
		Blue	ZB4 BW0M634	0.067		
1	1	White	ZB4 BW0M154	0.067		
		Green	ZB4 BW0M354	0.067		
		Red	ZB4 BW0M454	0.067		
		Yellow	ZB4 BW0M554	0.067		
		Blue	ZB4 BW0M654	0.067		

Other versions Complete bodies with Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office.

(1) Can be fitted with additional contact blocks: see page 1/84.

(2) Connecting cables and connector for plug-in connector electrical blocks: see page 1/84.

Control and signalling units Ø 22

Harmony® style 4

Illuminated pushbuttons and switches with chromium plated metal bezel

Sub-assemblies, ZB4 B: bodies

To combine with heads for BA9s bulbs:
see pages 1/77 to 1/79

1

Complete bodies (fixing collar + single contact block + light block for BA 9s bulb, incandescent, neon or LED)

Description	Light source	Supply voltage	Type of contact (1)		Colour of light source	Reference	Weight		
			N/O	N/C					
		V					kg		
Screw clamp terminal connections									
Direct supply	BA 9s 2.4 W max. bulb Not included (2)	≤ 250	1	–	–	ZB4 BW061	0.063		
			–	1	–	ZB4 BW062	0.063		
			2	–	–	ZB4 BW063	0.073		
			1	1	–	ZB4 BW065	0.073		
Via integral transformer 1.2 VA, 6 V secondary	BA9s incandescent bulb, included	~ 110...120 50/60 Hz	1	–	–	ZB4 BW031	0.141		
			1	1	–	ZB4 BW035	0.151		
		~ 230 50 Hz	1	–	–	ZB4 BW041	0.141		
			1	1	–	ZB4 BW045	0.151		
		~ 220...240 60 Hz	1	–	–	ZB4 BW051	0.141		
			1	1	–	ZB4 BW055	0.151		
		~ 400 50 Hz	1	–	–	ZB4 BW051	0.141		
			1	1	–	ZB4 BW055	0.151		
			BA9s base fitting LED included	~ 110...120 50/60 Hz	1	1	White	ZB4 BW03D15	0.151
							Green	ZB4 BW03D35	0.151
							Red	ZB4 BW03D45	0.151
						Yellow	ZB4 BW03D55	0.151	
		Blue	ZB4 BW03D65	0.151					
~ 230 50 Hz	~ 220...240 60 Hz	1	1	White	ZB4 BW04D15	0.151			
				Green	ZB4 BW04D35	0.151			
				Red	ZB4 BW04D45	0.151			
				Yellow	ZB4 BW04D55	0.151			
				Blue	ZB4 BW04D65	0.151			
~ 400 50/60 Hz	~ 220...240 60 Hz	1	1	White	ZB4 BW05D15	0.152			
				Green	ZB4 BW05D35	0.152			
				Red	ZB4 BW05D45	0.152			
				Yellow	ZB4 BW05D55	0.152			
				Blue	ZB4 BW05D65	0.152			

Other versions Complete bodies with integral transformer incorporating Faston connector terminals (6.35 or 2 x 2.8). Please consult your Regional Sales Office.

(1) Can be fitted with additional contact blocks: see page 1/82.

(2) Bulb to be ordered separately: see page 1/94.

To combine with bodies:
see pages 1/72 to 1/76



ZB4 BW333



ZB4 BW563



ZB4 BW113










ZB4 BW33



ZB4 BW14

Heads for spring return illuminated pushbuttons


Shape of head	Type of push	Colour	Reference	Weight kg
With plain lens				
Only for use with bodies comprising a light source with integral LED				
	Flush	White	ZB4 BW313	0.026
		Green	ZB4 BW333	0.026
		Red	ZB4 BW343	0.026
		Yellow	ZB4 BW353	0.026
		Blue	ZB4 BW363	0.026
	Flush with illuminated ring	White	ZB4 BW913	0.026
		Green	ZB4 BW933	0.026
		Red	ZB4 BW943	0.026
		Yellow	ZB4 BW953	0.026
		Blue	ZB4 BW963	0.026
	Flush with clear boot	White	ZB4 BW513	0.031
		Green	ZB4 BW533	0.031
		Red	ZB4 BW543	0.031
		Yellow	ZB4 BW553	0.031
		Blue	ZB4 BW563	0.031
	Flush for insertion of legend	White	ZB4 BA18	0.028
		Green	ZB4 BA38	0.028
		Red	ZB4 BA48	0.028
		Yellow	ZB4 BA58	0.028
		Blue	ZB4 BA68	0.028
	Projecting	White	ZB4 BW113	0.029
		Green	ZB4 BW133	0.029
		Red	ZB4 BW143	0.029
		Yellow	ZB4 BW153	0.029
		Blue	ZB4 BW163	0.029
Only for use with bodies comprising a light source with BA 9s bulb (incandescent, neon or LED)				
	Flush	White	ZB4 BW31	0.027
		Green	ZB4 BW33	0.027
		Red	ZB4 BW34	0.027
		Yellow	ZB4 BW35	0.027
		Blue	ZB4 BW36	0.027
	Projecting	Clear	ZB4 BW37	0.027
		White	ZB4 BW11	0.028
		Green	ZB4 BW13	0.028
		Red	ZB4 BW14	0.028
		Yellow	ZB4 BW15	0.028
		Blue	ZB4 BW16	0.028
		Clear	ZB4 BW17	0.028

Heads with black metal bezel


To order, add the suffix 7 to the references selected above.
Example: ZB4 BW313 becomes ZB4 BW3137.

To combine with bodies:
see pages 1/72 to 1/76

Heads for spring return illuminated pushbuttons (continued)

Shape of head	Type of push	Colour	Reference	Weight kg
With grooved lens (1)				
Only for use with bodies comprising a light source with integral LED				
	Flush	White	ZB4 BW313S	0.026
		Green	ZB4 BW333S	0.026
		Red	ZB4 BW343S	0.026
		Yellow	ZB4 BW353S	0.026
		Blue	ZB4 BW363S	0.026
	Projecting	White	ZB4 BW113S	0.026
		Green	ZB4 BW133S	0.026
		Red	ZB4 BW143S	0.026
		Yellow	ZB4 BW153S	0.026
		Blue	ZB4 BW163S	0.026

Only for use with bodies comprising a light source with BA 9s bulb (incandescent, neon or LED)

	Flush	White	ZB4 BW31S	0.027
		Green	ZB4 BW33S	0.027
		Red	ZB4 BW34S	0.027
		Yellow	ZB4 BW35S	0.027
		Blue	ZB4 BW36S	0.027
	Projecting	Clear	ZB4 BW37S	0.027
		White	ZB4 BW11S	0.027
		Green	ZB4 BW13S	0.027
		Red	ZB4 BW14S	0.027
		Yellow	ZB4 BW15S	0.027
	Blue	ZB4 BW16S	0.027	
	Clear	ZB4 BW17S	0.027	

Heads with black metal bezel

To order, add the suffix 7 to the references selected above.
Example: ZB4 BW313S becomes ZB4 BW3137S.

(1) For use in bright ambient light conditions (outdoors in sunlight, for example). For heads with grooved lens, the use of "high luminosity" LEDs is recommended, see page 1/83.

To combine with bodies:
see pages 1/72 to 1/76



ZB4 BH033



ZB4 BH63



ZB4 BW812743




ZB4 BW823743



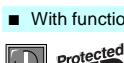




ZB4 BW841723

Heads for illuminated "push-push to release" pushbuttons (1)

Shape of head	Type of push	Colour of lens	Reference	Weight kg
Only for use with bodies comprising a light source with integral LED				
	Flush	White	ZB4 BH013	0.026
		Green	ZB4 BH033	0.026
		Red	ZB4 BH043	0.026
		Yellow	ZB4 BH053	0.026
		Blue	ZB4 BH063	0.026
	Projecting	White	ZB4 BH13	0.026
		Green	ZB4 BH33	0.026
		Red	ZB4 BH43	0.026
		Yellow	ZB4 BH53	0.026
		Blue	ZB4 BH63	0.026

Heads with pilot light for double-headed, spring return pushbuttons (IP 40) (2)

Shape of head	Description	Colour of pushes	Colour of pilot light	Reference	Weight kg
Only for use with bodies comprising a light source with integral LED "high luminosity" (3)					
■ Without function marking on push					
	1 flush push 1 central pilot light 1 flush push	Black	Clear (4)	ZB4 BW812743	0.047
		Red	Clear (4)	ZB4 BW813743	0.047
		Green	Clear (4)	ZB4 BW813743	0.047
		Red	Clear (4)	ZB4 BW811723	0.047
	1 flush push 1 central pilot light 1 projecting push	Black	Clear (4)	ZB4 BW832743	0.046
		Red	Clear (4)	ZB4 BW833743	0.046
		Green	Clear (4)	ZB4 BW833743	0.046
		Red	Clear (4)	ZB4 BW831723	0.046
	1 flush push (marked "I") 1 central pilot light 1 flush push (marked "O")	Black	Clear (4)	ZB4 BW822743	0.047
		Red	Clear (4)	ZB4 BW823743	0.047
		Green	Clear (4)	ZB4 BW823743	0.047
		Red	Clear (4)	ZB4 BW821723	0.047
	1 flush push (marked "I") 1 central pilot light 1 projecting push (marked "O")	Black	Clear (4)	ZB4 BW842743	0.046
		Red	Clear (4)	ZB4 BW843743	0.046
		Green	Clear (4)	ZB4 BW843743	0.046
		Red	Clear (4)	ZB4 BW841723	0.046
	1 flush push (marked "I") 1 central pilot light 1 projecting push (marked "O")	White	Clear (4)	ZB4 BW841723	0.046
		Black	Clear (4)	ZB4 BW841723	0.046

Heads with black metal bezel

To order, add the suffix 7 to the references selected above.

Example: ZB4 BW812743 becomes ZB4 BW8127437.

(1) Maximum of 1 row of 2 contact blocks on associated body/ fixing collar sub-assembly.

(2) NEMA type 1. For head with IP 66 degree of protection (NEMA type 4X), fit a clear sealing boot ZBW 008: see page 1/95.

(3) "High luminosity" LED, see page 1/83.

(4) Colour of centrally positioned pilot light determined by the colour of the LED incorporated in the body assembly.


To combine with bodies:
see pages 1/72 to 1/76

1




ZB4 BW413

Heads for spring return Ø40 mushroom head illuminated pushbuttons

Shape of head	Colour of push	Reference	Weight kg
Only for use with bodies comprising a light source with integral LED "high luminosity" (1)			
 Protected LED	White	ZB4 BW413	0.051
	Green	ZB4 BW433	0.051
	Red	ZB4 BW443	0.051
	Yellow	ZB4 BW453	0.051
	Blue	ZB4 BW463	0.051

Heads for latching Ø 40 mushroom head illuminated pushbuttons

Shape of head	Type of push	Colour of push	Reference	Weight kg
Only for use with bodies comprising a light source with integral LED "high luminosity" (1)				
 Protected LED	Push-pull	White	ZB4 BW613	0.051
		Green	ZB4 BW633	0.051
		Red	ZB4 BW643	0.051
		Yellow	ZB4 BW653	0.051
		Blue	ZB4 BW663	0.051

Heads with black metal bezel

To order, add the suffix 7 to the references selected above.
Example: ZB4 BK1213 becomes ZB4 BK12137.








(1) "High luminosity" LED, see page 1/83.

1.3

To combine with bodies:
see pages 1/72 to 1/76



ZB4 BK1343

Heads for illuminated selector switches, standard handle (1)				
Shape of head	Number and type of positions	Colour of handle	Reference	Weight kg
Only for use with bodies comprising a light source with integral LED				
	2 - stay put 	White	ZB4 BK1213	0.040
		Green	ZB4 BK1233	0.040
		Red	ZB4 BK1243	0.040
		Yellow	ZB4 BK1253	0.040
		Blue	ZB4 BK1263	0.040
	2 - spring return from right to left 	White	ZB4 BK1413	0.040
		Green	ZB4 BK1433	0.040
		Red	ZB4 BK1443	0.040
		Yellow	ZB4 BK1453	0.040
		Blue	ZB4 BK1463	0.040
	3 - stay put 	White	ZB4 BK1313	0.040
		Green	ZB4 BK1333	0.040
		Red	ZB4 BK1343	0.040
		Yellow	ZB4 BK1353	0.040
		Blue	ZB4 BK1363	0.040
	3 - spring return to centre 	White	ZB4 BK1513	0.040
		Green	ZB4 BK1533	0.040
		Red	ZB4 BK1543	0.040
		Yellow	ZB4 BK1553	0.040
		Blue	ZB4 BK1563	0.040
	3 - spring return from right to centre 	White	ZB4 BK1813	0.040
		Green	ZB4 BK1833	0.040
		Red	ZB4 BK1843	0.040
		Yellow	ZB4 BK1853	0.040
		Blue	ZB4 BK1863	0.040
	3 - spring return from left to centre 	White	ZB4 BK1713	0.040
		Green	ZB4 BK1733	0.040
		Red	ZB4 BK1743	0.040
		Yellow	ZB4 BK1753	0.040
		Blue	ZB4 BK1763	0.040

Heads with black metal bezel

To order, add the suffix 7 to the references selected above.
Example: ZB4 BK1213 becomes ZB4 BK12137.

(1) NEMA type 13.

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Separate components and accessories: electrical blocks

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814285



ZBE 101

814286



ZBE 102

1.3

814287



ZBE 203

814288



ZBE 204

814285



ZBE 201

814286



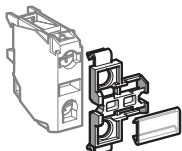
ZBE 202

814284



ZB4 BZ009

814282



ZBY 001

66327



XBY 2U

Contact blocks with screw clamp terminal connections (1)

Description	Type of contact		Sold in lots of	Unit reference	Weight kg
	N/O	N/C			
Standard single contact blocks	1	–	5	ZBE 101	0.011
	–	1	5	ZBE 102	0.011
Standard double contact blocks	2	–	5	ZBE 203	0.020
	–	2	5	ZBE 204	0.020
	1	1	5	ZBE 205	0.020
Special contact blocks for low power switching with gold flashed contacts	1	–	5	ZBE 1016	0.012
	–	1	5	ZBE 1026	0.012
Special contact blocks for low power switching with gold flashed contacts and dust protection (2)	1	–	5	ZBE 1016P	0.012
	–	1	5	ZBE 1026P	0.012
Description	Type of contact		Sold in lots of	Unit reference	Weight kg
	N/O	N/C			
Specific contact block for early make contact function	1	–	5	ZBE 201	0.011
Specific contact block for late break contact function	–	1	5	ZBE 202	0.011

Body/fixing collar

For use on	Sold in lots of	Unit reference	Weight kg
Electrical block (contact or light)	10	ZB4 BZ009	0.038

Clip-on legend holders for electrical blocks with screw clamp terminal connections

Application	Sold in lots of	Unit reference	Weight kg
Identification of an XB4 B control or signalling unit	10	ZBZ 001	0.001

Sheet of 50 blank legends

For use on	Sold in lots of	Unit reference	Weight kg
Legend holder ZBZ 001	10	ZBY 001	0.023

"SIS Label" labelling software (for legends ZBY 001)

Application	Reference	Weight kg
Legend design for English, French, German, Italian, Spanish	XBY 2U	0.100

(1) The contact blocks enable variable composition of body sub-assemblies. Maximum number of rows possible: 3.

Either 3 rows of 3 single contacts or 1 row of 3 double contacts + 1 row of 3 single contacts (double contact blocks occupy 2 rows).

(2) It is not possible to fit an additional contact block on the back of these blocks.

Other versions

Contact blocks with Faston connector terminals (6.35 or 2 x 2.8). Please consult your Regional Sales Office.

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Separate components and accessories: electrical blocks



814273

ZBV B•



622867

ZBZ G156



522088

ZBZ M156



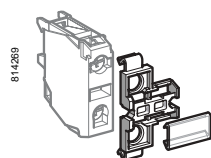
814274

ZBV V•



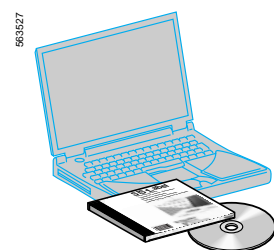
814272

ZB4 BZ009



814289

ZBZ 001



563527

XBY 2U

Light blocks with screw clamp terminals

Description	Supply voltage V	Colour of light source	Sold in lots of	Unit reference	Weight kg
Integral LED (to combine with heads for integral LED) Protected LED	≈ 12	White	5	ZBV J1 (1)	0.017
		Green	5	ZBV J3 (1)	0.017
		Red	5	ZBV J4 (1)	0.017
		Yellow	5	ZBV J5 (1)	0.017
		Blue	5	ZBV J6 (1)	0.017
	≈ 24	White	5	ZBV B1 (1)	0.017
		Green	5	ZBV B3 (1)	0.017
		Red	5	ZBV B4 (1)	0.017
		Yellow	5	ZBV B5 (1)	0.017
		Blue	5	ZBV B6 (1)	0.017
≈ 24...120	White	5	ZBV BG1	0.017	
	Green	5	ZBV BG3	0.017	
	Red	5	ZBV BG4	0.017	
	Yellow	5	ZBV BG5	0.017	
	Blue	5	ZBV BG6	0.017	
≈ 48...120	White	5	ZBV G1 (1)	0.017	
	Green	5	ZBV G3 (1)	0.017	
	Red	5	ZBV G4 (1)	0.017	
	Yellow	5	ZBV G5 (1)	0.017	
	Blue	5	ZBV G6 (1)	0.017	
≈ 230...240	White	5	ZBV M1 (1)	0.017	
	Green	5	ZBV M3 (1)	0.017	
	Red	5	ZBV M4 (1)	0.017	
	Yellow	5	ZBV M5 (1)	0.017	
	Blue	5	ZBV M6 (1)	0.017	
Direct supply for BA 9s 2.4 W max. bulb Not included (2)	≤ 250	–	5	ZBV 6	0.016

Blocks for “test light” function

For use with	Supply voltage V	Description	Reference	Weight kg
Light blocks	≈ 12 and 24 ≈ 24...120	Single module, 1 connecting wire	ZBZ G156 (3)	0,010
Light blocks with integral LED	≈ 48...230	Double module, with connecting wires	ZBZ M156 (4)	0,010

LED suppressors

For use with	Supply voltage V	Reference	Weight kg
Light blocks with integral LED fitted with screw clamp terminal connections	≈ 120	ZBZ VG	0.010
	≈ 230	ZBZ VM	0.010

Body/fixing collar

For use with	Sold in lots of	Unit reference	Weight kg
Electrical block (contact or light)	10	ZB4 BZ009	0.038

Clip-on legend holders for electrical blocks with screw clamp terminal connections

Identification of an XB4 B control or signalling unit	10	ZBZ 001	0.001
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Sheet of 50 blank legends

Legend holder ZBY 001	10	ZBY 001	0.023
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“SIS Label” labelling software (for legends ZBY 001)

Application	Reference	Weight kg
Legend design for English, French, German, Italian, Spanish	XBY 2U	0.100

(1) To order a “high luminosity” version, add the suffix **S** to the reference (example: **ZBV B5S** for a yellow, 24 V, high luminosity light block).

(2) Bulb to be ordered separately, see page 1/94.

(3) Block for use with ≈ light blocks with integral LED types **ZBV J•**, **ZBV B•**, **ZBV BG•** or with direct supply light block for BA 9s bulb, **ZBV 6**.(4) Block for use with ~ light blocks with integral LED types **ZBV G•**, **ZBV M•**, see connections on page 1/102.**Other versions** Light blocks with Faston connector terminals (6.35 or 2 x 2.8). Please consult your Regional Sales Office.

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Separate components and accessories: electrical blocks

1

814278



ZBE 1014

814279



ZBE 1024

1.3

814280



ZBV B4

Contact blocks for plug-in connector

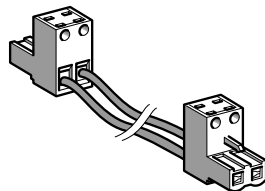
Description	Type of contact		Sold in lots of	Unit reference	Weight
					kg
Standard contact blocks	1	–	5	ZBE 1014	0.009
	–	1	5	ZBE 1024	0.009

Light blocks for plug-in connector

Description	Supply voltage V	Colour of light source	Sold in lots of	Unit reference	Weight
					kg
Integral LED (to combine with heads for integral LED)	≈ 24	White	5	ZBV B14	0,016
		Green	5	ZBV B34	0,016
		Red	5	ZBV B44	0,016
		Yellow	5	ZBV B54	0,016
		Blue	5	ZBV B64	0,016
	~ 48...120	White	5	ZBV G14	0,016
		Green	5	ZBV G34	0,016
		Red	5	ZBV G44	0,016
		Yellow	5	ZBV G54	0,016
		Blue	5	ZBV G64	0,016
	~ 230...240	White	5	ZBV M14	0,016
		Green	5	ZBV M34	0,016
		Red	5	ZBV M44	0,016
		Yellow	5	ZBV M54	0,016
		Blue	5	ZBV M64	0,016

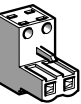
Protected LED

530719



APE 1C2250

814281



APE 1PAD21

814277



ZB4 BZ009

Connecting cables and connector

Description	Number of connectors	Wire c.s.a. mm ²	Length mm	Sold in lots of	Unit reference	Weight
						kg
Cables with connectors 2-pin, 5.08 mm pitch	1	0.75	500	8	APE 1C2150	0,120
	2	0.75	500	8	APE 1C2250	0.180
Self-stripping connector 2-pin, 5.08 mm pitch	–	0.75	–	16	APE 1PAD21	0.080
Spring terminal connector 2-pin, 5.08 mm pitch	–	0.2 to 2.5	–	10	APE 1PRE21	0.003

Body/fixing collar

For use with	Sold in lots of	Unit reference	Weight
			kg
Electrical block (contact or light)	10	ZB4 BZ009	0.038

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Separate components and accessories: electrical blocks



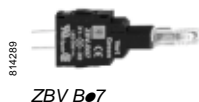
814287

ZBE 701



814288

ZBE 702



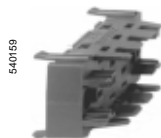
814289

ZBV B07



814277

ZB4 BZ009



540189

ZBZ 010



814286

ZB4 BZ079 + ZB4 BZ009

Contact blocks for printed circuit board connection (1)

Description	Type of contact		Sold in lots of	Unit reference	Weight kg
	N/O	N/C			
Standard contact blocks	1	–	10	ZBE 701	0.002
	–	1	10	ZBE 702	0.002
Special contact blocks for low power switching with gold flashed contacts	1	–	10	ZBE 7016 ▲	0.003
	–	1	10	ZBE 7026 ▲	0.003

Light blocks for printed circuit board connection (1)

Description	Supply voltage V	Colour of LED	Sold in lots of	Unit reference	Weight kg
Integral LED (to combine with heads for integral LED) Protected LED	≈ 24	White	5	ZBV B17	0,004
		Green	5	ZBV B37	0.004
		Red	5	ZBV B47	0.004
		Yellow	5	ZBV B57	0.004
		Blue	5	ZBV B67	0.004

Adaptor (socket) for printed circuit board connection

For use with	Thickness of printed circuit board mm	Sold in lots of	Unit reference	Weight kg
Electrical block (contact or light)	1.6 ± 0.2	10	ZBZ 010	0.008
	2.2 ± 0.2	10	ZBZ 011	0.008
	3.2 ± 0.2	10	ZBZ 012	0.008

Body/fixing collar

For use with	Sold in lots of	Unit reference	Weight kg
Electrical block (contact or light)	10	ZB4 BZ009	0.038

Accessories specifically for printed circuit board mounting (1)

Description	Application	Sold in lots of	Unit reference	Weight kg
Fixing collar/pillar	Printed circuit board support	10	ZB4 BZ079	0.003
Fixing screw for printed circuit board	Fixing collar/pillar ZB4 BZ079	10	ZBZ 006	0.011

(1) For details of support drilling and of printed circuit board: see page 1/105.
Must be used in conjunction with adaptor (socket) ZBZ 010.

▲ Available: 4th quarter 2005.General:
pages 1/42 to 1/49Characteristics:
pages 1/50 to 1/53Dimensions:
pages 1/98 to 1/105

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Separate components and accessories: for heads

1



814292

ZBA ●

Pushbutton caps - unmarked

For use with	Type of push	Colour	Sold in lots of	Unit reference	Weight kg	
ZB4 BA0 circular pushbutton heads supplied without cap	Flush	White	10	ZBA 1	0.001	
		Black	10	ZBA 2	0.001	
		Green	10	ZBA 3	0.001	
		Red	10	ZBA 4	0.001	
		Yellow	10	ZBA 5	0.001	
		Blue	10	ZBA 6	0.001	
		6 colours (1)	1	ZBA 9	0.006	
		Projecting	White	10	ZBL 1	0.001
			Black	10	ZBL 2	0.001
	Green		10	ZBL 3	0.001	
	Red		10	ZBL 4	0.001	
	Yellow		10	ZBL 5	0.001	
	Blue		10	ZBL 6	0.001	
	6 colours (1)		1	ZBL 9	0.006	

1.3



814293

ZBL ●

Pushbutton caps - marked

For use with	Type of push	Marking		Colour of cap	Unit reference	Weight kg
		Text	Colour			
ZB4 BA0 circular pushbutton heads supplied without cap (sold in lots of 10)	Flush	I (2)	White	Green	ZBA 331	0.001
			Black	White	ZBA 131	0.001
		II	White	Green	ZBA 336	0.001
			Black	White	ZBA 136	0.001
		III	White	Green	ZBA 337	0.001
			Black	White	ZBA 137	0.001
		IV	White	Green	ZBA 338	0.001
			Black	White	ZBA 138	0.001
		START (2)	White	Green	ZBA 333	0.001
			Black	White	ZBA 133	0.001
		ON	White	Green	ZBA 341	0.001
			Black	White	ZBA 141	0.001
		MARCHE	White	Green	ZBA 342	0.001
			Black	White	ZBA 142	0.001
		UP (2)	Black	White	ZBA 343	0.001
		DOWN (2)	White	Black	ZBA 344	0.001
		Ⓣ (2)	White	Black	ZBA 245	0.001
			Black	White	ZBA 145	0.001
		↑ (3)	White	Black	ZBA 335	0.001
			Black	White	ZBA 334	0.001
		O (2)	White	Red	ZBA 432	0.001
				Black	ZBA 232	0.001
		ARRET	White	Red	ZBA 433	0.001
				Black	ZBA 233	0.001
		STOP (2)	White	Red	ZBA 434	0.001
				Black	ZBA 234	0.001
		OFF	White	Red	ZBA 435	0.001
				Black	ZBA 235	0.001
		⚠	White	Green	ZBA 346	0.001
		R (2)	White	Blue	ZBA 639	0.001
		+	White	Black	ZBA 2934	0.001
		-	White	Black	ZBA 2935	0.001

(1) Set of 6 different coloured caps: white, black, green, red, yellow, blue.

(2) Double injection moulded marking.

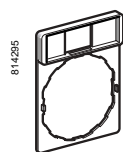
(3) Can be clipped-in at 90° steps, through 360°.

Control and signalling units Ø 22

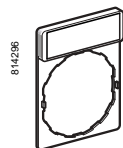
Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

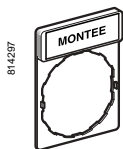
Separate components and accessories: for heads



ZBZ 32



ZBY 101



ZBY 2107

Standard (30 x 40 mm) legend holders for 8 x 27 mm legends (1)

Description	Legend		Sold in lots of	Unit reference	Weight kg		
	Colour	Marking					
Without legend	–	–	10	ZBZ 32	0.001		
With blank legend (for engraving)	Black or red background	–	10	ZBY 2101	0.002		
	White or yellow background	–	10	ZBY 4101	0.002		
With 8 x 27 mm legend (with International marking)	Black or red background	O (black background)	1	ZBY 2146	0.002		
		O (red background)	1	ZBY 2931	0.002		
		I	1	ZBY 2147	0.002		
		II	1	ZBY 2148	0.002		
		O-I	1	ZBY 2178	0.002		
		I-II	1	ZBY 2179	0.002		
		I-O-II	1	ZBY 2186	0.002		
		AUTO	1	ZBY 2115	0.002		
		STOP	1	ZBY 2304	0.002		
		With 8 x 27 mm legend (with French language marking)	Black or red background (2)	ARRET (red background)	1	ZBY 2104	0.002
				ARRET (black background)	1	ZBY 0104	0.002
				ARRET GENERAL	1	ZBY 2129	0.002
				ARRET REARMEMENT	1	ZBY 2133	0.002
ARRET D'URGENCE	1			ZBY 2130	0.002		
ARRET-MARCHE	1			ZBY 2166	0.002		
ARRIERE	1			ZBY 2106	0.002		
AUTO CYCLE-CYCLE	1			ZBY 2198	0.002		
AUTO CYCLE-MAIN	1			ZBY 2199	0.002		
AUTO-MAIN	1			ZBY 2164	0.002		
AUTO-O-MAIN	1			ZBY 2185	0.002		
AVANT	1			ZBY 2105	0.002		
AVANT-O-ARRIERE	1			ZBY 2184	0.002		
C-P-C-NORMAL	1			ZBY 2165	0.002		
CYCLE-MAIN	1			ZBY 2197	0.002		
DECLENCHEMENT	1			ZBY 2132	0.002		
DEFAUT (black background)	1			ZBY 2134	0.002		
DEFAUT (red background)	1			ZBY 2135	0.002		
DEPART CYCLE	1			ZBY 2195	0.002		
DESCENTE	1	ZBY 2108	0.002				
DROITE	1	ZBY 2109	0.002				
ENCLENCHEMENT	1	ZBY 2131	0.002				
EN SERVICE	1	ZBY 2111	0.002				
FERMETURE	1	ZBY 2114	0.002				
GAUCHE	1	ZBY 2110	0.002				
HORS SERVICE	1	ZBY 2112	0.002				
HORS-EN	1	ZBY 2167	0.002				
LENT	1	ZBY 2127	0.002				
MAIN	1	ZBY 2116	0.002				
MARCHE	1	ZBY 2103	0.002				
MONTEE	1	ZBY 2107	0.002				
OUVERTURE	1	ZBY 2113	0.002				
PHASE / PHASE	1	ZBY 2196	0.002				
REARMEMENT (red bk.grnd)	1	ZBY 2123	0.002				
REARMEMENT (black bk.grnd)	1	ZBY 0123	0.002				
SOUS TENSION	1	ZBY 2126	0.002				
VITE	1	ZBY 2128	0.002				

(1) For legends, see pages 1/89 to 1/91.

(2) "Start" functions: white letters on black background. "Stop" functions: white letters on red background (unless otherwise specified above).

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Separate components and accessories: for heads

Standard (30 x 40 mm) legend holders for 8 x 27 mm legends (continued)

Description	Legend		Reference	Weight kg		
	Colour	Marking				
With legend (with English language marking)	Black or red background (1)	AUTO-HAND	ZBY 2364	0.002		
		AUTO-O-HAND	ZBY 2385	0.002		
		CLOSE	ZBY 2314	0.002		
		DOWN	ZBY 2308	0.002		
		EMERGENCY STOP	ZBY 2330	0.002		
		FAST	ZBY 2328	0.002		
		FORWARD	ZBY 2305	0.002		
		HAND	ZBY 2316	0.002		
		HAND-OFF-AUTO	ZBY 2387	0.002		
		INCH	ZBY 2321	0.002		
		LEFT	ZBY 2310	0.002		
		OFF	ZBY 2312	0.002		
		OFF-ON	ZBY 2367	0.002		
		ON	ZBY 2311	0.002		
		OPEN	ZBY 2313	0.002		
		POWER ON	ZBY 2326	0.002		
		RESET (red background)	ZBY 2323	0.002		
		RESET (black background)	ZBY 2322	0.002		
		REVERSE	ZBY 2306	0.002		
		RIGHT	ZBY 2309	0.002		
		RUN	ZBY 2334	0.002		
		SLOW	ZBY 2327	0.002		
		START	ZBY 2303	0.002		
		STOP-START	ZBY 2366	0.002		
		UP	ZBY 2307	0.002		
		With legend (with German language marking)	Black or red background (1)	AB	ZBY 2208	0.002
				AUF	ZBY 2207	0.002
				AUS	ZBY 2204	0.002
				AUS-EIN	ZBY 2266	0.002
				AUS-IN BETRIEB	ZBY 2267	0.002
				AUS-RÜCKSTELLUNG	ZBY 2233	0.002
				AUSSCHALTEN	ZBY 2232	0.002
				AUTO-HAND	ZBY 2364	0.002
AUTO-O-HAND	ZBY 2385			0.002		
AUTOZYKL-HAND	ZBY 2299			0.002		
AUTOZYKL- 1 ZYKL	ZBY 2298			0.002		
C-P-C-NORMAL	ZBY 2265			0.002		
EIN	ZBY 2203			0.002		
EINSCHALTEN	ZBY 2231			0.002		
HAND	ZBY 2316			0.002		
LANGSAM	ZBY 2227			0.002		
LINKS	ZBY 2210			0.002		
NOT-AUS (red background)	ZBY 2230			0.002		
NOT-AUS (yellow background)	ZBY 22420001			0.002		
NOT-HALT	ZBY 2229			0.002		
ÖFFNEN	ZBY 2213			0.002		
RECHTS	ZBY 2209			0.002		
RÜCKSTELLUNG	ZBY 2223			0.002		
SCHLIESSEN	ZBY 2214			0.002		
SCHNELL	ZBY 2228			0.002		
SPANNUNG EIN	ZBY 2226			0.002		
STEUERUNG AUS	ZBY 2212			0.002		
STEUERUNG EIN	ZBY 2211			0.002		
STÖRUNG (black background)	ZBY 2234			0.002		
STÖRUNG (red background)	ZBY 2235			0.002		
VOR	ZBY 2205			0.002		
VOR-O-ZURÜCK	ZBY 2284			0.002		
ZURÜCK	ZBY 2206			0.002		
ZYKLUS-HAND	ZBY 2297	0.002				
ZYKLUSSTART	ZBY 2295	0.002				

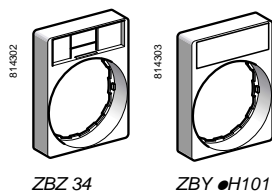
(1) "Start" functions: white letters on black background. "Stop" functions: white letters on red background (unless otherwise specified above).

Control and signalling units Ø 22

Harmony® style 4

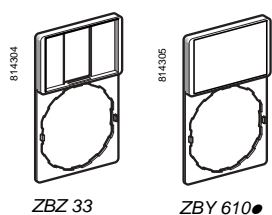
Pushbuttons, switches and pilot lights with chromium plated metal bezel

Separate components and accessories: for heads



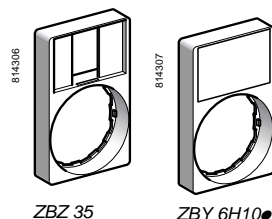
30 x 40 mm legend holders (flush mounting with bezel) for 8 x 27 mm legends

Description	Colour	Sold in lots of	Unit reference	Weight kg
Without legend	–	10	ZBZ 34	0.003
With blank legend	Black or red background	10	ZBY 2H101	0.004
	White or yellow background	10	ZBY 4H101	0.004



Standard (30 x 50 mm) legend holders for 18 x 27 mm legends

Description	Colour	Sold in lots of	Unit reference	Weight kg
Without legend	–	10	ZBZ 33	0.001
With blank legend	Black or red background	10	ZBY 6101	0.002
	White or yellow background	10	ZBY 6102	0.002



30 x 50 mm legend holders (flush mounting with bezel) for 18 x 27 mm legends

Description	Colour	Sold in lots of	Unit reference	Weight kg
Without legend	–	10	ZBZ 35	0.003
With blank legend	Black or red background	10	ZBY 6H101	0.004
	White or yellow background	10	ZBY 6H102	0.004

Legends for engraving

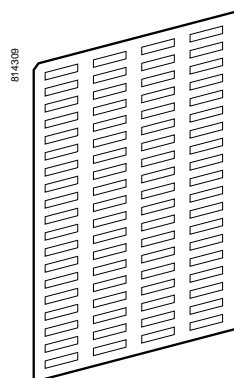
Description	For use with	Colour	Sold in lots of	Unit reference	Weight kg
8 x 27	30 x 40 mm legend holder	Black or red background	10	ZBY 0101	0.001
		White or yellow background	10	ZBY 0102	0.001
18 x 27	30 x 50 mm legend holder	Black or red background	10	ZBY 5101	0.001
		White or yellow background	10	ZBY 5102	0.001

Sheets of peel-off legends (with backing board and protective transparent cover)

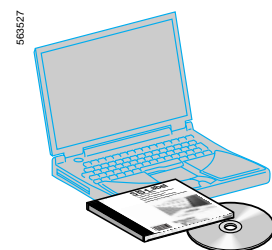
Description	For use with	Sold in lots of	Unit reference	Weight kg
Sheet of 76 legends 8 x 27 mm	30 x 40 mm legend holders ZBZ 32 and ZBZ 34	10	ZBY 4100	0.043
Sheet of 40 legends 18 x 27 mm	30 x 50 mm legend holders ZBZ 33 and ZBZ 35	10	ZBY 5100	0.044

"SIS Label" labelling software

Application	Reference	Weight kg
Legend design for English, French, German, Italian, Spanish	XBY 2U	0.100



ZBY 4100



XBY 2U

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Separate components and accessories: for heads

1

814310



ZBY 02178

1.3

814311



ZBY 0●104

8 x 27 mm marked legends (for 30 x 40 mm legend holders ZBZ 32 and ZBZ 34)

Colour	Marking	Reference	Weight kg	
Black or red background (1)	International	O (black background)	ZBY 02146 0.001	
		O (red background)	ZBY 02931 0.001	
		I	ZBY 02147 0.001	
		II	ZBY 02148 0.001	
		O-I	ZBY 02178 0.001	
		I-II	ZBY 02179 0.001	
		I-O-II	ZBY 02186 0.001	
		AUTO	ZBY 02115 0.001	
		STOP	ZBY 02304 0.001	
		French	ARRET (red background)	ZBY 02104 0.001
			ARRET (black background)	ZBY 00104 0.001
			ARRET GENERAL	ZBY 02129 0.001
			ARRET REARMEMENT	ZBY 02133 0.001
			ARRET D'URGENCE	ZBY 02130 0.001
ARRET-MARCHE	ZBY 02166 0.001			
ARRIERE	ZBY 02106 0.001			
AUTO CYCLE-CYCLE	ZBY 02198 0.001			
AUTO CYCLE-MAIN	ZBY 02199 0.001			
AUTO-MAIN	ZBY 02164 0.001			
AUTO-O-MAIN	ZBY 02185 0.001			
AVANT	ZBY 02105 0.001			
AVANT-O-ARRIERE	ZBY 02184 0.001			
C-P-C-NORMAL	ZBY 02165 0.001			
CYCLE-MAIN	ZBY 02197 0.001			
DECLenchement	ZBY 02132 0.001			
DEFAULT (black background)	ZBY 02134 0.001			
DEFAULT (red background)	ZBY 02135 0.001			
DEPART CYCLE	ZBY 02195 0.001			
DESCENTE	ZBY 02108 0.001			
DROITE	ZBY 02109 0.001			
ENclenchement	ZBY 02131 0.001			
EN SERVICE	ZBY 02111 0.001			
FERMETURE	ZBY 02114 0.001			
GAUCHE	ZBY 02110 0.001			
HORS SERVICE	ZBY 02112 0.001			
HORS-EN	ZBY 02167 0.001			
LENT	ZBY 02127 0.001			
MAIN	ZBY 02116 0.001			
MARCHE	ZBY 02103 0.001			
MONTEE	ZBY 02107 0.001			
Ouverture	ZBY 02113 0.001			
PHASE / PHASE	ZBY 02196 0.001			
REARMEMENT (red background)	ZBY 02123 0.001			
REARMEMENT (black background)	ZBY 00123 0.001			
SOUS TENSION	ZBY 02126 0.001			
VITE	ZBY 02128 0.001			

(1) "Start" functions: white letters on black background. "Stop" functions: white letters on red background (unless otherwise specified above).

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Separate components and accessories: for heads

8 x 27 mm marked legends (for 30 x 40 mm legend holders ZBZ 32 and ZBZ 34) (continued)

Colour	Marking	Reference	Weight kg			
Black or red background (1)	English	AUTO-HAND	ZBY 02364	0.001		
		AUTO-O-HAND	ZBY 02385	0.001		
		CLOSE	ZBY 02314	0.001		
		DOWN	ZBY 02308	0.001		
		EMERGENCY STOP	ZBY 02330	0.001		
		FAST	ZBY 02328	0.001		
		FORWARD	ZBY 02305	0.001		
		HAND	ZBY 02316	0.001		
		HAND-OFF-AUTO	ZBY 02387	0.001		
		INCH	ZBY 02321	0.001		
		LEFT	ZBY 02310	0.001		
		OFF	ZBY 02312	0.001		
		OFF-ON	ZBY 02367	0.001		
		ON	ZBY 02311	0.001		
		OPEN	ZBY 02313	0.001		
		POWER ON	ZBY 02326	0.001		
		RESET (red background)	ZBY 02323	0.001		
		RESET (black background)	ZBY 02322	0.001		
		REVERSE	ZBY 02306	0.001		
		RIGHT	ZBY 02309	0.001		
		RUN	ZBY 02334	0.001		
		SLOW	ZBY 02327	0.001		
		START	ZBY 02303	0.001		
		STOP-START	ZBY 02366	0.001		
		UP	ZBY 02307	0.001		
			German	AB	ZBY 02208	0.001
				AUF	ZBY 02207	0.001
				AUS	ZBY 02204	0.001
				AUS-EIN	ZBY 02266	0.001
				AUS-IN BETRIEB	ZBY 02267	0.001
				AUS-RÜCKSTELLUNG	ZBY 02233	0.001
				AUSSCHALTEN	ZBY 02232	0.001
				AUTO-HAND	ZBY 02364	0.001
AUTO-O-HAND	ZBY 02385			0.001		
AUTOZYKL-HAND	ZBY 02299			0.001		
AUTOZYKL- 1 ZYKL	ZBY 02298			0.001		
C-P-C-NORMAL	ZBY 02265			0.001		
EIN	ZBY 02203			0.001		
EINSCHALTEN	ZBY 02231			0.001		
HAND	ZBY 02316			0.001		
LANGSAM	ZBY 02227			0.001		
LINKS	ZBY 02210			0.001		
NOT-AUS (red background)	ZBY 02230			0.001		
NOT-AUS (yellow background)	ZBY 022420001			0.001		
NOT-HALT	ZBY 02229			0.001		
ÖFFNEN	ZBY 02213			0.001		
RECHTS	ZBY 02209			0.001		
RÜCKSTELLUNG	ZBY 02223			0.001		
SCHLIESSEN	ZBY 02214			0.001		
SCHNELL	ZBY 02228			0.001		
SPANNUNG EIN	ZBY 02226			0.001		
STEUERUNG AUS	ZBY 02212			0.001		
STEUERUNG EIN	ZBY 02211			0.001		
STÖRUNG (black background)	ZBY 02234			0.001		
STÖRUNG (red background)	ZBY 02235			0.001		
VOR	ZBY 02205			0.001		
VOR-O-ZURÜCK	ZBY 02284			0.001		
ZURÜCK	ZBY 02206			0.001		
ZYKLUS-HAND	ZBY 02297	0.001				
ZYKLUSSTART	ZBY 02295	0.001				

(1) "Start" functions: white letters on black background. "Stop" functions: white letters on red background (unless otherwise specified above).



814313

ZBY 02303



814314

ZBY 02228

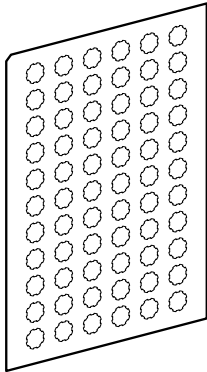
Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Separate components and accessories: for heads

1



ZBY 1101

1.3

Legends for pushbuttons, switches and pilot lights XB4 B

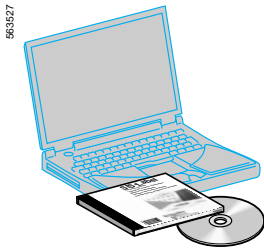
Description	Marking		Sold in lots of	Unit reference	Weight kg
Sheets of 66 circular peel-off transparent self-adhesive legends	Without		10	ZBY 1101	0.017
Strips of 66 circular peel-off transparent self-adhesive legends	International	O	10	ZBY 1146	0.017
		I	10	ZBY 1147	0.017
		II	10	ZBY 1148	0.017
		III	10	ZBY 1149	0.017
		STOP	10	ZBY 1304	0.017
	French	†	10	ZBY 1912	0.017
		ARRET	10	ZBY 1104	0.017
		ARRIERE	10	ZBY 1106	0.017
		AUTO	10	ZBY 1115	0.017
		AVANT	10	ZBY 1105	0.017
		DESCENTE	10	ZBY 1108	0.017
		MAIN	10	ZBY 1116	0.017
	English	MARCHE	10	ZBY 1103	0.017
		MONTEE	10	ZBY 1107	0.017
		HAND	10	ZBY 1316	0.017
		OFF	10	ZBY 1312	0.017
		ON	10	ZBY 1311	0.017
		START	10	ZBY 1303	0.017
		German	AB	10	ZBY 1208
AUF	10		ZBY 1207	0.017	
AUS	10		ZBY 1204	0.017	
EIN	10		ZBY 1203	0.017	
ZU	10		ZBY 1214	0.017	

“SIS Label” labelling software

Application	Reference	Weight kg
Legend design for English, French, German, Italian, Spanish	XBY 2U	0.100

Circular legends for Emergency stop mushroom head pushbuttons (yellow)

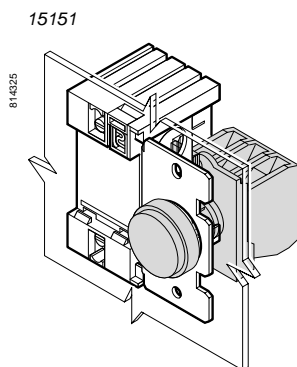
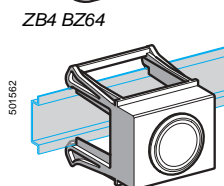
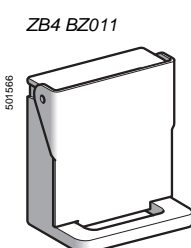
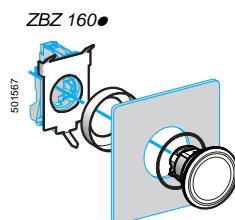
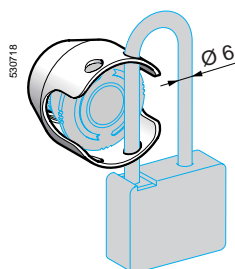
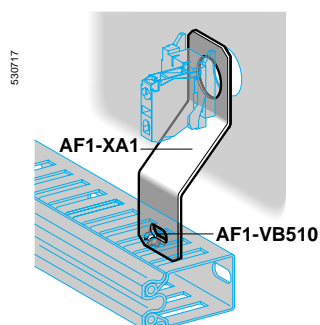
Diameter mm	Marking on yellow background	Reference	Weight kg
60	Without	ZBY 9101	0.004
	ARRET D'URGENCE	ZBY 9130	0.004
	EMERGENCY STOP	ZBY 9330	0.004
	NOT-AUS	ZBY 9230	0.004
90	Without	ZBY 8101	0.008
	ARRET D'URGENCE	ZBY 8130	0.008
	EMERGENCY STOP	ZBY 8330	0.008
	NOT-AUS	ZBY 8230	0.008



XBY 2U



ZBY 9130



Accessories

Description	Application	Colour	Sold in lots of	Unit reference	Weight kg
Cable ducting support	Fixing beneath head		10	AF1 XA1	0.030
M5 x 10 screw, with hexagonal slotted head	For fixing cable ducting		100	AF1 VB510	0.003
Support	For pushbuttons, switches and pilot lights XB4 B		1	DX1 AP52	0.160
Metal guards Padlockable (1)	For Emergency stop function only with the following Ø 40 trigger action pushbuttons: XB4 BT8●, XB4 BS8●, XB4 BS9●, ZB4 BT8●, ZB4 BS8●, ZB4 BS9●.	Chromium plated	1	ZBZ 1600	0.046
		Black	1	ZBZ 1602	0.046
		Red	1	ZBZ 1604	0.046
		Yellow	1	ZBZ 1605	0.046
		Blue	1	ZBZ 1606	0.046
Plastic guard	For selector switches with standard handle or key switches	Black	1	ZBZ 2102	0.005
Metal blanking plug, round, chromium plated (2)	For Ø 22 control and signalling units		10	ZB4 SZ3	0.023
Plastic blanking plug, round, black (3)	For Ø 22 control and signalling units		10	ZB5 SZ3	0.009
Mounting kit	For pushbuttons ZB4 B● with head mounted flush with bezel		1	ZB4 BZ011	0.007
Padlockable flaps	For pushbuttons	Black	1	ZB4 BZ62	0.076
		Red	1	ZB4 BZ64	0.076
		Yellow	1	ZB4 BZ65	0.076
		Blue	1	ZB4 BZ66	0.076
Pushbutton support	For 35 mm DIN rail, for use in modular enclosure (4)		1	15151	0.040

AS-Interface module for Ø 22 control and signalling units

Panel fixing, in conjunction with a Harmony pushbutton or switch

Description	Application	Reference	Weight kg
S7.F profile	4 inputs and 4 outputs direct supply from the bus	XBZ S43	0.100



- (1) No isolation function is possible when this guard is fitted.
 (2) Requires a **ZB4 BZ009** body/fixing collar for mounting, see page 1/82.
 (3) Supplied complete with fixing nut.
 (4) Marketed under the Merlin Gerin brand.

Control and signalling units Ø 22

Harmony® style 4

Pushbuttons, switches and pilot lights with chromium plated metal bezel

Separate components, accessories and replacement parts

1



DL1 CJO



DL1 CE



DL1 CF



XBF X13



ZBZ 8



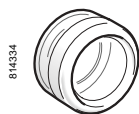
ZBG 455

BA 9s bulbs and associated accessories

Description	Characteristics	Colour	Sold in lots of	Unit reference	Weight kg
LEDs	≈ 24 V	White	1	DL1 CJ0241	0.002
		Green	1	DL1 CJ0243	0.002
		Red	1	DL1 CJ0244	0.002
		Yellow	1	DL1 CJ0245	0.002
		Blue	1	DL1 CJ0246	0.002
	≈ 48 V	Green	1	DL1 CJ0483	0.002
		Red	1	DL1 CJ0484	0.002
		Yellow	1	DL1 CJ0485	0.002
	6 V - 1.2 W	White	1	DL1 CD0061	0.002
		Green	1	DL1 CD0063	0.002
Red		1	DL1 CD0064	0.002	
Yellow		1	DL1 CD0065	0.002	
Blue		1	DL1 CD0066	0.002	
Incandescent bulbs	6 V - 1.2 W	–	10	DL1 CB006	0.002
	24 V - 2 W	–	10	DL1 CE024	0.002
	120...130 V - 2.4 W	–	10	DL1 CE130	0.002
Neon bulbs	120...130 V	–	10	DL1 CF110	0.002
	230...240 V	–	10	DL1 CF220	0.002
Bulb extractor	–	–	1	XBF X13	0.005
Lens cap tightening tool	Illuminated pushbuttons, with flush push	–	1	ZBZ 8	0.009

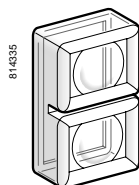
Replacement keys for Emergency stop key release heads and key switches

Description	Key number	Reference	Weight kg
Sets of 2 keys	455	ZBG 455	0.013
	421E	ZBG 421E	0.014
	458A	ZBG 458A	0.014
	520E	ZBG 520E	0.014
	3131A	ZBG 3131A	0.014



814334

ZBP 0



814335

ZBW 008



814336

ZBV 01●3



814337

ZBV 01●

Clear boots

Description	For use with pushbutton types	Sold in lots of	Unit reference	Weight kg
Single boots	Flush with circular head	10	ZBP A	0.002
	Projecting with circular head	10	ZBP 0	0.002
	Flush or projecting with circular head for food industry applications	10	ZBP 0A	0.002
Double boots	Flush or projecting double-headed pushbuttons	10	ZBW 008	0.005
	Flush double-headed pushbuttons	10	ZBW 008F	0.005
	Double-headed pushbuttons for food industry applications	10	ZBW 008A	0.005

Coloured boots

Description	Colour	Sold in lots of	Unit reference	Weight kg
Coloured boots (can be replaced without dismantling the head)	Black	10	ZB2 BP012	0.003
	Green	10	ZB2 BP013	0.003
	Red	10	ZB2 BP014	0.003
	Yellow	10	ZB2 BP015	0.003
	Blue	10	ZB2 BP016	0.003

Lens caps

For use on	Colour	Sold in lots of	Unit reference	Weight kg
Lens caps for light sources with integral LED				
Pilot lights	White	10	ZBV 0113	0.002
	Green	10	ZBV 0133	0.002
	Red	10	ZBV 0143	0.002
	Yellow	10	ZBV 0153	0.002
	Blue	10	ZBV 0163	0.002
	5 different coloured grooved lenses (1)	5	ZBV 0103S	0.010
Illuminated pushbuttons, with flush push	White	10	ZBW 9113	0.002
	Green	10	ZBW 9133	0.002
	Red	10	ZBW 9143	0.002
	Yellow	10	ZBW 9153	0.002
	Blue	10	ZBW 9163	0.002
Illuminated pushbuttons, with projecting push	White	10	ZBW 9313	0.002
	Green	10	ZBW 9333	0.002
	Red	10	ZBW 9343	0.002
	Yellow	10	ZBW 9353	0.002
	Blue	10	ZBW 9363	0.002
Lens caps for light sources with BA 9s base fitting				
Pilot lights	White	10	ZBV 011	0.002
	Green	10	ZBV 013	0.002
	Red	10	ZBV 014	0.002
	Yellow	10	ZBV 015	0.002
	Blue	10	ZBV 016	0.002
	Clear	10	ZBV 017	0.002
Illuminated pushbuttons, with flush push	White	10	ZBW 911	0.002
	Green	10	ZBW 913	0.002
	Red	10	ZBW 914	0.002
	Yellow	10	ZBW 915	0.002
	Blue	10	ZBW 916	0.002
	Clear	10	ZBW 917	0.002
Illuminated pushbuttons, with projecting push	White	10	ZBW 931	0.002
	Green	10	ZBW 933	0.002
	Red	10	ZBW 934	0.002
	Yellow	10	ZBW 935	0.002
	Blue	10	ZBW 936	0.002
	Clear	10	ZBW 937	0.002

(1) Clear, green, red, yellow, blue.

1



XB4 BA801

Manual overload reset buttons (1)

With flush push

Shape of head	Travel mm	Actuation distance mm	Colour	Reference	Weight kg
	10	6...16	Black	XB4 BA821	0.037
			Red	XB4 BA841	0.037
			Blue	XB4 BA861	0.037
	16...26		Black	XB4 BA822	0.038
			Red	XB4 BA842	0.038
			Blue	XB4 BA862	0.038
	14	30...130	Black	XB4 BA921	0.058
			Red	XB4 BA941	0.058
			Blue	XB4 BA961	0.058
	130...257		Black	XB4 BA922	0.071
			Red	XB4 BA942	0.071
			Blue	XB4 BA962	0.071

1.3



ZB4 BD912

Heads + mounting base for potentiometer

Shape of head	Description	Application	Reference	Weight kg
	For potentiometer with shaft length 44 to 50 mm (potentiometer not included)	For shaft Ø 6 mm	ZB4 BD912	0.080
		For shaft Ø 6.35 mm	ZB4 BD922	0.080

Wobblestick heads

Shape of head	Operation	Colour	Reference	Weight kg
	Omnidirectional, spring return	Black	ZB4 BB2	0.058
		Red	ZB4 BB4	0.058

(1) NEMA type 13.

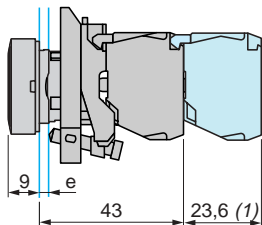
(2) Cap to be ordered separately, see page 1/86.

Joystick controllers (54 mm long operating shaft) (1)					
Description	Operation	Spring return to zero position	Reference	Weight kg	
 814342 XD4 PA12	Complete joystick controllers (screw clamp terminal connections)				
	2 direction	1 notch 1 N/O contact per direction	Without	XD4 PA12	0.116
			With	XD4 PA22	0.116
	4 direction	1 notch 1 N/O contact per direction	Without	XD4 PA14	0.133
		With	XD4 PA24	0.133	
Sub-assemblies for joystick controllers					
Description	Functions		Reference	Weight kg	
 814346 ZD4 PA103	Complete body/contact assemblies (screw clamp terminal connections)	2 direction	ZD4 PA103	0.049	
		4 direction	ZD4 PA203	0.058	
 814348 ZD4 PA203	Complete head assemblies with operating shaft	2 direction, stay put	ZD4 PA12	0.022	
		2 direction, spring return to zero position	ZD4 PA22	0.022	
		4 direction, stay put	ZD4 PA14	0.022	
		4 direction, spring return to zero position	ZD4 PA24	0.022	
 814347 ZD4 PA12	Legends 30 x 48 mm for engraving	2 direction	Black one side Red reverse	ZBG 2201	0.001
			White one side Yellow reverse	ZBG 2401	0.001
 814347 ZD4 PA12	Legends 48 x 48 mm for engraving	4 direction	Black one side Red reverse	ZBG 4201	0.002
			White one side Yellow reverse	ZBG 4401	0.002
Hour counters (2)					
Characteristics	Supply voltage V		Reference	Weight kg	
 814343 XB5 DS●	Indication 0...9999.9	≈ 12...24 - 50/60 Hz	XB5 DSB	0.045	
		≈ 120 - 60 Hz	XB5 DSG	0.045	
		≈ 230...240 - 50 Hz	XB5 DSM	0.045	
Annunciators (IP 40 NEMA 1) (2)					
 814344 XB5 KS●	85 db buzzer, basic: 4 kHz, with continuous or intermittent operation (connection diagram: see page 1/104)	≈ 24 - 50/60 Hz	XB5 KSB	0.035	
		≈ 120 - 50/60 Hz	XB5 KSG	0.035	
		≈ 230...240 - 50 Hz	XB5 KSM	0.035	
Fuse carrier (2)					
Description	For use with		Reference	Weight kg	
Fuse carrier	5 x 20 mm fuse 6.3 A - 250 V		XB5 DT1S	0.022	
(1) Cannot be used with standard contact blocks ZBE 101 (single) or ZBE 20● (double).					
(2) Replacement parts: fixing nut ZB5 AZ901, anti-rotation plate: ZB5 AZ902, tightening key: ZB5 AZ905.					
Other versions	Joystick controllers and complete body/contact assemblies for joystick controllers with Faston connector terminals (6.35 or 2 x 2.8). Please consult your Regional Sales Office.				

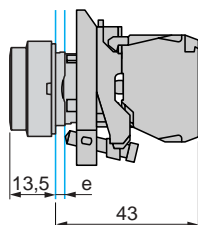
1

Pushbuttons, spring return

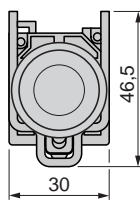
XB4 BA●●



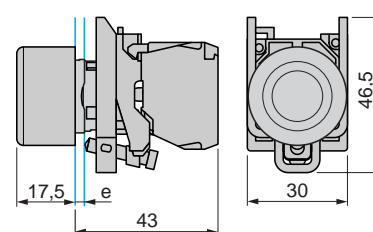
XB4 BL●●



Common face view



XB4 BP●●



e: panel thickness: 1 to 6 mm

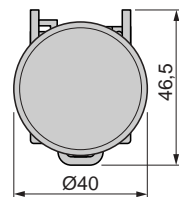
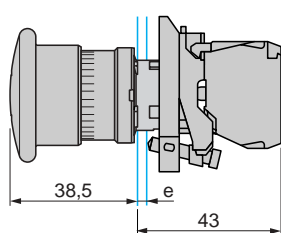
(1) Additional row of contacts or double contact.

e: panel thickness: 1 to 6 mm

1.3

Mushroom head

XB4 BC21

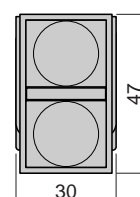
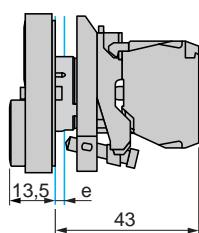


e: panel thickness: 1 to 6 mm

(1) Additional row of contacts or double contact.

Double-headed, spring return

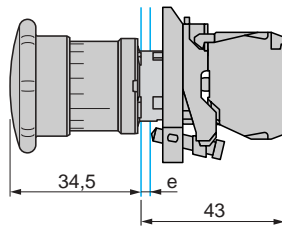
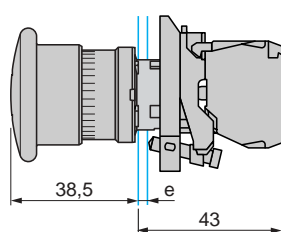
XB4 BL●45, BL●4C5



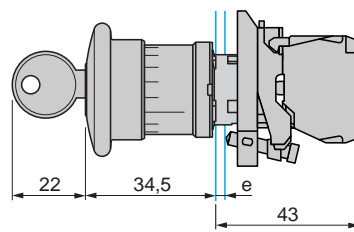
e: panel thickness: 1 to 6 mm

Emergency stop mushroom head pushbuttons

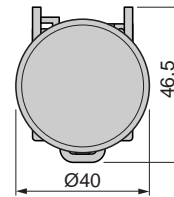
XB4 BT42, BT845



XB4 BS142, BS9445



Common face view



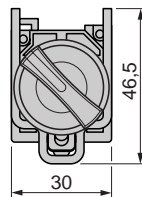
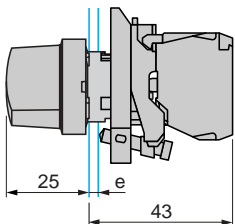
e: panel thickness: 1 to 6 mm

e: panel thickness: 1 to 6 mm

Selector switches

Standard handle operator

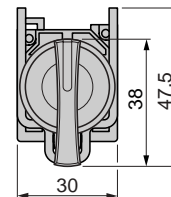
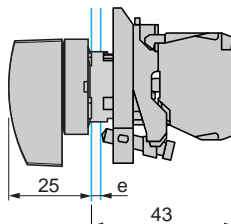
XB4 BD



e: panel thickness: 1 to 6 mm

Long handle operator

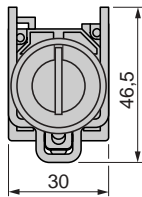
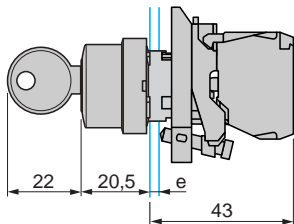
XB4 BJ



e: panel thickness: 1 to 6 mm

Key switches

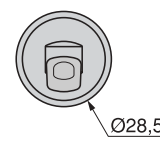
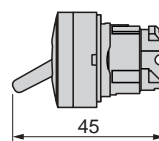
XB4 BG



e: panel thickness: 1 to 6 mm

Heads for toggle switches

ZB4 BD●8



Pilot lights

Integral LED XB4 BVB●, BVG●, BVM●	Direct supply XB4 BV6	Via integral transformer XB4 BV3●, BV4●	Common face view

e: panel thickness: 1 to 6 mm

e: panel thickness: 1 to 6 mm

Illuminated pushbuttons

Integral LED XB4 BWB3●●5	Direct supply XB4 BW3●65	Via integral transformer XB4 BW3●●5	Common face view

e: panel thickness: 1 to 6 mm

(1) Additional row of contacts or double contact

e: panel thickness: 1 to 6 mm

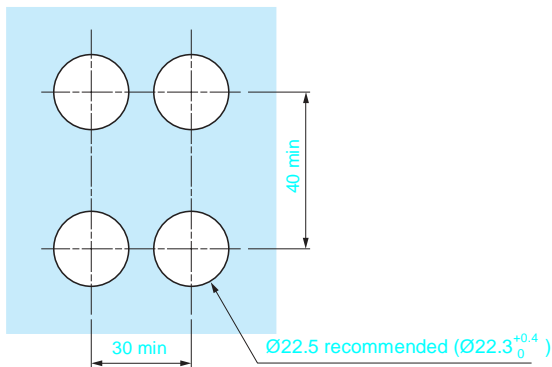
Double-headed pushbuttons with pilot light

Integral LED XB4 BW84●5	Illuminated selector switches Integral LED XB4 BK12●●5

e: panel thickness: 1 to 6 mm

e: panel thickness: 1 to 6 mm

Panel cut-out for pushbuttons, switches and pilot lights (1)



(1) Fixing centres for pushbuttons, switches and pilot lights fitted with Faston connector terminals 32 x 45 min.

Control and signalling units Ø 22

Harmony® style 4

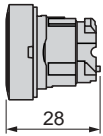
Pushbuttons, switches and pilot lights with chromium plated metal bezel

Sub-assemblies, ZB4 B: contact functions

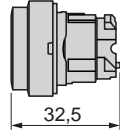
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Heads for spring return pushbuttons

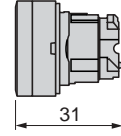
ZB4 BA●, ZB4 BA●●●
ZB4 BA●8



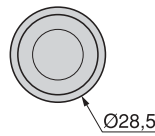
ZB4 BL●, ZB4 BL●●●



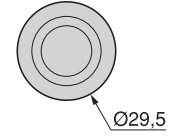
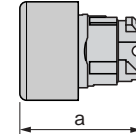
ZB4 BA●4, ZB4 BA●6



Common face view



ZB4 BP●●, ZB4 BP●S, ZB4 BP●83, ZB4 BP●

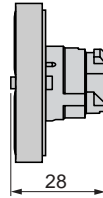


ZB4	a
BP●●	36,5
BP●S	33
BP●83	32
BP●	35

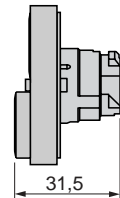
1.3

Heads for double-headed, spring return pushbuttons

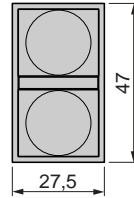
ZB4 BA81●●
ZB4 BA82●●



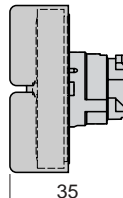
ZB4 BL83●●
ZB4 BL84●●



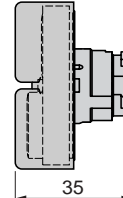
Common face view



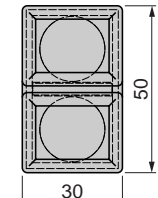
ZB4 BA91●●
ZB4 BA92●●



ZB4 BL93●●
ZB4 BL94●●



Common face view



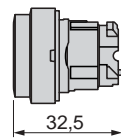
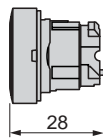
Heads for pushbuttons

Push-push to release

ZB4 BH●●

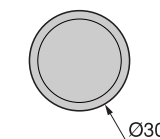
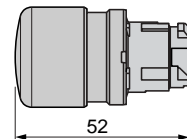
ZB4 BH●

Common face view

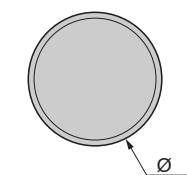
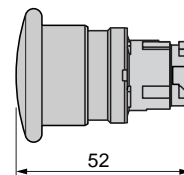


Mushroom head

ZB4 BC●4



ZB4 BC●, ZB4 BR●

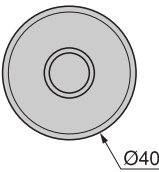
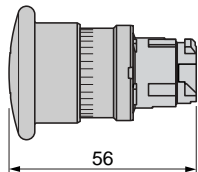


ZB4	Ø
BC●	40
BR●	60

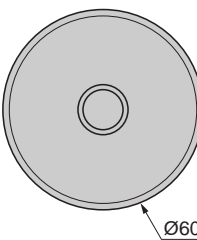
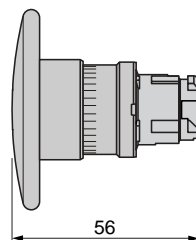
Mushroom heads for latching pushbuttons

Push-pull

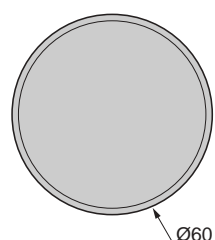
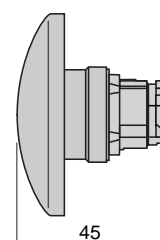
ZB4 BT●, ZB4 BT●4



ZB4 BX2, ZB4 BX4

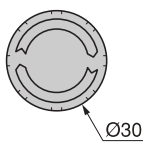
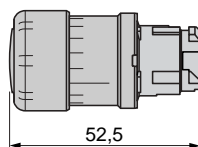


ZB4 BR●16

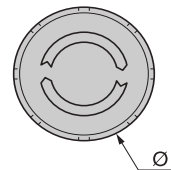
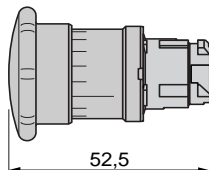


Turn to release

ZB4 BS4●, ZB4 BS834



ZB4 BS5●, ZB4 BS844, ZB4 BS6●

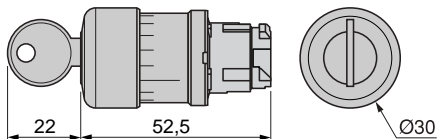


ZB4	Ø
BS5●, BS844	40
BS6●	60

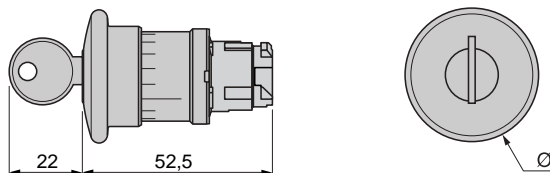
Mushroom heads for latching pushbuttons (continued)

Key release

ZB4 BS7●, ZB4 BS934



ZB4 BS1●, ZB4 BS2●, ZB4 BS944, ZB4 BS964



ZB4	Ø
BS1●, BS944	40
BS2●, BS964	60

Heads for selector switches

Standard handle operator

ZB4 BD●, ZB4 BD0●M



Long handle operator

ZB4 BJ●, ZB4 BD0●M



Padlockable long handle operator (6.35 mm shank max.)

ZB4 BJ●9●



Knurled knob, black

ZB4 BD●9



Key switches

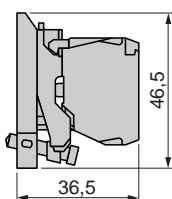
ZB4 BG●, ZB4 BG0●, ZB4 BG0●M



Bodies for pushbuttons and switches

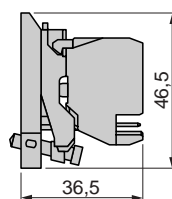
Screw clamp terminal connections

ZB4 BZ10●, ZB4 BZ141



Plug-in connector

ZB4 BZ10●4, ZB4 BZ1414

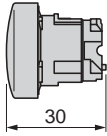


1

Heads for pilot lights, with light source

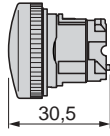
Integral LED

ZB4 BV0●3, ZB4 BV0●3S

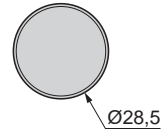


Incandescent, neon or LED

ZB4 BV0●, ZB4 BV0●S



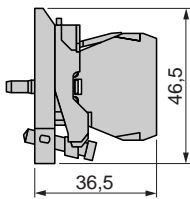
Common face view



Bodies for pilot lights, screw clamp terminal connections

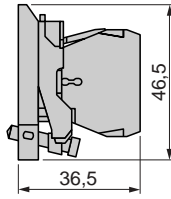
Integral LED

ZB4 BV●●



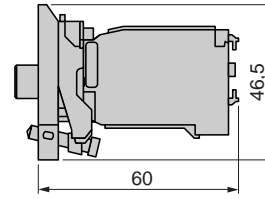
Direct supply, for BA 9s bulb

ZB4 BV6



Via integral transformer for BA 9s bulb

ZB4 BV●, ZB4 BV●De

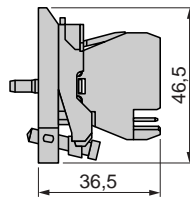


1.3

Bodies for pilot lights, plug-in connector

Integral LED

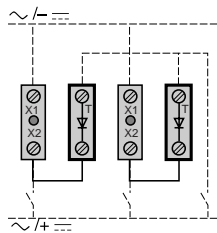
ZB4 BV●●4



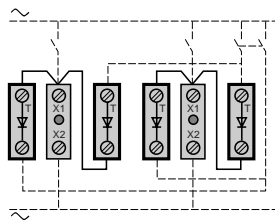
Connections

Blocks for "test light" function

ZBZ G156



ZBZ M156



Heads for spring return illuminated pushbuttons, for light sources

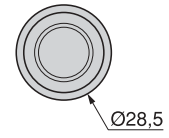
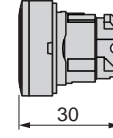
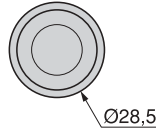
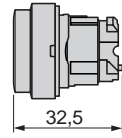
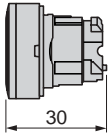
LED

ZB4 BW3●3, ZB4 BW3●3S
ZB4 BW5●3, ZB4 BA●8

ZB4 BW1●3, ZB4 BL●8

Common face view

ZB4 BW9●3



Incandescent or neon

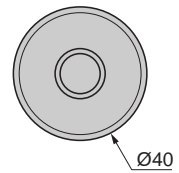
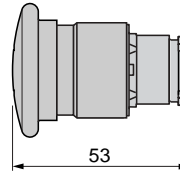
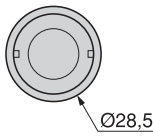
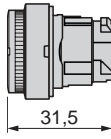
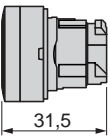
ZB4 BW3●3, ZB4 BW3●S

ZB4 BW1●

Common face view

Heads for Ø 40 mm mushroom head illuminated pushbuttons with LED

ZB4 BW4●3, ZB4 BW6●3

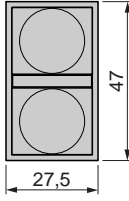
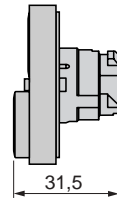
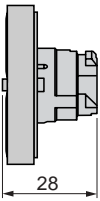


Heads for double-headed pushbuttons with pilot light

ZB4 BW81●●3
ZB4 BW82●●3

ZB4 BW83●●3
ZB4 BW84●●3

Common face view



Heads for illuminated "push-push to release" pushbuttons

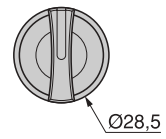
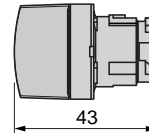
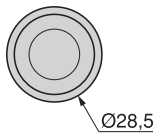
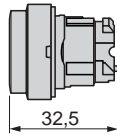
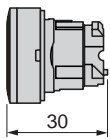
ZB4 BH0●3

ZB4 BH●3

Common face view

Heads for illuminated selector switches with standard handle

ZB4 BK1●●3



Bodies for illuminated pushbuttons and switches

Screw clamp terminal connections

Integral LED

Direct supply, for BA 9s bulb

Via integral transformer for BA 9s bulb

Plug-in connector

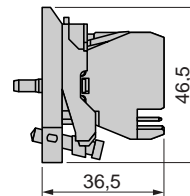
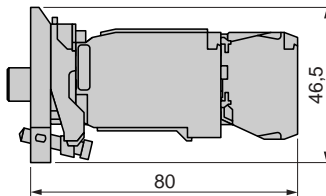
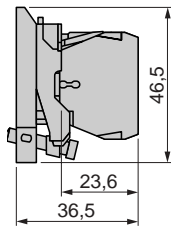
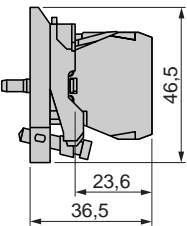
Integral LED

ZB4 BW0●●●

ZB4 BW06●

ZB4 BW0●●, BW0D●●

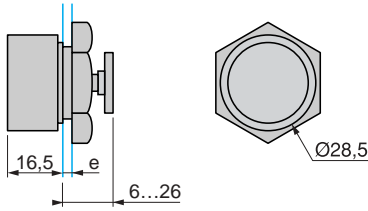
ZB4 BW0●●●4



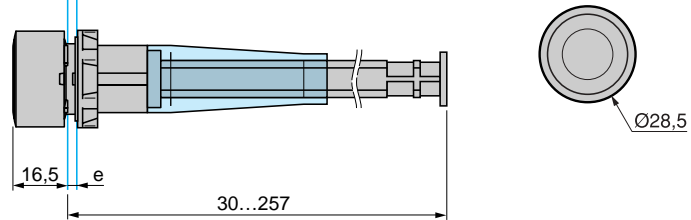
1

Manual overload reset buttons

XB4 BA8●●



XB4 BA9●●

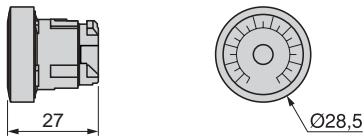


e: panel thickness 1 to 6 mm

1.3

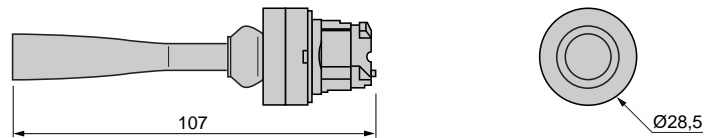
Heads + mounting base for potentiometer

ZB4 BD9●2



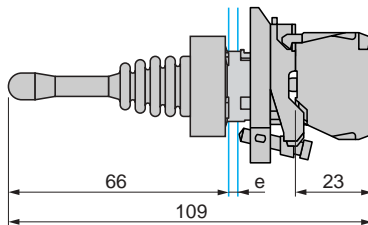
Wobblestick head

ZB4 BB●

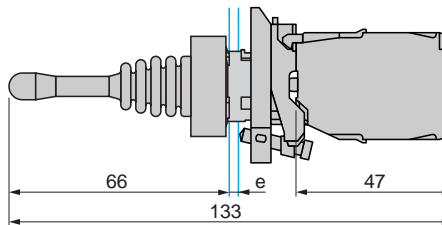


Joystick controllers

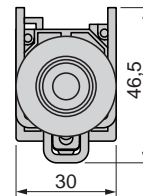
XD4 PA●2



XD4 PA●4



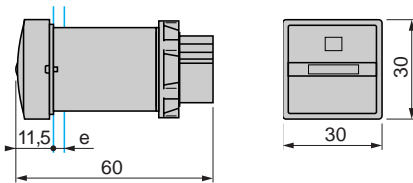
Common face view



e: panel thickness 1 to 6 mm

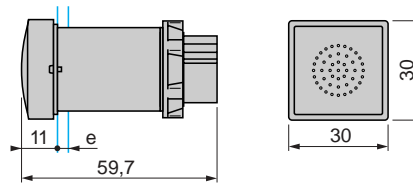
Hour counters

XB5 DS●



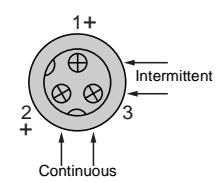
Annunciators

XB5 KS●



Connection diagram

XB5 KS●

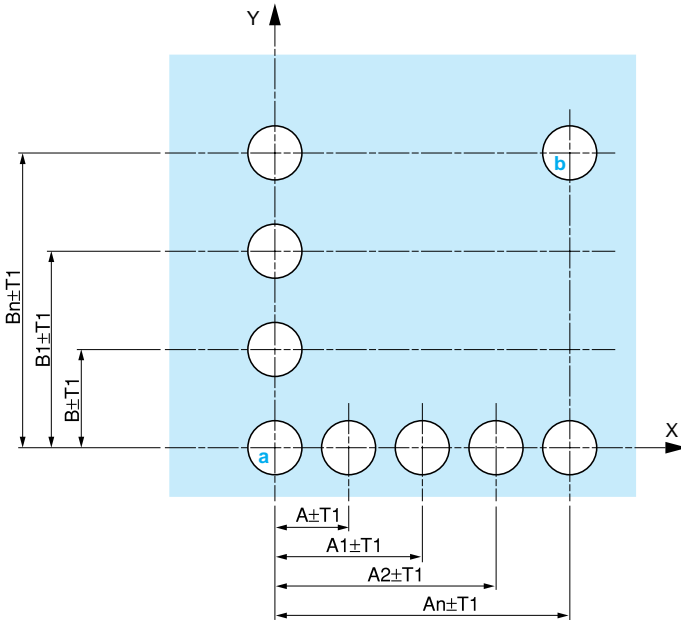


e: panel thickness 1 to 6 mm

Pushbuttons, switches and pilot lights for printed circuit board connection

Panel cut-out (viewed from installer's side)

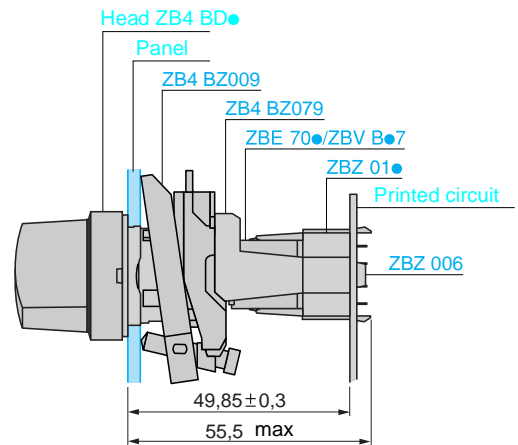
Dimensions in mm



Installation precautions:

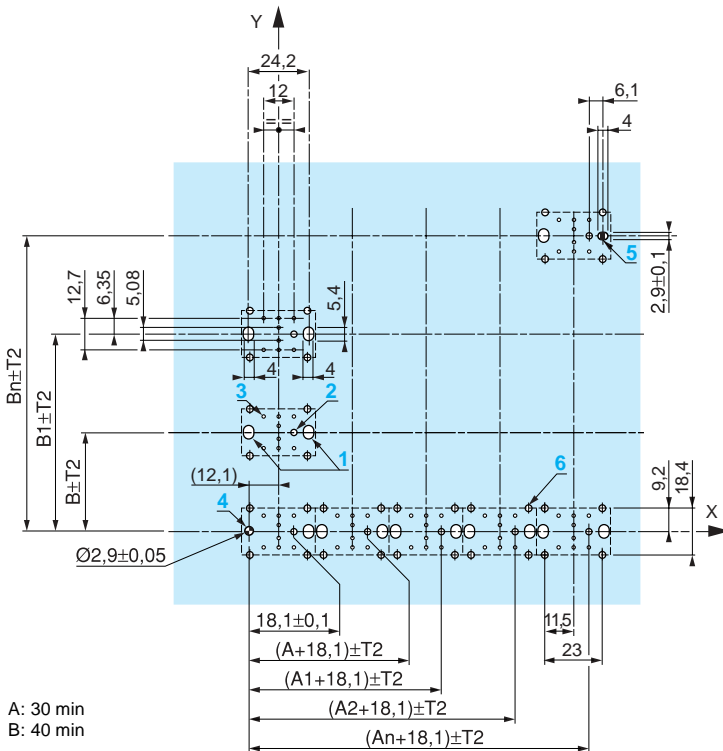
- Minimum thickness of circuit board: 1.6 mm.
- Cut-out diameter: 22.4 mm ± 0.1 mm.
- Orientation of body/fixing collar ZB4 BZ009: ± 2° 30' (excluding cut-outs marked **a** and **b**).
- Tightening torque of screws ZBZ 006: 0.6 N.m. max.
- Allow for one ZB4 BZ079 pillar and its fixing screws:
 - every 90 mm horizontally (X), and 120 mm vertically (Y).
 - with each selector switch head (ZB4 BD●, ZB4 BJ●, ZB4 BG●).

The fixing centres marked **a** and **b** are diagonally opposed and must align with those marked **4** and **5** on the printed circuit board.



Printed circuit board drillings (viewed from electrical block side)

Dimensions in mm



A: 30 min
B: 40 min

Mounting of adapter (socket) ZBZ 01●

- 1 2 elongated holes for ZBZ 006 screw access.
- 2 1 hole Ø 2.4 mm ± 0.05 for centring adapter ZBZ 01●.
- 3 8 x Ø 1.2 mm holes.
- 4 1 hole Ø 2.9 mm ± 0.05, for centring the printed circuit board (with cut-out marked **a**).
- 5 1 elongated hole for orientation of the printed circuit board (with cut-out marked **b**).
- 6 4 holes Ø 2.4 mm ± 0.05 for clipping in adapter ZBZ 01●.

Dimensions An + 18.1 relate to the Ø 2.4 mm ± 0.05 holes for centring adapter ZBZ 01●.

General tolerances of the panel and printed circuit board

The cumulative tolerance must not exceed 0.3 mm: T1 + T2 = 0.3 mm max.

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

1

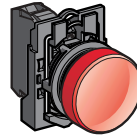
Description

The Ø 22 range of double insulated control and signalling units comprises:

Complete units XB5 A

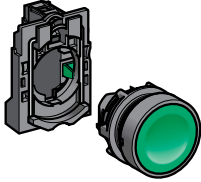


Pushbuttons and switches



Pilot lights

Sub-assemblies ZB5 A



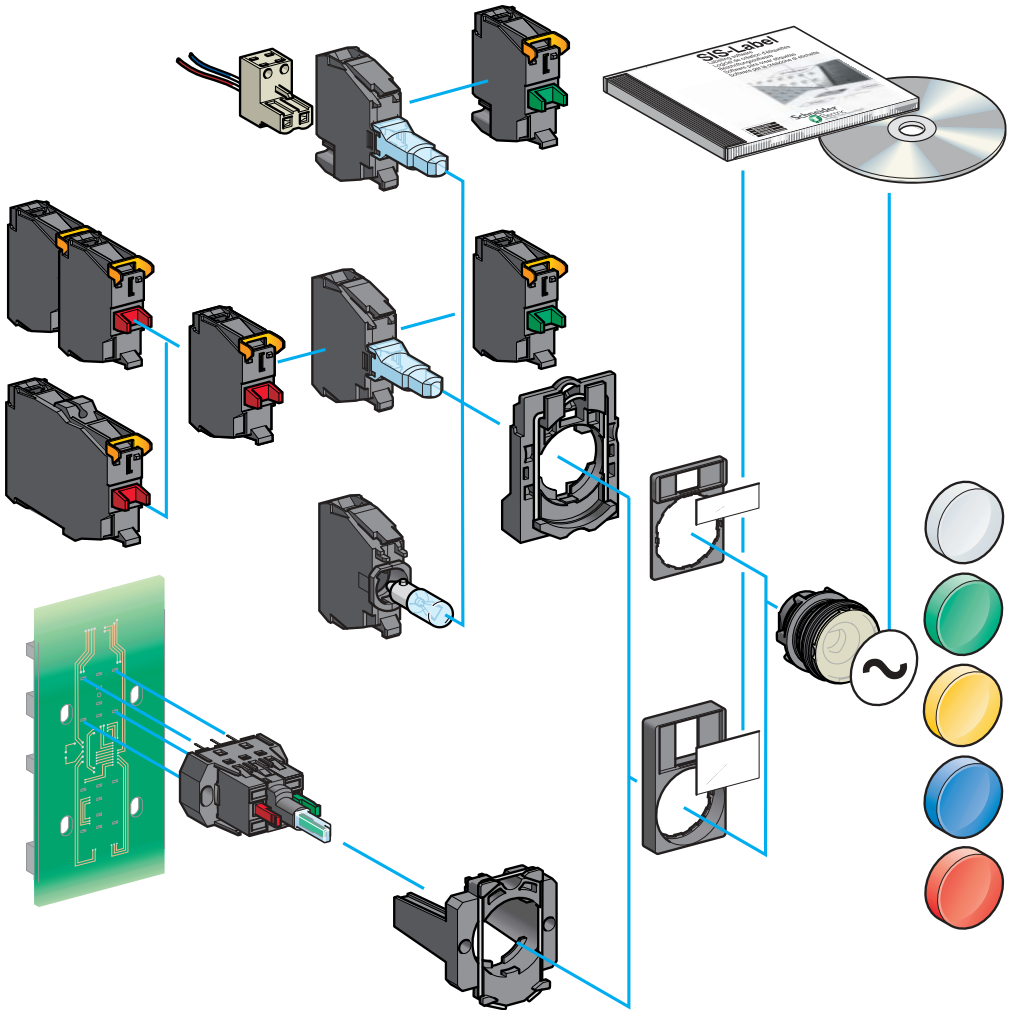
Pushbuttons and switches: body + head sub-assemblies



Pilot lights: body + head sub-assemblies

1.4

ZB component parts and accessories



Schematic library

Contact functions (pushbuttons and Emergency stop pushbuttons)

Pushbutton N/O contact	Pushbutton N/C contact	Mushroom head spring return N/O contact	Emergency stop mushroom head - Push-pull N/C contact
Emergency stop trigger action mushroom head Push-pull N/O + N/C contacts	Emergency stop mushroom head Turn to release N/C contact	Emergency stop mushroom head Turn to release, with key N/C contact	Emergency stop trigger action mushroom head Turn to release N/O + N/C contacts
Emergency stop mushroom head Trigger action - Turn to release, with key N/O + N/C contacts	Double-headed pushbutton N/O + N/C contacts	Early make contact block N/O contact	Late break contact block N/C contact

Contact functions (selector switches)

Selector switch 2-position stay put N/O contact	Selector switch 3-position stay put N/O + N/O contacts	Selector switch 3-position, 2 spring return to centre N/O + N/O contacts	Selector switch 2-position stay put key withdrawal from LH position - N/O contact
Selector switch 2-position spring return from right to left, key withdrawal from LH position - N/O contact			

Signalling functions

Pilot light with BA 9s incandescent bulb	LED pilot light	Pilot light with integral transformer ~ 230 V primary, 6 V secondary BA 9s incandescent bulb or LED

Combined functions, contact + signalling (pushbuttons and selector switches)

Illuminated pushbutton BA 9s incandescent bulb N/O + N/C contacts	Illuminated pushbutton with LED N/O + N/C contacts	Illuminated pushbutton with integral transformer ~ 230 V 50/60 Hz primary, 6 V secondary BA 9s incandescent bulb or LED N/O + N/C contacts
Double-headed pushbutton with LED pilot light	Illuminated selector switch with LED - 2-position stay put N/O + N/C contacts	

Joystick controller functions

2 direction		4 direction	
Without spring return	With spring return	Without spring return	With spring return

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Complete units, XB5 A

1

Complete units

Contact functions

Pushbuttons, spring return

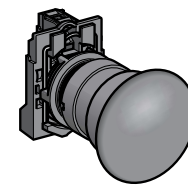


Flush push

XB5 AA01/AA42
see page 1/118

XB5 AA3311/AA3301
see page 1/118

XB5 AA4322
see page 1/118



Booted flush push

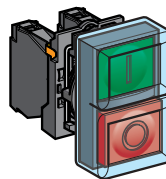
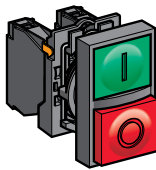
XB5 AP01/AP42
see page 1/118

Projecting push

XB5 AL42
see page 1/118

Mushroom head

XB5 AC21
see page 1/118



Double-headed pushbuttons, spring return

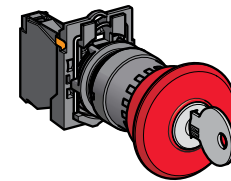
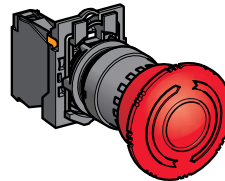
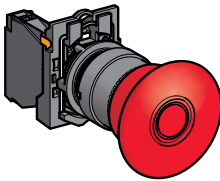
Flush push + projecting push

XB5 AL845
see page 1/118

Booted flush push + projecting push

XB5 AL945
see page 1/118

Ø 40 Emergency stop mushroom head pushbuttons with or without trigger action



Push-pull

XB5 AT42/AT845
see page 1/119

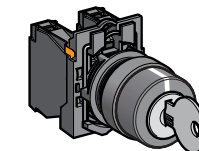
Turn to release

XB5 AS542/AS8445
see page 1/119

Key release

XB5 AS142/AS9445
see page 1/119

Selector switches and key switches



Standard black handle

XB5 AD
see page 1/119

Long black handle

XB5 AJ
see page 1/119

Key switch

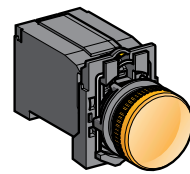
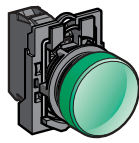
XB5 AG
see page 1/119

Complete units

(continued)

Pilot lights

Signalling functions



With integral LED

XB5 AVB/AVG/AVM
see page 1/120

For BA 9s bulb
Direct supply

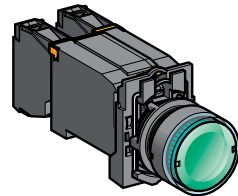
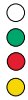
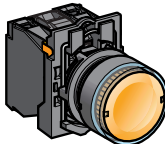
XB5 AV
see page 1/121

Via integral transformer

XB5 AV3/AV4
see page 1/121

Combined functions (contact + signalling)

Illuminated pushbuttons, spring return, flush push



With integral LED

XB5 AW3•B6/AW3•G5/AW3•M5
see page 1/122

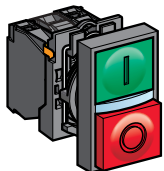
For BA 9s bulb
Direct supply

XB5 AW3•65
see page 1/122

Via integral transformer

XB5 AW3•35/AW3•45
see page 1/122

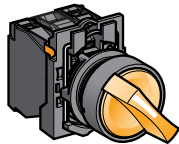
Double-headed pushbuttons, spring return, with pilot light



With integral LED

XB5 AW84•5
see page 1/123

Illuminated selector switches, standard handle



With integral LED

XB5 AK12•B5/AK12•G5/AK12•M5
see page 1/123

Control and signalling units Ø 22

Harmony® style 5

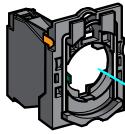
Pushbuttons, switches and pilot lights with double insulated bezel

Sub-assemblies, ZB5 A

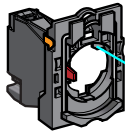
1

Non illuminated units for user assembly

For pushbuttons, spring return, without marking



Screw clamp terminals
ZB5 AZ10/AZ141
see page 1/124



Plug-in connector
ZB5 AZ10/AZ1414
see page 1/124

1.4

For pushbuttons, spring return, with marking

For "push-turn to release" pushbuttons

For double-headed pushbuttons, spring return

For "push-push to release" pushbuttons

Contact functions

Body sub-assemblies

Head sub-assemblies



Flush push with cap mounted or not mounted
ZB5 AA0/AA9
see page 1/125

Flush push for insertion of legend
ZB5 AA8
see page 1/125

Flush push
ZB5 CA
see page 1/127



Projecting push
ZB5 AL
see page 1/125

Recessed push
ZB5 AA
see page 1/125

Booted flush push
ZB5 APe/APe8
see page 1/125

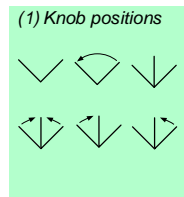
Projecting push
ZB5 CL
see page 1/125



Flush push
ZB5 AAe3/AAe4e
see page 1/126

Projecting push
ZB5 AL
see page 1/126

Flush push
ZB5 CAe3/CAe9
see page 1/126



Key switch
ZB5 AFD
see page 1/126

Knurled knob (1)
ZB5 AF
see page 1/126



Flush pushes (IP 40/IP 66) Without/with marking
ZB5 AA81/AA82
see page 1/127

Flush push + projecting push (IP 40/IP 66) Without/with marking
ZB5 AA91/AA92
see page 1/127

Flush push + projecting push (IP 40/IP 66) Without/with marking
ZB5 AL83/AL84
see page 1/127

Flush push + projecting push (IP 40/IP 66) Without/with marking
ZB5 AL93/AL94
see page 1/127



Flush push
ZB5 AH0/CH0
see page 1/127

Projecting push
ZB5 AH
see page 1/127

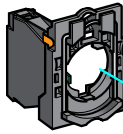
Flush push
ZB5 CH0
see page 1/127

Non illuminated units for user assembly
(continued)

Contact functions (continued)

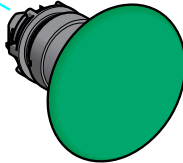
For mushroom head pushbuttons, spring return

Body sub-assemblies



Screw clamp terminals
ZB5 AZ10/AZ141
see page 1/124

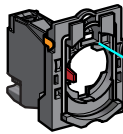
Head sub-assemblies



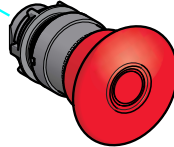
- ●
- ●
- ●
- Ø 30
- Ø 40
- Ø 60

Spring return
ZB5 AC/AR
see page 1/128

For mushroom head pushbuttons, latching, with or without trigger action

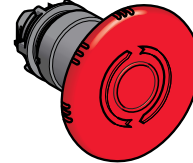


Plug-in connector
ZB5 AZ10/AZ144
see page 1/124



- ●
- ●
- Ø 30
- Ø 40
- Ø 60

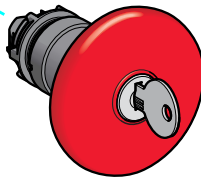
Push-pull
ZB5 AT84/AT/Axe
see page 1/129



- ●
- ●
- Ø 30
- Ø 40
- Ø 60

Turn to release
ZB5 AS8/AAS4/ AS5/AS6
see page 1/129

For selector switches and key switches



- ●
- ●
- Ø 30
- Ø 40
- Ø 60

Key release
ZB5 AS9/AAS7/ AS1/AS2
see page 1/129



Standard handle (1)
ZB5 AD
see page 1/130

Long black handle (1)
ZB5 AJ
see page 1/131



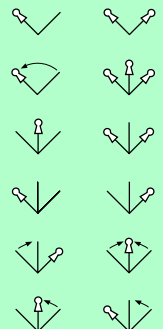
Knurled black knob (1)
ZB5 AD9
see page 1/132



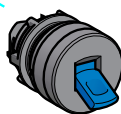
Key switch (2)
ZB5 AG/AG0
see page 1/133

(1) Switch handle and knob positions

(2) Key switch positions
Key withdrawal positions



For toggle switches



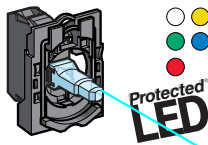
2-position
ZB5 AD8
see page 1/133

1

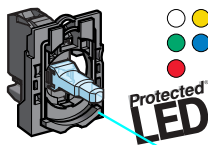
Pilot lights for user assembly

Signalling functions

Body sub-assemblies with integral LED

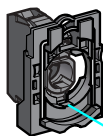


Screw clamp terminals
ZB5 AVB/AVG/AVM
see page 1/136

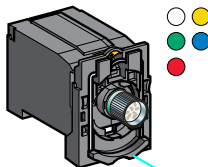


Plug-in connector
ZB5 AVB•4/AVG•4/
AVM•4
see page 1/136

Body sub-assemblies for BA 9s bulb



Direct supply
Screw clamp terminals
ZB5 AV6
see page 1/137



Via integral transformer
Screw clamp terminals
ZB5 AV•/AV3D•/AV5D•
see page 1/137

Head sub-assemblies



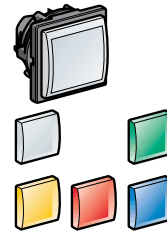
With lens mounted
ZB5 AV0•3
see page 1/137



ZB5 CV0•3
see page 1/137

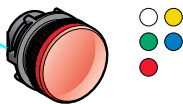


With 5 separate lenses not mounted
ZB5 AV003
see page 1/137



ZB5 CV003
see page 1/137

Head sub-assemblies

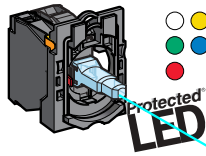


With lens mounted
ZB5 AV0•
see page 1/137

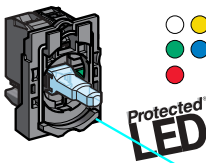
Illuminated pushbuttons for user assembly

For illuminated push-buttons, spring return

Body sub-assemblies with integral LED



Screw clamp terminals
ZB5 AW08/AW0G/AW0M see pages 1/142 and 1/107



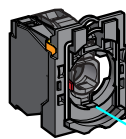
Plug-in connector
ZB5 AW08/AW0G/AW0M see pages 1/142 and 1/107

For double-headed pushbuttons, spring return, with pilot light

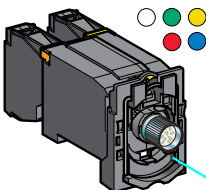
For illuminated "push-push to release" push-buttons and illuminated selector switches with standard handle

Body sub-assemblies for BA9s bulb

For illuminated push-buttons, spring return



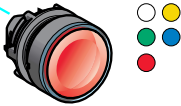
Direct supply
Screw clamp terminals
ZB5 AW06 see page 1/144



Via integral transformer
Screw clamp terminals
ZB5 AW03/4/5/3D/5D see page 1/144

Combined functions (contact + signalling)

Head sub-assemblies



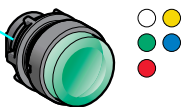
Flush push with cap mounted/not mounted
ZB5 AW3/AW9 see page 1/145



Flush push for insertion of legend
ZB5 AA see page 1/145



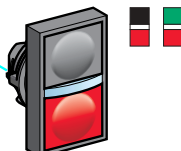
Booted flush push
ZB5 AW5 see page 1/145



Projecting push
ZB5 AW1/AL see page 1/145



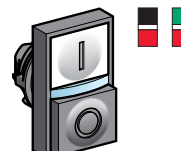
Flush or projecting push
ZB5 CW3/CW1 see page 1/145



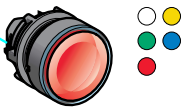
Flush push Without/with markings
ZB5 AW81 see page 1/146



Flush push + projecting push Without/with markings
ZB5 AW82 see page 1/146



Flush push + projecting push Without/with markings
ZB5 AW84 see page 1/146

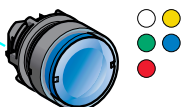


Flush or projecting "push-push to release"
ZB5 AH0/AH3 see page 1/146

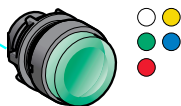


Standard handle operator
ZB5 AK1 see page 1/147

Head sub-assemblies



Flush push
ZB5 AW3 see page 1/145



Projecting push
ZB5 AW1 see page 1/145

1

1.4

Environment			
Protective treatment standard version			"TH" treatment
Ambient air temperature around the device	Storage	°C	- 40...+ 70
	Operation	°C	- 25...+ 70: LED and neon bulb versions - 25...+ 55: incandescent bulb version
Electric shock protection	Conforming to IEC 60536		Class II
Degree of protection	Conforming to IEC 60529		IP 66
	Conforming to NEMA		NEMA type 4X and 13, unless otherwise stated
Resistance to high pressure washer		Pa	70 x 10 ⁵ (70 bar); distance: 0.1 m Temperature: 55 °C
Mechanical shock protection	Conforming to IEC 50102		Non illuminated heads: IK 03
			Illuminated heads: IK 05
Conforming to standards			IEC/EN 60947-1, IEC/EN 60947-5-1, IEC/EN 60947-5-4, IEC/EN 60947-5-5, EN 418 (trigger action Emergency Stop, see pages 1/119 and 1/131) JIS C 4520, UL 508, CSA C22-2 n° 14
Product certifications	UL Listed, CSA		Standard single contacts with screw clamp terminals: A600; Q600 Double contacts with screw clamp terminals: A600; Q600 Light blocks with screw clamp terminals Joystick controllers XD5 PA/ZD5 PA: A600; R300 Special contact blocks: □ ZBE 201: A300; Q300 □ ZBE 202: A600; Q600
	UL Recognized, CSA		Standard single contacts for plug-in connector: A300; R300 Standard contacts for printed circuit board: B300; R300
	BV, RINA, LROS, DNV, GL		Standard single contacts and double contacts with screw clamp terminals:
Terminal referencing	Conforming to EN 50005 and EN 50013		

Characteristics of contact or combined contact and light functions

Mechanical characteristics			
Contact operation	N/C or N/O		Slow break
Positive operation	Conforming to IEC/EN 60947-5-1 appendix K		All functions incorporating an N/C contact are positive opening operation
Operating travel (to change the electrical state)	Pushbutton	mm	Changing N/C state: 1.5 Changing N/O state: 2.6 Total travel: 4.3
Operating force	Pushbutton	N	Changing N/C state: 3.5 Changing N/O state: 3.8
	Additional contact only (extra to change state)	N	Single N/C contact: 2 Single N/O contact: 2.3
		N	Double N/C contact: 3.4 Double N/O contact: 5 Double contact N/C + N/O: 4.6
	Emergency stop with N/C + N/O	N	Standard push-pull: 45 Trigger action push-pull: 50
N		Standard turn to release and key release: 40 Trigger action turn to release and key release: 44	

Characteristics of contact or combined contact and light functions (continued)

Mechanical characteristics (continued)

Operating torque (to change the electrical state)	Selector switches	N.m	N/O contact: 0.14
	Additional contact only	N.m	N/O contact: 0.05
Mechanical durability (in millions of operating cycles)	Pushbutton	Spring	5
		Double-headed	1
		Push-push to release	0.5
	Selector switch	Non illuminated	3
		Illuminated	1
	Toggle switches		0.5
	Emergency stop pushbuttons		0.3 with 3 contacts
	Joystick controllers		1
	Standard contact block only		5
	Low power switching contact block only (dust protected)		0.5
Vibration resistance	Conforming to IEC 60068-2-6		Frequency: 2 to 500 Hz: 5 gn
Electric shock resistance	Conforming to IEC 60068-2-27		All functions except mushroom head pushbuttons, spring return: <input type="checkbox"/> half sine wave acceleration 11 ms: 50 gn <input type="checkbox"/> half sine wave acceleration 18 ms: 30 gn
			Mushroom head pushbutton, spring return: <input type="checkbox"/> half sine wave acceleration 11 ms: 15 gn
Electrical characteristics			
Cabbling capacity	Conforming to IEC 60947-1	mm²	Screw clamp terminals Min: 1 x 0.22 without cable end Max: 2 x 1.5 with cable end Cross headed screw (Pozidrive or Philips type 1), slotted for flat 4 and 5.5 mm screwdriver Tightening torque: 0.8 N.m (max. 1.2 N.m)
Contact material	Silver alloy (Ag / Ni)		Standard single and double blocks with screw clamp terminals Blocks for plug-in connector Standard blocks for printed circuit board connection
	Gold flashed (Ag / Ni / Au)		Low power switching contact blocks with screw clamp terminals Low power switching contact blocks for printed circuit board connection
Short-circuit protection	Conforming to IEC/EN 60947-5-1	A	Standard single and double blocks with screw clamp terminals: 10 (gG cartridge fuse conforming to IEC 60269-1) Blocks for plug-in connector: 4 (gG cartridge fuse conforming to IEC 60269-1) Standard blocks for printed circuit board connection: 4 (gG cartridge fuse conforming to IEC 60269-1)
Rated thermal current	Conforming to IEC/EN 60947-5-1	A	Standard single and double blocks with screw clamp terminals: 10 Blocks for plug-in connector: 10 Standard blocks for printed circuit board connection: 6
Rated insulation voltage	Conforming to IEC 60947-1	V	Standard single and double blocks with screw clamp terminals: U _i = 600 degree of pollution 3 Blocks for plug-in connector or Faston connectors: U _i = 250 degree of pollution 3 Standard blocks for printed circuit board connection: U _i = 250 degree of pollution 3
Rated impulse withstand voltage	Conforming to IEC 60947-1	kV	Standard single and double blocks with screw clamp terminals: U _{imp} = 6 Blocks for plug-in connector: U _{imp} = 4 Standard blocks for printed circuit board connection: U _{imp} = 4

1

Characteristics of contact or combined contact and light functions (continued)

Electrical characteristics (continued)

Rated operational characteristics Conforming to IEC/EN 60947-5-1

a.c. supply:
utilisation category AC-15

Standard single and double blocks with screw clamp terminals:
A600: $U_e = 600\text{ V}$ and $I_e = 1.2\text{ A}$ or $U_e = 240\text{ V}$ and $I_e = 3\text{ A}$ or $U_e = 120\text{ V}$ and $I_e = 6\text{ A}$

Blocks for plug-in connector:
A300: $U_e = 120\text{ V}$ and $I_e = 6\text{ A}$
or $U_e = 240\text{ V}$ and $I_e = 3\text{ A}$

Standard blocks for printed circuit board connection:
B300: $U_e = 120\text{ V}$ and $I_e = 3\text{ A}$
or $U_e = 240\text{ V}$ and $I_e = 1.5\text{ A}$

Special contact blocks:

- ZBE 201: A300: $U_e = 240\text{ V}$ and $I_e = 3\text{ A}$ or $U_e = 120\text{ V}$ and $I_e = 6\text{ A}$ (with insulation voltage $U_i = 500\text{ V}$)
- ZBE 202: A600: $U_e = 600\text{ V}$ and $I_e = 1.2\text{ A}$ or $U_e = 240\text{ V}$ and $I_e = 3\text{ A}$ or $U_e = 120\text{ V}$ and $I_e = 6\text{ A}$

d.c. supply:
utilisation category DC-13

Standard single and double blocks with screw clamp terminals:
Q600: $U_e = 600\text{ V}$ and $I_e = 0.1\text{ A}$ or $U_e = 250\text{ V}$ and $I_e = 0.27\text{ A}$ or $U_e = 125\text{ V}$ and $I_e = 0.55\text{ A}$

Joystick controllers XD5 PA/ZD5 PA:
R300: $U_e = 125\text{ V}$ and $I_e = 0.22\text{ A}$
or $U_e = 250\text{ V}$ and $I_e = 0.1\text{ A}$

Blocks for plug-in connector:
R300: $U_e = 125\text{ V}$ and $I_e = 0.22\text{ A}$
or $U_e = 250\text{ V}$ and $I_e = 0.1\text{ A}$

Standard blocks for printed circuit board connection:
R300: $U_e = 125\text{ V}$ and $I_e = 0.22\text{ A}$
or $U_e = 250\text{ V}$ and $I_e = 0.1\text{ A}$

Special contact blocks:

- ZBE 201: Q300: $U_e = 125\text{ V}$ and $I_e = 0.55\text{ A}$ or $U_e = 250\text{ V}$ and $I_e = 0.27\text{ A}$
- ZBE 202: Q600: $U_e = 600\text{ V}$ and $I_e = 0.1\text{ A}$ or $U_e = 250\text{ V}$ and $I_e = 0.27\text{ A}$ or $U_e = 125\text{ V}$ and $I_e = 0.55\text{ A}$

Characteristics of special contact blocks for low power switching

VA
A
V

P max: 12
I max: 0.1
U max: 24

Electrical durability

Conforming to IEC/EN 60947-5-1 appendix C
Operating rate 3600 operating cycles/hour.
Load factor: 0.5

a.c. supply for 1 million operating cycles
utilisation category AC-15

V
A

Standard single blocks with screw clamp terminals:
24 120 230
4 3 2

V
A

Standard double blocks with screw clamp terminals and blocks for plug-in connector:
24 120 230
3 1.5 1

d.c. supply for 1 million operating cycles
utilisation category DC-13

V
A

Standard single blocks with screw clamp terminals:
24 110
0.5 0.2

V
A

Standard double blocks with screw clamp terminals and blocks for plug-in connector:
24 110
0.4 0.15

Electrical reliability

Failure rate
Conforming to IEC/EN 60947-5-4

In clean environment

Standard blocks:
- at 17 V and 5 mA, $\lambda < 10^{-8}$
- at 5 V and 1 mA, $\lambda < 10^{-6}$

Special blocks with gold flashed contacts, for low power switching:
- at 5 V and 1 mA, $\lambda < 10^{-7}$

In dusty environment

Special blocks with gold flashed contacts and dust protection for low power switching only:
- at 5 V and 1 mA, $\lambda < 10^{-7}$

Characteristics of illuminated units (pilot lights)

Mechanical characteristics

Vibration resistance	Conforming to IEC 60068-2-6		Frequency: 12 to 500 Hz: 5 gn
Electric shock resistance	Conforming to IEC 60068-2-27		Half sine wave acceleration 11 ms: 50 gn Half sine wave acceleration 18 ms: 30 gn

Electrical characteristics

Cabling capacity	Conforming to IEC 60947-1	mm ²	Screw clamp terminals Min: 1 x 0.22 without cable end (1 x 0.34 for linking) Max: 2 x 1.5 with cable end
Rated insulation voltage	Conforming to IEC 60947-1	V	Direct supply pilot light blocks (BA 9s bulb): U _i = 250 degree of pollution 3 Pilot light blocks with integral LED: U _i = 250 degree of pollution 3 Pilot light blocks with transformer: U _i = 600 degree of pollution 3
Rated impulse withstand voltage	Conforming to IEC 60947-1	kV	Direct supply pilot light blocks (BA 9s bulb): U _{imp} = 4 Pilot light blocks with integral LED: U _{imp} = 4 Pilot light blocks with transformer: U _{imp} = 6

Specific characteristics of single light blocks with integral LED

Voltage limits	For rated voltage	V	12 V: 10 to 15 $\overline{\text{---}}$; 10.2 to 13.8 \sim 24 V: 19.2 to 30 $\overline{\text{---}}$; 21.6 to 26.4 \sim 24 to 120 V: 20 to 132 \sim 48 to 120 V: 40 to 132 \sim 240 V: 195 to 264 \sim
Current consumption	Applicable to all colours	mA	Blocks with $\overline{\text{---}}$ 12 V supply: 18 Blocks with $\overline{\text{---}}$ 24 V supply: 18 Blocks with \sim 120 V supply: 14 Blocks with \sim 240 V supply: 14
Service life	At rated voltage and at an ambient temperature of 25 °C	H	100 000
Surge withstand	Conforming to IEC 61000-4-5	kV	1
Resistance to fast transients	Conforming to IEC 61000-4-4	kV	2
Resistance to electromagnetic fields	Conforming to IEC 61000-4-3	V/m	10
Resistance to electrostatic discharges	Conforming to IEC 61000-4-2	kV	8: in free air, on insulating parts 6: on contact, on metal parts
Direct parallel connection across inductive load E.g.: contactor coil or solenoid	Maximum power of load	VA	For high power applications (≥ 30 VA), a ZBZ V LED suppressor must be connected across the light block terminals (see page 1/151)
Electromagnetic emission	Conforming to EN 55011		Class B

Specific characteristics

Fixing nut

Maximum head tightening torque		N.m	2
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Hour counters and annunciators

Voltage limits	Hour counter and annunciator	V	$\pm 10\%$ of the nominal voltage
Current consumption	Hour counter	mA	XB5 DSB: 7 to 15 XB5 DSG: 8 XB5 DSM: 8
	Annunciator	mA	5

User assembly of other units
using body + head sub-assemblies:
see pages 1/124 to 1/128

1



XB5 AA31

1.4



XB5 AA4322



XB5 AP51



XB5 AL42



XB5 AC21



XB5 AL845

Pushbuttons, spring return (screw clamp terminal connections)




Shape of head	Description	Type of contact		Marking	Colour of push	Reference	Weight kg
		N/O	N/C				
	Flush	1	–	–	Black	XB5 AA21 (ZB5 AZ101 + ZB5 AA2)	0.037
		–	1	–	Green	XB5 AA31 (ZB5 AZ101 + ZB5 AA3)	0.037
		–	–	–	Yellow	XB5 AA51 (ZB5 AZ101 + ZB5 AA5)	0.037
		–	–	–	Blue	XB5 AA61 (ZB5 AZ101 + ZB5 AA6)	0.037
–	–	–	1	–	Red	XB5 AA42 (ZB5 AZ102 + ZB5 AA4)	0.037
	Flush	1	–	"I" (white)	Green	XB5 AA3311 (ZB5 AZ101 + ZB5 AA331)	0.037
	Flush	–	1	"O" (white)	Red	XB5 AA4322 (ZB5 AZ102 + ZB5 AA432)	0.037
	Flush (1)	1	–	↑ (black)	White	XB5 AA3341 (ZB5 AZ101 + ZB5 AA334)	0.037
	Flush (1)	1	–	↑ (white)	Black	XB5 AA3351 (ZB5 AZ101 + ZB5 AA335)	0.037
	Booted, clear silicone (colour of push unobscured)	1	–	–	Black	XB5 AP21 (ZB5 AZ101 + ZB5 AP2)	0.039
		–	1	–	Green	XB5 AP31 (ZB5 AZ101 + ZB5 AP3)	0.039
		–	–	–	Yellow	XB5 AP51 (ZB5 AZ101 + ZB5 AP5)	0.039
		–	–	–	Blue	XB5 AP61 (ZB5 AZ101 + ZB5 AP6)	0.039
–	–	–	1	–	Red	XB5 AP42 (ZB5 AZ102 + ZB5 AP4)	0.039
	Projecting	–	1	–	Red	XB5 AL42 (ZB5 AZ102 + ZB5 AL4)	0.038
	Mushroom head Ø 40	1	–	–	Black	XB5 AC21 (ZB5 AZ101 + ZB5 AC2)	0.062

Double-headed pushbuttons, spring return (screw clamp terminal connections)
















Shape of head	Description	Type of contact		Degree of protection	Reference	Weight kg
		N/O	N/C			
	1 flush green push (marked "I") 1 projecting red push (marked "O")	1	1	IP 40	XB5 AL845 (ZB5 AZ105 + ZB5 AL8434)	0.049
		–	–	IP 66	XB5 AL945 (ZB5 AZ105 + ZB5 AL9434)	0.054

(1) Product supplied with cap not clipped-in, allowing orientation through 360° in 90° steps.

User assembly of other units
using body + head sub-assemblies:
see pages 1/124 to 1/128


Emergency stop and mushroom head pushbuttons, Ø 40 (red) (screw clamp terminal connections)						
Shape of head	Type of push	Type of contact		Reference	Weight	kg
		N/O	N/C			
 563449 XB5 AS9445	Trigger action Push-pull(2)	1	1	XB5 AT845 (1) (ZB5 AZ105 + ZB5 AT84)	0.076	
	Trigger action Turn to release (2)	1	1	XB5 AS8445 (1) (ZB5 AZ105 + ZB5 AS844)	0.072	
 563450 XB5 AT42	Trigger action Key release (key n° 455) (2)	1	1	XB5 AS9445 (1) (ZB5 AZ105 + ZB5 AS944)	0.112	
	Push-pull	–	1	XB5 AT42 (1) (ZB5 AZ102 + ZB5 AT4)	0.065	
 563451 XB5 AS542	Turn to release	–	1	XB5 AS542 (1) (ZB5 AZ102 + ZB5 AS54)	0.060	
	Key release (key n° 455)	–	1	XB5 AS142 (1) (ZB5 AZ102 + ZB5 AS14)	0.075	

Selector switches

Shape of head	Type of operator	Type of contact		Number and type of positions (3)	Reference	Weight	kg
		N/O	N/C				
 553432 XB5 AD33	Standard handle, black	1	–	2 - stay put 	XB5 AD21 (ZB5 AZ101 + ZB5 AD2)	0.043	
		1	–	2 - spring return from right to left 	XB5 AD41 (ZB5 AZ101 + ZB5 AD4)	0.043	
		2	–	3 - stay put 	XB5 AD33 (ZB5 AZ103 + ZB5 AD3)	0.052	
		2	–	3 - spring return to centre 	XB5 AD53 (ZB5 AZ103 + ZB5 AD5)	0.052	
 563463 XB5 AJ33	Long handle, black	1	–	2 - stay put 	XB5 AJ21 (ZB5 AZ101 + ZB5 AJ2)	0.043	
		2	–	3 - stay put 	XB5 AJ33 (ZB5 AZ103 + ZB5 AJ3)	0.053	
		2	–	3 - spring return to centre 	XB5 AJ53 (ZB5 AZ103 + ZB5 AJ5)	0.053	
 563464 XB5 AG33	Key switches (key n° 455)	1	–	2 - stay put 	XB5 AG21 (ZB5 AZ101 + ZB5 AG2)	0.066	
				2 - stay put 	XB5 AG41 (ZB5 AZ101 + ZB5 AG4)	0.066	
		2	–	2 - spring return to left 	XB5 AG61 (ZB5 AZ101 + ZB5 AG6)	0.066	
				3 - stay put 	XB5 AG03 (ZB5 AZ103 + ZB5 AG0)	0.076	
				3 - stay put 	XB5 AG33 (ZB5 AZ103 + ZB5 AG3)	0.076	

(1) Mushroom for Emergency stop pushbuttons conform to standard IEC/EN 60947-5-5 and to Machinery Directive 98/37/EC. Mushroom for trigger action Emergency stop pushbuttons conform to standard EN 418. Please consult your Regional Sales Office for full details of these standards and directives.

(2) Maximum number of additional contacts: 2.

(3) The symbol  indicates key withdrawal position(s).


User assembly of other units
using body + head sub-assemblies:
see pages 1/136 and 1/137

1



XB5 AVB1

Pilot lights with integral LED (screw clamp terminal connections)


Shape of head	Supply voltage V	Colour	Reference	Weight kg
With integral LED				
	~ 24	White	XB5 AVB1 (ZB5 AVB1 + ZB5 AV013)	0.038
		Green	XB5 AVB3 (ZB5 AVB3 + ZB5 AV033)	0.038
		Red	XB5 AVB4 (ZB5 AVB4 + ZB5 AV043)	0.038
		Yellow	XB5 AVB5 (ZB5 AVB5 + ZB5 AV053)	0.038
		Blue	XB5 AVB6 (ZB5 AVB6 + ZB5 AV063)	0.038
		~ 48...120	White	XB5 AVG1 (ZB5 AVG1 + ZB5 AV013)
	Green	XB5 AVG3 (ZB5 AVG3 + ZB5 AV033)	0.038	
	Red	XB5 AVG4 (ZB5 AVG4 + ZB5 AV043)	0.038	
	Yellow	XB5 AVG5 (ZB5 AVG5 + ZB5 AV053)	0.038	
	Blue	XB5 AVG6 (ZB5 AVG6 + ZB5 AV063)	0.038	
	~ 230...240	White	XB5 AVM1 (ZB5 AVM1 + ZB5 AV013)	0.038
	Green	XB5 AVM3 (ZB5 AVM3 + ZB5 AV033)	0.038	
	Red	XB5 AVM4 (ZB5 AVM4 + ZB5 AV043)	0.038	
	Yellow	XB5 AVM5 (ZB5 AVM5 + ZB5 AV053)	0.038	
	Blue	XB5 AVM6 (ZB5 AVM6 + ZB5 AV063)	0.038	

User assembly of other units
using body + head sub-assemblies:
see pages 1/136 to 1/137



XB5 AV63


Pilot lights for BA 9s bulb (screw clamp terminal connections)

Shape of head	Supply voltage V	Colour	Reference	Weight kg
Direct supply, for BA 9s bulb, U ≤ 250 V, 2.4 W (bulb not included)				
	≤ 250	White	XB5 AV61 (ZB5 AV6 + ZB5 AV01)	0.037
		Green	XB5 AV63 (ZB5 AV6 + ZB5 AV03)	0.037
		Red	XB5 AV64 (ZB5 AV6 + ZB5 AV04)	0.037
		Yellow	XB5 AV65 (ZB5 AV6 + ZB5 AV05)	0.037




XB5 AV34

Via integral transformer with 1.2 VA, 6 V secondary. BA 9s incandescent bulb (bulb included)

	~ 110...120 50/60 Hz	White	XB5 AV31 (ZB5 AV3 + ZB5 AV01)	0.109
		Green	XB5 AV33 (ZB5 AV3 + ZB5 AV03)	0.109
		Red	XB5 AV34 (ZB5 AV3 + ZB5 AV04)	0.109
		Yellow	XB5 AV35 (ZB5 AV3 + ZB5 AV05)	0.109
	~ 230 - 50 Hz ~ 220...240 - 60 Hz	White	XB5 AV41 (ZB5 AV4 + ZB5 AV01)	0.110
		Green	XB5 AV43 (ZB5 AV4 + ZB5 AV03)	0.110
		Red	XB5 AV44 (ZB5 AV4 + ZB5 AV04)	0.110
		Yellow	XB5 AV45 (ZB5 AV4 + ZB5 AV05)	0.110

User assembly of other units
using body + head sub-assemblies:
see pages 1/140 to 1/145

Illuminated pushbuttons, spring return, flush push

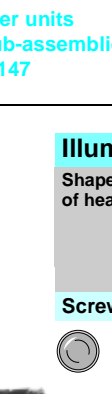
Shape of head	Description	Type of contact		Supply voltage V	Colour of push	Reference	Weight kg
		N/O	N/C				
Screw clamp terminal connections							
 XB5 AW31B5	Integral LED Protected LED	1	1	≈ 24	White	XB5 AW31B5 (ZB5 AW0B15 + ZB5 AW313)	0.056
					Green	XB5 AW33B5 (ZB5 AW0B35 + ZB5 AW333)	0.056
					Red	XB5 AW34B5 (ZB5 AW0B45 + ZB5 AW343)	0.056
					Yellow	XB5 AW35B5 (ZB5 AW0B55 + ZB5 AW353)	0.056
					Blue	XB5 AW36B5 (ZB5 AW0B65 + ZB5 AW363)	0.056
					~ 48...120	White	XB5 AW31G5 (ZB5 AW0G15 + ZB5 AW313)
	~ 48...120	Green	XB5 AW33G5 (ZB5 AW0G35 + ZB5 AW333)	0.056			
		Red	XB5 AW34G5 (ZB5 AW0G45 + ZB5 AW343)	0.056			
		Yellow	XB5 AW35G5 (ZB5 AW0G55 + ZB5 AW353)	0.056			
		Blue	XB5 AW36G5 (ZB5 AW0G65 + ZB5 AW363)	0.056			
		~ 230...240	White	XB5 AW31M5 (ZB5 AW0M15 + ZB5 AW313)	0.056		
		~ 230...240	Green	XB5 AW33M5 (ZB5 AW0M35 + ZB5 AW333)	0.056		
Red	XB5 AW34M5 (ZB5 AW0M45 + ZB5 AW343)		0.056				
Yellow	XB5 AW35M5 (ZB5 AW0M55 + ZB5 AW353)		0.056				
Blue	XB5 AW36M5 (ZB5 AW0M65 + ZB5 AW363)		0.056				
Direct supply for BA 9s bulb, 2.4 W max. (not included)	1		1	≤ 250	White	XB5 AW3165 (ZB5 AW065 + ZB5 AW31)	0.057
		Green			XB5 AW3365 (ZB5 AW065 + ZB5 AW33)	0.057	
		Red			XB5 AW3465 (ZB5 AW065 + ZB5 AW34)	0.057	
		Yellow			XB5 AW3565 (ZB5 AW065 + ZB5 AW35)	0.057	



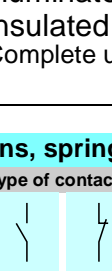
XB5 AW3465

User assembly of other units
using body + head sub-assemblies:
see pages 1/140 to 1/147

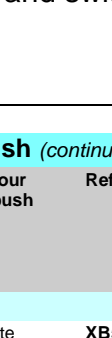
Illuminated pushbuttons, spring return, flush push (continued)

Shape of head	Description	Type of contact		Supply voltage	Colour of push	Reference	Weight
		N/O	N/C				
Screw clamp terminal connections							
	Via integral transformer 6 V secondary, BA9s incandescent bulb (included)	1	1	~ 110...120 50/60 Hz	White	XB5 AW3135 (ZB5 AW035 + ZB5 AW31)	0.128
					Green	XB5 AW3335 (ZB5 AW035 + ZB5 AW33)	0.128
					Red	XB5 AW3435 (ZB5 AW035 + ZB5 AW34)	0.128
					Yellow	XB5 AW3535 (ZB5 AW035 + ZB5 AW35)	0.128
				~ 230 50 Hz ~ 220...240 60 Hz	White	XB5 AW3145 (ZB5 AW045 + ZB5 AW31)	0.129
					Green	XB5 AW3345 (ZB5 AW045 + ZB5 AW33)	0.129
					Red	XB5 AW3445 (ZB5 AW045 + ZB5 AW34)	0.129
					Yellow	XB5 AW3545 (ZB5 AW045 + ZB5 AW35)	0.129

Double-headed pushbuttons, spring return, with integral LED pilot light (IP 40) (1)

Screw clamp terminal connections							
	1 flush green push (marked "I") 1 yellow pilot light 1 red projecting push (marked "O") Protected LED	1	1	~ 24	–	XB5 AW84B5 (ZB5 AW0B55 + ZB5 AW843743)	0.060
				~ 48...120	–	XB5 AW84G5 (ZB5 AW0G55 + ZB5 AW843743)	0.060
				~ 230...240	–	XB5 AW84M5 (ZB5 AW0M55 + ZB5 AW843743)	0.060

Illuminated selector switches with integral LED (2-position stay put) ✓

Shape of head	Type of operator	Type of contact		Supply voltage	Colour of handle	Reference	Weight	
		N/O	N/C					
Screw clamp terminal connections								
	Standard handle Protected LED	1	1	~ 24	Green	XB5 AK123B5 (ZB5 AW0B35 + ZB5 AK1233)	0.059	
					Red	XB5 AK124B5 (ZB5 AW0B45 + ZB5 AK1243)	0.059	
					Yellow	XB5 AK125B5 (ZB5 AW0B55 + ZB5 AK1253)	0.059	
					~ 48...120	Green	XB5 AK123G5 (ZB5 AW0G35 + ZB5 AK1233)	0.059
						Red	XB5 AK124G5 (ZB5 AW0G45 + ZB5 AK1243)	0.059
						Yellow	XB5 AK125G5 (ZB5 AW0G55 + ZB5 AK1253)	0.059
				~ 230...240	Green	XB5 AK123M5 (ZB5 AW0M35 + ZB5 AK1233)	0.059	
					Red	XB5 AK124M5 (ZB5 AW0M45 + ZB5 AK1243)	0.059	
					Yellow	XB5 AK125M5 (ZB5 AW0M55 + ZB5 AK1253)	0.059	

(1) For IP 66 degree of protection, fit a clear sealing boot: **ZBW 008** or **ZBW 008A**. See page 1/163.

To combine with heads:
see pages 1/125 to 1/131

1



ZB5 AZ101



ZB5 AZ102



ZB5 AZ106



ZB5 AZ107



ZB5 AZ1014



ZB5 AZ1024

Complete bodies with screw clamp terminal connections

Description	Type of contact		Reference	Weight kg
	N/O	N/C		
Fixing collar + single contact block	1	–	ZB5 AZ101	0.021
	–	1	ZB5 AZ102	0.021
	2	–	ZB5 AZ103	0.030
	–	2	ZB5 AZ104	0.030
	1	1	ZB5 AZ105	0.030
	1	2	ZB5 AZ141	0.040

Description	Type of contact		Reference	Weight kg
	N/O+N/C	N/O+N/O		
Fixing collar + specific contact block for overlapping contacts function	1	–	ZB5 AZ106	0.030
Fixing collar + specific contact block for sequencing contacts function	–	1	ZB5 AZ107	0.030

Complete bodies for plug-in connector (1)

Description	Type of contact		Reference	Weight kg
	N/O	N/C		
Fixing collar + single contact block	1	–	ZB5 AZ1014	0.018
	–	1	ZB5 AZ1024	0.018
	2	–	ZB5 AZ1034	0.026
	–	2	ZB5 AZ1044	0.026
	1	1	ZB5 AZ1054	0.026
	1	2	ZB5 AZ1414	0.036

Contact blocks

Description
Separate contact blocks

See page 1/160

(1) Connecting cables and connector for plug-in connector contact blocks: see page 1/152.

Other versions Complete bodies with Faston connector terminals (6.35 or 2 x 2.8). Please consult your Regional Sales Office.

To combine with bodies:
see page 1/124

Heads for spring return pushbuttons - unmarked					
Shape of head	Type of push	Colour of cap	Reference	Weight kg	
 814416 ZB5 AA0		Without cap (1)	–	ZB5 AA0	0.022
		Flush, with set of 6 coloured caps	6 colours (2)	ZB5 AA9	0.027
 814417 ZB5 AA5		Flush	White	ZB5 AA1	0.018
			Black	ZB5 AA2	0.018
			Green	ZB5 AA3	0.018
			Red	ZB5 AA4	0.018
			Yellow	ZB5 AA5	0.018
			Blue	ZB5 AA6	0.018
			Grey	ZB5 AA8	0.018
			 814418 ZB5 AL3		Flush with transparent cap, for insertion of legend (3)
Green	ZB5 AA38	0.018			
Red	ZB5 AA48	0.018			
Yellow	ZB5 AA58	0.018			
Blue	ZB5 AA68	0.018			
 814419 ZB5 AP1		Projecting	White	ZB5 AL1	0.019
			Black	ZB5 AL2	0.019
			Green	ZB5 AL3	0.019
			Red	ZB5 AL4	0.019
			Yellow	ZB5 AL5	0.019
			Blue	ZB5 AL6	0.019
 103545_1 ZB5 AP2S		Projecting, booted (clear silicone) (colour of push unobscured)	White	ZB5 AP1	0.021
			Black	ZB5 AP2	0.021
			Green	ZB5 AP3	0.021
			Red	ZB5 AP4	0.021
			Yellow	ZB5 AP5	0.021
			Blue	ZB5 AP6	0.021
 109489 ZB5 AP183		Projecting, booted (coloured silicone) Can be replaced without dismantling the head. Compatible with legend holder	White	ZB5 AP1S	0.014
			Black	ZB5 AP2S	0.014
			Green	ZB5 AP3S	0.014
			Red	ZB5 AP4S	0.014
			Yellow	ZB5 AP5S	0.014
			Blue	ZB5 AP6S	0.014
		Flush, booted (clear), for insertion of legend (3) (colour of push unobscured)	White	ZB5 AP18	0.023
			Green	ZB5 AP38	0.023
			Red	ZB5 AP48	0.023
			Yellow	ZB5 AP58	0.023
			Blue	ZB5 AP68	0.023
					Flush, booted (clear), integral boot (colour of push unobscured)
Green	ZB5 AP383	0.010			
Red	ZB5 AP483	0.010			
Yellow	ZB5 AP583	0.010			
Blue	ZB5 AP683	0.010			

(1) Cap to be ordered separately, see page 1/154.

(2) Head supplied with 6 different coloured caps (white, black, green, red, yellow, blue).






(3) For legend ordering information, see page 1/160.

Other versions

For booted heads with flush push, please consult your Regional Sales Office.

To combine with bodies:
see page 1/124

Heads for spring return pushbuttons - unmarked (continued)

Shape of head	Type of push	Colour of cap	Reference	Weight kg
	Flush (high bezel)	White	ZB5 AA14	0.020
		Black	ZB5 AA24	0.020
		Green	ZB5 AA34	0.020
		Red	ZB5 AA44	0.020
		Yellow	ZB5 AA54	0.020
		Blue	ZB5 AA64	0.020
	Recessed (high guard)	White	ZB5 AA16	0.020
		Black	ZB5 AA26	0.020
		Green	ZB5 AA36	0.020
		Red	ZB5 AA46	0.020
		Yellow	ZB5 AA56	0.020
		Blue	ZB5 AA66	0.020
	Without cap (1)	–	ZB5 CA0	0.022
	Flush	White	ZB5 CA1	0.019
		Black	ZB5 CA2	0.019
		Green	ZB5 CA3	0.019
		Red	ZB5 CA4	0.019
		Yellow	ZB5 CA5	0.019
Blue	ZB5 CA6	0.019		
	Projecting	White	ZB5 CL1	0.021
		Black	ZB5 CL2	0.021
		Green	ZB5 CL3	0.021
		Red	ZB5 CL4	0.021
		Yellow	ZB5 CL5	0.021
		Blue	ZB5 CL6	0.021
	Recessed (high guard)	White	ZB5 CA16	0.012
		Black	ZB5 CA26	0.012
		Green	ZB5 CA36	0.012
		Red	ZB5 CA46	0.012
		Yellow	ZB5 CA56	0.012
		Blue	ZB5 CA66	0.012

(1) Cap to be ordered separately, see page 1/154.

1

1.4



ZB5 CA2



ZB5 CA5



ZB5 CA16

To combine with bodies:
see page 1/124



ZB5 AA331







ZB5 AA432



ZB5 AL232

Heads for spring return pushbuttons - marked

Shape of head	Type of push	Marking		Colour of cap	Reference	Weight kg	
		Text	Colour				
	Flush (1)	I	White	Green	ZB5 AA331	0.018	
			Black	White	ZB5 AA131	0.018	
		II	White	Green	ZB5 AA336	0.018	
			Black	White	ZB5 AA136	0.018	
		START	White	Green	ZB5 AA333	0.018	
			Black	White	ZB5 AA133	0.018	
		ON	White	Green	ZB5 AA341	0.018	
			Black	White	ZB5 AA141	0.018	
		MARCHE	White	Green	ZB5 AA342	0.018	
			Black	White	ZB5 AA142	0.018	
				White	Black	ZB5 AA245	0.018
				Black	White	ZB5 AA145	0.018
		O		White	Red	ZB5 AA432	0.018
					Black	ZB5 AA232	0.018
		ARRET		White	Red	ZB5 AA433	0.018
					Black	ZB5 AA233	0.018
		STOP		White	Red	ZB5 AA434	0.018
					Black	ZB5 AA234	0.018
OFF		White	Red	ZB5 AA435	0.018		
			Black	ZB5 AA235	0.018		
UP		Black	White	ZB5 AA343	0.018		
DOWN		White	Black	ZB5 AA344	0.018		
↑		White	Black	ZB5 AA335	0.018		
		Black	White	ZB5 AA334	0.018		
	Projecting (1)	O	White	Red	ZB5 AL432	0.019	
				Black	ZB5 AL232	0.019	
		ARRET	White	Red	ZB5 AL433	0.019	
				Black	ZB5 AL233	0.019	
		STOP	White	Red	ZB5 AL434	0.019	
				Black	ZB5 AL234	0.019	
OFF	White	Red	ZB5 AL435	0.019			
		Black	ZB5 AL235	0.019			
	Flush (1)	I	White	Green	ZB5 CA331	0.019	
				White	Red	ZB5 CA432	0.019
		+	White	Black	ZB5 CA2934	0.019	
		↑	White	Black	ZB5 CA2912	0.019	
		R	White	Blue	ZB5 CA6939	0.019	

(1) Push supplied with cap not clipped-in, allowing orientation through 360° in 90° steps.

Control and signalling units Ø 22

Harmony® style 5


Pushbuttons and switches with double insulated bezel
Sub-assemblies ZB5 A: heads

To combine with bodies:
see page 1/124

Heads for lockable "push-turn" pushbuttons

Shape of head	Key type	Locking	Key withdrawal	Reference	Weight kg
	Key n° 4A185	Both positions	Both positions	ZB5 AFDA	0.050
		Actuated position	Actuated position	ZB5 AFDB	0.050
		Rest position	Rest position	ZB5 AFDC	0.050
		Actuated position	Both positions	ZB5 AFDD	0.050
	Key LU1	Both positions	Both positions	ZB5 AFDE01	0.050
	Key LU2	Both positions	Both positions	ZB5 AFDE02	0.050
	Key LU3	Both positions	Both positions	ZB5 AFDE03	0.050
	Key LU4	Both positions	Both positions	ZB5 AFDE04	0.050
	Key LU5	Both positions	Both positions	ZB5 AFDE05	0.050
	Key LU6	Both positions	Both positions	ZB5 AFDE06	0.050
	Key LU7	Both positions	Both positions	ZB5 AFDE07	0.050
	Key LU8	Both positions	Both positions	ZB5 AFDE08	0.050
	Key LU9	Both positions	Both positions	ZB5 AFDE09	0.050
	Key LU10	Both positions	Both positions	ZB5 AFDE10	0.050
	Key LU11	Both positions	Both positions	ZB5 AFDE11	0.050
	Key LU12	Both positions	Both positions	ZB5 AFDE12	0.050
	Key LU13	Both positions	Both positions	ZB5 AFDE13	0.050
	Key LU14	Both positions	Both positions	ZB5 AFDE14	0.050
	Key LU15	Both positions	Both positions	ZB5 AFDE15	0.050

Heads for "push-turn" pushbuttons with knurled knob

Shape of head	Description	Marking	Reference	Weight kg
	Knurled knob without cap	–	ZB5 AF	0.027
	Knurled knob with marked cap	↑ (white on black background)	ZB5 AF351	0.030

To combine with bodies:
see page 1/124



ZB5 AL8334



ZB5 AL9334



ZB5 AL8434



ZB5 AH04

Heads for double-headed, spring return pushbuttons

Shape of head	Description	Colour of pushes	Degree of protection	Reference	Weight kg
Without function marking on pushes					
	2 flush pushes	Green	IP 40 (1)	ZB5 AA8134	0.022
		Red	IP 66	ZB5 AA9134	0.027
		White	IP 40 (1)	ZB5 AA8112	0.022
		Black	IP 66	ZB5 AA9112	0.027
	1 flush push 1 projecting push	Green	IP 40 (1)	ZB5 AL8334	0.021
		Red	IP 66	ZB5 AL9334	0.026
		White	IP 40 (1)	ZB5 AL8312	0.021
		Black	IP 66	ZB5 AL9312	0.026

With function marking on pushes

	2 flush pushes (marked "I") (marked "O")	Green	IP 40 (1)	ZB5 AA8234	0.022
		Red	IP 66	ZB5 AA9234	0.027
		White	IP 40 (1)	ZB5 AA8212	0.022
		Black	IP 66	ZB5 AA9212	0.027
	1 flush push 1 projecting push	Green	IP 40 (1)	ZB5 AL8434	0.021
		Red	IP 66	ZB5 AL9434	0.026
		White	IP 40 (1)	ZB5 AL8412	0.021
		Black	IP 66	ZB5 AL9412	0.026

Heads for "push-push to release" pushbuttons (2)

Shape of head	Type of push	Colour of push	Reference	Weight kg
	Without cap (3)	–	ZB5 AH0	0.018
	Flush	White	ZB5 AH01	0.018
		Black	ZB5 AH02	0.018
		Green	ZB5 AH03	0.018
		Red	ZB5 AH04	0.018
		Yellow	ZB5 AH05	0.018
		Blue	ZB5 AH06	0.018
	Projecting	White	ZB5 AH1	0.018
		Black	ZB5 AH2	0.018
		Green	ZB5 AH3	0.018
		Red	ZB5 AH4	0.018
		Yellow	ZB5 AH5	0.018
		Blue	ZB5 AH6	0.018
	Without cap (3)	–	ZB5 CH0	0.020
	Flush	White	ZB5 CH01	0.020
		Black	ZB5 CH02	0.020
		Green	ZB5 CH03	0.020
		Red	ZB5 CH04	0.020
		Yellow	ZB5 CH05	0.020
		Blue	ZB5 CH06	0.020

(1) NEMA type 1.

(2) Maximum of 1 row of 3 contact blocks on associated body/fixing collar sub-assembly.

(3) Coloured cap to be ordered separately: see page 1/154.





Control and signalling units Ø 22

Harmony® style 5

Pushbuttons and switches with double insulated bezel
Sub-assemblies ZB5 A: heads

To combine with bodies:
see page 1/124

Mushroom heads for spring return pushbuttons

Shape of head	Diameter of push mm	Colour of push	Reference	Weight kg
	30	Black	ZB5 AC24	0.027
		Green	ZB5 AC34	0.027
		Red	ZB5 AC44	0.027
		Yellow	ZB5 AC54	0.027
		Blue	ZB5 AC64	0.027
		40	Black	ZB5 AC2
	40	Green	ZB5 AC3	0.046
		Red	ZB5 AC4	0.046
		Yellow	ZB5 AC5	0.046
		Blue	ZB5 AC6	0.046
		60	Black	ZB5 AR2
	60	Green	ZB5 AR3	0.065
		Red	ZB5 AR4	0.065
		Yellow	ZB5 AR5	0.065
		Blue	ZB5 AR6	0.065
		60 Hemispherical	Black	ZB5 AR216
	60 Hemispherical	Green	ZB5 AR316	0.048
		Red	ZB5 AR416	0.048
		Yellow	ZB5 AR516	0.048
		Blue	ZB5 AR616	0.048

1



ZB5 AC24

1.4



ZB5 AC2



ZB5 AR4



ZB5 AR216

To combine with bodies:
see page 1/124

Mushroom heads for latching pushbuttons

(Emergency stop: colour red)

Shape of head	Type of push	Diameter of push mm	Colour of push	Reference	Weight kg	
 ZB5 AS844		40	Red	ZB5 AT84 (1)	0.050	
		30	Red	ZB5 AS834 (1)	0.042	
 ZB5 AS934		40	Red	ZB5 AS844 (1)	0.046	
			30	Red	ZB5 AS934 (1)	0.068
			40	Red	ZB5 AS944 (1) (3)	0.071
		60	Red	ZB5 AS934 (1)	0.092	
 ZB5 AT4		40	Red	ZB5 AS944D (1)	0.071	
			30	Black	ZB5 AT24	0.044
			40	Black	ZB5 AT2	0.049
				Red	ZB5 AT4 (1)	0.049
			60	Black	ZB5 AX2	0.067
				Red	ZB5 AX4 (1)	0.067
			30	Black	ZB5 AS42	0.040
				Red	ZB5 AS44 (1)	0.040
			40	Black	ZB5 AS52	0.044
				Red	ZB5 AS54 (1)	0.044
		Yellow	ZB5 AS55	0.044		
 ZB5 AS64		60	Black	ZB5 AS62	0.064	
			Red	ZB5 AS64 (1)	0.064	
		30	Black	ZB5 AS72	0.040	
			Red	ZB5 AS74 (1)	0.040	
		40	Black	ZB5 AS12	0.044	
			Red	ZB5 AS14 (1) (3)	0.044	
		60	Black	ZB5 AS22	0.064	
			Red	ZB5 AS24 (1)	0.064	
	40	Red	ZB5 AS14D (1)	0.044		

(1) Mushroom heads for Emergency stop pushbuttons conform to standard IEC/EN 60947-5-5 and to Machinery Directive 98/37/EC.

Mushroom heads for trigger action Emergency stop pushbuttons conform to standard EN 418.

Please consult your Regional Sales Office for full details of these standards and directives.

(2) Maximum number of contacts fitted to the associated body: 4.

Example: 4 single contact blocks, 2 double contact blocks, or 2 single contact blocks + 1 double contact block. See page 1/150

(3) Other key numbers: key n° 421E: add suffix 12 to the reference; key n° 458A: add suffix 10 to the reference; key n° 520E: add suffix 14 to the reference; key n° 3131A: add suffix 20 to the reference.

Example: For a Ø 40 mushroom head for a trigger action, latching pushbutton, with release by key n° 421E, the reference becomes: ZB5 AS94412.

(4) For specific keys with other numbers, please consult your Regional Sales Office.

To combine with bodies:
see page 1/124

1

8114463



ZB5 AD●

Heads for selector switches (1)

Shape of head	Type of operator	Number and type of positions	Reference	Weight kg	
	Standard handle, black	2 - stay put	ZB5 AD2	0.024	
		2 - stay put with actuation of the centre contact	ZB5 AD2M	0.024	
		2 - spring return from right to left	ZB5 AD4	0.024	
		2 - spring return from right to left with actuation of centre contact	ZB5 AD4M	0.024	
		3 - stay put	ZB5 AD3	0.024	
		3 - spring return to centre	ZB5 AD5	0.024	
		3 - spring return from left to centre	ZB5 AD7	0.024	
		3 - spring return from right to centre	ZB5 AD8	0.024	
		Standard handle, white	2 - stay put	ZB5 AD201	0.024
			2 - spring return from right to left	ZB5 AD401	0.024
			3 - stay put	ZB5 AD301	0.024
			3 - spring return to centre	ZB5 AD501	0.024
			3 - spring return from left to centre	ZB5 AD701	0.024
			3 - spring return from right to centre	ZB5 AD801	0.024
Standard handle, green	2 - stay put	ZB5 AD203	0.024		
	2 - spring return from right to left	ZB5 AD403	0.024		
	3 - stay put	ZB5 AD303	0.024		
	3 - spring return to centre	ZB5 AD503	0.024		
	3 - spring return from left to centre	ZB5 AD703	0.024		
	3 - spring return from right to centre	ZB5 AD803	0.024		


(1) Can only be used for actuation of end row (side) mounted contacts.

To combine with bodies:
see page 1/124



ZB5 AD●●

Heads for selector switches (1) (continued)

Shape of head	Type of operator	Number and type of positions	Reference	Weight kg
	Standard handle, red	2 - stay put	ZB5 AD204	0.024
		2 - spring return from right to left	ZB5 AD404	0.024
		3 - stay put	ZB5 AD304	0.024
		3 - spring return to centre	ZB5 AD504	0.024
		3 - spring return from left to centre	ZB5 AD704	0.024
		3 - spring return from right to centre	ZB5 AD804	0.024
		Standard handle, yellow	2 - stay put	ZB5 AD205
	2 - spring return from right to left	ZB5 AD405	0.024	
	3 - stay put	ZB5 AD305	0.024	
	3 - spring return to centre	ZB5 AD505	0.024	
	3 - spring return from left to centre	ZB5 AD705	0.024	
	3 - spring return from right to centre	ZB5 AD805	0.024	
	Standard handle, blue	2 - stay put	ZB5 AD206	0.024
		2 - spring return from right to left	ZB5 AD406	0.024
3 - stay put		ZB5 AD306	0.024	
3 - spring return to centre		ZB5 AD506	0.024	
3 - spring return from left to centre		ZB5 AD706	0.024	
3 spring return from right to centre		ZB5 AD806	0.024	
Long handle, black		2 - stay put	ZB5 AJ2	0.025
	2 - stay put with actuation of the centre contact	ZB5 AJ2M	0.025	
	2 - spring return from right to left	ZB5 AJ4	0.025	
	2 - spring return from right to left with actuation of centre contact	ZB5 AJ4M	0.025	
	3 - stay put	ZB5 AJ3	0.025	
	3 - spring return to centre	ZB5 AJ5	0.025	
	3 - spring return from left to centre	ZB5 AJ7	0.025	
	3 spring return from right to centre	ZB5 AJ8	0.025	

(1) Can only be used for actuation of end row (side) mounted contacts.

General:
pages 1/106 to 1/113

Characteristics:
pages 1/114 to 1/117

Dimensions:
pages 1/166 to 1/173

Control and signalling units Ø 22
























Harmony® style 5

Pushbuttons and switches with double insulated bezel


Sub-assemblies ZB5 A: heads

To combine with bodies:
see page 1/124

Heads for selector switches (1) (continued)

Shape of head	Type of operator	Number and type of positions (2)	Reference	Weight kg
	Knurled knob, black	2 - stay put 	ZB5 AD29	0.027
		2 - spring return from right to left 	ZB5 AD49	0.027
		3 - stay put 	ZB5 AD39	0.027
		3 - spring return to centre 	ZB5 AD59	0.027
		3 - spring return from left to centre 	ZB5 AD79	0.027
		3 - spring return from right to centre 	ZB5 AD89	0.027
			Key switch with key n° 455 (4)	2 - stay put 
	ZB5 AG4 (3)			0.050
2 - stay put with actuation of the centre contact 	ZB5 AG2M			0.050
	ZB5 AG4M			0.050
2 - spring return from right to left 	ZB5 AG6 (3)			0.050
2 spring return from right to left with actuation of centre contact 	ZB5 AG6M			0.050
3 - stay put 	ZB5 AG0 (3)			0.050
	ZB5 AG3 (3)			0.050
	ZB5 AG5 (3)			0.050
	ZB5 AG9 (3)			0.050
	ZB5 AG09 (3)			0.050
3 - spring return from left to centre 	ZB5 AG1 (3)			0.050
2 - spring return to centre 	ZB5 AG7 (3)			0.050
3 - spring return from right to centre 	ZB5 AG8 (3)			0.050
	ZB5 AG08 (3)			0.050

(1) Can only be used for actuation of end row (side) mounted contacts.

(2) The symbol  indicates key withdrawal position(s).

(3) Other key numbers:

- key n° 421E: add suffix **12** to the reference,
- key n° 458A: add suffix **10** to the reference,
- key n° 520E: add suffix **14** to the reference,
- key n° 3131A: add suffix **20** to the reference.

Example:

For a switch head with key n° 421E, 2-position stay put with key withdrawal from the left-hand position, the reference becomes: **ZB5 AG212**.

(4) For specific keys with other numbers, please consult your Regional Sales Office.

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons and switches with double insulated bezel
Sub-assemblies ZB5 A: heads

To combine with bodies:
see page 1/124



Heads for selector switches (1) (continued)

Shape of head	Type of operator	Number and type of positions (2)	Reference	Weight kg
	Key switch with key n° 8D1	2 - stay put	ZB5 AG2D	0.050
			ZB5 AG02D	0.050
			ZB5 AG4D	0.050
	2 - spring return from right to left		ZB5 AG6D	0.050
	3 - stay put		ZB5 AG0D	0.050
			ZB5 AG3D	0.050
			ZB5 AG5D	0.050
			ZB5 AG9D	0.050
			ZB5 AG09D	0.050
			ZB5 AG03D	0.050
			ZB5 AG04D	0.050
	3 - spring return from left to centre		ZB5 AG06D	0.050
			ZB5 AG1D	0.050
			ZB5 AG07D	0.050
	3 - spring return from right to centre		ZB5 AG8D	0.050
			ZB5 AG08D	0.050
			ZB5 AG05D	0.050
	2 - spring return to centre		ZB5 AG7D	0.050

Heads for toggle switches

Shape of head	Description	Lever	Type of position	Reference	Weight kg
	2-position	Black	Stay put	ZB5 AD28	0.023
			Spring return	ZB5 AD48	0.023
		White	Stay put	ZB5 AD2801	0.023
		Red	Stay put	ZB5 AD2804	0.023
		Blue	Stay put	ZB5 AD2806	0.023

(1) Can only be used for actuation of end row (side) mounted contacts.

(2) The symbol indicates key withdrawal position(s).



Control and signalling units Ø 22

Harmony® style 5

Pilot lights with double insulated bezel

Sub-assemblies ZB5 A: bodies

To combine with heads for integral LED:
see page 1/139

1

563090



ZB5 AV●●

Complete bodies (fixing collar + light block with integral LED)

Light source	Supply voltage V	Colour of light source	Reference	Weight kg
Screw clamp terminal connections				
Integral LED Protected LED	≈ 12	White	ZB5 AVJ1	0.022
		Green	ZB5 AVJ3	0.022
		Red	ZB5 AVJ4	0.022
		Yellow	ZB5 AVJ5	0.022
		Blue	ZB5 AVJ6	0.022
		White	ZB5 AVB1	0.022
≈ 24 (1)	≈ 24 (1)	Green	ZB5 AVB3	0.022
		Red	ZB5 AVB4	0.022
		Yellow	ZB5 AVB5	0.022
		Blue	ZB5 AVB6	0.022
		White	ZB5 AVBG1	0.022
		Green	ZB5 AVBG3	0.022
≈ 24...120	≈ 24...120	Red	ZB5 AVBG4	0.022
		Yellow	ZB5 AVBG5	0.022
		Blue	ZB5 AVBG6	0.022
		White	ZB5 AVG1	0.022
		Green	ZB5 AVG3	0.022
		Red	ZB5 AVG4	0.022
≈ 48...120 (1)	≈ 48...120 (1)	Yellow	ZB5 AVG5	0.022
		Blue	ZB5 AVG6	0.022
		White	ZB5 AVM1	0.022
		Green	ZB5 AVM3	0.022
		Red	ZB5 AVM4	0.022
		Yellow	ZB5 AVM5	0.022
≈ 230...240 (1)	≈ 230...240 (1)	Blue	ZB5 AVM6	0.022

1.4

522071



ZB5 AVB● 156

Complete bodies with 3-terminal "test" function (fixing collar + light block with integral LED + block for "test light" function)

Light source	Supply voltage V	Colour of light source	Reference	Weight kg
Screw clamp terminal connections				
Integral LED Protected LED	≈ 24 (2)	White	ZB5 AVB1156	0.022
		Green	ZB5 AVB3156	0.022
		Red	ZB5 AVB4156	0.022
		Yellow	ZB5 AVB5156	0.022
		Blue	ZB5 AVB6156	0.022

Complete bodies with flashing pilot light (fixing collar + light block with integral LED)

Light source	Supply voltage V	Colour of light source	Reference	Weight kg
Screw clamp terminal connections				
Integral LED Protected LED	≈ 24	White	ZB5 AV18B1	0.022
		Green	ZB5 AV18B3	0.022
		Red	ZB5 AV18B4	0.022
		Yellow	ZB5 AV18B5	0.022
		Blue	ZB5 AV18B6	0.022
		≈ 48...120	≈ 48...120	White
Green	ZB5 AV18G3			0.022
Red	ZB5 AV18G4			0.022
Yellow	ZB5 AV18G5			0.022
Blue	ZB5 AV18G6			0.022
≈ 230...240	≈ 230...240			White
		Green	ZB5 AV18M3	0.022
		Red	ZB5 AV18M4	0.022
		Yellow	ZB5 AV18M5	0.022
		Blue	ZB5 AV18M6	0.022

(1) Complete bodies with Faston connector terminals (6.35 or 2 x 2.8).

Please consult your Regional Sales Office.

(2) For a 120 or 230 V ~ supply, use complete body ZB5 BVG● or ZB5 BVM● with block for test function type ZBZ M156, see page 1/151.

To combine with heads for integral LED:
see page 1/139

814622



ZB5 AV004

Complete bodies (fixing collar + light block with integral LED)

Light source	Supply voltage V	Colour of light source	Reference	Weight kg
Plug-in connector (1)				
Integral LED Protected LED	≈ 24	White	ZB5 AVB14	0.021
		Green	ZB5 AVB34	0.021
		Red	ZB5 AVB44	0.021
		Yellow	ZB5 AVB54	0.021
		Blue	ZB5 AVB64	0.021
	~ 48...120	White	ZB5 AVG14	0.021
		Green	ZB5 AVG34	0.021
		Red	ZB5 AVG44	0.021
		Yellow	ZB5 AVG54	0.021
		Blue	ZB5 AVG64	0.021
	~ 230...240	White	ZB5 AVM14	0.021
		Green	ZB5 AVM34	0.021
		Red	ZB5 AVM44	0.021
		Yellow	ZB5 AVM54	0.021
		Blue	ZB5 AVM64	0.021

Other versions

Complete bodies with Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office.

(1) Connecting cables and connector for plug-in connector light blocks: see page 1/152.

To combine with heads for BA 9s bulbs:
see page 1/139

1

814524



ZB5 AV6

522088



ZB5 AV156

1.4

814623



ZB5 AV3

Complete bodies (fixing collar + light block for BA 9s bulb, incandescent, neon or LED)

Description	Light source	Supply voltage V	Colour of light source	Reference	Weight kg	
Screw clamp terminal connections						
Direct supply	BA 9s bulb, 2.4 W max. Not included (1)	≤ 250	–	ZB5 AV6	0.022	
Direct supply "Test" function (3 terminals)	BA 9s bulb, 2.4 W max. Not included (1)	≤ 250	–	ZB5 AV156	0.021	
Via integral transformer 1.2 VA, 6 V secondary	BA 9s incandescent bulb, included	~ 110...120 50/60 Hz	–	ZB5 AV3	0.099	
		~ 230 - 50 Hz	–	ZB5 AV4	0.099	
		~ 220...240 - 60 Hz	–	ZB5 AV5	0.099	
		~ 400 - 50 Hz	–	ZB5 AV8	0.099	
		~ 440...480 - 60 Hz	–	ZB5 AV8	0.099	
		~ 550...600 - 60 Hz	–	ZB5 AV9	0.099	
		BA 9s base fitting LED included	~ 110...120 50/60 Hz	White	ZB5 AV3D1	0.102
				Green	ZB5 AV3D3	0.102
				Red	ZB5 AV3D4	0.102
	Yellow		ZB5 AV3D5	0.102		
	Blue		ZB5 AV3D6	0.102		
	~ 230 - 50 Hz ~ 220...240 - 60 Hz		White	ZB5 AV4D1	0.102	
		Green	ZB5 AV4D3	0.102		
		Red	ZB5 AV4D4	0.102		
		Yellow	ZB5 AV4D5	0.102		
		Blue	ZB5 AV4D6	0.102		
	~ 400 - 50/60 Hz	White	ZB5 AV5D1	0.102		
		Green	ZB5 AV5D3	0.102		
		Red	ZB5 AV5D4	0.102		
		Yellow	ZB5 AV5D5	0.102		
		Blue	ZB5 AV5D6	0.102		

Other versions Complete bodies with Faston connector terminals (6.35 or 2 x 2.8). Please consult your Regional Sales Office.

(1) Bulbs to be ordered separately.

Control and signalling units Ø 22

Harmony® style 5

Pilot lights with double insulated bezel

Sub-assemblies ZB5 A: heads



Heads

Shape of head	For use with body comprising light source type	Colour of lens	Reference	Weight kg
With plain lens				
	Integral LED only Protected LED	White	ZB5 AV013	0.017
		Green	ZB5 AV033	0.017
		Red	ZB5 AV043	0.017
		Yellow	ZB5 AV053	0.017
		Blue	ZB5 AV063	0.017
	BA 9s bulb only (incandescent, neon or LED)	White	ZB5 AV01	0.018
		Green	ZB5 AV03	0.018
		Red	ZB5 AV04	0.018
		Yellow	ZB5 AV05	0.018
		Blue	ZB5 AV06	0.018
	Integral LED only Protected LED	White	ZB5 CV013	0.020
		Green	ZB5 CV033	0.020
		Red	ZB5 CV043	0.020
		Yellow	ZB5 CV053	0.020
		Blue	ZB5 CV063	0.020
		5 colours (1) (2)	ZB5 CV003	0.028
		With plain lens, for insertion of legend (2)		
	Integral LED only Protected LED	White	ZB5 AV013E	0.017
		Green	ZB5 AV033E	0.017
		Red	ZB5 AV043E	0.017
		Yellow	ZB5 AV053E	0.017
		Blue	ZB5 AV063E	0.017
With grooved lens (3)				
	Integral LED only Protected LED	White	ZB5 AV013S	0.017
		Green	ZB5 AV033S	0.017
		Red	ZB5 AV043S	0.017
		Yellow	ZB5 AV053S	0.017
		Blue	ZB5 AV063S	0.017
	For BA 9s bulb (neon or LED only)	White	ZB5 AV01S	0.017
		Green	ZB5 AV03S	0.017
		Red	ZB5 AV04S	0.017
		Yellow	ZB5 AV05S	0.017
		Blue	ZB5 AV06S	0.017
		Clear	ZB5 AV07S	0.017

(1) Head supplied with 5 different coloured lenses (white, green, red, yellow, blue) for insertion of legend.

(2) For legend ordering information: see page 1/160.

(3) For use in bright ambient light conditions (outdoors in sunlight, for example). For heads with grooved lens, the use of "high luminosity" LEDs is recommended, see page 1/151.

Control and signalling units Ø 22


Harmony® style 5

Illuminated pushbuttons and switches with double insulated bezel

Sub-assemblies ZB5 A: bodies

To combine with heads for integral LED:
see pages 1/145 to 1/147

Complete bodies (fixing collar + single contact block + light block with integral LED)

Light source	Supply voltage	Type of contact (1)		Colour of light source	Reference	Weight
		N/O	N/C			
	V					kg
Screw clamp terminal connections						
Integral LED 	≈ 24	1	–	White	ZB5 AW0B11	0.032
				Green	ZB5 AW0B31	0.032
				Red	ZB5 AW0B41	0.032
				Yellow	ZB5 AW0B51	0.032
				Blue	ZB5 AW0B61	0.032
		–	1	White	ZB5 AW0B12	0.032
				Green	ZB5 AW0B32	0.032
				Red	ZB5 AW0B42	0.032
				Yellow	ZB5 AW0B52	0.032
				Blue	ZB5 AW0B62	0.032
		2	–	White	ZB5 AW0B13	0.042
				Green	ZB5 AW0B33	0.042
				Red	ZB5 AW0B43	0.042
				Yellow	ZB5 AW0B53	0.042
				Blue	ZB5 AW0B63	0.042
1	1	White	ZB5 AW0B15	0.042		
		Green	ZB5 AW0B35	0.042		
		Red	ZB5 AW0B45	0.042		
		Yellow	ZB5 AW0B55	0.042		
		Blue	ZB5 AW0B65	0.042		
≈ 48...120	1	–	White	ZB5 AW0G11	0.032	
			Green	ZB5 AW0G31	0.032	
			Red	ZB5 AW0G41	0.032	
			Yellow	ZB5 AW0G51	0.032	
			Blue	ZB5 AW0G61	0.032	
	–	1	White	ZB5 AW0G12	0.032	
			Green	ZB5 AW0G32	0.032	
			Red	ZB5 AW0G42	0.032	
			Yellow	ZB5 AW0G52	0.032	
			Blue	ZB5 AW0G62	0.032	

Other versions Complete bodies with Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office.

(1) Can be fitted with additional contact blocks: see page 1/150.

1



ZB5 AW0B01


1.4



ZB5 AW0B03

To combine with heads for integral LED:
see pages 1/145 to 1/147

Complete bodies (fixing collar + single contact block + light block with integral LED) (continued)

Light source	Supply voltage	Type of contact (1)		Colour of light source	Reference	Weight	
		N/O	N/C				
	V					kg	
Screw clamp terminal connections (continued)							
 ZB5 AW0003 Protected LED	~ 48...120	2	-	White	ZB5 AW0G13	0.042	
				Green	ZB5 AW0G33	0.042	
				Red	ZB5 AW0G43	0.042	
				Yellow	ZB5 AW0G53	0.042	
				Blue	ZB5 AW0G63	0.042	
		1	1	White	ZB5 AW0G15	0.042	
				Green	ZB5 AW0G35	0.042	
				Red	ZB5 AW0G45	0.042	
				Yellow	ZB5 AW0G55	0.042	
				Blue	ZB5 AW0G65	0.042	
		~ 230...240	1	-	White	ZB5 AW0B11	0.032
					Green	ZB5 AW0M31	0.032
					Red	ZB5 AW0M41	0.032
					Yellow	ZB5 AW0M51	0.032
					Blue	ZB5 AW0M61	0.032
-	1		White	ZB5 AW0M12	0.032		
			Green	ZB5 AW0M32	0.032		
			Red	ZB5 AW0M42	0.032		
			Yellow	ZB5 AW0M52	0.032		
			Blue	ZB5 AW0M62	0.032		
2	-	White	ZB5 AW0M13	0.042			
		Green	ZB5 AW0M33	0.042			
		Red	ZB5 AW0M43	0.042			
		Yellow	ZB5 AW0M53	0.042			
		Blue	ZB5 AW0M63	0.042			
1	1	White	ZB5 AW0M15	0.042			
		Green	ZB5 AW0M35	0.042			
		Red	ZB5 AW0M45	0.042			
		Yellow	ZB5 AW0M55	0.042			
		Blue	ZB5 AW0M65	0.042			
400 V, 50 Hz	1	1	White	ZB5 AW05B15	0.136		
			Green	ZB5 AW05B35	0.136		
			Red	ZB5 AW05B45	0.136		
			Yellow	ZB5 AW05B55	0.136		
			Blue	ZB5 AW05B65	0.136		
400/460 V, 60 Hz	1	1	White	ZB5 AW08B15	0.136		
			Green	ZB5 AW08B35	0.136		
			Red	ZB5 AW08B45	0.136		
			Yellow	ZB5 AW08B55	0.136		
			Blue	ZB5 AW08B65	0.136		
550/600 V, 60 Hz	1	1	White	ZB5 AW09B15	0.136		
			Green	ZB5 AW09B35	0.136		
			Red	ZB5 AW09B45	0.136		
			Yellow	ZB5 AW09B55	0.136		
			Blue	ZB5 AW09B65	0.136		

Other versions

Complete bodies with Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office.

(1) Can be fitted with additional contact blocks : see page 1/150.

To combine with heads for integral LED:
see pages 1/145 to 1/147

Complete bodies (fixing collar + single contact block + light block with integral LED) (continued)

Light source	Supply voltage	Type of contact (1)		Colour of light source	Reference	Weight
		N/O	N/C			
	V					kg
Plug-in connector (2)						
Integral LED Protected LED	≈ 24	1	–	White	ZB5 AW0B114	0.028
				Green	ZB5 AW0B314	0.028
				Red	ZB5 AW0B414	0.028
				Yellow	ZB5 AW0B514	0.028
				Blue	ZB5 AW0B614	0.028
	–	1	–	White	ZB5 AW0B124	0.028
				Green	ZB5 AW0B324	0.028
				Red	ZB5 AW0B424	0.028
				Yellow	ZB5 AW0B524	0.028
				Blue	ZB5 AW0B624	0.028
	2	–	–	White	ZB5 AW0B134	0.035
				Green	ZB5 AW0B334	0.035
				Red	ZB5 AW0B434	0.035
				Yellow	ZB5 AW0B534	0.035
				Blue	ZB5 AW0B634	0.035
1	1	1	White	ZB5 AW0B154	0.035	
			Green	ZB5 AW0B354	0.035	
			Red	ZB5 AW0B454	0.035	
			Yellow	ZB5 AW0B554	0.035	
			Blue	ZB5 AW0B654	0.035	
≈ 48...120	1	–	White	ZB5 AW0G114	0.028	
			Green	ZB5 AW0G314	0.028	
			Red	ZB5 AW0G414	0.028	
			Yellow	ZB5 AW0G514	0.028	
			Blue	ZB5 AW0G614	0.028	
	–	1	–	White	ZB5 AW0G124	0.028
				Green	ZB5 AW0G324	0.028
				Red	ZB5 AW0G424	0.028
				Yellow	ZB5 AW0G524	0.028
				Blue	ZB5 AW0G624	0.028

Other versions

Complete bodies with Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office.

(1) Can be fitted with additional contact blocks: see page 1/152.

(2) Connecting cables and connector for plug-in connector electrical blocks: see page 1/152.

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ZB5 AW0B024


1.4



ZB5 AW0B034

To combine with heads for integral LED:
see pages 1/145 to 1/147

Complete bodies (fixing collar + single contact block + light block with integral LED) (continued)

Light source	Supply voltage	Type of contact (1)		Colour of light source	Reference	Weight
		N/O	N/C			
	V					kg
Plug-in connector (2) (continued)						
 ZB5 AW00034 Protected LED	~ 48...120	2	-	White	ZB5 AW0G134	0.035
				Green	ZB5 AW0G334	0.035
				Red	ZB5 AW0G434	0.035
				Yellow	ZB5 AW0G534	0.035
				Blue	ZB5 AW0G634	0.035
		1	1	White	ZB5 AW0G154	0.035
				Green	ZB5 AW0G354	0.035
				Red	ZB5 AW0G454	0.035
				Yellow	ZB5 AW0G554	0.035
				Blue	ZB5 AW0G654	0.035
	~ 230...240	1	-	White	ZB5 AW0M114	0.028
				Green	ZB5 AW0M314	0.028
				Red	ZB5 AW0M414	0.028
				Yellow	ZB5 AW0M514	0.028
				Blue	ZB5 AW0M614	0.028
-		1	White	ZB5 AW0M124	0.028	
			Green	ZB5 AW0M324	0.028	
			Red	ZB5 AW0M424	0.028	
			Yellow	ZB5 AW0M524	0.028	
			Blue	ZB5 AW0M624	0.028	
	2	-	White	ZB5 AW0M134	0.035	
			Green	ZB5 AW0M334	0.035	
			Red	ZB5 AW0M434	0.035	
			Yellow	ZB5 AW0M534	0.035	
			Blue	ZB5 AW0M634	0.035	
	1	1	White	ZB5 AW0M154	0.035	
			Green	ZB5 AW0M354	0.035	
			Red	ZB5 AW0M454	0.035	
			Yellow	ZB5 AW0M554	0.035	
			Blue	ZB5 AW0M654	0.035	

Other versions

Complete bodies with Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office

(1) Can be fitted with additional contact blocks: see page 1/152.

(2) Connecting cables and connector for plug-in connector electrical blocks: see page 1/152.

To combine with heads for BA 9s bulbs:
see pages 1/145 to 1/147

1

Complete bodies (fixing collar + single contact block + light block for BA 9s bulb, incandescent, neon or LED)

Description	Light source	Supply voltage	Type of contact (1)		Colour of light source	Reference	Weight
			N/O	N/C			
		V					
Screw clamp terminal connections							
Direct supply	BA 9s bulb, 2.4 W max. Not included (2)	≤ 250	1	–	–	ZB5 AW061	0.031
			–	1	–	ZB5 AW062	0.031
			2	–	–	ZB5 AW063	0.041
			1	1	–	ZB5 AW065	0.041
Via integral transformer 1.2 VA, 6 V secondary	BA 9s incandescent bulb, included	~ 110...120 50/60 Hz	1	–	–	ZB5 AW031	0.110
			1	1	–	ZB5 AW035	0.119
			1	–	–	ZB5 AW041	0.110
			1	1	–	ZB5 AW045	0.119
			1	–	–	ZB5 AW051	0.110
	BA 9s base fitting LED included	~ 110...120 50/60 Hz	1	1	White	ZB5 AW03D15	0.119
					Green	ZB5 AW03D35	0.119
					Red	ZB5 AW03D45	0.119
					Yellow	ZB5 AW03D55	0.119
					Blue	ZB5 AW03D65	0.119
			1	1	White	ZB5 AW04D15	0.119
					Green	ZB5 AW04D35	0.119
		Red	ZB5 AW04D45	0.119			
		Yellow	ZB5 AW04D55	0.119			
		Blue	ZB5 AW04D65	0.119			
~ 400 50/60 Hz	~ 400 50/60 Hz	1	1	White	ZB5 AW05D15	0.120	
				Green	ZB5 AW05D35	0.120	
				Red	ZB5 AW05D45	0.120	
				Yellow	ZB5 AW05D55	0.120	
				Blue	ZB5 AW05D65	0.120	

Other versions

Complete bodies with integral transformer incorporating Faston connector terminals (6.35 or 2 x 2.8).
Please consult your Regional Sales Office

(1) Can be fitted with additional contact blocks: see page 1/150.

(2) Bulb to be ordered separately: see page 1/162.



ZB5 AW065



ZB5 AW035

1.4

To combine with bodies:
see pages 1/140 to 1/144






Heads for spring return illuminated pushbuttons

Shape of head	Type of push	Colour	Reference	Weight kg
With plain lens				
■ Only for use with bodies comprising a light source with integral LED				
	Flush	White	ZB5 AW313	0.017
		Green	ZB5 AW333	0.017
		Red	ZB5 AW343	0.017
		Yellow	ZB5 AW353	0.017
		Blue	ZB5 AW363	0.017
	Flush with illuminated ring	White	ZB5 AW913	0.016
		Green	ZB5 AW933	0.016
		Red	ZB5 AW943	0.016
		Yellow	ZB5 AW953	0.016
	Flush with clear boot	White	ZB5 AW513	0.019
		Green	ZB5 AW533	0.019
		Red	ZB5 AW543	0.019
		Yellow	ZB5 AW553	0.019
	Flush for insertion of legend	White	ZB5 AA18	0.018
		Green	ZB5 AA38	0.018
		Red	ZB5 AA48	0.018
		Yellow	ZB5 AA58	0.018
	Projecting	White	ZB5 AW113	0.018
		Green	ZB5 AW133	0.018
		Red	ZB5 AW143	0.018
		Yellow	ZB5 AW153	0.018
		Blue	ZB5 AW163	0.018
	Flush (legend can be inserted)	White	ZB5 CW313	0.023
		Green	ZB5 CW333	0.023
		Red	ZB5 CW343	0.023
		Yellow	ZB5 CW353	0.023
		Blue	ZB5 CW363	0.023
	Projecting (legend can be inserted)	White	ZB5 CW113	0.024
		Green	ZB5 CW133	0.024
		Red	ZB5 CW143	0.024
		Yellow	ZB5 CW153	0.024
		Blue	ZB5 CW163	0.024
	Flush (high guard)	White	ZB5 CW3136	0.014
		Green	ZB5 CW3336	0.014
		Red	ZB5 CW3436	0.014
		Yellow	ZB5 CW3536	0.014
		Blue	ZB5 CW3636	0.014
■ Only for use with bodies comprising a light source with BA 9s bulb (incandescent, neon or LED)				
	Flush	White	ZB5 AW31	0.018
		Green	ZB5 AW33	0.018
		Red	ZB5 AW34	0.018
		Yellow	ZB5 AW35	0.018
		Blue	ZB5 AW36	0.018
	Projecting	Clear	ZB5 AW37	0.018
		White	ZB5 AW11	0.017
		Green	ZB5 AW13	0.017
		Red	ZB5 AW14	0.017
		Yellow	ZB5 AW15	0.017
		Blue	ZB5 AW16	0.017
		Clear	ZB5 AW17	0.017

To combine with bodies:
see pages 1/140 to 1/144




Heads for spring return illuminated pushbuttons

Shape of head	Type of push	Colour	Reference	Weight kg
With grooved lens (1)				
■ Only for use with bodies comprising a light source with integral LED 				
	Flush	White	ZB5 AW313S	0.017
		Green	ZB5 AW333S	0.017
		Red	ZB5 AW343S	0.017
		Yellow	ZB5 AW353S	0.017
		Blue	ZB5 AW363S	0.017
	Projecting	White	ZB5 AW113S	0.017
		Green	ZB5 AW133S	0.017
		Red	ZB5 AW143S	0.017
		Yellow	ZB5 AW153S	0.017
		Blue	ZB5 AW163S	0.017
■ Only for use with bodies comprising a light source with BA 9s bulb (incandescent, neon or LED).				
	Flush	White	ZB5 AW31S	0.018
		Green	ZB5 AW33S	0.018
		Red	ZB5 AW34S	0.018
		Yellow	ZB5 AW35S	0.018
		Blue	ZB5 AW36S	0.018
	Projecting	Clear	ZB5 AW37S	0.018
		White	ZB5 AW11S	0.018
		Green	ZB5 AW13S	0.018
		Red	ZB5 AW14S	0.018
		Yellow	ZB5 AW15S	0.018
Blue	ZB5 AW16S	0.018		
Clear	ZB5 AW17S	0.018		

(1) For use in bright ambient light conditions (outdoors in sunlight, for example). For heads with grooved lens, the use of "high luminosity" LEDs is recommended, see page 1/151.

To combine with bodies:
see pages 1/140 to 1/144

Heads for illuminated "push-push to release" pushbuttons (1)

Shape of head	Type of push	Colour of lens	Reference	Weight kg
Only for use with bodies comprising a light source with integral LED				
	Flush	White	ZB5 AH013	0.017
		Green	ZB5 AH033	0.017
		Red	ZB5 AH043	0.017
		Yellow	ZB5 AH053	0.017
		Blue	ZB5 AH063	0.017
	Projecting	White	ZB5 AH13	0.017
		Green	ZB5 AH33	0.017
		Red	ZB5 AH43	0.017
		Yellow	ZB5 AH53	0.017
		Blue	ZB5 AH63	0.017
	Flush	White	ZB5 CH313	0.018
		Green	ZB5 CH333	0.018
		Red	ZB5 CH343	0.018
		Yellow	ZB5 CH353	0.018
		Blue	ZB5 CH363	0.018

(1) Maximum of 1 row of 2 contact blocks on associated body/fixing collar sub-assembly.

Control and signalling units Ø 22

Harmony® style 5

Illuminated pushbuttons and switches with double insulated bezel

Sub-assemblies ZB5 A: heads

To combine with bodies:
see pages 1/140 to 1/144

Heads with pilot light for double-headed, spring return pushbuttons (IP 40) (1)

Shape of head	Description	Colour of pushes	Colour of pilot light	Reference	Weight kg
Only for use with bodies comprising a light source with integral LED "high luminosity" (2) ^{protected} LED					
■ Without function marking on push					
	1 flush push 1 central pilot light 1 flush push	Black Red	Clear (3)	ZB5 AW812743	0.022
		Green Red	Clear (3)	ZB5 AW813743	0.022
		White Black	Clear (3)	ZB5 AW811723	0.022
	1 flush push 1 central pilot light 1 projecting push	Black Red	Clear (3)	ZB5 AW812743	0.021
		Green Red	Clear (3)	ZB5 AW833743	0.021
		White Black	Clear (3)	ZB5 AW831723	0.021
■ With function marking on push					
	1 flush push (marked "I") 1 central pilot light 1 flush push (marked "O")	Black Red	Clear (3)	ZB5 AW822743	0.022
		Green Red	Clear (3)	ZB5 AW823743	0.022
		White Black	Clear (3)	ZB5 AW821723	0.021
	1 flush push (marked "I") 1 central pilot light 1 projecting push (marked "O")	Black Red	Clear (3)	ZB5 AW842743	0.021
		Green Red	Clear (3)	ZB5 AW843743	0.021
		White Black	Clear (3)	ZB5 AW841723	0.021

(1) Maximum of 1 row of 2 contact blocks on associated body/fixing collar sub-assembly.

(2) NEMA type 1, for a head with IP 66 degree of protection (NEMA type 4X), fit a clear sealing boot ZBW 008: see page 1/163.

(3) Colour of centrally positioned pilot light determined by the colour of the LED incorporated in the body assembly.

Heads for Ø 40 latching mushroom head pushbuttons

Only for use with bodies comprising a light source with integral LED "high luminosity" (2) ^{protected} LED

Shape of head	Type of push	Colour of push	Reference	Weight kg
	Turn to release	White	ZB5 AW713	0,022
		Green	ZB5 AW733	0.022
		Red	ZB5 AW743	0.022
		Yellow	ZB5 AW753	0.022
		Blue	ZB5 AW763	0.022

(1) NEMA type 1, for a head with IP 66 degree of protection (NEMA type 4X), fit a clear sealing boot ZBW 008: see page 1/163.

(2) "High luminosity" LED, see page 1/151.

(3) Colour of centrally positioned pilot light determined by the colour of the LED incorporated in the body assembly.

1



ZB5 AW833743



ZB5 AW823743















ZB5 AW843743



ZB5 AW743

Heads for illuminated selector switches with standard handle (1)

Shape of head	Number and type of positions	Colour of handle	Reference	Weight kg	
Only for use with bodies comprising a light source with integral LED					
	2 - stay put		White	ZB5 AK1213	0.021
			Green	ZB5 AK1233	0.021
			Red	ZB5 AK1243	0.021
			Yellow	ZB5 AK1253	0.021
			Blue	ZB5 AK1263	0.021
	2 - spring return from right to left		White	ZB5 AK1413	0.021
			Green	ZB5 AK1433	0.021
			Red	ZB5 AK1443	0.021
			Yellow	ZB5 AK1453	0.021
			Blue	ZB5 AK1463	0.021
	3 - stay put		White	ZB5 AK1313	0.021
			Green	ZB5 AK1333	0.021
			Red	ZB5 AK1343	0.021
			Yellow	ZB5 AK1353	0.021
			Blue	ZB5 AK1363	0.021
	3 - spring return to centre		White	ZB5 AK1513	0.021
			Green	ZB5 AK1533	0.021
			Red	ZB5 AK1543	0.021
			Yellow	ZB5 AK1553	0.021
			Blue	ZB5 AK1563	0.021
	3 - spring return from right to centre		White	ZB5 AK1813	0.021
			Green	ZB5 AK1833	0.021
			Red	ZB5 AK1843	0.021
			Yellow	ZB5 AK1853	0.021
			Blue	ZB5 AK1863	0.021
	3 - spring return from left to centre		White	ZB5 AK1713	0.021
			Green	ZB5 AK1733	0.021
			Red	ZB5 AK1743	0.021
			Yellow	ZB5 AK1753	0.021
			Blue	ZB5 AK1763	0.021

(1) NEMA type 13.

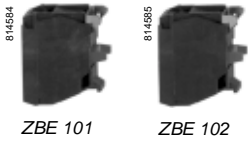
Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Separate components and accessories: electrical blocks

1



ZBE 101

ZBE 102

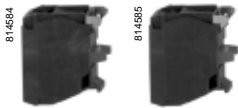


ZBE 203

1.4



ZBE 204



ZBE 201

ZBE 202

Contact blocks with screw clamp terminal connections (1)

Description	Type of contact		Sold in lots of	Unit reference	Weight kg
	N/O	N/C			
Standard single contact blocks	1	–	5	ZBE 101	0.011
	–	1	5	ZBE 102	0.011
Standard double contact blocks	2	–	5	ZBE 203	0.020
	–	2	5	ZBE 204	0.020
	1	1	5	ZBE 205	0.020
Special contact blocks for low power switching with gold flashed contacts	1	–	5	ZBE 1016	0.012
	–	1	5	ZBE 1026	0.012
Special contact blocks for low power switching with gold flashed contacts and dust protection (2)	1	–	5	ZBE 1016P	0.012
	–	1	5	ZBE 1026P	0.012
Description	Type of contact		Sold in lots of	Unit reference	Weight kg
	N/O	N/C			
Specific contact block for early make contact function	1	–	5	ZBE 201	0.011
Specific contact block for late break contact function	–	1	5	ZBE 202	0.011

Body/fixing collar

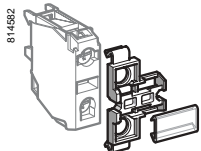
For use with	Sold in lots of	Unit reference	Weight kg
Electrical blocks (contact or light)	10	ZB5 AZ009	0.006



ZB5 AZ009

Clip-on legend holders for electrical blocks with screw clamp terminal connections

Identification of an XB5 A control or signalling unit	10	ZBZ 001	0.001
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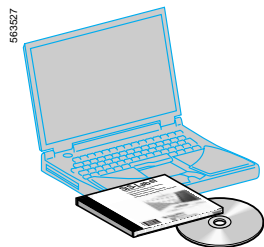
ZBZ 001

Sheet of 50 blank legends

Legend holder ZBZ 001	10	ZBY 001	0.023
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"SIS Label" labelling software (for legends ZBY 001)

Legend design for English, French, German, Italian, Spanish	1	XBY 2U	0.100
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XBY 2U

(1) The contact blocks enable variable composition of body sub-assemblies. Maximum number of rows possible: 3. Either 3 rows of 3 single contacts or 1 row of 3 double contacts + 1 row of 3 single contacts (double contact blocks occupy 2 rows).

(2) It is not possible to fit an additional contact block on the back of these blocks.

Other versions

Contact blocks with Faston connector terminals (6.35 or 2 x 2.8). Please consult your Regional Sales Office.

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Separate components and accessories: electrical blocks



ZBV B



ZBZ G156



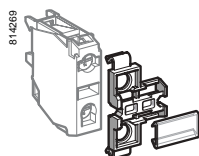
ZBZ M156



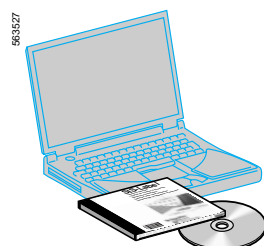
ZBZ V



ZB5 AZ009



ZBZ 001



XBY 2U

Light blocks with screw clamp terminals

Description	Supply voltage V	Colour of light source	Sold in lots of	Unit reference	Weight kg	
Integral LED (to combine with heads for integral LED) Protected LED	≈ 12	White	5	ZBV J1 (1)	0.017	
		Green	5	ZBV J3 (1)	0.017	
		Red	5	ZBV J4 (1)	0.017	
		Yellow	5	ZBV J5 (1)	0.017	
		Blue	5	ZBV J6 (1)	0.017	
		White	5	ZBV B1 (1)	0.017	
	≈ 24	Green	5	ZBV B3 (1)	0.017	
		Red	5	ZBV B4 (1)	0.017	
		Yellow	5	ZBV B5 (1)	0.017	
		Blue	5	ZBV B6 (1)	0.017	
		≈ 24...120	White	5	ZBV BG1	0.017
			Green	5	ZBV BG3	0.017
Red	5		ZBV BG4	0.017		
Yellow	5		ZBV BG5	0.017		
Blue	5		ZBV BG6	0.017		
≈ 48...120	White		5	ZBV G1 (1)	0.017	
	Green	5	ZBV G3 (1)	0.017		
	Red	5	ZBV G4 (1)	0.017		
	Yellow	5	ZBV G5 (1)	0.017		
	Blue	5	ZBV G6 (1)	0.017		
	≈ 230...240	White	5	ZBV M1 (1)	0.017	
Green		5	ZBV M3 (1)	0.017		
Red		5	ZBV M4 (1)	0.017		
Yellow		5	ZBV M5 (1)	0.017		
Blue		5	ZBV M6 (1)	0.017		
Direct supply for BA 9s bulb, 2.4 W max. Not included (2)		≤ 250	–	5	ZBV 6	0.016

Blocks for "test light" function

For use with	Supply voltage V	Description	Reference	Weight kg
Light blocks	≈ 12 and 24 ≈ 24...120	Single module, 1 connecting wire	ZBZ G156 (3)	0.010
Light blocks with integral LED	≈ 48...230	Double module, with connecting wires	ZBZ M156 (4)	0.010

LED suppressors

For use with	Supply voltage V	Reference	Weight kg
Light blocks with integral LED fitted with screw clamp terminal connections	≈ 120	ZBV VG	0.010
	≈ 230	ZBV VM	0.010

Body/fixing collar

For use with	Sold in lots of	Unit reference	Weight kg
Electrical block (contact or light)	10	ZB5 AZ009	0.006

Clip-on legend holders for electrical blocks with screw clamp terminal connections

Identification of an XB5 A control or signalling unit	10	ZBZ 001	0.001
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Sheet of 50 blank legends

Legend holder ZBZ 001	10	ZBY 001	0.023
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"SIS Label" labelling software (for legends ZBY 001)

Legend design for English, French, German, Italian, Spanish	1	XBY 2U	0.100
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(1) To order a "high luminosity" version, add the suffix **S** to the reference (example: **ZBV B5S** for a yellow, 24 V, high luminosity light block).

(2) Bulb to be ordered separately: see page 1/162.

(3) Block for use with ≈ light blocks with integral LED types **ZBV J**, **ZBV B**, **ZBV BG** or with direct supply light block for BA 9s bulb, **ZBV 6**.

(4) Block for use with ~ light blocks with integral LED types **ZBV G**, **ZBV M**, see connections on page 1/171

Other versions Light blocks with Faston connector terminals (6.35 or 2 x 2.8). Please consult your Regional Sales Office.

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Separate components and accessories: electrical blocks

1

814597



ZBE 1014

814598



ZBE 1024

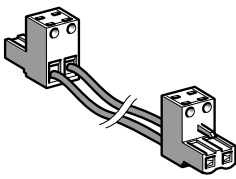
1.4

814599



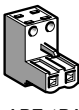
ZBV B04

563159



APE 1C2250

563160



APE 1PAD21

814800



ZB5 AZ009

Contact blocks for plug-in connector

Description	Type of contact		Sold in lots of	Unit reference	Weight kg
	N/O	N/C			
Standard contact blocks	1	–	5	ZBE 1014	0.009
	–	1	5	ZBE 1024	0.009

Light blocks for plug-in connector

Description	Supply voltage V	Colour of light source	Sold in lots of	Unit reference	Weight kg
Integral LED (to combine with heads for integral LED)	≈ 24	White	5	ZBV B14	0.016
		Green	5	ZBV B34	0.016
		Red	5	ZBV B44	0.016
		Yellow	5	ZBV B54	0.016
		Blue	5	ZBV B64	0.016
Protected LED	~ 48...120	White	5	ZBV G14	0.016
		Green	5	ZBV G34	0.016
		Red	5	ZBV G44	0.016
		Yellow	5	ZBV G54	0.016
		Blue	5	ZBV G64	0.016
	~ 230...240	White	5	ZBV M14	0.016
		Green	5	ZBV M34	0.016
		Red	5	ZBV M44	0.016
		Yellow	5	ZBV M54	0.016
		Blue	5	ZBV M64	0.016

Connecting cables and connector

Description	Number of connectors	Wire c.s.a. mm ²	Length mm	Sold in lots of	Unit reference	Weight kg
Cables with connectors 2-pin, 5.08 mm pitch	1	0.75	500	8	APE 1C2150	0.120
	2	0.75	500	8	APE 1C2250	0.180
Self-stripping connector 2-pin, 5.08 mm pitch	–	0.75	–	16	APE 1PAD21	0.080
Spring terminal connector 2-pin, 5.08 mm pitch	–	0.2 to 2.5	–	10	APE 1PRE21	0.003

Body/fixing collar

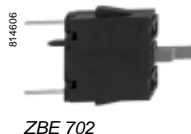
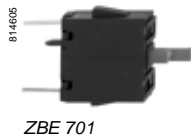
For use with	Sold in lots of	Unit reference	Weight kg
Electrical block (contact or light)	10	ZB5 AZ009	0.006

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Separate components and accessories: electrical blocks



Contact blocks for printed circuit board connection (1)

Description	Type of contact		Sold in lots of	Unit reference	Weight kg
	N/O	N/C			
Standard contact blocks	1	–	10	ZBE 701	0.002
	–	1	10	ZBE 702	0.002
Special contact blocks for low power switching with gold flashed contacts	1	–	10	ZBE 7016 ▲	0.003
	–	1	10	ZBE 7026 ▲	0.003

Light blocks for printed circuit board connection (1)

Description	Supply voltage V	Colour of LED	Sold in lots of	Unit reference	Weight kg
Integral LED (to combine with heads for integral LED) Protected LED	≈ 24	White	5	ZBV B17	0.004
		Green	5	ZBV B37	0.004
		Red	5	ZBV B47	0.004
		Yellow	5	ZBV B57	0.004
		Blue	5	ZBV B67	0.004

Adaptor (socket) for printed circuit board connection

For use with	Thickness of printed circuit board mm	Sold in lots of	Unit reference	Weight kg
Electrical block (contact or light)	1.6 ± 0.2	10	ZBZ 010	0.008
	2.2 ± 0.2	10	ZBZ 011	0.008
	3.2 ± 0.2	10	ZBZ 012	0.008

Accessories specifically for printed circuit board mounting (1)

Description	For use with	Sold in lots of	Unit reference	Weight kg
Fixing collar/pillar	Printed circuit board support	10	ZB5 AZ079	0.003
Fixing screw for printed circuit board	Fixing collar/pillar ZB5 AZ079	10	ZBZ 006	0.011

(1) For details of support drilling and of printed circuit board: see page 1/173.
Must be used in conjunction with adaptor (socket) ZBZ 010.

▲ Available: 4th quarter 2005.

General:
pages 1/106 to 1/113

Characteristics:
pages 1/114 to 1/117

Dimensions:
pages 1/166 to 1/173

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Separate components and accessories: for heads

Pushbutton caps - unmarked

For use with	Type of push	Colour	Sold in lots of	Unit reference	Weight kg	
ZB5 AA0 circular pushbutton heads supplied without cap	Flush	White	10	ZBA 1	0.001	
		Black	10	ZBA 2	0.001	
		Green	10	ZBA 3	0.001	
		Red	10	ZBA 4	0.001	
		Yellow	10	ZBA 5	0.001	
		Blue	10	ZBA 6	0.001	
			6 colours (1)	1	ZBA 9	0.006
	Projecting	White	10	ZBL 1	0.001	
		Black	10	ZBL 2	0.001	
		Green	10	ZBL 3	0.001	
		Red	10	ZBL 4	0.001	
		Yellow	10	ZBL 5	0.001	
		Blue	10	ZBL 6	0.001	
		6 colours (1)	1	ZBL 9	0.006	
ZB5 CA0 square pushbutton heads supplied without cap	Flush	White	10	ZBC 1	0.001	
		Black	10	ZBC 2	0.001	
		Green	10	ZBC 3	0.001	
		Red	10	ZBC 4	0.001	
		Yellow	10	ZBC 5	0.001	
		Blue	10	ZBC 6	0.001	

Pushbutton caps - marked (3)

For use with	Type of push	Marking		Colour of cap	Unit reference	Weight kg
		Text	Colour			
ZB5 AA0 circular pushbutton heads supplied without cap (Sold in lots of 10)	Flush	I (2)	White	Green	ZBA 331	0.001
			Black	White	ZBA 131	0.001
		II	White	Green	ZBA 336	0.001
			Black	White	ZBA 136	0.001
		III	White	Green	ZBA 337	0.001
			Black	White	ZBA 137	0.001
		IV	White	Green	ZBA 338	0.001
			Black	White	ZBL 138	0.001
		START (2)	White	Green	ZBA 333	0.001
			Black	White	ZBA 133	0.001
		ON	White	Green	ZBA 341	0.001
			Black	White	ZBA 141	0.001
		MARCHE	White	Green	ZBA 342	0.001
			Black	White	ZBA 142	0.001
		UP (2)	Black	White	ZBA 343	0.001
		DOWN (2)	White	Black	ZBA 344	0.001
		⊕ (2)	White	Black	ZBA 245	0.001
			Black	White	ZBA 145	0.001
		↑	White	Black	ZBA 335	0.001
			Black	White	ZBA 334	0.001
		O (2)	White	Red	ZBA 432	0.001
				Black	ZBA 232	0.001
		ARRET	White	Red	ZBA 433	0.001
				Black	ZBA 233	0.001
		STOP (2)	White	Red	ZBA 434	0.001
				Black	ZBA 234	0.001
		OFF	White	Red	ZBA 435	0.001
				Black	ZBA 235	0.001
		◊	White	Green	ZBA 346	0.001
		R (2)	White	Blue	ZBA 639	0.001
		+	White	Black	ZBA 2934	0.001
		-	White	Black	ZBA 2935	0.001

(1) Set of 6 different coloured caps: white, black, green, red, yellow, blue.

(2) Double injection moulded marking.

(3) Can be clipped-in at 90° steps, through 360°.

1



ZBA ●



ZBL ●

1.4



ZBA ●33

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

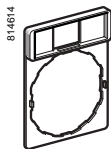
Separate components and accessories: for heads

Standard (30 x 40 mm) legend holders for 8 x 27 mm legends (1)

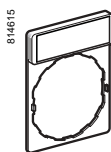
Description	Legend		Sold in lots of	Unit reference	Weight kg		
	Colour	Marking					
Without legend	–	–	10	ZBZ 32	0,001		
With blank legend (for engraving)	Black or red background	–	10	ZBY 2101	0.002		
	White or yellow background	–	10	ZBY 4101	0.002		
With 8 x 27 mm legend (with International marking)	Black or red background (2)	O (black background)	1	ZBY 2146	0.002		
		O (red background)	1	ZBY 2931	0.002		
		I	1	ZBY 2147	0.002		
		II	1	ZBY 2148	0.002		
		O-I	1	ZBY 2178	0.002		
		I-II	1	ZBY 2179	0.002		
		I-O-II	1	ZBY 2186	0.002		
		AUTO	1	ZBY 2115	0.002		
		STOP	1	ZBY 2304	0.002		
		With 8 x 27 mm legend (with French language marking)	Black or red background (2)	ARRET (red background)	1	ZBY 2104	0.002
				ARRET (black background)	1	ZBY 0104	0.002
				ARRET GENERAL	1	ZBY 2129	0.002
				ARRET REARMEMENT	1	ZBY 2133	0.002
				ARRET D'URGENCE	1	ZBY 2130	0.002
ARRET-MARCHE	1			ZBY 2166	0.002		
ARRIERE	1			ZBY 2106	0.002		
AUTO CYCLE-CYCLE	1			ZBY 2198	0.002		
AUTO CYCLE-MAIN	1			ZBY 2199	0.002		
AUTO-MAIN	1			ZBY 2164	0.002		
AUTO-O-MAIN	1			ZBY 2185	0.002		
AVANT	1			ZBY 2105	0.002		
AVANT-O-ARRIERE	1			ZBY 2184	0.002		
C-P-C-NORMAL	1			ZBY 2165	0.002		
CYCLE-MAIN	1			ZBY 2197	0.002		
DECLENCHEMENT	1			ZBY 2132	0.002		
DEFAUT (black background)	1			ZBY 2134	0.002		
DEFAUT (red background)	1			ZBY 2135	0.002		
DEPART CYCLE	1			ZBY 2195	0.002		
DESCENTE	1			ZBY 2108	0.002		
DROITE	1			ZBY 2109	0.002		
ENCLENCHEMENT	1			ZBY 2131	0.002		
EN SERVICE	1			ZBY 2111	0.002		
FERMETURE	1			ZBY 2114	0.002		
GAUCHE	1			ZBY 2110	0.002		
HORS SERVICE	1			ZBY 2112	0.002		
HORS-EN	1			ZBY 2167	0.002		
LENT	1			ZBY 2127	0.002		
MAIN	1	ZBY 2116	0.002				
MARCHE	1	ZBY 2103	0.002				
MONTEE	1	ZBY 2107	0.002				
OUVERTURE	1	ZBY 2113	0.002				
PHASE / PHASE	1	ZBY 2196	0.002				
REARMEMENT (red background)	1	ZBY 2123	0.002				
REARMEMENT (black background)	1	ZBY 0123	0.002				
SOUS TENSION	1	ZBY 2126	0.002				
VITE	1	ZBY 2128	0.002				

(1) For legends, see pages 1/157 to 1/159.

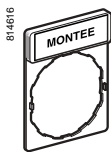
(2) "Start" functions: white letters on black background. "Stop" functions: white letters on red background (unless otherwise specified above).



ZBZ 32



ZBY 101



ZBY 2107

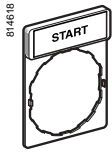
Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Separate components and accessories: for heads

1



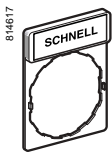
ZBY 2303

Standard (30 x 40 mm) legend holders for 8 x 27 mm legends (continued)

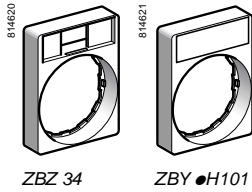
Description	Legend		Reference	Weight kg		
	Colour	Marking				
With legend (with English language marking)	Black or red background (1)	AUTO-HAND	ZBY 2364	0.002		
		AUTO-O-HAND	ZBY 2385	0.002		
		CLOSE	ZBY 2314	0.002		
		DOWN	ZBY 2308	0.002		
		EMERGENCY STOP	ZBY 2330	0.002		
		FAST	ZBY 2328	0.002		
		FORWARD	ZBY 2305	0.002		
		HAND	ZBY 2316	0.002		
		HAND-OFF-AUTO	ZBY 2387	0.002		
		INCH	ZBY 2321	0.002		
		LEFT	ZBY 2310	0.002		
		OFF	ZBY 2312	0.002		
		OFF-ON	ZBY 2167	0.002		
		ON	ZBY 2311	0.002		
		OPEN	ZBY 2313	0.002		
		POWER ON	ZBY 2326	0.002		
		RESET (red background)	ZBY 2323	0.002		
		RESET (black background)	ZBY 2322	0.002		
		REVERSE	ZBY 2306	0.002		
		RIGHT	ZBY 2309	0.002		
		RUN	ZBY 2334	0.002		
		SLOW	ZBY 2327	0.002		
		START	ZBY 2303	0.002		
		STOP-START	ZBY 2366	0.002		
		UP	ZBY 2307	0.002		
		With legend (with German language marking)	Black or red background (1)	AB	ZBY 2208	0.002
				AUF	ZBY 2207	0.002
AUS	ZBY 2204			0.002		
AUS-EIN	ZBY 2266			0.002		
AUS-IN BETRIEB	ZBY 2267			0.002		
AUS-RÜCKSTELLUNG	ZBY 2233			0.002		
AUSSCHALTEN	ZBY 2232			0.002		
AUTO-HAND	ZBY 2364			0.002		
AUTO-O-HAND	ZBY 2385			0.002		
AUTOZYKL-HAND	ZBY 2299			0.002		
AUTOZYKL-1 ZYKL	ZBY 2298			0.002		
C-P-C-NORMAL	ZBY 2265			0.002		
EIN	ZBY 2203			0.002		
EINSCHALTEN	ZBY 2231			0.002		
HAND	ZBY 2316			0.002		
LANGSAM	ZBY 2227			0.002		
LINKS	ZBY 2210			0.002		
NOT-AUS (red background)	ZBY 2230			0.002		
NOT-AUS (yellow background)	ZBY 22420001			0.002		
NOT-HALT	ZBY 2229			0.002		
ÖFFNEN	ZBY 2213			0.002		
RECHTS	ZBY 2209			0.002		
RÜCKSTELLUNG	ZBY 2223			0.002		
SCHLIESSEN	ZBY 2214			0.002		
SCHNELL	ZBY 2228			0.002		
SPANNUNG EIN	ZBY 2226			0.002		
STEUERUNG AUS	ZBY 2212			0.002		
STEUERUNG EIN	ZBY 2211	0.002				
STÖRUNG (black background)	ZBY 2234	0.002				
STÖRUNG (red background)	ZBY 2235	0.002				
VOR	ZBY 2205	0.002				
VOR-O-ZURÜCK	ZBY 2284	0.002				
ZURÜCK	ZBY 2206	0.002				
ZYKLUS-HAND	ZBY 2297	0.002				
ZYKLUSSTART	ZBY 2295	0.002				

(1) "Start" functions: white letters on black background. "Stop" functions: white letters on red background (unless otherwise specified above).

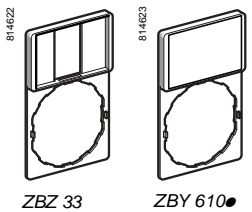
1.4



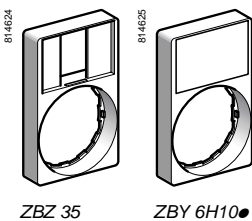
ZBY 2228

**30 x 40 mm legend holders (flush mounting with bezel) for 8 x 27 mm legends**

Description	For use with	Colour	Sold in lots of	Unit reference	Weight kg
Without legend	Circular heads	–	10	ZBZ 34	0.003
	Square heads	–	10	ZBC Z34	0.002
With blank legend	Circular heads	Black or red background	10	ZBY 2H101	0.004
		White or yellow background	10	ZBY 4H101	0.004
	Square heads	Black or red background	10	ZBC Y2H101	0.002
		White or yellow background	10	ZBC Y4H101	0.002

**Standard (30 x 50 mm) legend holders for 18 x 27 mm legends**

Description	For use with	Colour	Sold in lots of	Unit reference	Weight kg
Without legend	Circular and square heads	–	10	ZBZ 33	0.001
With blank legend	Circular and square heads	Black or red background	10	ZBY 6101	0.002
		White or yellow background	10	ZBY 6102	0.002

**30 x 50 mm legend holders (flush mounting with bezel) for 18 x 27 mm legends**

Description	For use with	Colour	Sold in lots of	Unit reference	Weight kg
Without legend	Circular heads	–	10	ZBZ 35	0.003
	Square heads	–	10	ZBC Z35	0.002
With blank legend	Circular heads	Black or red background	10	ZBY 6H101	0.004
		White or yellow background	10	ZBY 6H102	0.004
	Square heads	Black or red background	10	ZBC Y6H101	0.003
		White or yellow background	10	ZBC Y6H102	0.003

Legends for engraving

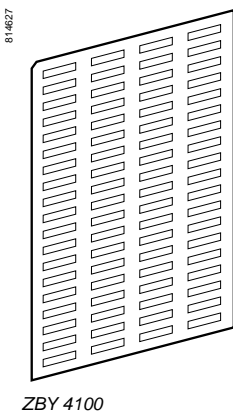
Description mm	For use with	Colour	Sold in lots of	Unit reference	Weight kg
8 x 27	30 x 40 mm legend holders	Black or red background	10	ZBY 0101	0.001
		White or yellow background	10	ZBY 0102	0.001
18 x 27	30 x 50 mm legend holders	Black or red background	10	ZBY 5101	0.001
		White or yellow background	10	ZBY 5102	0.001

Sheets of peel-off legends (with backing board and protective transparent cover)

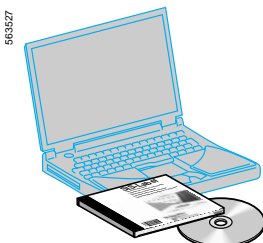
Description	For use with	Sold in lots of	Unit reference	Weight kg
Sheet of 76 8 x 27 mm legends	30 x 40 mm legend holders ZBZ 32 and ZBZ 34	10	ZBY 4100	0.043
Sheet of 40 18 x 27 mm legends	30 x 50 mm legend holders ZBZ 33 and ZBZ 35	10	ZBY 5100	0.044

“SIS Label” labelling software

Application	Reference	Weight kg
Legend design for English, French, German, Italian, Spanish	XBY 2U	0.100



ZBY 4100



XBY 2U

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Separate components and accessories: for heads

8 x 27 mm marked legends (for 30 x 40 mm legend holders ZBZ 32 and ZBZ 34)

Colour	Marking		Reference	Weight kg	
Black or red background (1)	International	O (black background)	ZBY 02146	0,001	
		O (red background)	ZBY 02931	0.001	
		I	ZBY 02147	0.001	
		II	ZBY 02148	0.001	
		O-I	ZBY 02178	0.001	
		I-II	ZBY 02179	0.001	
		I-O-II	ZBY 02186	0.001	
		AUTO	ZBY 02115	0.001	
		STOP	ZBY 02304	0.001	
		French	ARRET (red background)	ZBY 02104	0.001
			ARRET (black background)	ZBY 00104	0.001
			ARRET GENERAL	ZBY 02129	0.001
			ARRET REARMEMENT	ZBY 02133	0.001
			ARRET D'URGENCE	ZBY 02130	0.001
ARRET-MARCHE	ZBY 02166		0.001		
ARRIERE	ZBY 02106		0.001		
AUTO CYCLE-CYCLE	ZBY 02198		0.001		
AUTO CYCLE-MAIN	ZBY 02199		0.001		
AUTO-MAIN	ZBY 02164		0.001		
AUTO-O-MAIN	ZBY 02185		0.001		
AVANT	ZBY 02105		0.001		
AVANT-O-ARRIERE	ZBY 02184		0.001		
C-P-C-NORMAL	ZBY 02165		0.001		
CYCLE-MAIN	ZBY 02197		0.001		
DECLenchement	ZBY 02132		0.001		
DEFAULT (black background)	ZBY 02134		0.001		
DEFAULT (red background)	ZBY 02135		0.001		
DEPART CYCLE	ZBY 02195		0.001		
DESCENTE	ZBY 02108		0.001		
DROITE	ZBY 02109		0.001		
ENclenchement	ZBY 02131		0.001		
EN SERVICE	ZBY 02111		0.001		
FERMETURE	ZBY 02114		0.001		
GAUCHE	ZBY 02110		0.001		
HORS SERVICE	ZBY 02112		0.001		
HORS-EN	ZBY 02167		0.001		
LENT	ZBY 02127		0.001		
MAIN	ZBY 02116		0.001		
MARCHE	ZBY 02103		0.001		
MONTEE	ZBY 02107		0.001		
Ouverture	ZBY 02113		0.001		
PHASE / PHASE	ZBY 02196	0.001			
REARMEMENT (red background)	ZBY 02123	0.001			
REARMEMENT (black background)	ZBY 00123	0.001			
SOUS TENSION	ZBY 02126	0.001			
VITE	ZBY 02128	0.001			

(1) "Start" functions: white letters on black background. "Stop" functions: white letters on red background (unless otherwise specified above).

1

814629



ZBY 02178

814629



ZBY 02104

1.4

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Separate components and accessories: for heads

8 x 27 mm marked legends (for 30 x 40 mm legend holders ZBZ 32 and ZBZ 34) (continued)

Colour	Marking	Reference	Weight kg			
Black or red background (1)	English	AUTO-HAND	ZBY 02364	0,001		
		AUTO-O-HAND	ZBY 02385	0.001		
		CLOSE	ZBY 02314	0.001		
		DOWN	ZBY 02308	0.001		
		EMERGENCY STOP	ZBY 02330	0.001		
		FAST	ZBY 02328	0.001		
		FORWARD	ZBY 02305	0.001		
		HAND	ZBY 02316	0.001		
		HAND-OFF-AUTO	ZBY 02387	0.001		
		INCH	ZBY 02321	0.001		
		LEFT	ZBY 02310	0.001		
		OFF	ZBY 02312	0.001		
		OFF-ON	ZBY 02367	0.001		
		ON	ZBY 02311	0.001		
		OPEN	ZBY 02313	0.001		
		POWER ON	ZBY 02326	0.001		
		RESET (red background)	ZBY 02323	0.001		
		RESET (black background)	ZBY 02322	0.001		
		REVERSE	ZBY 02306	0.001		
		RIGHT	ZBY 02309	0.001		
		RUN	ZBY 02334	0.001		
		SLOW	ZBY 02327	0.001		
		START	ZBY 02303	0.001		
		STOP-START	ZBY 02366	0.001		
		UP	ZBY 02307	0.001		
			German	AB	ZBY 02208	0.001
				AUF	ZBY 02207	0.001
AUS	ZBY 02204			0.001		
AUS-EIN	ZBY 02266			0.001		
AUS-IN BETRIEB	ZBY 02267			0.001		
AUS-RÜCKSTELLUNG	ZBY 02233			0.001		
AUSSCHALLEN	ZBY 02232			0.001		
AUTO-HAND	ZBY 02364			0.001		
AUTO-O-HAND	ZBY 02385			0.001		
AUTOZYKL-HAND	ZBY 02299			0.001		
AUTOZYKL- 1 ZYKL	ZBY 02298			0.001		
C-P-C-NORMAL	ZBY 02265			0.001		
EIN	ZBY 02203			0.001		
EINSCHALTEN	ZBY 02231			0.001		
HAND	ZBY 02316			0.001		
LANGSAM	ZBY 02227			0.001		
LINKS	ZBY 02210			0.001		
NOT-AUS (red background)	ZBY 02230			0.001		
NOT-AUS (yellow background)	ZBY 022420001			0.001		
NOT-HALT	ZBY 02229			0.001		
ÖFFNEN	ZBY 02213			0.001		
RECHTS	ZBY-02209			0.001		
RÜCKSTELLUNG	ZBY-02223			0.001		
SCHLIESSEN	ZBY-02214			0.001		
SCHNELL	ZBY-02228			0.001		
SPANNUNG EIN	ZBY-02226			0.001		
STEUERUNG AUS	ZBY-02212			0.001		
STEUERUNG EIN	ZBY-02211			0.001		
STÖRUNG (black background)	ZBY-02234			0.001		
STÖRUNG (red background)	ZBY-02235			0.001		
VOR	ZBY-02205			0.001		
VOR-O-ZURÜCK	ZBY-02284			0.001		
ZURÜCK	ZBY-02206			0.001		
ZYKLUS-HAND	ZBY-02297	0.001				
ZYKLUSSTART	ZBY-02295	0.001				

(1) "Start" functions: white letters on black background. "Stop" functions: white letters on red background (unless otherwise specified above).

814633

START

ZBY 02303

814632

SCHNELL

ZBY 02228

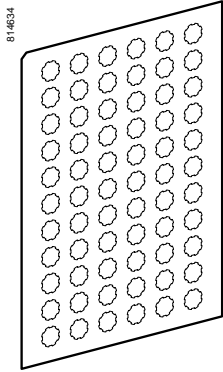
Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Separate components and accessories: for heads

1



ZBY 1101

1.4

Legends for pushbuttons, switches and pilot lights XB5 A

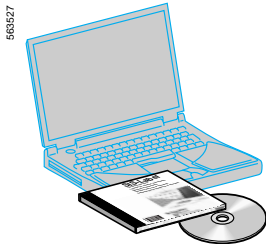
Description	Marking		Sold in lots of	Unit reference	Weight kg
Sheets of 66 circular peel-off transparent self-adhesive legends	Without		10	ZBY 1101	0.017
Strips of 66 circular peel-off transparent self-adhesive legends	International	O	10	ZBY 1146	0.017
		I	10	ZBY 1147	0.017
		II	10	ZBY 1148	0.017
		III	10	ZBY 1149	0.017
		STOP	10	ZBY 1304	0.017
		↑	10	ZBY 1912	0.017
	French	ARRET	10	ZBY 1104	0.017
		ARRIERE	10	ZBY 1106	0.017
		AUTO	10	ZBY 1115	0.017
		AVANT	10	ZBY 1105	0.017
		DESCENTE	10	ZBY 1108	0.017
		MAIN	10	ZBY 1116	0.017
		MARCHE	10	ZBY 1103	0.017
		MONTEE	10	ZBY 1107	0.017
		English	HAND	10	ZBY 1316
	OFF		10	ZBY 1312	0.017
ON	10		ZBY 1311	0.017	
START	10		ZBY 1303	0.017	
German	AB	10	ZBY 1208	0.017	
	AUF	10	ZBY 1207	0.017	
	AUS	10	ZBY 1204	0.017	
	EIN	10	ZBY 1203	0.017	
	ZU	10	ZBY 1214	0.017	
Strip of 66 square peel-off transparent self-adhesive legends	Without		10	ZBC Y1101	0.017

"SIS Label" labelling software

Application	Reference	Weight kg
Legend design for English, French, German, Italian, Spanish	XBY 2U	0.100

Circular legends for Emergency stop mushroom head pushbuttons (yellow)

Diameter mm	Marking on yellow background	Reference	Weight kg
60	Without	ZBY 9101	0.004
	ARRET D'URGENCE	ZBY 9130	0.004
	EMERGENCY STOP	ZBY 9330	0.004
	NOT-AUS	ZBY 9230	0.004
90	Without	ZBY 8101	0.008
	ARRET D'URGENCE	ZBY 8130	0.008
	EMERGENCY STOP	ZBY 8330	0.008
	NOT-AUS	ZBY 8230	0.008



XBY 2U



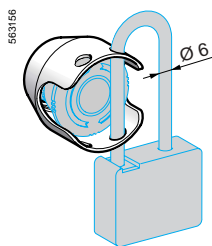
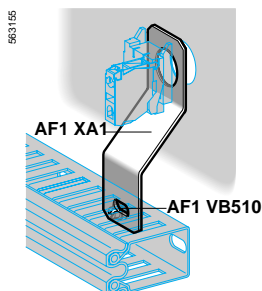
ZBY 9130

Control and signalling units Ø 22

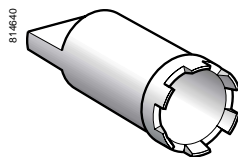
Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

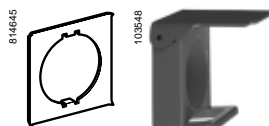
Separate components and accessories



ZBZ 160●

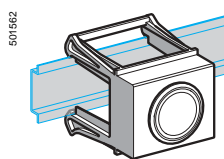


ZB5 AZ905

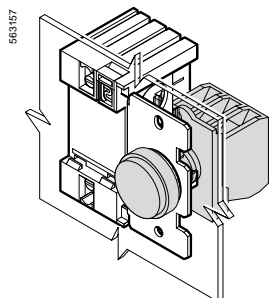


ZB5 AZ902

ZB4 BZ64



15151



XBZ S43

Accessories

Description	Application		Sold in lots of	Unit reference	Weight kg
Cable ducting support	Fixing beneath head		10	AF1 XA1	0.030
M5 x 10 screw, with hexagonal slotted head	For fixing cable ducting		100	AF1 VB510	0.003
Support	For pushbuttons, switches and pilot lights XB5 A		1	DX1 AP52	0.160
Metal guards Padlockable (1)	For Emergency stop function only with the following Ø 40 trigger action pushbuttons: XB5 AT8●, XB5 AS8●, XB5 AS9●, ZB5 AT8●, ZB5 AS8●, ZB5 AS9●.	Chromium plated	1	ZBZ 1600	0.046
		Black	1	ZBZ 1602	0.046
		Red	1	ZBZ 1604	0.046
		Yellow	1	ZBZ 1605	0.046
		Blue	1	ZBZ 1606	0.046
Plastic guard	For selector switches with standard handle or key switches	Black	1	ZBZ 2102	0.005
Plastic blanking plug, round, black (2)	For Ø 22 control and signalling units with circular head		10	ZB5 SZ3	0.008
Plastic blanking plug, square, black (2)	For Ø 22 control and signalling units with square head		10	ZB5 SZ5	0.009
Add-on square trim	Gives a square appearance to ZB5 A circular heads		10	ZB5 AZ31	0.002
Nut	Fixing the head		10	ZB5 AZ901	0.002
Bezel tool	Tightening head fixing nut ZB5 AZ901		1	ZB5 AZ905	0.016
Anti-rotation plate	Prevents rotation of the head		10	ZB5 AZ902	0.008
Padlockable flaps	For pushbuttons	Black	1	ZB4 BZ62	0.076
		Red	1	ZB4 BZ64	0.076
		Yellow	1	ZB4 BZ65	0.076
		Blue	1	ZB4 BZ66	0.076
Pushbutton support	For 35 mm DIN rail, for use in modular enclosure (3)		1	15151	0.040

AS-Interface module for Ø 22 control and signalling units

Description	For use with	Reference	Weight kg
Panel fixing, in conjunction with a Harmony pushbutton or switch			
S7.F profile	4 inputs and 4 outputs direct supply from the bus	XBZ S43	0.100



(1) No isolation function is possible when this guard is fitted.

(2) Supplied complete with fixing nut.

(3) Marketed under the Merlin Gerin brand.

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Separate components, accessories and replacement parts

1



DL1 CE



DL1 CJ

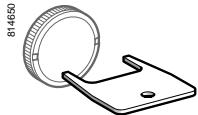


DL1 CF

1.4



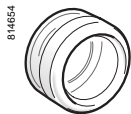
XBF X13



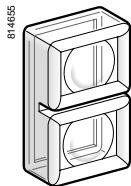
ZBG 8



ZBG 455



ZBP 0



ZBW 008

BA 9s bulbs and associated accessories

Description	Characteristics	Colour	Sold in lots of	Unit reference	Weight kg
LEDs	≈ 24 V	White	1	DL1 CJ0241	0.002
		Green	1	DL1 CJ0243	0.002
		Red	1	DL1 CJ0244	0.002
		Yellow	1	DL1 CJ0245	0.002
		Blue	1	DL1 CJ0246	0.002
	≈ 48 V	Green	1	DL1 CJ0483	0.002
		Red	1	DL1 CJ0484	0.002
		Yellow	1	DL1 CJ0485	0.002
	6 V - 1.2 W	White	1	DL1 CD0061	0.002
		Green	1	DL1 CD0063	0.002
Red		1	DL1 CD0064	0.002	
Yellow		1	DL1 CD0065	0.002	
Incandescent bulbs	6 V - 1.2 W	–	10	DL1 CB006	0.002
		–	10	DL1 CE024	0.002
	24 V - 2 W	–	10	DL1 CE130	0.002
		–	10	DL1 CE130	0.002
Neon bulbs	120...130 V	–	10	DL1 CF110	0.002
	230...240 V	–	10	DL1 CF220	0.002
Bulb extractor	–	–	1	XBF X13	0.005
Lens cap tightening tool	Illuminated pushbuttons, with flush push	–	1	ZBG 8	0.009

Replacement keys for Emergency stop key release heads and key switches

Description	Key number	Reference	Weight kg
Sets of 2 keys	455	ZBG 455	0.013
	421E	ZBG 421E	0.014
	458A	ZBG 458A	0.014
	520E	ZBG 520E	0.014
	3131A	ZBG 3131A	0.014
	4A185	ZBD A185	0.014
	LU1	ZBD LU1	0.014
	LU2	ZBD LU2	0.014
	LU3	ZBD LU3	0.014
	LU4	ZBD LU4	0.014
	LU5	ZBD LU5	0.014
	LU6	ZBD LU6	0.014
	LU7	ZBD LU7	0.014
	LU8	ZBD LU8	0.014
	LU9	ZBD LU9	0.014
LU10	ZBD LU10	0.014	
LU11	ZBD LU11	0.014	
LU12	ZBD LU12	0.014	
LU13	ZBD LU13	0.014	
LU14	ZBD LU14	0.014	
8D1	ZBD 8D1	0.014	

Clear boots

Description	For use with pushbuttons	Sold in lots of	Unit reference	Weight kg
Single boots	Flush with circular head	10	ZBP A	0.002
	Projecting with circular head	10	ZBP 0	0.002
	Flush or projecting with circular head for food industry applications	10	ZBP 0A	0.002
Double boots	Flush or projecting double-headed	10	ZBW 008	0.005
	Flush double-headed	10	ZBW 008F	0.005
	Double-headed for food industry applications	10	ZBW 008A	0.005

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Replacement parts

Coloured boots

Description	Colour	Sold in lots of	Unit reference	Weight kg
Coloured boots (can be replaced without dismantling the head)	Black	10	ZB2 BP012	0.003
	Green	10	ZB2 BP013	0.003
	Red	10	ZB2 BP014	0.003
	Yellow	10	ZB2 BP015	0.003
	Blue	10	ZB2 BP016	0.003

Lens caps

For use with	Colour	Sold in lots of	Unit reference	Weight kg
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Circular lens caps for light sources with integral LED

Pilot lights	White	10	ZBV 0113	0.002
	Green	10	ZBV 0133	0.002
	Red	10	ZBV 0143	0.002
	Yellow	10	ZBV 0153	0.002
	Blue	10	ZBV 0163	0.002
	5 different coloured grooved lenses (1)	1	ZBV 0103S	0.010
Illuminated pushbuttons, with flush push	White	10	ZBW 9113	0.002
	Green	10	ZBW 9133	0.002
	Red	10	ZBW 9143	0.002
	Yellow	10	ZBW 9153	0.002
	Blue	10	ZBW 9163	0.002
Illuminated pushbuttons, with projecting push	White	10	ZBW 9313	0.002
	Green	10	ZBW 9333	0.002
	Red	10	ZBW 9343	0.002
	Yellow	10	ZBW 9353	0.002
	Blue	10	ZBW 9363	0.002

Square lens caps for light sources with integral LED

Pilot lights	White	10	ZBC V0113	0.002
	Green	10	ZBC V0133	0.002
	Red	10	ZBC V0143	0.002
	Yellow	10	ZBC V0153	0.002
	Blue	10	ZBC V0163	0.002
Illuminated pushbuttons, with flush push	White	10	ZBC W9113	0.002
	Green	10	ZBC W9133	0.002
	Red	10	ZBC W9143	0.002
	Yellow	10	ZBC W9153	0.002
	Blue	10	ZBC W9163	0.002
Illuminated pushbuttons, with projecting push	White	10	ZBC W9313	0.002
	Green	10	ZBC W9333	0.002
	Red	10	ZBC W9343	0.002
	Yellow	10	ZBC W9353	0.002
	Blue	10	ZBC W9363	0.002

Circular lens caps for light sources with BA 9s base fitting

Pilot lights	White	10	ZBV 011	0.002
	Green	10	ZBV 013	0.002
	Red	10	ZBV 014	0.002
	Yellow	10	ZBV 015	0.002
	Blue	10	ZBV 016	0.002
	Clear	10	ZBV 017	0.002
	Illuminated pushbuttons, with flush push	White	10	ZBW 911
Green		10	ZBW 913	0.002
Red		10	ZBW 914	0.002
Yellow		10	ZBW 915	0.002
Blue		10	ZBW 916	0.002
Clear		10	ZBW 917	0.002
Illuminated pushbuttons, with projecting push		White	10	ZBW 931
	Green	10	ZBW 933	0.002
	Red	10	ZBW 934	0.002
	Yellow	10	ZBW 935	0.002
	Blue	10	ZBW 936	0.002
	Clear	10	ZBW 937	0.002

(1) Clear, green, red, yellow, blue.



ZBV 0103




ZBV 01

1




XB5 AA

Manual overload reset buttons (travel 10 mm) (1)

Shape of head	Actuation distance mm	Marking	Colour	Reference	Weight kg
Without cap (2)					
	17...120	–	–	XB5 AA801	0.027
	120...257	–	–	XB5 AA802	0.040


With flush push

	17...120	Without	Green	XB5 AA831	0.027		
			Red	XB5 AA841	0.027		
			Blue	XB5 AA861	0.027		
	120...257	Without	O	Red	XB5 AA84101	0.027	
			R	Blue	XB5 AA86102	0.027	
			Green	XB5 AA832	0.040		
				Red	XB5 AA842	0.040	
				Blue	XB5 AA862	0.040	
				O	Red	XB5 AA84201	0.040
				R	Blue	XB5 AA86202	0.040

With projecting push

	17...120	O	Red	XB5 AL84101	0.027
	120...257	O	Red	XB5 AL84201	0.040

Heads + mounting base for potentiometer

Shape of head	Description	For use on	Reference	Weight kg
	For potentiometer with shaft length 44 to 50 mm (potentiometer not included)	Ø 6 mm shaft	ZB5 AD912	0.032
		Ø 6.35 mm shaft	ZB5 AD922	0.032



ZB5 AD

(1) NEMA type 13.

(2) Coloured cap to be ordered separately: see page 1/154.

563161



XD5 PA12

814687



ZD5 PA103

814686



ZD5 PA203

563162



ZD5 PA12

814663



XB5 DS●

814664



XB5 KS●

814665



XB5 DT1S

Joystick controllers (54 mm long operating shaft) (1)**Complete joystick controllers** (screw clamp terminal connections)

Description	Operation	Spring return to zero position	Reference	Weight kg
2 direction	1 notch 1 N/O contact per direction	Without	XD5 PA12	0.060
		With	XD5 PA22	0.060
4 direction	1 notch 1 N/O contact per direction	Without	XD5 PA14	0.077
		With	XD5 PA24	0.077

Sub-assemblies for joystick controllers

Description	For use on	Reference	Weight kg	
Complete body/contact assemblies (screw clamp terminal connections)	2 direction	ZD5 PA103	0.049	
	4 direction	ZD5 PA203	0.058	
Complete head assemblies with operating shaft	2 direction, stay put	ZD5 PA12	0.022	
	2 direction, spring return to zero position	ZD5 PA22	0.022	
	4 direction, stay put	ZD5 PA14	0.022	
	4 direction, spring return to zero position	ZD5 PA24	0.022	
Legends 30 x 48 mm for engraving	2 direction	Black one side Red reverse	ZBG 2201	0.001
		White one side Yellow reverse	ZBG 2401	0.001
Legends 48 x 48 mm for engraving	4 direction	Black one side Red reverse	ZBG 4201	0.002
		White one side Yellow reverse	ZBG 4401	0.002

Hour counters (2)

Characteristics	Supply voltage V	Reference	Weight kg
Indication 0...9999.9	~ 12...24 - 50/60 Hz	XB5 DSB	0.045
	~ 120 - 60 Hz	XB5 DSG	0.045
	~ 230...240 - 50 Hz	XB5 DSM	0.045

Annunciators (IP 40 NEMA 1) (2)

Characteristics	Supply voltage V	Reference	Weight kg
85 db buzzer, basic: 4 kHz with continuous or intermittent operation (connection diagram: see page 1/172)	~ 24 - 50/60 Hz	XB5 KSB	0.035
	~ 120 - 50/60 Hz	XB5 KSG	0.035
	~ 230...240 - 50 Hz	XB5 KSM	0.035

Fuse carrier (2)

Description	For use with	Reference	Weight kg
Fuse carrier	5 x 20 mm fuse 6.3 A - 250 V	XB5 DT1S	0.022

(1) Cannot be used with standard contact blocks ZBE 101 (single) or ZBE 20● (double).

(2) Replacement parts: fixing nut ZB5 AZ901, anti-rotation plate: ZB5 AZ902, tightening key: ZB5 AZ905.

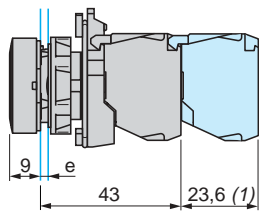
Other versions

Joystick controllers and complete body/contact assemblies for joystick controllers with Faston connector terminals (6.35 or 2 x 2.8). Please consult your Regional Sales Office.

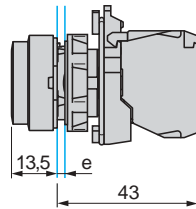
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Pushbuttons, spring return

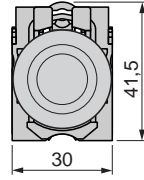
XB5 AA●●



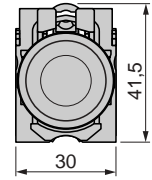
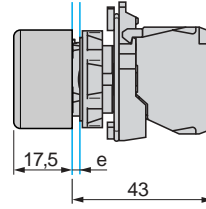
XB5 AL●●



Common face view



XB5 AP●●



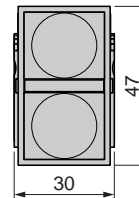
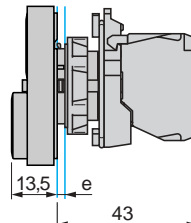
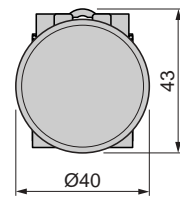
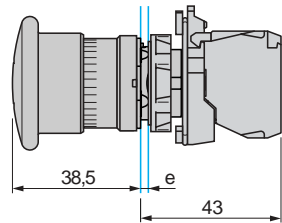
(1) Additional row of contacts or double contact.

e: panel thickness: 1 to 6 mm

e: panel thickness: 1 to 6 mm

Mushroom head

XB5 AC21



Double-headed

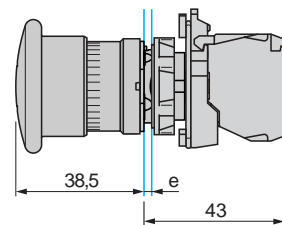
XB5 AL●45, XB5 AL●4C5

e: panel thickness: 1 to 6 mm

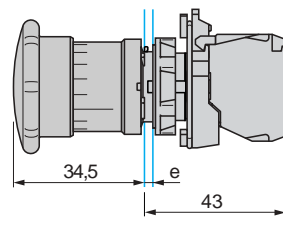
1.4

Emergency stop mushroom head pushbuttons

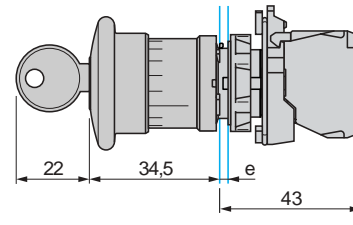
XB5 AT42, XB5 BT845



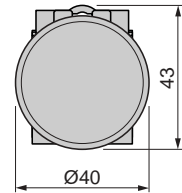
XB5 AS542, XB5 AS8445



XB5 AS142, XB5 A9445



Common face view



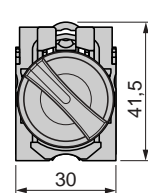
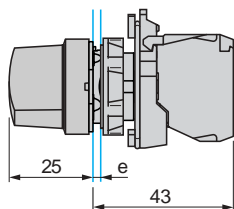
e: panel thickness: 1 to 6 mm

e: panel thickness: 1 to 6 mm

Selector switches

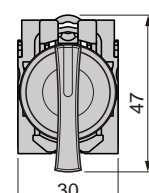
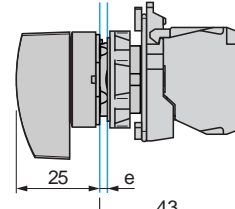
Standard handle operator

XB5 AD



Long handle operator

XB5 AJ

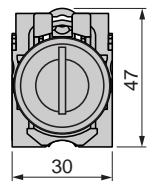
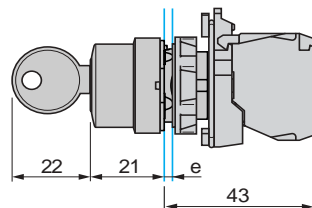


e: panel thickness: 1 to 6 mm

e: panel thickness: 1 to 6 mm

Key switches

XB5 AG



e: panel thickness: 1 to 6 mm

Pilot lights

Integral LED

XB5 AVB●, AVG●, AVM●

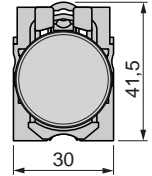
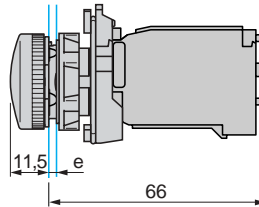
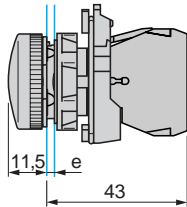
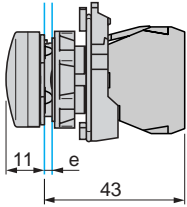
Direct supply

XB5 AV6

Via integral transformer

XB5 AV3●, AV4●

Common face view



e: panel thickness: 1 to 6 mm

e: panel thickness: 1 to 6 mm

Illuminated pushbuttons

Integral LED

XB5 AW3●●5

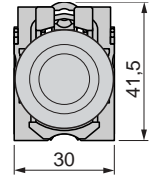
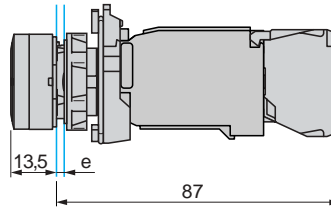
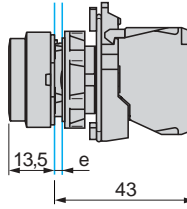
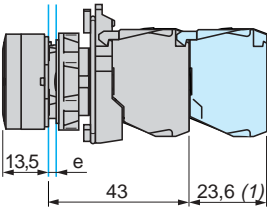
Direct supply

XB5 AW3●65

Via integral transformer

XB5 AW3●●5

Common face view



(1) Additional row of contacts or double contact.

e: panel thickness: 1 to 6 mm

e: panel thickness: 1 to 6 mm

Double-headed pushbuttons with pilot light

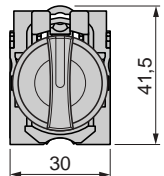
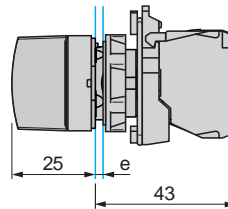
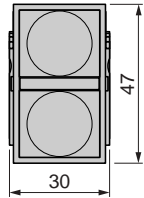
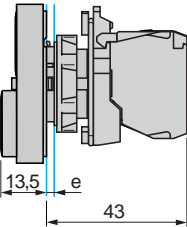
Integral LED

XB5 AW84●5

Illuminated selector switches

Integral LED

XB5 AK12●●5



e: panel thickness: 1 to 6 mm

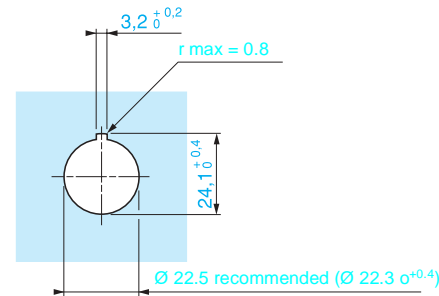
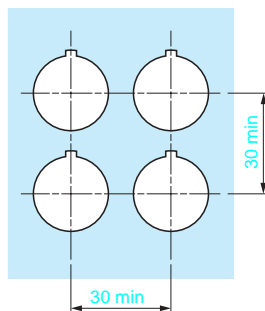
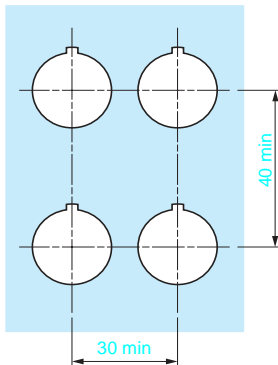
e: panel thickness: 1 to 6 mm

Panel cut-out for pushbuttons, switches and pilot lights (1)

Screw clamp terminal and plug-in connector models

Printed circuit board connection models

Detail of lug recess



(1) Fixing centres for pushbuttons, switches and pilot lights fitted with Faston connector terminals: 32 x 45 min.

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

Complete units ZB5 A: contact functions

1

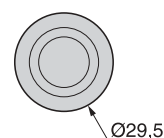
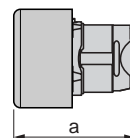
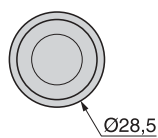
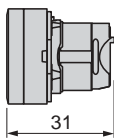
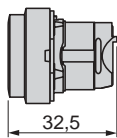
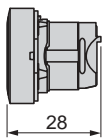
Heads for spring return pushbuttons

ZB5 AA●, AA●●, ZB5 AA●8

ZB5 AL●, ZB5 AL●●

ZB5 AA●4, ZB5 AA●6 Common face view

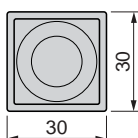
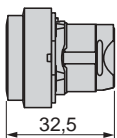
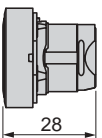
ZB5 AP●●, ZB5 AP●S, ZB5 AP●83, ZB5 AP●



ZB5 CA●, ZB5 CA0

ZB5 CL●

Common face view



ZB5	a
AP●●	36.5
AP●S	33
AP●83	32
AP●	35

1.4

Heads for pushbuttons

Lockable "push-turn"

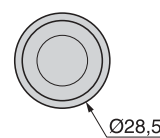
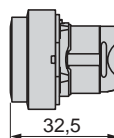
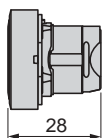
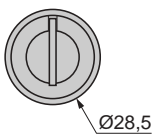
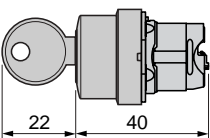
ZB5 AFD

Push-push to release

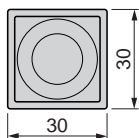
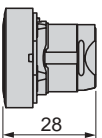
ZB5 AH0●

ZB5 AH●

Common face view



ZB5 CH0●



Heads for double-headed, spring return pushbuttons

ZB5 AA81●●, ZB5 AA82●●

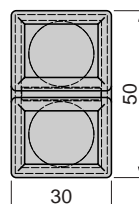
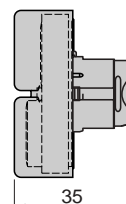
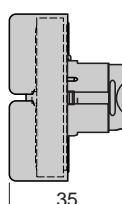
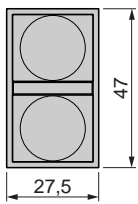
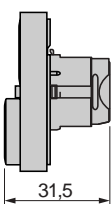
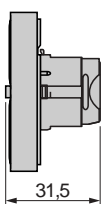
ZB5 AL83●●, ZB5 AL84●●

Common face view

ZB5 AA91●●
ZB5 AA92●●

ZB5 AL93●●
ZB5 AL94●●

Common face view



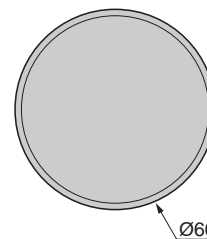
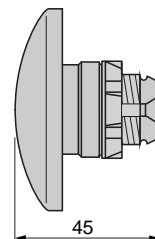
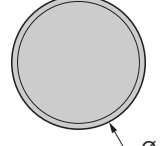
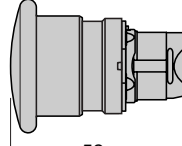
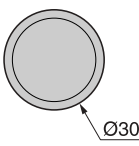
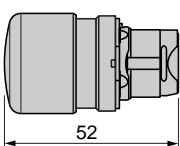
Heads for pushbuttons

Mushroom head

ZB5 AC●4

ZB5 AC●, AR●

ZB5 AR●16



ZB5	Ø
AC●	40
AR●	60

Control and signalling units Ø 22

Harmony® style 5

Pushbuttons, switches and pilot lights with double insulated bezel

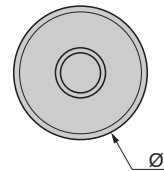
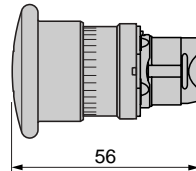
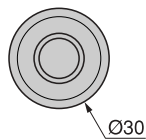
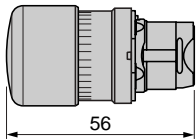
Complete units ZB5 A: contact functions

Mushroom heads for latching pushbuttons

Push-pull

ZB5 AT44

ZB5 AT4, ZB5 AT84, ZB5 AX4

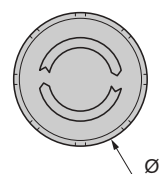
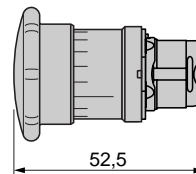
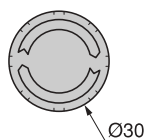
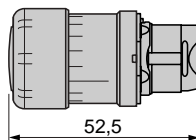


ZB5	Ø
AT4, AT84	40
AX4	60

Turn to release

ZB5 AS4●, ZB5 AS834

ZB5 AS5●, ZB5 AS844, ZB5 AS6●

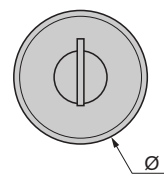
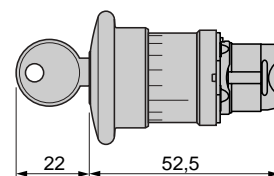
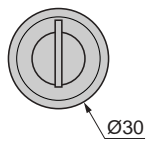
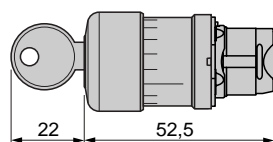


ZB5	Ø
AS5●, AS844	40
AS6●	60

Key release

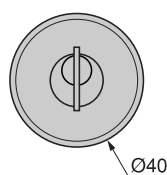
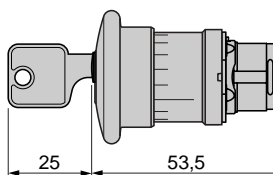
ZB5 AS7●, ZB5 AS934

ZB5 AS1●, ZB5 AS2●, ZB5 AS944, ZB5 AS964



ZB5	Ø
AS1●, AS944	40
AS2●, AS964	60

ZB5 AS14D



1

Heads for selector switches

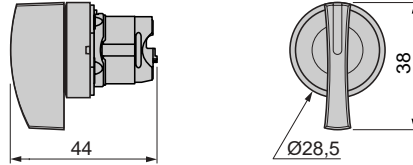
Standard handle operator

ZB5 AD●, ZB5 AD●M



Long handle operator

ZB5 AJ●, ZB5 AJ●M



1.4

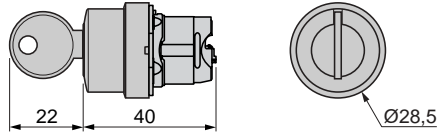
Knurled knob, black

ZB5 AD●9



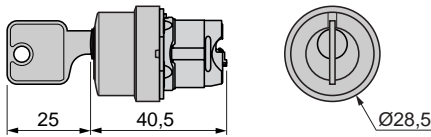
Key switch (Ronis n° 455)

ZB5 AG●, ZB5 AG0●, ZB5 AG●M



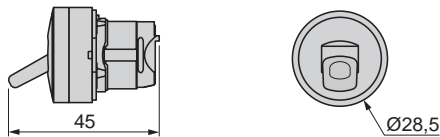
Key switch (DOM n° 8D1)

ZB5 AGD



Heads for toggle switches

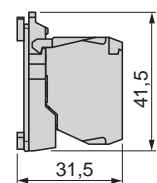
ZB5 AD●8



Bodies for pushbuttons and switches

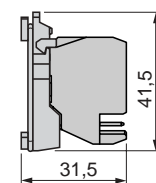
Screw clamp terminal connections

ZB5 AZ10●, ZB5 AZ141



Plug-in connector

ZB5 AZ10●4, ZB5 AZ1414



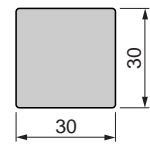
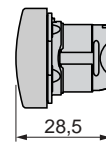
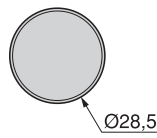
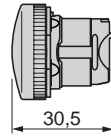
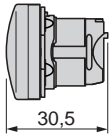
Heads for pilot lights, with light source

Integral LED
ZB5 AV0●3

Incandescent, neon or LED
ZB5 AV0●, AV0●S

Common face view

ZB5 CV0●3, CH3●3

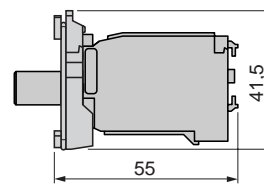
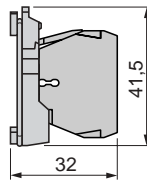
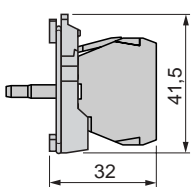


Bodies for pilot lights, screw clamp terminal connections

Integral LED
ZB5 AV●●

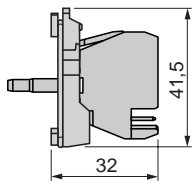
Direct supply, for BA 9s bulb
ZB5 AV6

Via integral transformer for BA 9s bulb
ZB5 AV●, AV●D●



Bodies for pilot lights, plug-in connector

Integral LED
ZB5 AV●●4

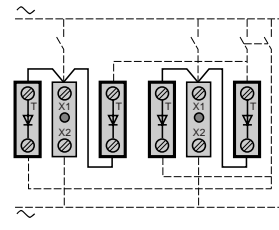
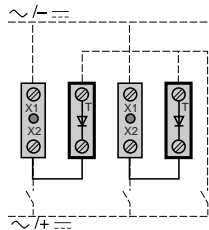


Blocks for "test light" function

Connections

ZBZ G156

ZBZ M156



Heads for spring return illuminated pushbuttons, for light source

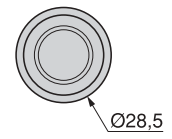
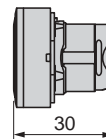
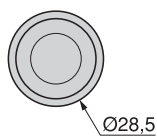
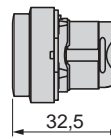
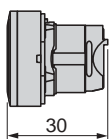
LED

ZB5 AW3●3, AW3●3S,
ZB5 AA●8

ZB5 AW1●3, ZB5 AW1●3S,
ZB5 AL●8

Common face view

ZB5 AW9●3

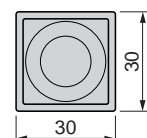
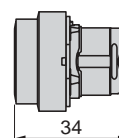
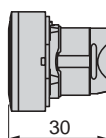
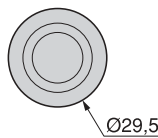
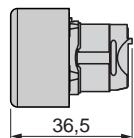


ZB5 AW5●3

ZB5 CW3●3

ZB5 CW1●3

Common face view

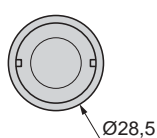
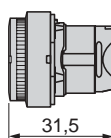
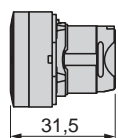


BA 9s bulb

ZB5 AW3●, AW3●S

ZB5 AW1●, ZB5 AW1●S

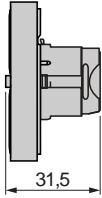
Common face view



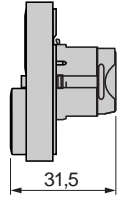
1

Heads for double-headed pushbuttons with pilot light

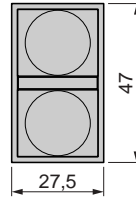
ZB5 AW81●●●3,
ZB5 AW82●●●3



ZB5 AW83●●●3,
ZB5 AW84●●●3

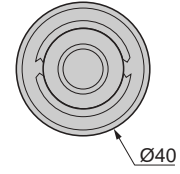
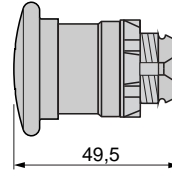


Common face view



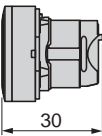
Mushroom heads for latching pushbuttons

ZB5 AW7●3

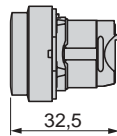


Heads for illuminated "push-push to release" pushbuttons

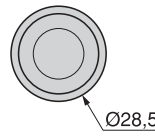
ZB5 AH0●3



ZB5 AH●3

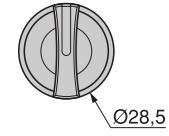
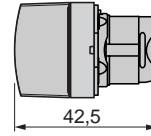


Common face view



Heads for illuminated selector switches with standard handle

ZB5 AK1●●●3

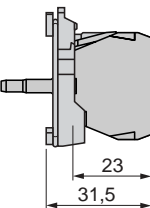


1.4

Bodies for illuminated pushbuttons and selector switches, screw clamp terminal connections

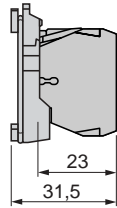
Integral LED

ZB5 AW0●●●



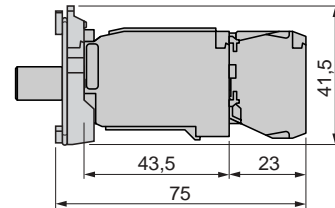
Direct supply, for BA 9s bulb

ZB5 AW0●●



Via integral transformer for BA 9s bulb

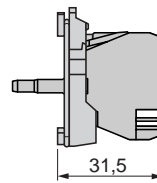
ZB5 AW0●●, ZB5 AW0●D●●



Bodies for illuminated pushbuttons and selector switches, plug-in connector

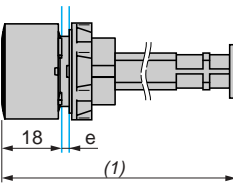
Integral LED

ZB5 AW0●●●4

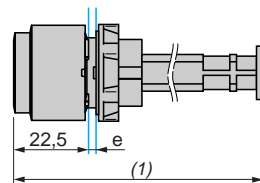


Manual overload reset buttons

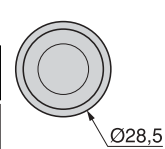
XB5 A8●●●



XB5 AL8●●●

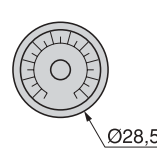
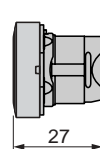


Common face view



Head + mounting base for potentiometer

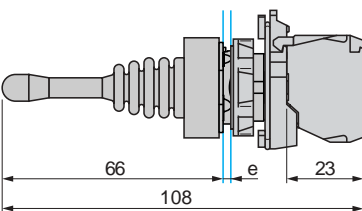
ZB5 AD9●2



e: panel thickness 1 to 6 mm
(1) Value not yet communicated

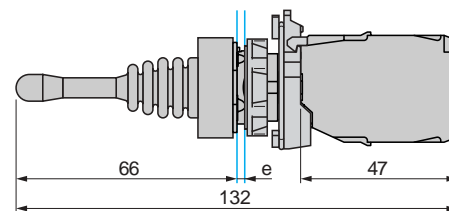
Joystick controllers

XD5 PA●2



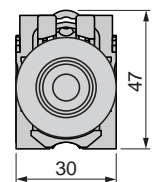
e: panel thickness 1 to 6 mm

XD5 PA●4



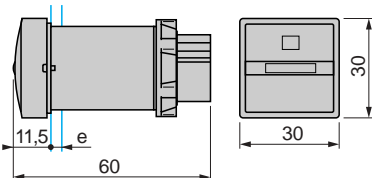
e: panel thickness 1 to 6 mm

Common face view



Hour counters

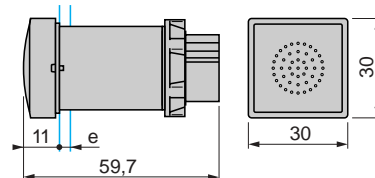
XB5 DS●



e: panel thickness 1 to 6 mm

Annunciators

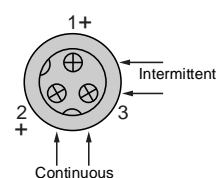
XB5 KS●



e: panel thickness 1 to 6 mm

Connection diagram

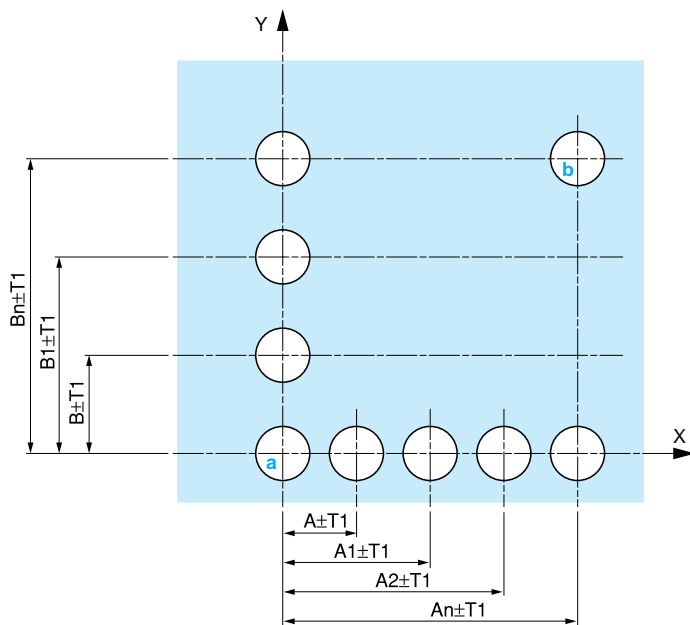
XB5 KS●



Pushbuttons, switches and pilot lights for printed circuit board connection

Panel cut-out (viewed from installer's side)

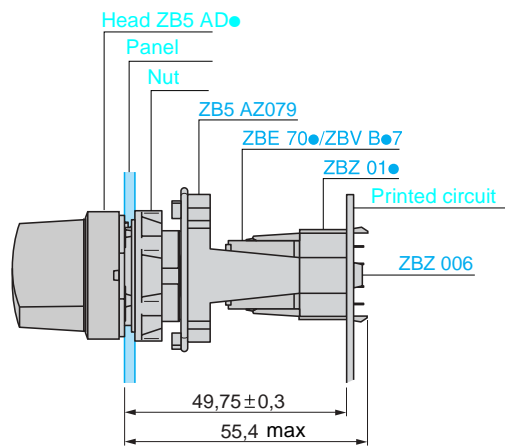
Dimensions in mm



Installation precautions:

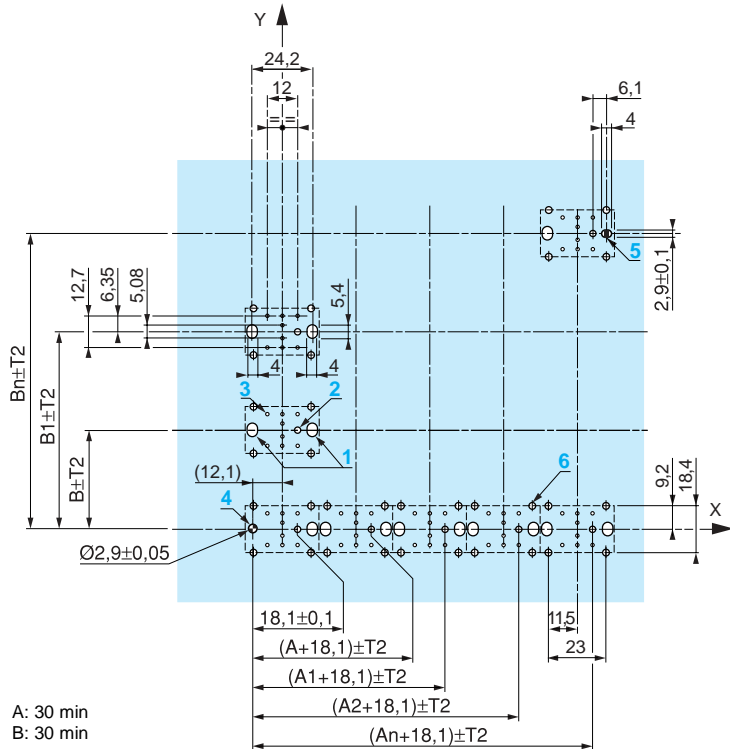
- Minimum thickness of circuit board: 1.6 mm.
- Cut-out diameter: 22.4 mm ± 0.1 mm.
- Orientation of body/fixing collar ZB5 BZ079: ± 2° 30' (excluding cut-outs marked **a** and **b**).
- Tightening torque of screws ZBZ 006: 0.6 N.m. max.
- Allow for one ZB5 BZ079 pillar and its fixing screws:
 - every 90 mm horizontally (X), and 120 mm vertically (Y),
 - with each selector switch head (ZB5 AD●, ZB5 AJ●, ZB5 AG●).

The fixing centres marked **a** and **b** are diagonally opposed and must align with those marked **4** and **5** on the printed circuit board.



Printed circuit board drillings (viewed from electrical block side)

Dimensions in mm



Mounting of adapter (socket) ZBZ 01●:

- 1 2 elongated holes for ZBZ 006 screw access.
- 2 1 hole Ø 2.4 mm ± 0.05 for centring adapter ZBZ 01●.
- 3 8 x Ø 1.2 mm holes.
- 4 1 hole Ø 2.9 mm ± 0.05, for centring the printed circuit board (with cut-out marked **a**).
- 5 1 elongated hole for orientation of the printed circuit board (with cut-out marked **b**).
- 6 4 holes Ø 2.4 mm ± 0.05 for clipping in adapter ZBZ 01●.

Dimensions An + 18.1 relate to the Ø 2.4 mm ± 0.05 holes for centring adapter ZBZ 01●.

General tolerances of the panel and printed circuit board

The cumulative tolerance must not exceed 0.3 mm: T1 + T2 = 0.3 mm max.

1

1.5

Environment			
Protective treatment	Standard version		"TH"
Ambient air temperature around the device	Storage	°C	- 40...+ 70
	Operation	°C	- 25...+ 70 for LED and neon bulb versions - 25...+ 40 for incandescent bulb version
Electric shock protection	Conforming to IEC 60536		Class II
Degree of protection	Conforming to IEC 60529		IP 54 front face IP 20 rear face (protection against direct contact)
	Conforming to NEMA		NEMA type 12
Mounting	Conforming to IEC/EN 60947-5-1		Finished fixing hole: 22.5 mm recommended (22.3 +0.4/ 0) Fixing centres: 30 x 40 mm min. (unless otherwise indicated) Mounting panel thickness: metal: 1 to 6 mm, double insulated: 2 to 6 mm Recommended tightening torque of fixing nut: 2 N.m. max.: 3 N.m
Cabling capacity	Conforming to EN60947-1		Screw clamp terminal connections: □ min.: 1 x 0.34 mm ² without cable end □ max.: 2 x 1.5 mm ² with cable end Forked "U" tag connectors: 2 max., fitted head to tail Fork width 6 to 7.5 mm for M3.5 screw Faston connectors: type 6.35 x 0.8 mm
Screw clamp tightening torque		N.m	0.8 (nominal recommended) 1.2 (max) Screw heads compatible with Pozidriv or Phillips or JIS screwdrivers (size 1) and flat screwdrivers (4 and 5.5 mm)
Mechanical durability (in operating cycles)			Pushbuttons: 1 000 000 Illuminated pushbuttons, spring return: 300 000 Illuminated pushbuttons, push-push: 300 000 Selector switches: 300 000 Key switches: 300 000 Emergency stop pushbuttons: 10 000
Vibration resistance	Conforming to IEC 60068-2-6		5 gn (frequency 2 at 500 Hz)
Electric shock resistance	Conforming to IEC 60068-2-27		50 gn (half sine wave for 11 ms) Emergency stop: 10 gn (half sine wave for 11 ms)
Conforming to standards	Generic standards		IEC/EN 60947-1, IEC/EN 60947-5-1, IEC/EN 60947-5-5 UL 508, CSA C22 n°14, JIS C 4520 (pending)
Terminal referencing	Conforming to EN 50005 and EN 50013		Conforming

Contact block characteristics			
Type of contact	N/C or N/O or C/O		Slow break
Positive operation	Conforming to IEC/EN 60947-5-1 appendix K		All functions incorporating an N/C contact have positive opening operation
Short-circuit protection	Conforming to IEC/EN 60947-5-1	A	4 (gG cartridge fuse conforming to IEC 269-1)
Rated insulation voltage	Conforming to IEC/EN 60947-1	V	Ui = 250 (degree of pollution 3)
Rated impulse withstand voltage	Conforming to IEC/EN 60947-1	kV	Uimp = 6
Rated operational characteristics (conforming to IEC/EN 60947-5-1)	a.c. supply: utilisation category AC14, D300		Ue = 240 V and Ie = 0.3 A or Ue = 120 V and Ie = 0.6 A
Electrical reliability	Failure rate conforming to IEC 60947-5-4		At 17 V and 5 mA: λ ≤ 10 ⁻⁶

Single light block characteristics					
Type of bulb			LED	Incandescent (all models)	Neon (direct)
Voltage limits	For rated voltage	V	24 V ≈ : 19.2...30 ≈ ; 21.6...26.4 ≈ 120 V ≈ : 100...132 ≈ 230-240 V ≈ : 195...264 ≈	120 V ≈ : 100...132 ≈ 230 V ≈ : 195...264 ≈	Direct supply model: 230 V ≈ : 195...264 ≈
Current consumption	Applicable to all colours	mA	18 (all types, all voltages)	Depending on bulb	< 5
Service life	At rated voltage and at an ambient temperature of 25 °C	H	80 000	2 000	50 000
Electromagnetic emissions	Conforming to IEC 55011		Class B		



XB7 EA1P

Pushbuttons

Shape of head	Type of push	Type of contact			Marking		Colour of push	Sold in lots of	Unit reference	Weight kg	
		N/O	N/C	C/O	Text	Colour					
Pushbuttons, spring return											
	Flush	1	-	-	-	-	Black	10	XB7 EA21P (1)	0.020	
					-	-	Green	10	XB7 EA31P (1)	0.020	
					-	-	Yellow	10	XB7 EA51P (1)	0.020	
		-	1	-	-	-	-	Red	10	XB7 EA42P (1)	0.020
						-	-	Black	10	XB7 EA25P	0.020
						-	-	Green	10	XB7 EA35P	0.020
		-	-	1	-	-	-	Red	10	XB7 EA45P	0.020
						-	-	Black	10	XB7 EA23P	0.020
		-	-	-	-	-	-	Green	10	XB7 EA33P	0.020
						-	-	Green	10	XB7 EA33P	0.020
	Flush	1	-	-	"I"	White	Green	10	XB7 EA3131P ▲	0.020	
		2	-	-				10	XB7 EA3331P ▲	0.020	
	Projecting	-	1	-	"O"	White	Red	10	XB7 EL4232P ▲	0.020	
		-	-	1				10	XB7 EL4532P ▲	0.020	
	Flush	1	-	-	↑	Black	White	10	XB7 EA11341P ▲	0.020	
		-	-	1				10	XB7 EA15341P ▲	0.020	
	Flush	1	-	-	↑	White	Black	10	XB7 EA21341P ▲	0.020	
		-	-	1				10	XB7 EA25341P ▲	0.020	

Pushbuttons, push-push

	Flush	1	-	-	-	-	Black	10	XB7 EH21P	0.020
					-	-	Green	10	XB7 EH31P	0.020
		-	-	1	-	-	Black	10	XB7 EH25P	0.020
					-	-	Green	10	XB7 EH35P	0.020

Selector switches

Shape of head	Type of operator	Type of contact			Number and type of positions (2)	Sold in lots of	Unit reference	Weight kg
		N/O	N/C	C/O				
	Standard handle, black	1	-	-	2 - stay put	10	XB7 ED21P (1)	0.025
		1	1	-	2 - stay put	10	XB7 ED25P	0.025
		2	-	-	3 - stay put	10	XB7 ED33P	0.025
	Key switches (key n° 455)	1	-	-	2 - withdrawal from LH position	10	XB7 EG21P	0.049
		2	-	-	3 - withdrawal from centre position	10	XB7 EG33P	0.049

Emergency stop mushroom head pushbuttons, Ø 40

Shape of head	Type of push	Type of contact			Colour of push	Sold in lots of	Unit reference	Weight kg
		N/O	N/C	C/O				
	Turn to release	-	1	-	Red	10	XB7 ES542P	0.032
		1	1	-	Red	10	XB7 ES545P	0.035
	Turn to release (key n° 455)	-	1	-	Red	10	XB7 ES142P	0.055
		1	1	-	Red	10	XB7 ES145P	0.058

(1) For version with Faston connectors (1 x 6.35 mm and 2 x 2.8 mm), add suffix "3" to the above references.

Example: XB7 EA21P3.

(2) The symbol "⌘" indicates the key withdrawal position.

▲ Available:
3rd quarter 2005.Characteristics:
page 1/174Dimensions, mounting:
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1



XB7 EV0●●P

Pilot lights with integral LED ("true" colours)

Shape of head	Supply voltage V	Colour of lens	Sold in lots of	Unit reference	Weight kg
	≈ 24	White	10	XB7 EV01BP (1)	0.020
		Green	10	XB7 EV03BP (1)	0.020
		Red	10	XB7 EV04BP (1)	0.020
		Yellow	10	XB7 EV05BP (1)	0.020
		Blue	10	XB7 EV06BP (1) ▲	0.020
		Orange	10	XB7 EV08BP (1) ▲	0.020
	~ 120 50-60 Hz	White	10	XB7 EV01GP (1)	0.020
		Green	10	XB7 EV03GP (1)	0.020
		Red	10	XB7 EV04GP (1)	0.020
		Yellow	10	XB7 EV05GP (1)	0.020
		Blue	10	XB7 EV06GP (1) ▲	0.020
		Orange	10	XB7 EV08GP (1) ▲	0.020
~ 230 50-60 Hz	White	10	XB7 EV01MP (1)	0.020	
	Green	10	XB7 EV03MP (1)	0.020	
	Red	10	XB7 EV04MP (1)	0.020	
	Yellow	10	XB7 EV05MP (1)	0.020	
	Blue	10	XB7 EV06MP (1) ▲	0.020	
	Orange	10	XB7 EV08MP (1) ▲	0.020	

1.5



XB7 EW3●●1P

Illuminated pushbuttons with integral LED ("true" colours)

Shape of head	Type of push	Supply voltage V	Type of contact		Colour of lens	Sold in lots of	Unit reference	Weight kg	
			N/O	N/C					
	Projecting	≈ 24	1	-	Green	10	XB7 EW33B1P	0.022	
					Red	10	XB7 EW34B1P	0.022	
					Yellow	10	XB7 EW35B1P	0.022	
			-	1	Red	10	XB7 EW34B2P	0.022	
			~ 230	1	-	Green	10	XB7 EW33M1P	0.022
						Red	10	XB7 EW34M1P	0.022
	Yellow	10				XB7 EW35M1P	0.022		
	-	1	Red	10	XB7 EW34M2P	0.022			
	Projecting	≈ 24	1	-	Green	10	XB7 EH03B1P	0.022	
					Red	10	XB7 EH04B1P	0.022	
					Yellow	10	XB7 EH05B1P	0.022	
			-	1	Red	10	XB7 EH04B2P	0.022	
~ 230			1	-	Green	10	XB7 EH03M1P	0.022	
					Red	10	XB7 EH04M1P	0.022	
		Yellow			10	XB7 EH05M1P	0.022		
-		1	Red	10	XB7 EH04M2P	0.022			



XB7 EH0●●1P

(1) For version with Faston connectors (1 x 6.35 mm and 2 x 2.8 mm), add suffix "3" to the above references.
Example: XB7 EV61P3.

▲ Available:
3rd quarter 2005.


Characteristics:
page 1/174

Dimensions, mounting:
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XB7 EV●●P

Pilot lights with BA 9s base fitting

Shape of head	Supply	Description	Supply voltage V	Colour of lens	Sold in lots of	Unit reference	Weight
							kg
	Direct (2)	For incandescent bulb (not included) (2) BA 9s base fitting	≤ 250	White	10	XB7 EV61P (1)	0.018
				Green	10	XB7 EV63P (1)	0.018
				Red	10	XB7 EV64P (1)	0.018
				Yellow	10	XB7 EV65P (1)	0.018
				Blue	10	XB7 EV66P (1)	0.018
				Clear	10	XB7 EV67P (1)	0.018
				Orange	10	XB7 EV68P (1)	0.018
				White	10	XB7 EV41P (1)	0.020
				Green	10	XB7 EV43P (1)	0.020
				Red	10	XB7 EV44P (1)	0.020
	Yellow	10	XB7 EV45P (1)	0.020			
	Blue	10	XB7 EV46P (1)	0.020			
	Clear	10	XB7 EV47P (1)	0.020			
	Direct through resistor	For incandescent bulb 130 V - 2.6 W (included) BA 9s base fitting	~ 230 50/60 Hz	White	10	XB7 EV71P (1)	0.020
				Green	10	XB7 EV73P (1)	0.020
				Red	10	XB7 EV74P (1)	0.020
				Yellow	10	XB7 EV75P (1)	0.020
				Blue	10	XB7 EV76P (1)	0.020
				Clear	10	XB7 EV77P (1)	0.020
				Orange	10	XB7 EV78P (1)	0.020
White				10	XB7 EV710P	0.020	
Green				10	XB7 EV730P	0.020	
Red				10	XB7 EV740P	0.020	
Yellow	10	XB7 EV750P	0.020				
Blue	10	XB7 EV760P	0.020				
Clear	10	XB7 EV770P	0.020				
Via integral transformer	With incandescent bulb (6V - 1.2 W) (included) BA 9s base fitting	~ 120 50/60 Hz	White	10	XB7 EV821P	0.020	
			Green	10	XB7 EV823P	0.020	
			Red	10	XB7 EV824P	0.020	
			Yellow	10	XB7 EV825P	0.020	
			Blue	10	XB7 EV826P	0.020	
			Clear	10	XB7 EV827P	0.020	
			White	10	XB7 EV81P	0.020	
		~ 230 50/60 Hz	Green	10	XB7 EV83P	0.020	
		Red	10	XB7 EV84P	0.020		
		Yellow	10	XB7 EV85P	0.020		
		Blue	10	XB7 EV86P	0.020		
		Clear	10	XB7 EV87P	0.020		

Illuminated pushbuttons with BA 9s base fitting

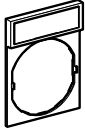
Type of push Shape of head	Supply	Supply voltage V	Type of contact		Colour of lens	Sold in lots of	Unit reference	Weight
			N/O	N/C				kg
Illuminated pushbuttons, spring return								
	Direct supply for BA 9s neon bulb (included)	~ 230	1	-	Green	10	XB7 EW3341P	0.022
					Red	10	XB7 EW3441P	0.022
					Yellow	10	XB7 EW3541P	0.022
	Direct supply for BA 9s incandescent bulb (not included) (2)	≤ 250	1	-	Green	10	XB7 EW3361P	0.020
					Red	10	XB7 EW3461P	0.020
					Yellow	10	XB7 EW3561P	0.020
Illuminated pushbuttons, push-push								
	Direct supply for BA 9s neon bulb (included)	~ 230	1	-	Green	10	XB7 EH0341P	0.022
					Red	10	XB7 EH0441P	0.022
					Yellow	10	XB7 EH0541P	0.022
	Direct supply for BA 9s incandescent bulb (not included) (2)	≤ 250	1	-	Green	10	XB7 EH0361P	0.020
					Red	10	XB7 EH0461P	0.020
					Yellow	10	XB7 EH0561P	0.020

(1) For version with Faston connectors (1 x 6.35 mm and 2 x 2.8 mm), add suffix "3" to the above references.

Example: **XB7 EV61P3**.

(2) Bulb rating for direct supply pilot lights: 250 V max; 2.6 W max.

1



ZBY 2101

30 x 40 mm legend holder with legend (black or red background)**With blank legend**

Text	Sold in lots of	Unit reference	Weight kg
Without	10	ZBY 2101	0.001

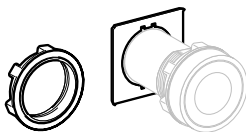
With marked legend (sold singly)

- Start functions: white letters on black background.
- Stop functions: white letters on red background.

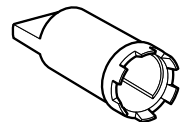
Text	Reference	Weight kg	Text	Reference	Weight kg
Auto	ZBY 2115	0.001	Reset	ZBY 2323	0.001
Down	ZBY 2308	0.001	Reverse	ZBY 2306	0.001
Forward	ZBY 2305	0.001	Right	ZBY 2309	0.001
Hand	ZBY 2316	0.001	Start	ZBY 2303	0.001
Inch	ZBY 2321	0.001	Stop	ZBY 2304	0.001
Left	ZBY 2310	0.001	Up	ZBY 2307	0.001
Off	ZBY 2312	0.001	O	ZBY 2146	0.001
On	ZBY 2311	0.001	I	ZBY 2147	0.001
Power on	ZBY 2326	0.001	O-I	ZBY 2178	0.001

Accessories

Text	Colour	Sold in lots of	Unit reference	Weight kg
Anti-rotation plate	–	10	ZB5 AZ902	0.008
Fixing nut	–	10	ZB5 AZ901	0.002
Bezel tightening tool	–	1	ZB5 AZ905	0.016
Grooved lens caps for BA 9s pilot lights	White	10	ZB7 EV01	0.002
	Green	10	ZB7 EV03	0.002
	Red	10	ZB7 EV04	0.002
	Yellow	10	ZB7 EV05	0.002
	Blue	10	ZB7 EV06	0.002
	Clear	10	ZB7 EV07	0.002
	Orange	10	ZB7 EV08	0.002



ZB5 AZ901 ZB5 AZ902



ZB5 AZ905

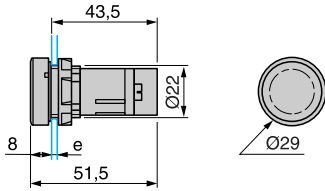
Bulbs

Description	Voltage V	Power W	Colour	Sold in lots of	Unit reference	Weight kg
Incandescent bulbs, standard BA 9s base fitting Ø 11 mm max length 28 mm max.	6	1.2	–	100	DL1 CB006NSP	0.002
	24	2.0	–	100	DL1 CE024NSP	0.002
	130	2.4	–	100	DL1 CE130NSP	0.002
Incandescent bulbs, long life BA 9s base fitting Ø 11 mm max length 28 mm max.	6	1.2	–	10	DL1 CB006	0.002
	24	2.0	–	10	DL1 CE024	0.002
	130	2.4	–	10	DL1 CE130	0.002
Neon bulbs BA 9s base fitting Ø 11 mm max length 28 mm max.	220...240	–	Green	10	DL1 CS3220	0.002
				100	DL1 CS3220SP	0.002
	Blue	10	DL1 CS6220	0.002		
		100	DL1 CS6220SP	0.002		
	Orange (1)	10	DL1 CS7220	0.002		
		100	DL1 CS7220SP	0.002		

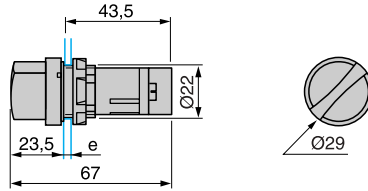
(1) For use with red, yellow or clear pilot light.

Dimensions

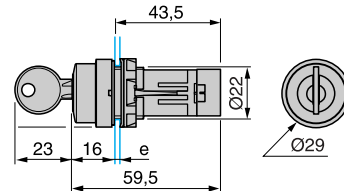
XB7 EA●●P, XB7 EH●●P



XB7 ED●●P

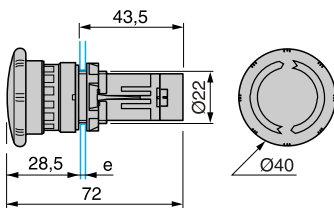


XB7 EG●●P

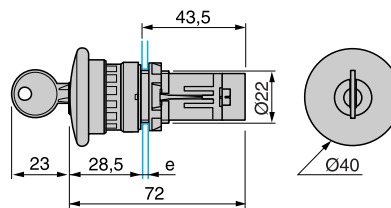


e: panel thickness = 1 to 6 mm

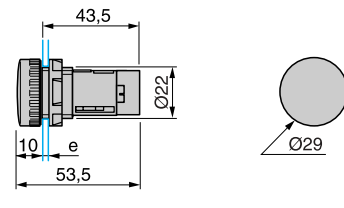
XB7 ES5●●P



XB7 ES1●●P

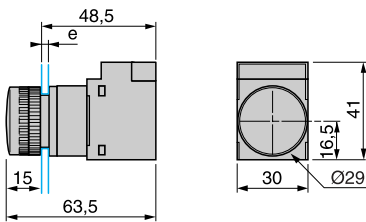


XB7 EV●●P

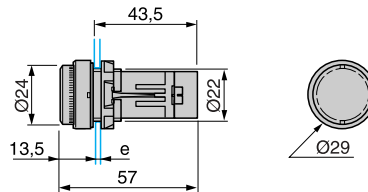


e: panel thickness = 1 to 6 mm

XB7 EV8●P

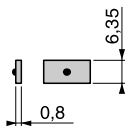


XB7 EW3●●P, XB7 EH0●●P

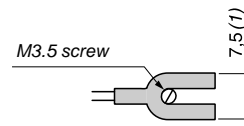


e: panel thickness = 1 to 6 mm

Faston connector



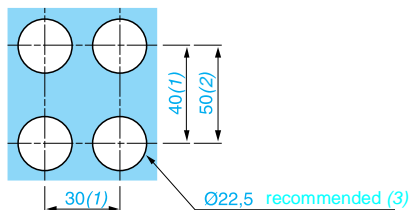
Forked "U" tag connection



(1) Maximum value.

Mounting

Diameter of finished fixing holes



- (1) Minimum value.
- (2) For XB7 EV8 ●P.
- (3) Standard value: Ø 22.3 (0; + 0.4).

1

General

The **XA2 VA** digital display unit comprises 2 parts:

- the head, fitted into a Ø 22.3 mm hole on the support panel and held in position by a locking ring,
- the body, which clips onto the rear of the head.

The head contains the 7 segment LED display (height 14 mm) + decimal point, and the body contains all the electronic decoding and supply circuitry.

Connection is made to screw connectors.

Grouping of 2 displays is possible, using the double legend plate holder.

Type	7 segment LED + decimal point (height: 14 mm)
Mounting	Panel mounting in Ø 22.3 mm hole Grouping facility (2 display units): - mechanically: by double legend plate holder (associated reading) or - electrically: connecting in parallel (multiplexing for version with memory)

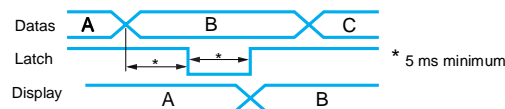
Environment

Ambient air temperature	For operation: - 25...+ 70 °C For storage: - 40...+ 85 °C
Vibration resistance	10 gn (10...500 Hz) conforming to IEC 68-2-6
Shock resistance	180 gn, duration 11 ms, conforming to IEC 68-2-27
Electric shock protection	Class II, conforming to IEC 536 and NF C 20-030
Degree of protection	IP 65 conforming to IEC 529 and NF C 20-010

Electrical characteristics

Product certifications	UL (Listed) - CSA
Supply voltage	24 V ~ (consumption: 40 mA max.)
Voltage limits	13 V (70 mA) to 30 V (36 mA max.)
Protection	Against reverse polarity
Logic inputs	State 0: - 30 V (0 mA) to + 5 V (1.4 mA) State 1: + 13 V (4 mA) to + 30 V (9.5 mA) These inputs must be connected to PLC solid-state PNP type outputs, positive logic
Connection	Screw connectors Clamping capacity: 0.5 x 2.5 mm ² .

Change of value displayed



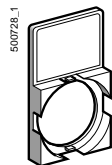
References



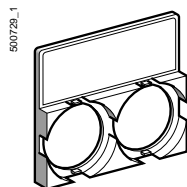
ZA2 VA1●



ZA2 VA0●



ZA2 BZ35●●

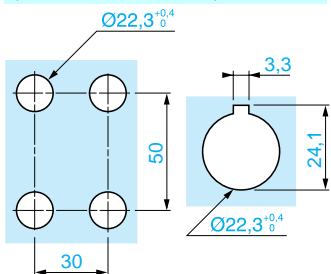


ZA2 VZ31●●

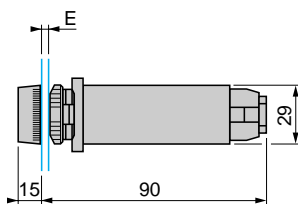
Description		Reference	Weight kg
Body	Decimal + BCD	ZA2 VA11	0.060
	BCD + Latch	ZA2 VA12	0.060
Head	Green	ZA2 VA03	0.020
	Red	ZA2 VA04	0.020
	Yellow	ZA2 VA05	0.020
Single legend plate holder with blank legend plate	Black or red background legend plate	ZA2 BZ35101	0.001
	White or yellow background legend plate	ZA2 BZ35102	0.001
Double legend plate holder with blank legend plate	Black or red background legend plate	ZA2 VZ3101	0.005
	White or yellow background legend plate	ZA2 VZ3102	0.005
Tightening tool	For head locking ring	ZA2 BZ905	0.060

Dimensions

Panel cut-out
(CENELEC EN 50007)

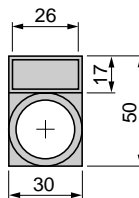


Digital display unit
ZA2 VA1● + ZA2 VA0●

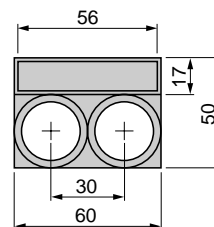


E = panel thickness, 1 to 5 mm

Legend plate holder
ZA2 BZ3510●

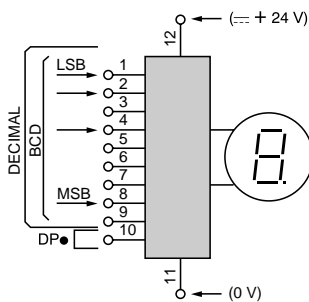


ZA2 VZ310●



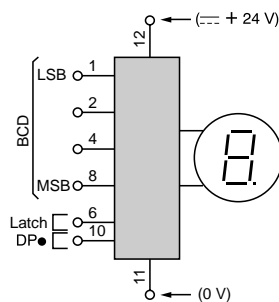
Connections and input tables

Decimal + BCD



DP = decimal point

BCD + Latch



Latch = memory

Decimal

1	2	3	4	5	6	7	8	9	Display
0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	1
0	1	0	0	0	0	0	0	0	2
0	0	1	0	0	0	0	0	0	3
0	0	0	1	0	0	0	0	0	4
0	0	0	0	1	0	0	0	0	5
0	0	0	0	0	1	0	0	0	6
0	0	0	0	0	0	1	0	0	7
0	0	0	0	0	0	0	1	0	8
0	0	0	0	0	0	0	0	1	9

BCD

8	4	2	1	Display	8	4	2	1	Display
0	0	0	0	0	1	0	0	1	9
0	0	0	1	1	1	0	1	0	A
0	0	1	0	2	1	0	1	1	B
0	0	1	1	3	1	1	0	0	C
0	1	0	0	4	1	1	0	1	D
0	1	0	1	5	1	1	1	0	E
0	1	1	0	6	1	1	1	1	F
0	1	1	1	7					
1	0	0	0	8					

BCD = binary coded decimal

1

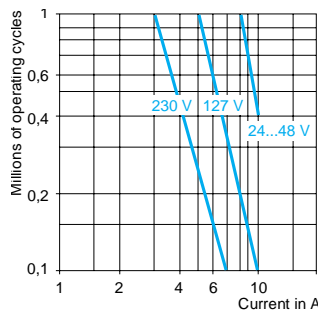
Environment	
Conformity to standards	IEC 947-5-1, EN 60 947-5-1, IEC 337-1, VDE 0660-200
Product certifications	Standard version: CSA A600-Q600, LRO
Protective treatment	Standard version: "TC"
Ambient air temperature	Operation: - 25...+ 70 °C. Storage: - 40...+ 70 °C
Operating position	All positions
Vibration resistance	5 gn (40 Hz < frequency < 500 Hz) conforming to IEC 68-2-6
Shock resistance	20 gn conforming to IEC 68-2-27
Electric shock protection	Class I, conforming to IEC 536 and NF C 20-030
Degree of protection	IP 66 conforming to IEC 529 and NF C 20-010
Mechanical life	1 million operating cycles

Contact block characteristics	
Rated operational characteristics	~ AC-15; A300 or $U_e = 240$ V and $I_e = 3$ A ≡ DC13; Q300 or $U_e = 250$ V and $I_e = 0.27$ A conforming to IEC 947-5-1 Appendix A
Rated insulation voltage	U_i : 500 V conforming to IEC 947-1; degree of pollution 3; 600 V conforming to UL 508 and CSA C 22-2 n° 14
Rated impulse withstand voltage	$U_{imp} = 6$ kV conforming to IEC 947-1
Contact operation	Slow break N/O
Short-circuit protection	10 A cartridge fuse type gG (gl) or N conforming to IEC 947-5-1, VDE 0660-200
Terminal referencing	Conforming to CENELEC EN 50013
Rated operational power	Conforming to IEC 947-5-1 Appendix C. Utilisation categories AC-15 and DC-13. Operating rate: 3600 operating cycles/hour. Load factor: 0.5

1.6

a.c. supply ~ 50-60 Hz
 ~ Inductive circuit

d.c. supply ≡
 Power broken in W
 for 1 million operating cycles



Voltage V	24	48	120
~ W	65	48	40

Electrical reliability	Failure rate < 1 fault for 100 million operating cycles (programmable controller inputs, ≡ 24 V)
Connection	- Screw and captive cable clamp terminals. Clamping capacity: min. 1 x 0.5 mm ² , max., with or without cable end: 2 x 1.5 mm ² - 6.3 mm Faston connectors (on request)

94172



XD2 GA8211

Complete units type XD2 G, with chromium plated metal bezel

Interchangeable contacts

Description	Operation	Spring return to zero position	Bezel finish	Reference	Weight kg	
2 direction Fixing centres 90 x 90 mm	1 notch 1 N/O contact per direction	Without	Shiny	XD2 GA8211	0.300	
			Black	XD2 GA82117	0.300	
	<div style="text-align: center;"> (A) ← ○ → (B) </div>	With	With	Shiny	XD2 GA8221	0.300
				Black	XD2 GA82217	0.300
		2 notches 2 N/O contacts per direction	Without	Shiny	XD2 GA8231	0.500
				Black	XD2 GA82317	0.500
With	With	Shiny	XD2 GA8241	0.500		
		Black	XD2 GA82417	0.500		
1 st notch stay put 2 nd notch with spring return to 1 st notch			Shiny	XD2 GA8251	0.500	
			Black	XD2 GA82517	0.500	
4 direction Fixing centres 90 x 90 mm	1 notch 1 N/O contact per direction	Without	Shiny	XD2 GA8411	0.330	
			Black	XD2 GA84117	0.330	
	<div style="text-align: center;"> (A) ← ○ → (B) ↑ (D) ↓ (C) </div>	With	With	Shiny	XD2 GA8421	0.330
				Black	XD2 GA84217	0.330
		2 notches 2 N/O contacts per direction	Without	Shiny	XD2 GA8431	0.550
				Black	XD2 GA84317	0.550
With	With	Shiny	XD2 GA8441	0.550		
		Black	XD2 GA84417	0.550		
1 st notch stay put 2 nd notch with spring return to 1 st notch			Shiny	XD2 GA8451	0.550	
			Black	XD2 GA84517	0.550	

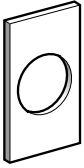
94173



XD2 GA8441

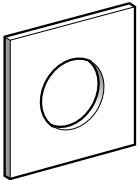
1

500846_1



ZD2 GY5201

500847_1



ZD2 GY6201

1.6

94174



ZB2 BE101

Legend plates

Description	Text	Colour	Reference	Weight kg
2 direction 40 x 64 mm	Without	Black one side, red reverse	ZD2 GY5201	0.002
		White one side, yellow reverse	ZD2 GY5401	0.002
	With (1) (specify when ordering)	Black background, white letters	ZD2 GY5002	0.002
		Red background, white letters	ZD2 GY5004	0.002
		White background, black letters	ZD2 GY5001	0.002
		Yellow background, black letters	ZD2 GY5005	0.002
4 direction 64 x 64 mm	Without	Black one side, red reverse	ZD2 GY6201	0.003
		White one side, yellow reverse	ZD2 GY6401	0.003
	With (1) (specify when ordering)	Black background, white letters	ZD2 GY6002	0.003
		Red background, white letters	ZD2 GY6004	0.003
		White background, black letters	ZD2 GY6001	0.003
		Yellow background, black letters	ZD2 GY6005	0.003

Contact blocks

Description	Contact	Reference	Weight kg
Slow break Additional or replacement	N/O	ZB2 BE101	0.015

(1) 2 lines of 11 characters maximum per direction.

Other versions

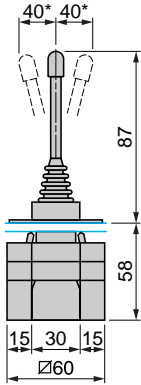
XD2 G joystick controllers with:

- variable composition; 2, 3, 4 or 8 direction,
- contact blocks with Faston connectors conforming to NF C 20-120,
- gold flashed contacts for low power switching.

Please consult your Regional Sales Office.

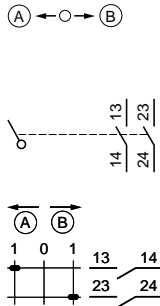
XD2 GA●●

1 notch
1 N/O contact per direction

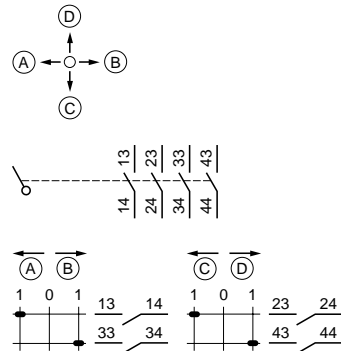


* in each of the 4 directions

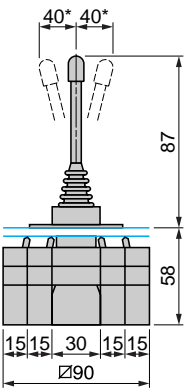
XD2 GA8211, GA8217
XD2 GA8221, GA82217



XD2 GA8411, GA8417
XD2 GA8421, GA84217

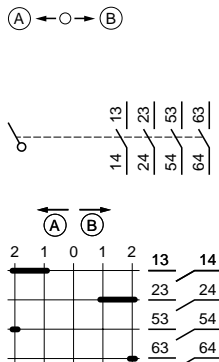


2 notches
2 N/O contacts per direction

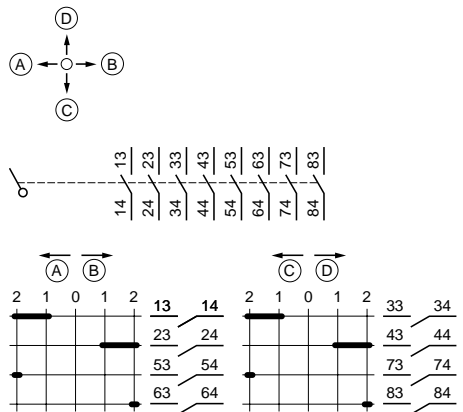


* in each of the 4 directions

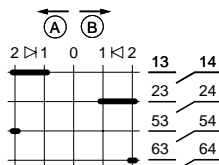
XD2 GA8231, GA82317
XD2 GA8241, GA82417



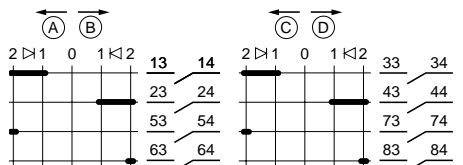
XD2 GA8431, GA84317
XD2 GA8441, GA84417



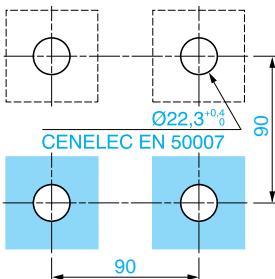
XD2 GA8251, GA82517



XD2 GA8451, GA84517



Panel cut-out
(thickness 1 to 6 mm)
XD2 GA (2 and 4 direction)



Control and signalling units Ø 30

Harmony® style 9

Pushbuttons, switches and pilot lights,

with chromium plated metal bezel

Complete units 9001 K

1

Complete units

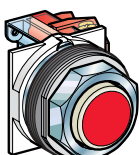
Contact functions

Pushbuttons, spring return



Flush push

9001 KR1●●● See page 1/192



Projecting push

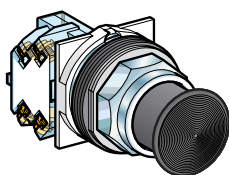
9001 KR3●●● See page 1/192



Recessed push (high guard)

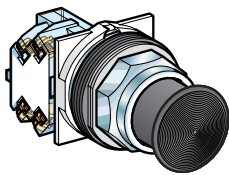
9001 KR2●●● See page 1/192

Mushroom head pushbuttons



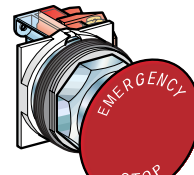
Spring return Ø 35 or Ø 57

9001 KR2●●H13 See page 1/192



Latching Ø 41

9001 KR●●● See page 1/192

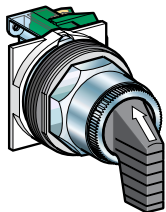


Emergency stop, spring return Ø 57

9001 KR5R05H6 See page 1/192

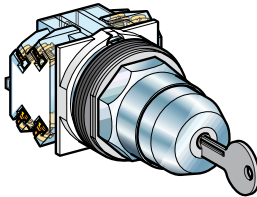
Selector switches, key switches and joystick controllers

1.7



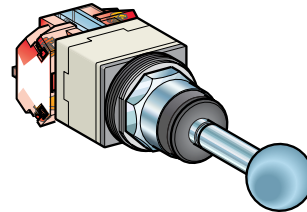
Selector switches, long black handle

9001 KS●●FBH●● See page 1/193



Key switches

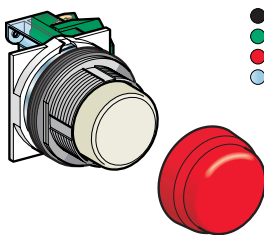
9001 KS●●K●H●● See page 1/193



Joystick controllers

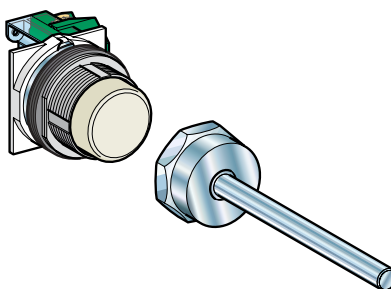
9001 K●●H● See page 1/199

Booted pushbuttons and wobblestick (with accessories)



Booted pushbuttons

9001 KR●●● + 9001 KU● See pages 1/192 and 1/206

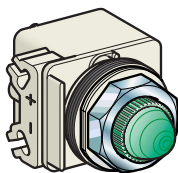


Wobblestick

9001 KR●●● + 9001 K8 See pages 1/192 and 1/206

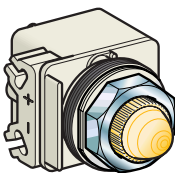
Light functions

Pilot lights



BA 9s base mounted super bright LED

9001 KP●●● See page 1/194



BA 9s incandescent bulb

9001 KP●●● See page 1/194

Characteristics:
pages 1/190 and 1/191

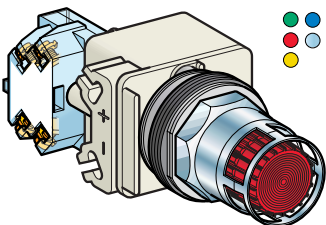
References:
pages 1/192 to 1/199

Dimensions:
pages 1/210 to 1/215

Complete units

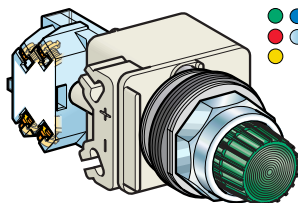
Combined contact and light functions

Illuminated pushbuttons, spring return



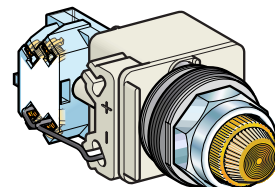
Flush push, super bright LED

9001 K●L●●● See page 1/195



Projecting push

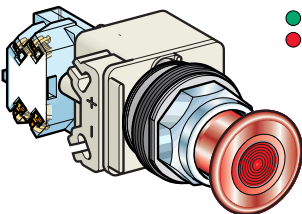
9001 K2L●●● See page 1/196



"Push to test", projecting push,
super bright LED

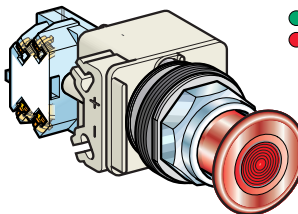
9001 KT●●●31 See page 1/197

Ø 41 mushroom head illuminated pushbuttons, super bright LED



2-position, push-pull

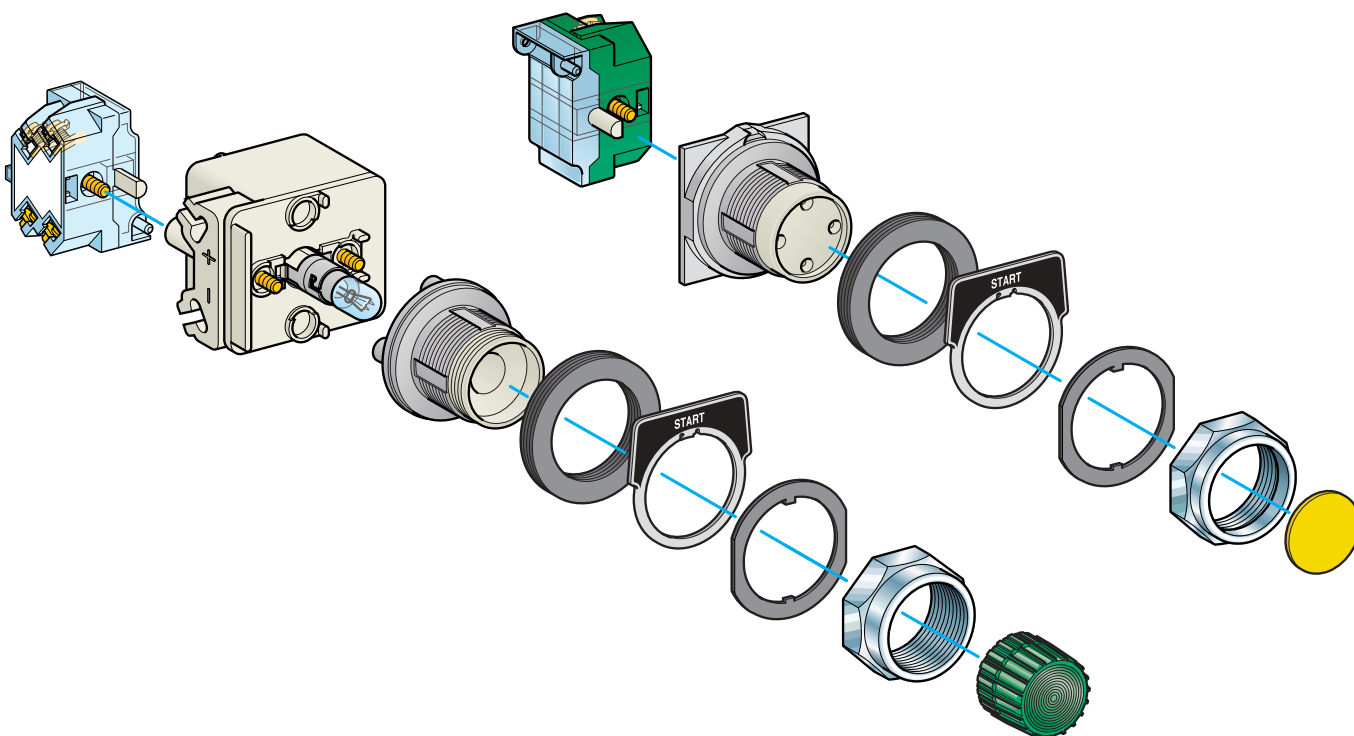
9001 KR9P●●● See page 1/197



3-position, push-pull

9001 KR8P●●● See page 1/197

Separate components and accessories



Control and signalling units Ø 30

Harmony® style 9

Pushbuttons, switches and pilot lights with double insulated bezel

Complete units 9001 SK

1

Complete units

Contact functions

Pushbuttons, spring return



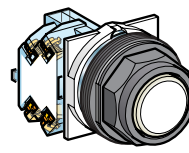
Flush push

9001 SKR1●●● See page 1/200



Projecting push

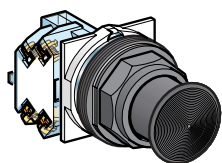
9001 SKR3●●● See page 1/200



Recessed push (high guard)

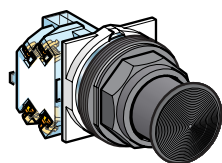
9001 SKR2●●● See page 1/200

Mushroom head pushbuttons



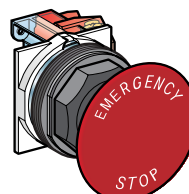
Spring return Ø 35 or Ø 57

9001 SKR2●●H13 See page 1/200



Latching Ø 41

9001 SKR●●● See page 1/200

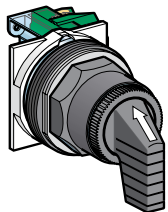


Emergency stop, spring return Ø 57

9001 SKR5R05H6 See page 1/200

Selector switches

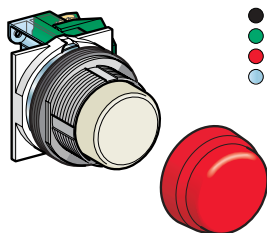
1.7



Selector switches, long black handle

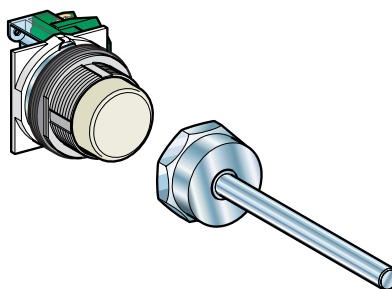
9001 SKS●●FBH●● See page 1/202

Booted pushbuttons and wobblestick (with accessories)



Booted pushbuttons

9001 SKR●●● + 9001 KU● See pages 1/200 and 1/206

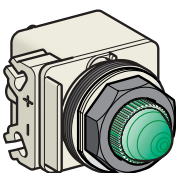


Wobblestick

9001 SKR●●● + 9001 K8 See pages 1/200 and 1/206

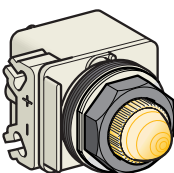
Light functions

Pilot lights



BA 9s base mounted super bright LED

9001 SKP●●● See page 1/201



BA 9s incandescent bulb

9001 SKP●●● See page 1/201

Characteristics:
pages 1/190 and 1/191

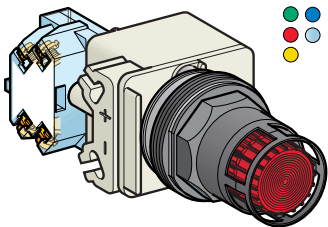
References:
pages 1/200 to 1/205

Dimensions:
pages 1/210 to 1/215

Complete units

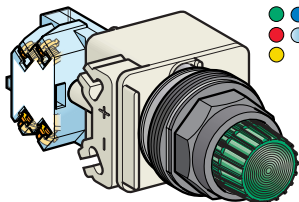
Combined contact and light functions

Illuminated pushbuttons, spring return



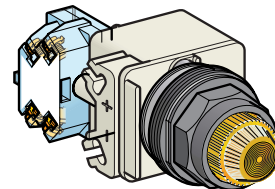
Flush push

9001 SK1L●●● See page 1/202



Projecting push

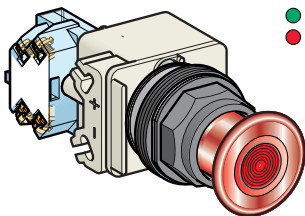
9001 SK2L●●● See page 1/203



"Push to test", projecting push

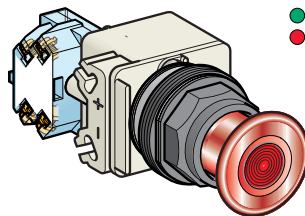
9001 SKT●●●31 See page 1/204

Ø 41 mushroom head illuminated pushbuttons



2-position, push-pull

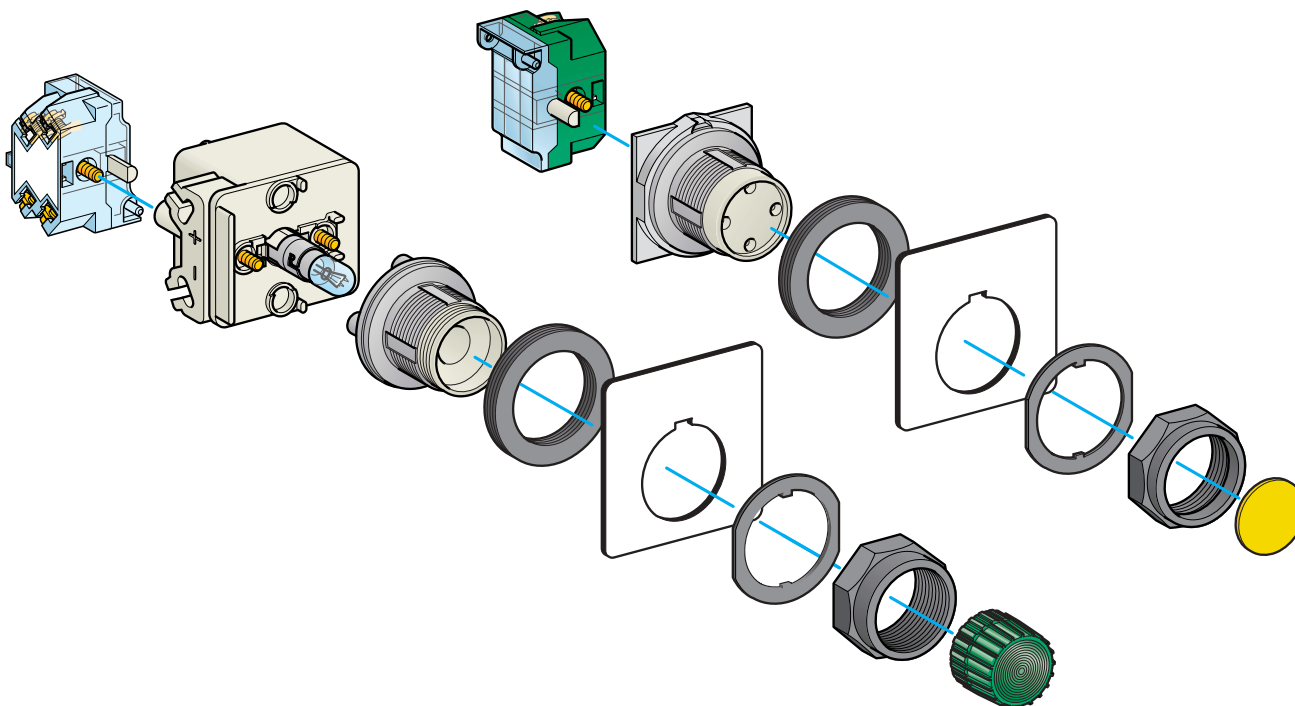
9001 SKR9P●●● See page 1/205



3-position, push-pull

9001 SKR8P●●● See page 1/205

Separate components and accessories



1

Environment

Conforming to standards		IEC 947-1, IEC 947-5-1, IEC 947-5-4, EN 60947-5-1, JIS C 4520 and 852, UL 508, CSA C22-2 n° 14
Product certifications		UL508, NEMA A600-Q600
Protective treatment standard version		"TC"
Ambient air temperature around the device	Storage	°C - 40...+ 70
	Operation	°C - 25...+ 70
Vibration resistance	Conforming to IEC 68-2-6	Frequency: 2 to 500 Hz: 7gn Ford Standard EA-1
Shock resistance	Conforming to IEC 68-2-27	Half sine wave: 50 gn
Electric shock protection	Conforming to IEC 536	Class II
Degree of protection for the chromium metal bezel range	Conforming to IEC 529 & NF C 20-010	IP 66
	Conforming to NEMA	Types 1, 2, 3, 3R, 4, 6, 12 and 13
Degree of protection for the double insulated bezel range	Conforming to IEC 529 & NF C 20-010	IP 66
	Conforming to NEMA	Types 1, 2, 3, 3R, 4, 4X, 12 and 13
Mechanical life (in millions of operating cycles)	Pushbuttons, spring return	5
	Illuminated pushbuttons	5
	Selector switches and key switches	0.5
Mounting position		All positions

1.7

Electrical characteristics of contact blocks

Rated operational characteristics	~ AC-15		3 A, 240 V			
	≡ DC-13		0.55 A, 125 V			
Rated insulation voltage	Conforming to IEC 947-1	V	Ui = 250 degree of pollution 3 (except pilot lights with incandescent bulb: degree of pollution 2)			
Rated impulse withstand voltage	Conforming to IEC 947-1	kV	Uimp = 2.5			
Contact material	Normal environment and usage		Silver alloy			
Contact operation	"N/C" ou "N/O"		Slow break			
Positive operation	Conforming to IEC 947-5-2	N	N/C contact(s) with positive opening operation			
Short-circuit protection	Conforming to IEC 947-5-1	A	Cartridge fuse mounted upstream: 10			
Cabling capacity	Conforming to IEC 947-1	mm ² mm ²	Screw clamp terminals (cross headed/slotted screw) Mini: 1 x 0.22 Maxi: 2 x 1.5 Recommended tightening torque: 0.8 N.m			
Thermal current	Ith	A	10			
Maximum operation current	a.c. supply: utilisation category AC-15	V A VA	Contact making capacity			
			120 60 7200	240 30 7200	480 15 7200	600 12 7200
	d.c. supply: utilisation category DC-13	V A	Breaking capacity			
120 6 720			240 3 720	480 1.5 720	600 1.2 720	
			Contact making capacity and breaking capacity			
		V A	125 0.55	250 0.27	600 0.1	

Control and signalling units Ø 30

Harmony® style 9







Pushbuttons, switches and pilot lights

with chromium plated metal bezel

Complete units 9001 K, with screw clamp terminals

1

Pushbuttons, spring return

Shape of head	Type of push	Type of contact			Colour	Reference	Weight kg
		 "N/O"	 "N/C"	 "C/O"			
	Flush	1	–	–	Black	9001 KR1BH5	0.121
		–	–	–	Green	9001 KR1GH5	0.121
		–	–	1	Black	9001 KR1BH13	0.121
		–	–	1	Green	9001 KR1GH13	0.121
		–	–	1	Red	9001 KR1RH13	0.121
		1	–	–	Multi-colour	9001 KR1UH13 (1)	0.121
	Projecting	–	1	–	Red	9001 KR3RH6	0.128
		–	–	1	Multi-colour	9001 KR3UH13 (1)	0.128
		1	–	–	Multi-colour	9001 KR3UH5 (1)	0.128
	Projecting (high guard)	1	–	–	Green	9001 KR2GH5	0.136
		–	–	1	Multi-colour	9001 KR2UH13 (1)	0.136
		1	–	–	Multi-colour	9001 KR2UH5 (1)	0.136



9001 KR1BH5




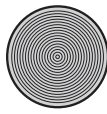


9001 KR3RH6



9001 KR2UH13

Mushroom head pushbuttons

Shape of head	Type of push	Diameter mm	Type of contact			Colour	Reference	Weight kg
			 "N/O"	 "N/C"	 "C/O"			
	Spring return	Ø 35	–	–	1	Black	9001 KR24BH13	0.126
			–	–	1	Red	9001 KR24RH13	0.126
		Ø 35 Snap in Knob	–	1	–	Red	9001 KR4RH6	0.154
			–	–	1	Black	9001 KR25BH13	0.132
		Ø 57	–	–	1	Red	9001 KR25RH13	0.132
			–	1	–	Red	9001 KR5RH6	0.154








9001 KR24BH13



9001 KR25BH13

Emergency stop mushroom head pushbuttons

Shape of head	Type of push	Diameter mm	Type of contact			Colour	Reference	Weight kg
			 "N/C" l. break	 "N/C"	 "C/O"			
	3 positions: Mom.-push: maint.-neutral: Mom.-pull	Ø 41	–	2	–	Black	9001 KR8BH25	0.195
			–	–	1	Red	9001 KR8RH25	0.195
		Ø 41	–	–	1	Black	9001 KR9BH13	0.141
			–	–	1	Red	9001 KR9RH13	0.141
			–	–	1	Red	9001 KR9R94H13	0.141
			–	1	–	Red	9001 KR9RH6	0.141
Push-pull	Ø 35	–	1	–	Red	9001 KR9R20H6	0.141	
	Ø 57	–	1	–	Red	9001 KR9R21H6	0.141	
	Spring return	Ø 35 (2)	–	1	–	Red	9001 KR4R05H6	0.154
		Ø 57 (2)	–	1	–	Red	9001 KR5R05H6	0.154
	Late break	Ø 41 (2)	2	–	–	Red	9001 KR8R05H25	0.154

(1) Supplied with 7 different coloured caps: black, green, red, yellow, blue, white and orange, ready for clipping-in.
 (2) Marked "EMERGENCY STOP".

Control and signalling units Ø 30

Harmony® style 9



Pushbuttons, switches and pilot lights

with chromium plated metal bezel

Complete units 9001 K, with screw clamp terminals

1

Selector switches and key switches (contact actuation sequence, see page 1/211)

Shape of head	Mount on side	Contact block (order separately)	Contact status 1 - closed 0 - open	Number and type of positions	Reference	Weight kg	
 Long handle, black	1 or 2	9001KA2			2 stay put	9001 KS11FB	0.172
	1 or 2	9001KA2			2 spring return from right to left	9001 KS34FB	0.172
	1	9001KA1			3 stay put	9001 KS43FB	0.172
	1 or 2	9001KA1			3 stay put	9001 KS46FB	0.172
	1 or 2	9001KA1			3 spring return from left to center	9001 KS63FB	0.172
	1 or 2	9001KA1			3 spring return to center	9001 KS53FB	0.172
	Side 2	9001KA1			4 stay put	9001 KS88FB	0.172
Side 1	9001KA1						
 Key (Ronis n° 455)	1 or 2	9001KA2			2 stay put	9001 KS11K1R	0.207
	1 or 2	9001KA1			2 stay put	9001 KS11K1R	0.207
	1 or 2	9001KA1			2 stay put	9001 KS11K3R	0.207
	1 or 2	9001KA1			3 stay put	9001 KS43K5R	0.234
	1 or 2	9001KA1			3 spring return to center	9001 KS53K5R	0.234

1.7



9001 KS43FB



9001 KS11K1R



Key (E10)

For E 10 key, remove R from reference.

Ex: 9001 KS11K1R: Ronis key
9001 KS11K1: E10 key

Nota : Other contact configurations are available. Please consult your Regional Sales Office.

Control and signalling units Ø 30

Harmony® style 9

Pushbuttons, switches and pilot lights
with chromium plated metal bezel


Complete units 9001 K, with screw clamp terminals

1



9001 KP35LGG9

Pilot lights with BA 9s base mounted (super bright LED, included)

Shape of head	Supply voltage V	Colour	Reference	Weight kg
	≈ 24	Green	9001 KP35LGG9	0.134
		Red	9001 KP35LRR9	0.134
		Amber	9001 KP35LYA9	0.134
		Blue	9001 KP35LLL9	0.134
		White	9001 KP35LWW9	0.134
	≈ 48	Green	9001 KP36LGG9	0.134
		Red	9001 KP36LRR9	0.134
		Amber	9001 KP36LYA9	0.134
		Blue	9001 KP36LLL9	0.134
		White	9001 KP36LWW9	0.134
	≈ 120	Green	9001 KP38LGG9	0.134
		Red	9001 KP38LRR9	0.134
		Amber	9001 KP38LYA9	0.134
		Blue	9001 KP38LLL9	0.134
		White	9001 KP38LWW9	0.134

Pilot lights with BA 9s, incandescent bulb (bulb included)

Shape of head	Supply	Supply voltage V	Colour	Reference	Weight kg
	Direct supply for BA 9s bulb (included)	≈ 12	Green	9001 KP32G9	0.134
			Red	9001 KP32R9	0.134
			Amber	9001 KP32A9	0.134
			Blue	9001 KP32L9	0.134
		≈ 24	Green	9001 KP35G9	0.134
			Red	9001 KP35R9	0.134
			Amber	9001 KP35A9	0.134
			Blue	9001 KP35L9	0.134
		≈ 48	Green	9001 KP36G9	0.134
			Red	9001 KP36R9	0.134
			Amber	9001 KP36A9	0.134
			Blue	9001 KP36L9	0.134
		≈ 120	Green	9001 KP38G9	0.134
			Red	9001 KP38R9	0.134
			Amber	9001 KP38A9	0.134
			Blue	9001 KP38L9	0.134
	Via integral transformer for BA 9s 6 V bulb (included)	≈ 120	Green	9001 KP1G9	0.210
			Red	9001 KP1R9	0.210
			Amber	9001 KP1A9	0.210
			Blue	9001 KP1L9	0.210
		≈ 230	Green	9001 KP7G9	0.210
			Red	9001 KP7R9	0.210
			Amber	9001 KP7A9	0.210
			Blue	9001 KP7L9	0.210
		≈ 380	Green	9001 KP5G9	0.210
			Red	9001 KP5R9	0.210
			Amber	9001 KP5A9	0.210
			Blue	9001 KP5L9	0.210
		≈ 600	Green	9001 KP6G9	0.210
			Red	9001 KP6R9	0.210
			Amber	9001 KP6A9	0.210
			Blue	9001 KP6L9	0.210



9001 KP38R9



9001 KP7L9

Control and signalling units Ø 30




Harmony® style 9

Pushbuttons, switches and pilot lights

with chromium plated metal bezel

Complete units 9001 K, with screw clamp terminals

Illuminated pushbuttons, spring return, flush push (super bright LED, included)

Shape of head	Description supply	Type of contact	Supply voltage V	Colour	Reference	Weight kg
		 "C/O"				
Extended metallic guard						
	BA 9s base mounted LED (included)	1	≈ 24	Red	9001 K3L35LRRH13	0.175
				Green	9001 K3L35LGGH13	0.175
				Amber	9001 K3L35LYAH13	0.175
			≈ 48	Red	9001 K3L36LRRH13	0.175
				Green	9001 K3L36LGGH13	0.175
				Amber	9001 K3L36LYAH13	0.175
			≈ 120	Red	9001 K3L38LRRH13	0.175
				Green	9001 K3L38LGGH13	0.175
				Amber	9001 K3L38LYAH13	0.175
	Direct supply for BA 9s incandescent bulb (included)	1	≈ 24	Red	9001 K3L35RH13	0.175
				Green	9001 K3L35GH13	0.175
				Amber	9001 K3L35AH13	0.175
		1	≈ 48	Red	9001 K3L36RH13	0.175
				Green	9001 K3L36GH13	0.175
				Amber	9001 K3L36AH13	0.175
1		≈ 120	Red	9001 K3L38RH13	0.175	
			Green	9001 K3L38GH13	0.175	
			Blue	9001 K3L38LH13	0.175	
	Amber		9001 K3L38AH13	0.175		
	White		9001 K3L38WH13	0.175		
	Clear		9001 K3L38CH13	0.175		
Via integral transformer for BA 9s 6 V incandescent bulb (included)	1	~ 120	Red	9001 K3L1RH13	0.250	
			Green	9001 K3L1GH13	0.250	
			Amber	9001 K3L1AH13	0.250	
	≈ 230	Red	9001 K3L7RH13	0.250		
		Green	9001 K3L7GH13	0.250		
		Amber	9001 K3L7AH13	0.250		
Full guard in plastic						
	BA 9s base mounted (included)	1	≈ 24	Red	9001 K1L35LRRH13	0.166
				Green	9001 K1L35LGGH13	0.166
				Amber	9001 K1L35LYAH13	0.166
	1	≈ 48	Red	9001 K1L36LRRH13	0.166	
			Green	9001 K1L36LGGH13	0.166	
			Amber	9001 K1L36LYAH13	0.166	
	1	≈ 120	Red	9001 K1L38LRRH13	0.166	
			Green	9001 K1L38LGGH13	0.166	
			Amber	9001 K1L38LYAH13	0.166	



9001 K1L35LGGH13

Control and signalling units Ø 30





Harmony® style 9

Pushbuttons, switches and pilot lights
with chromium plated metal bezel

Complete units 9001 K, with screw clamp terminals




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Illuminated pushbuttons, spring return, projecting push

Shape of head	Type of contact			Supply voltage V	Colour	Reference	Weight kg		
	"N/O" late break	"N/C"	"C/O"						
 9001 K2L●●●H13		BA 9s base mounted LED (included)			≈ 24	Red	9001 K2L35LRRH13	0.166	
		Green	9001 K2L35LGGH13	0.166					
		Amber	9001 K2L35LYAH13	0.166					
		-	-	1	≈ 48	Red	9001 K2L36LRRH13	0.166	
						Green	9001 K2L36LGGH13	0.166	
						Amber	9001 K2L36LYAH13	0.166	
		-	-	1	≈ 120	Red	9001 K2L38LRRH13	0.166	
						Green	9001 K2L38LGGH13	0.166	
						Amber	9001 K2L38LYAH13	0.166	
			Direct supply for BA 9s incandescent bulb (included)			≈ 24	Red	9001 K2L35RH13	0.166
			Green	9001 K2L35GH13	0.166				
			Amber	9001 K2L35AH13	0.166				
Blue	9001 K2L35LH13		0.166						
White	9001 K2L35WH13		0.166						
-	-		1	≈ 48	Red	9001 K2L36RH13	0.166		
					Green	9001 K2L36GH13	0.166		
					Amber	9001 K2L36AH13	0.166		
					Blue	9001 K2L36LH13	0.166		
					White	9001 K2L36WH13	0.166		
-	-		1	≈ 120	Red	9001 K2L38RH13	0.166		
					Green	9001 K2L38GH13	0.166		
					Amber	9001 K2L38AH13	0.166		
					Blue	9001 K2L38LH13	0.166		
					White	9001 K2L38WH13	0.166		
	Via integral transformer for BA 9s incandescent bulb (included)			≈ 230	Red	9001 K2L7RH13	0.140		
	Green	9001 K2L7GH13	0.140						
	Amber	9001 K2L7AH13	0.140						
	Blue	9001 K2L7LH13	0.140						
	White	9001 K2L7WH13	0.140						

1.7


Illuminated mushroom head pushbuttons (super bright LED, included)

Shape of head	Diameter mm	Type of contact	Supply voltage V	Colour	Reference	Weight kg
		 "N/O" l. break	 "N/O"	 "C/O"		



9001 KR9P35LGGH13


2 position stay put pushbuttons. Direct supply for BA 9s incandescent bulb (included)

	Ø 41	Order contacts separately	≈ 24	Green	9001 KR9P35LGG	0.186
				Red	9001 KR9P35LRR	0.186
			≈ 48	Green	9001 KR9P36LGG	0.186
				Red	9001 KR9P36LRR	0.186
			≈ 120	Green	9001 KR9P38LGG	0.186
				Red	9001 KR9P38LRR	







9001 KR8P35LRRH25

3 position pushbuttons (pull: spring return, center: stay put, push: spring return)

	Ø 41	Order contacts separately	≈ 24	Green	9001 KR8P35LGG	0.254
				Red	9001 KR8P35LRR	0.254
			≈ 48	Green	9001 KR8P36LGG	0.254
				Red	9001 KR8P36LRR	0.254
			≈ 120	Green	9001 KR8P38LGG	0.254
				Red	9001 KR8P38LRR	0.254




Mechanically interlocked pushbuttons

Shape of head	Type of push	Type of contact	Colour	Reference	Weight kg	
		 "N/O" l. break				
		 "N/O"				
		 "C/O"				
	Both maintained	-	-	1	Multi-colour 9001 KR11UH1H1 (1)	0.540
	One spring return and one latching	-	-	1	Multi-colour 9001 KR12UH1H1 (1)	0.540




9001 KR11UH13H13

Illuminated "Push to test" pushbuttons, spring return (super bright LED, included)

Shape of head	Type of push	Type of contact	Supply voltage V	Colour	Reference	Weight kg
		 "N/O" l. break				
		 "N/O"				
		 "C/O"				

Direct supply

	Projecting push	1	-	-	≈ 24	Green	9001 KT35LGG31	0.235
						Red	9001 KT35LRR31	0.235
						Amber	9001 KT35LLYA31	0.235
		1	-	-	≈ 48	Green	9001 KT36LGG31	0.235
						Red	9001 KT36LRR31	0.235
						Amber	9001 KT36LYA31	0.235
		1	-	-	≈ 120	Green	9001 KT38LGG31	0.235
						Red	9001 KT38LRR31	0.235
						Amber	9001 KT38LYA31	0.235

(1) Supplied with 7 different coloured caps: black, green, red, yellow, blue, white and orange, ready for clipping-in.

Control and signalling units Ø 30




















Harmony® style 9

Pushbuttons, switches and pilot lights

with chromium plated metal bezel

Complete units 9001 K, with screw clamp terminals

Illuminated selector switches with long handle (super bright LED, included)

Shape of head	Supply	Mount on side	Contact block (1)	Contact status 1 - closed 0 - open	Supply voltage V	Number and type of positions	Colour	Reference	Weight kg
	Supplied with 24 V light module (super bright LED)	1 or 2	9001KA2			~ 24	2 stay put	Green 9001 K11J35LGFG	0.245
								Red 9001 K11J35LRFR	0.245
								Amber 9001 K11J35LYFA	0.245
		1 or 2	9001KA2			~ 24	2 spring return from right to left	Green 9001 K34J35LGFG	0.245
							Red 9001 K34J35LRFR	0.245	
							Amber 9001 K34J35LYFA	0.245	
		1 or 2	9001KA1			~ 24	3 stay put	Green 9001 K43J35LGFG	0.245
							Red 9001 K43J35LRFR	0.245	
							Amber 9001 K43J35LYFA	0.245	
		Side 2	9001KA1			~ 24	3 stay put	Green 9001 K46J35LGFG	0.245
							Red 9001 K46J35LRFR	0.245	
		Side 1	9001KA1					Amber 9001 K46J35LYFA	0.245
		1 or 2	9001KA1			~ 24	3 spring return to center	Green 9001 K53J35LGFG	0.245
							Red 9001 K53J35LRFR	0.245	
							Amber 9001 K53J35LYFA	0.245	
		1 or 2	9001KA1			~ 24	3 spring return from left to center	Green 9001 K63J35LGFG	0.245
							Red 9001 K63J35LRFR	0.245	
							Amber 9001 K63J35LYFA	0.245	
		Side 2	9001KA1			~ 24	4 stay put	Green 9001 K88J35LGFG	0.245
							Red 9001 K88J35LRFR	0.245	
		Side 1	9001KA1					Amber 9001 K88J35LYFA	0.245

(1) Order and install listed contact block for noted contact sequence.
Other contact sequences are available. Please consult your Regional Sales Office.

Control and signalling units Ø 30






Harmony® style 9

Pushbuttons, switches and pilot lights

with chromium plated metal bezel

Complete units 9001 K, with screw clamp terminals

Illuminated mushroom head pushbuttons, push-pull, Ø 41 red





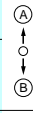
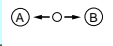

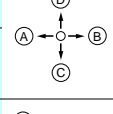

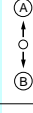

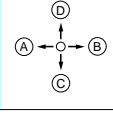
Shape of head	Supply	Type of contact			Supply voltage V	Reference	Weight kg
		 "N/C" l.break	 "N/C"	 "C/O"			
2 position stay put pushbuttons							
	Direct supply for BA 9s incandescent bulb (included)	1	1	–	≈ 24	9001 KR9P35RH25	0.168
					≈ 120	9001 KR9P38RH25	0.168
	Via integral transformer for BA 9s 6 V incandescent bulb (included)	1	1	–	≈ 230	9001 KR9P7RH25	0.245
3 position pushbuttons (pull: spring return, center: stay put, push: spring return)							
	Direct supply for BA 9s incandescent bulb (included)	1	1	–	≈ 24	9001 KR8P35RH25	0.168
					≈ 120	9001 KR8P38RH25	0.168
	Via integral transformer for BA 9s 6 V incandescent bulb (included)	1	1	–	≈ 230	9001 KR8P7RH25	0.245

821125

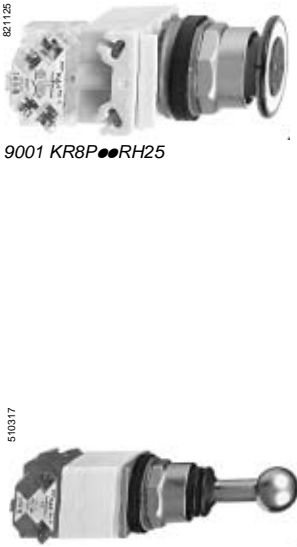


9001 KR8P●●RH25

Joystick controllers (80 mm long operating shaft)

Shape of head	Description	Type of contact			Direction	Reference	Weight kg
		 "N/O"	 "N/C"	 "C/O"			
	3 positions spring return	–	2	–		9001 K31H8	0.372
		Order contacts separately				9001 K31	0.372
	5 positions spring return	2	–	–		9001 K71H7	0.372
		Order contacts separately				9001 K71	0.372
	5 positions spring return	–	–	2		9001 K35H2	0.372
		Order contacts separately				9001 K35	0.372
	3 positions stay put	Order contacts separately				9001 K73	0.372
		Order contacts separately				9001 K34	0.372
	5 positions spring return with latch (1)	Order contacts separately				9001 K34	0.372
		Order contacts separately				9001 K34	0.372

510317



9001 K31H8

(1) Latch button must be depressed before joystick will operate.

Control and signalling units Ø 30

Harmony® style 9

Pushbuttons, switches and pilot lights with double insulated bezel

Complete units 9001 SK, with screw clamp terminals

1



9001 SKR1GH13



9001 SKR3RH6



9001 SKR2GH5

Pushbuttons, spring return

Shape of head	Type of push	Type of contact			Colour	Reference	Weight kg
		"N/O"	"N/C"	"C/O"			
	Flush	1	-	-	Black	9001 SKR1BH5	0.086
		-	-	-	Green	9001 SKR1GH5	0.086
		-	-	1	Black	9001 SKR1BH13	0.086
		-	-	1	Green	9001 SKR1GH13	0.086
		-	-	1	Red	9001 SKR1RH13	0.086
		-	-	1	Multi-colour	9001 SKR1UH13 (1)	0.086
	Projecting	1	-	-	Multi-colour	9001 SKR1UH5 (1)	0.086
		-	1	-	Red	9001 SKR3RH6	0.070
		-	-	1	Multi-colour	9001 SKR3UH13 (1)	0.070
	Projecting (high guard)	1	-	-	Multi-colour	9001 SKR3UH5 (1)	0.070
		1	-	-	Green	9001 SKR2GH5	0.090
		-	-	1	Multi-colour	9001 SKR2UH13 (1)	0.090
		1	-	-	Multi-colour	9001 SKR2UH5 (1)	0.090

Mushroom head pushbuttons

Shape of head	Type of push	Diameter mm	Type of contact			Colour	Reference	Weight kg
			"N/O"	"N/C"	"C/O"			
	Spring return	Ø 35	-	-	1	Black	9001 SKR24BH13	0.095
		Ø 35	-	-	1	Red	9001 SKR24RH13	0.095
		Snap in Knob	-	1	-	Red	9001 SKR4RH6	0.095
		Ø 57	-	-	1	Black	9001 SKR25BH13	0.102
		Ø 57	-	-	1	Red	9001 SKR25RH13	0.102
		Snap in Knob	-	1	-	Red	9001 SKR5RH6	0.102

Emergency stop mushroom head pushbuttons

Shape of head	Type of push	Diameter mm	Type of contact			Colour	Reference	Weight kg
			"N/C" l. break	"N/C"	"C/O"			
	3 positions: Mom. -push: maint. -neutral: Mom. -pull	Ø 41	1	1	-	Black	9001 SKR8BH25	0.159
			-	-	-	Red	9001 SKR8RH25	0.159
	2 positions: Maint. -push: Maint. -pull	Ø 41	-	-	1	Black	9001 SKR9BH13	0.159
			-	1	-	Red	9001 SKR9RH13	0.159
	Push-pull	Ø 35	-	1	-	Red	9001 SKR9RH6	0.159
			-	1	-	Red	9001 SKR9R20H6	0.159
	Spring return	Ø 35 (2)	-	1	-	Red	9001 SKR4R05H6	0.159
		Ø 57 (2)	-	1	-	Red	9001 SKR5R05H6	0.164
Late break	Ø 41 (2)	1	1	-	Red	9001 SKR8R05H25	0.159	

(1) Supplied with 7 different coloured caps: black, green, red, yellow, blue, white and orange, ready for clipping-in.
 (2) Marked "EMERGENCY STOP".

1.7



9001 SKR24BH13



9001 SKR5R05H6

Control and signalling units Ø 30

Harmony® style 9


Pushbuttons, switches and pilot lights with double insulated bezel

Complete units 9001 SK, with screw clamp terminal





9001 SKP35LGG9

Pilot lights with BA 9s base mounted (super bright LED included)

Shape of head	Supply voltage V	Colour	Reference	Weight kg
	≈ 24	Green	9001 SKP35LGG9	0.082
		Red	9001 SKP35LRR9	0.082
		Amber	9001 SKP35LYA9	0.082
		Blue	9001 SKP35LLL9	0.082
		White	9001 SKP35LWW9	0.082
	≈ 48	Green	9001 SKP36LGG9	0.082
		Red	9001 SKP36LRR9	0.082
		Amber	9001 SKP36LYA9	0.082
		Blue	9001 SKP36LLL9	0.082
		White	9001 SKP36LWW9	0.082
	≈ 120	Green	9001 SKP38LGG9	0.082
		Red	9001 SKP38LRR9	0.082
		Amber	9001 SKP38LYA9	0.082
		Blue	9001 SKP38LLL9	0.082
		White	9001 SKP38LWW9	0.082

Pilot lights with BA 9s, incandescent bulb (bulb included)

Shape of head	Supply	Supply voltage V	Colour	Reference	Weight kg
	Direct supply for BA 9s bulb (included)	≈ 12	Green	9001 SKP32G9	0.082
			Red	9001 SKP32R9	0.082
			Amber	9001 SKP32A9	0.082
			Blue	9001 SKP32L9	0.082
				≈ 24	Green
Red	9001 SKP35R9	0.082			
Amber	9001 SKP35A9	0.082			
Blue	9001 SKP35L9	0.082			
	≈ 48	Green			
			Red	9001 SKP36R9	0.082
			Amber	9001 SKP36A9	0.082
			Blue	9001 SKP36L9	0.082
				≈ 120	Green
Red	9001 SKP38R9	0.082			
Amber	9001 SKP38A9	0.082			
Blue	9001 SKP38L9	0.082			
	Via integral transformer for BA 9s 6 V bulb (included)	≈ 120			
			Red	9001 SKP1R9	0.181
			Amber	9001 SKP1A9	0.181
			Blue	9001 SKP1L9	0.181
			≈ 230	Green	9001 SKP7G9
		Red		9001 SKP7R9	0.181
		Amber		9001 SKP7A9	0.181
		Blue		9001 SKP7L9	0.181
		≈ 380		Green	9001 SKP5G9
			Red	9001 SKP5R9	0.181
			Amber	9001 SKP5A9	0.181
			Blue	9001 SKP5L9	0.181
			≈ 600	Green	9001 SKP6G9
		Red		9001 SKP6R9	0.181
		Amber		9001 SKP6A9	0.181
Blue	9001 SKP6L9	0.181			



9001 SKP38R9



9001 SKP7L9

Control and signalling units Ø 30





















Harmony® style 9

Pushbuttons, switches and pilot lights with double insulated bezel

Complete units 9001 SK, with screw clamp terminal



1

Selector switches (contact actuation sequence, see page 1/211)

Shape of head	Mount on side	Contact block (order separately)	Contact status 1 - closed 0 - open	Number and type of positions	Reference	Weight kg
 Long handle, black	1 or 2	9001KA2 		2 stay put 	9001 SKS11FB	0.059
	1 or 2	9001KA2 		2 spring return from right to left 	9001 SKS34FB	0.059
	1 or 2	9001KA1 		3 stay put 	9001 SKS43FB	0.059
	1 or 2	9001KA1 		3 spring return from left to center 	9001 SKS63FB	0.059
	1 or 2	9001KA1 		3 spring return to center 	9001 SKS53FB	0.059
	Side 1	9001KA1 		4 stay put	9001 SKS88FB	0.059
	Side 2	9001KA1 				



Illuminated pushbuttons, spring return, flush push (super bright LED included)

Shape of head	Supply	Type of contact	Supply voltage V	Colour	Reference	Weight kg
 Full guard in plastic	BA 9s base mounted	 "C/O"	≈ 24	Red	9001 SK1L35LRR	0.181
				Green	9001 SK1L35LGG	0.181
				Amber	9001 SK1L35LYA	0.181
			≈ 48	Red	9001 SK1L36LRR	0.181
				Green	9001 SK1L36LGG	0.181
				Amber	9001 SK1L36LYA	0.181
			≈ 120	Red	9001 SK1L38LRR	0.181
				Green	9001 SK1L38LGG	0.181
				Amber	9001 SK1L38LYA	0.181







Control and signalling units Ø 30

Harmony® style 9

Pushbuttons, switches and pilot lights with double insulated bezel

Complete units 9001 SK, with screw clamp terminal

Illuminated pushbuttons, spring return, projecting push							
Shape of head	Type of contact			Supply voltage V	Colour	Reference	Weight kg
	"N/O" late break	"N/C"	"C/O"				
BA 9s base mounted LED (included)							
	-	-	-	≈ 24	Red	9001 SK2L35LRR	0.181
	Order contact block separately				Green	9001 SK2L35LGG	0.181
					Amber	9001 SK2L35LYA	0.181
	-	-	-	≈ 48	Red	9001 SK2L36LRR	0.181
	Order contact block separately				Green	9001 SK2L36LGG	0.181
					Amber	9001 SK2L36LYA	0.181
	-	-	-	≈ 120	Red	9001 SK2L38LRR	0.181
	Order contact block separately				Green	9001 SK2L38LGG	0.181
					Amber	9001 SK2L38LYA	0.181
Direct supply for BA 9s incandescent bulb (included)							
  109222 9001 SK2L36GH13	-	-	1	≈ 24	Red	9001 SK2L35RH13	0.181
					Green	9001 SK2L35GH13	0.181
					Amber	9001 SK2L35AH13	0.181
					Blue	9001 SK2L35LH13	0.181
					White	9001 SK2L35WH13	0.181
	-	-	1	≈ 48	Red	9001 SK2L36RH13	0.181
					Green	9001 SK2L36GH13	0.181
					Amber	9001 SK2L36AH13	0.181
					Blue	9001 SK2L36LH13	0.181
					White	9001 SK2L36WH13	0.181
	-	-	1	≈ 120	Red	9001 SK2L38RH13	0.181
					Green	9001 SK2L38GH13	0.181
					Amber	9001 SK2L38AH13	0.181
					Blue	9001 SK2L38LH13	0.181
					White	9001 SK2L38WH13	0.181
Via integral transformer for BA 9s incandescent bulb (included)							
	-	-	1	≈ 230	Red	9001 SK2L7RH13	0.226
					Green	9001 SK2L7GH13	0.226
					Amber	9001 SK2L7AH13	0.226
					Blue	9001 SK2L7LH13	0.226
					White	9001 SK2L7WH13	0.226

Control and signalling units Ø 30

Harmony® style 9

Pushbuttons, switches and pilot lights with double insulated bezel






Complete units 9001 SK, with screw clamp terminal

1



9001 SKR9P35LGG

Illuminated mushroom head pushbuttons (super bright LED, included)

Shape of head	Diameter mm	Supply voltage V	Type of contact			Colour	Reference	Weight kg
								
	Ø 41	≈ 24	Order contact block separately			Green	9001 SKR9P35LGG	0.226
						Red	9001 SKR9P35LRR	0.226
	≈ 48	Order contact block separately			Green	9001 SKR9P36LGG	0.226	
					Red	9001 SKR9P36LRR	0.226	
	≈ 120	Order contact block separately			Green	9001 SKR9P38LGG	0.226	
					Red	9001 SKR9P38LRR	0.226	
	Ø 41	≈ 24	Order contact block separately			Green	9001 SKR8P35LGG	0.226
						Red	9001 SKR8P35LRR	0.226
	≈ 48	Order contact block separately			Green	9001 SKR8P36LGG	0.226	
					Red	9001 SKR8P36LRR	0.226	
	≈ 120	Order contact block separately			Green	9001 SKR8P38LGG	0.226	
					Red	9001 SKR8P38LRR	0.226	

2 position stay put pushbuttons. Direct supply for BA 9s incandescent bulb (included)





3 positions pushbuttons (pull: spring return, center: stay put, push: spring return)

1.7







9001 SKR11UH13H13

Mechanically interlocked pushbuttons

Shape of head	Type of push	Type of contact			Colour	Reference	Weight kg
							
	Both maintained	-	-	1	Multi-colour	9001 SKR11UH13H13 (1)	0.290
	One spring return and one latching	-	-	1	Multi-colour	9001 SKR12UH13H13 (1)	0.290

Illuminated "Push to test" pushbuttons, spring return, projecting push (super bright LED included)

Shape of head	Supply voltage V	Type of contact			Colour	Reference	Weight kg
							
	≈ 24	-	-	1	Green	9001 SKT35LGG31	0.195
					Red	9001 SKT35LRR31	0.195
					Amber	9001 SKT35LYA31	0.195
	≈ 48	-	-	1	Green	9001 SKT36LGG31	0.195
					Red	9001 SKT36LRR31	0.195
					Amber	9001 SKT36LYA31	0.195
	≈ 120	-	-	1	Green	9001 SKT38LGG31	0.195
					Red	9001 SKT38LRR31	0.195
					Amber	9001 SKT38LYA31	0.195

Direct supply

(1) Supplied with 7 different coloured caps: black, green, red, yellow, blue, white and orange, ready for clipping-in.


Control and signalling units Ø 30

Harmony® style 9

Pushbuttons, switches and pilot lights with double insulated bezel



Complete units 9001 SK, with screw clamp terminal

Illuminated selector switches with long handle (super bright LED included)

Shape of head	Supply	Mount on side	Contact block (1)	Contact status 1 - closed 0 - open	Supply voltage and type of positions	Colour Reference	Weight kg
	Supplied with 24 V light module	1 or 2	9001KA2			≈ 24 2 stay put Green 9001 SK11J35LGFG Red 9001 SK11J35LRFR Amber 9001 SK11J35LYFA	0.190 0.190 0.190
		1 or 2	9001KA2			≈ 24 2 spring return from right to left Green 9001 SK34J35LGFG Red 9001 SK34J35LRFR Amber 9001 SK34J35LYFA	0.190 0.190 0.190
		1 or 2	9001KA1			≈ 24 3 stay put Green 9001 SK43J35LGFG Red 9001 SK43J35LRFR Amber 9001 SK43J35LYFA	0.190 0.190 0.190
			Side 2	9001KA1		≈ 24 3 stay put Green 9001 SK46J35LGFG Red 9001 SK46J35LRFR	0.190 0.190
			Side 1	9001KA1		Amber 9001 SK46J35LYFA	0.190
			1 or 2	9001KA1		≈ 24 3 spring return to center Green 9001 SK53J35LGFG Red 9001 SK53J35LRFR Amber 9001 SK53J35LYFA	0.190 0.190 0.190
			1 or 2	9001KA1		≈ 24 3 spring return from left to center Green 9001 SK63J35LGFG Red 9001 SK63J35LRFR Amber 9001 SK63J35LYFA	0.190 0.190 0.190
			Side 2	9001KA1		≈ 24 4 stay put Green 9001 SK88J35LGFG Red 9001 SK88J35LRFR	0.190 0.190
			Side 1	9001KA1		Amber 9001 SK88J35LYFA	0.190

9001 SK46J35LYFA

Illuminated mushroom head pushbuttons, push-pull, Ø 41 red

Shape of head	Supply	Type of contact	Supply voltage V	Reference	Weight kg
		 "N/C" I. break			
		 "N/C"			
		 "C/O"			
2 position stay put pushbuttons					
	Direct supply for BA 9s bulb (2)	1	1	–	≈ 24 9001 SKR9P35RH25 0.226
		1	1	–	≈ 120 9001 SKR9P38RH25 0.226
	Via integral transformer for BA 9s bulb (2)	1	1	–	≈ 230 9001 SKR9P7RH25 0.226
3 position pushbuttons (pull: spring return, center: stay put, push: spring return)					
	Direct supply for BA 9s bulb (2)	1	1	–	≈ 24 9001 SKR8P35RH25 0.226
		1	1	–	≈ 120 9001 SKR8P38RH25 0.226
	Via integral transformer for BA 9s bulb (2)	1	1	–	≈ 230 9001 SKR8P7RH25 0.226

(1) Order and install listed contact block for noted contact sequence.
Other contact sequences are available. Please consult your Regional Sales Office.
(2) Incandescent bulb, included.

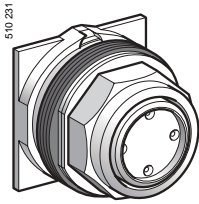
Control and signalling units Ø 30

Harmony® style 9

Pushbuttons, switches and pilot lights


Separate components, accessories and spare parts

1




9001 KR1U

Heads for spring return pushbuttons - unmarked

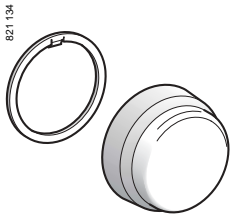
Shape of head	Type of push	Colour	Reference	Weight kg
For the metal range				
	Flush	Multi-colour (1)	9001 KR1U	0.087
	Projecting	Multi-colour (1)	9001 KR3U	0.090
	Recessed (high guard)	Multi-colour (1)	9001 KR2U	0.087

For the plastic range

	Flush	Multi-colour (1)	9001 SKR1U	0.050
	Projecting	Multi-colour (1)	9001 SKR3U	0.050
	Recessed (high guard)	Multi-colour (1)	9001 SKR2U	0.050

Accessories for heads 9001 KR●U

Description	Application	Colour	Reference	Weight kg
Rubber boots	Pushbuttons	Black	9001 KU1	0.027
		Green	9001 KU5	0.027
		Red	9001 KU2	0.027
		Clear	9001 KU7	0.027
Rod for spring return wobblestick	Pushbuttons	Chromium plated	9001 K8	0.120

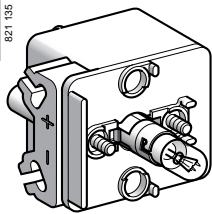


9001 KU●

Light blocks for pilot lights and illuminated pushbuttons




Supply	Light source	Type	Supply voltage V	Colour	Reference	Weight kg	
Direct supply	BA 9s bulb (included)	Incandescent	≈ 24	–	9001 KM35	0.050	
			≈ 120	–	9001 KM38	0.050	
			≈ 230	–	9001 KM25	0.050	
Via integral transformer	BA 9s 6 V bulb (included)	Incandescent	~ 120	–	9001 KM1	0.130	
			~ 230	–	9001 KM7	0.130	
			≈ 380 - 480	–	9001 KM5	0.130	
Shallow depth	24 V bulb	Incandescent	≈ 24 - 28	–	9001 KM55	0.115	
			LED	≈ 24 - 28	Red	9001 KM55LR	0.115
				Green	9001 KM55LG	0.115	
	Yellow	9001 KM55LY		0.115			
	120 V bulb	Incandescent	≈ 110 - 120	–	9001 KM58	0.115	
			LED	≈ 110 - 120	Red	9001 KM58LR	0.115
				Green	9001 KM58LG	0.115	
		Yellow		9001 KM58LY	0.115		

1.7



9001 KM●

Contact blocks with protected terminals (2)

Description		Type of contact			Reference	Weight kg
						
		"N/O"	"N/C"	"C/O"		
Standard contact blocks	–	–	–	1	9001 KA1	0.027
	–	1	–	–	9001 KA2	0.023
	–	–	1	–	9001 KA3	0.023
Late break contact blocks	–	–	–	1	9001 KA4	0.027
	–	–	1	–	9001 KA5	0.023
Early break contact blocks	–	1	–	–	9001 KA6	0.023
Logic reed contact blocks	Hermetically sealed	1	–	–	9001 KA41	0.045
		–	1	–	9001 KA42	0.045
		–	–	1	9001 KA43	0.045
Power reed contact blocks	Hermetically sealed	1	–	1	9001 KA51	0.045
		–	1	–	9001 KA52	0.045
		–	–	1	9001 KA53	0.045

(1) Head supplied with set of 7 different coloured caps: black, green, red, yellow, blue, white, orange, ready for clipping-in.

(2) For mounting position of contacts related to H●● suffix on pushbutton or switch reference, see page 1/211.

Aluminium legend plates for metal range

Unmarked

Description	Background colour	Reference	Weight kg
Size 1 (40 x 43 mm)	Black	9001 KN200	0.005
	Red	9001 KN200R	0.005
Size 2 (44 x 50 mm)	Black	9001 KN300	0.005
	Red	9001 KN300R	0.005

Marked

Description	Legend plate colour	Marking	Reference	Weight kg		
English text (40 x 43 mm)	Black or red background	START	9001 KN201	0.005		
		STOP (red background)	9001 KN202	0.005		
		ON	9001 KN203	0.005		
		OFF (red background)	9001 KN204	0.005		
		EMERGENCY STOP (red background)	9001 KN205	0.005		
		FORWARD	9001 KN206	0.005		
		REVERSE	9001 KN207	0.005		
		CLOSE	9001 KN208	0.005		
		OPEN	9001 KN209	0.005		
		DOWN	9001 KN210	0.005		
		UP	9001 KN211	0.005		
		SLOW	9001 KN213	0.005		
		HIGH	9001 KN214	0.005		
		LOW	9001 KN215	0.005		
		RESET	9001 KN233	0.005		
		English text (44 x 50 mm)	Black	OFF-ON	9001 KN245	0.005
OPEN-CLOSE	9001 KN246			0.005		
HAND-OFF-AUTO	9001 KN260			0.005		
PULL TO START/PUSH TO STOP	9001 KN279			0.005		
PULL TO START/PUSH TO STOP	9001 KN379			0.005		
French text (40 x 43 mm)	Black or red background			MARCHE	9001 KN201F	0.005
				ARRET (red background)	9001 KN202F	0.005
				AVANT	9001 KN206F	0.005
				ARRIERE	9001 KN207F	0.005
				FERME	9001 KN208F	0.005
		OUVERT	9001 KN209F	0.005		
		BAS	9001 KN210F	0.005		
		HAUT	9001 KN211F	0.005		
		VITE	9001 KN214F	0.005		
		LENT	9001 KN215F	0.005		
REARMEMENT	9001 KN223F	0.005				



Plastic legend plates for plastic range

Unmarked

Description	Background colour	Reference	Weight kg
Size 1 (57 x 57 mm)	White	9001 KN100WP	0.005
	Black	9001 KN100BP	0.005

Marked

Description	Legend plate colour	Marking	Reference	Weight kg
English text (57 x 57 mm)	White	START	9001 KN101WP	0.005
		STOP	9001 KN102WP	0.005
		ON	9001 KN103WP	0.005
		OFF	9001 KN104WP	0.005
		EMERGENCY STOP	9001 KN105WP	0.005
		FORWARD	9001 KN106WP	0.005
		REVERSE	9001 KN107WP	0.005
		CLOSE	9001 KN108WP	0.005

Plastic legend plates for plastic range (continued)

Marked

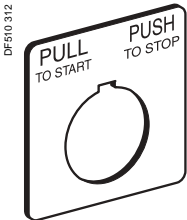
Description	Legend plate colour	Marking	Reference	Weight kg		
English text (57 x 57 mm)	White background	OPEN	9001 KN109WP	0.005		
		DOWN	9001 KN110WP	0.005		
		UP	9001 KN111WP	0.005		
		SLOW	9001 KN113WP	0.005		
		HIGH	9001 KN114WP	0.005		
		LOW	9001 KN115WP	0.005		
		RESET	9001 KN133WP	0.005		
		OPEN-CLOSE	9001 KN146WP	0.005		
		OFF-ON	9001 KN145WP	0.005		
		HAND-OFF-AUTO	9001 KN160WP	0.005		
		PULL TO START/PUSH TO STOP	9001 KN179WP	0.005		
		French text (57 x 57 mm)	White background	MARCHE	9001 KN101WPF	0.005
				ARRET (red background)	9001 KN102WPF	0.005
AVANT	9001 KN106WPF			0.005		
ARRIERE	9001 KN107WPF			0.005		
FERME	9001 KN108WPF			0.005		
OUVERT	9001 KN109WPF			0.005		
BAS	9001 KN110WPF			0.005		
HAUT	9001 KN111WPF			0.005		
VITE	9001 KN114WPF			0.005		
LENT	9001 KN115WPF			0.005		
TIRER POUR MARCHÉ / POUSSER POUR ARRET	9001 KN179WPF			0.005		

Ø 90 emergency stop legend plate (plastic)

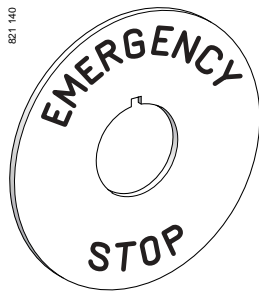
Description	Legend plate colour	Marking	Reference	Weight kg
English text	Yellow	EMERGENCY STOP	9001 KN8330	0.005

Caps and knobs

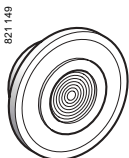
Description	Application	Color	Reference	Weight kg		
Ø 41 mushroom knob with set screw	For non-illuminated pushbutton	Red	9001 R94	0.005		
Ø 57 mushroom knob with set screw	For non-illuminated pushbutton	Red	9001 K93R	0.005		
Ø 41 mushroom knob	For illuminated pushbutton	Red	9001 R22	0.005		
Ø 57 mushroom knob	For illuminated pushbutton	Red	9001 R21	0.005		
Ø 41 lens caps	Mushroom head illuminated pushbutton	Yellow	9001 Y22	0.005		
		Green	9001 G22	0.005		
Standard lens	For pilot light	Red	9001 R9	0.005		
		Green	9001 G9	0.005		
		Blue	9001 L9	0.005		
		Yellow	9001 Y9	0.005		
		White	9001 W9	0.005		
		Clear	9001 C9	0.005		
Lens caps "Fresnel lens"	For pilot light	Red	9001 R31	0.005		
		Green	9001 G31	0.005		
		Blue	9001 L31	0.005		
		Yellow	9001 Y31	0.005		
		White	9001 W31	0.005		
		Clear	9001 C31	0.005		
		Standard knob	For selector switch	Black	9001 B11	0.005
Red	9001 R8			0.005		
Green	9001 G8			0.005		
Blue	9001 L8			0.005		
Yellow	9001 Y8			0.005		
White	9001 W8			0.005		
Long knob	For selector switch			Black	9001 B25	0.005
				Red	9001 R24	0.005
		Green	9001 G24	0.005		
		Blue	9001 L24	0.005		
		Yellow	9001 Y24	0.005		
White	9001 W24	0.005				



9001 KN179WP



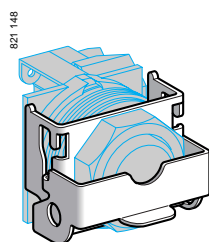
9001 KN8330



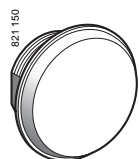
9001 G22



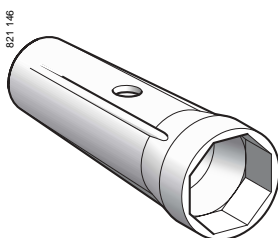
9001 B31



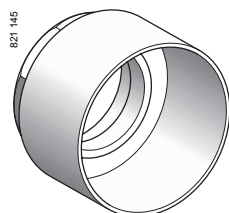
9001 K6



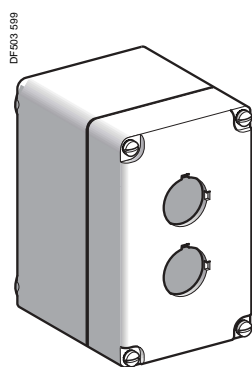
9001 K52



9001 K95



9001 K48



9001 KY2

Other accessories

Description	Application	Diameter mm	Colour	Sold in lots of	Unit reference	Weight kg
Super bright LED bulbs	24 or 120 V	-	Red	-	6508805210	0.010
			Green	-	6508805212	0.010
			Amber	-	6508805211	0.010
			Blue	-	6508805213	0.010
			White	-	6508805214	0.010
Bulbs \approx 14 V	Pilot light with BA 9s base mounted LED	-	Red	1	6508805204	0.010
			Yellow	1	6508805205	0.010
			Green	1	6508805206	0.010
Incandescent bulbs	6 V - 1.2 W	-	-	10	DL1 CB006	0.002
	24 V - 2 W	-	-	10	DL1 CE024	0.002
	120...130 V 2.4 W	-	-	10	DL1 CE130	0.002
Neon bulbs	120...130 V	-	-	10	DL1 CF110	0.002
	230...240 V	-	-	10	DL1 CF220	0.002
Closing plates	-	-	Grey	-	9001 K51	0.020
	-	-	Metal	1	9001 K52	0.028
Screwdriver (1)	-	-	-	-	9001 K69	0.150
Tightening wrench	Fixing nut	-	-	1	9001 K95	0.064
	Boot	-	-	1	9001 K1	0.150
Guards:	Mushroom head pushbutton	Ø 35	-	1	9001 K48	0.028
		Ø 41	-	1	9001 K56YM	0.036
		Ø 60	-	1	9001 K685	0.030
Set of 7 different coloured caps	Pushbutton	-	Black, green, red, yellow, blue, white, orange	1	9001 T8U	0.005
Bulb extractor	-	-	-	1	XBF X13	0.005
Padlock attachment	For selector switch	-	-	-	9001 K7	0.150
	For pushbutton	-	-	-	9001 K6	0.150
	For Emergency stop	-	-	-	9001 K62	0.150
Alternate action module	Push on - Push off module (2)	-	-	-	9001 K85	0.025

Enclosures

Type	N° of 30 mm holes	NEMA ratings	Reference	Weight kg
Aluminium	1	1, 3, 4, 6, 12, 13	9001 KY1	1.170
	2	1, 3, 4, 6, 12, 13	9001 KY2	1.279
	3	1, 3, 4, 6, 12, 13	9001 KY3	1.597
	4	1, 3, 4, 6, 12, 13	9001 KY4	1.846
Stainless steel	1	1, 3, 4, 4X, 13	9001 KYSS1	1.061
	2	1, 3, 4, 4X, 13	9001 KYSS2	1.370
	3	1, 3, 4, 4X, 13	9001 KYSS3	1.715

(1) Screwdriver with special tip for mounting contact blocks.

(2) N/O circuits require KA4 or KA6 contact blocks.

1

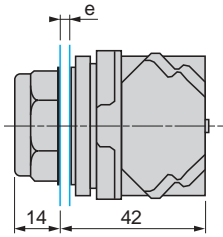
Dimensions

Pushbuttons

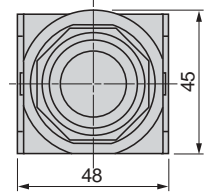
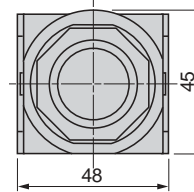
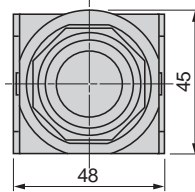
Flush push 9001 KR1●●●, 9001 SKR1●●●

Projecting push 9001 KR3●●●, 9001 SKR3●●●

Projecting push with high guard 9001 KR2●●●, 9001 SKR2●●●



e: panel thickness 1 to 6 mm

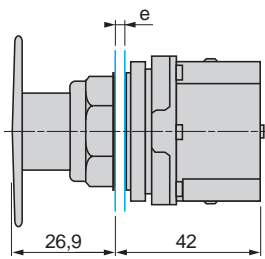


Mushroom head pushbuttons

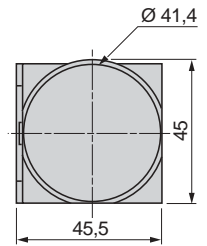
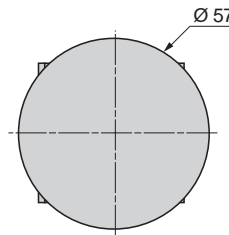
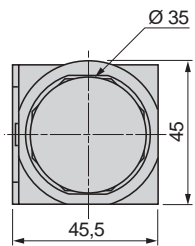
Spring return 9001 KR24●H13, 9001 SKR24●H13

9001 KR25●H13, 9001 SKR25●H13, 9001 KR5R05H6, 9001 SKR5R05H6

Push-pull 9001 KR9R●●●, 9001 SKR9R●●●



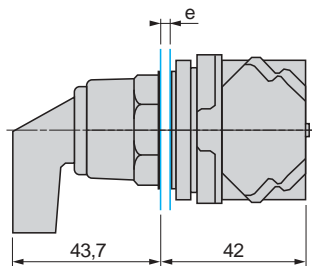
e: panel thickness 1 to 6 mm



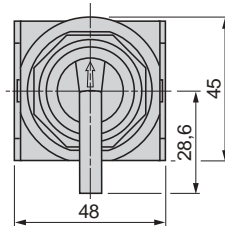
1.7

Selector switches

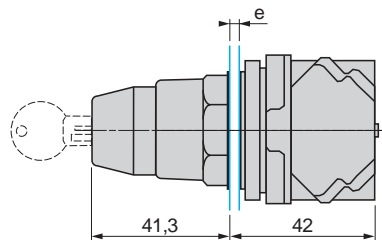
Long handle 9001 KS●●FBH●● and 9001 SKS●●FBH●●



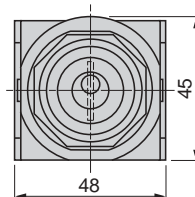
e: panel thickness 1 to 6 mm



Key switches 9001 KS●●K●●● (for the chromium metal bezel range only)

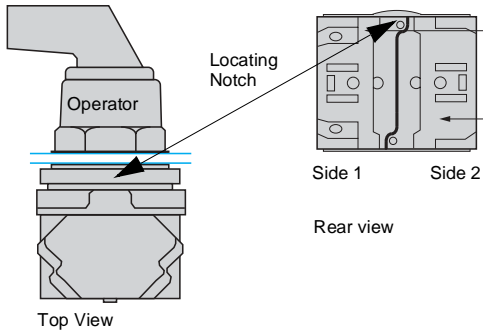


e: panel thickness 1 to 6 mm



Contact mounting

Mounting position of contacts related to suffix of pushbutton or switch reference



Suffix	H1	H2	H5	H6	H7	H8	H9	H13	H25	H28	H36
Side 1	KA1	KA1	KA2	KA3	KA2	KA3	KA4	-	KA5	KA1	-
Side 2	-	KA1	-	-	KA2	KA3	KA1	KA1	KA3	KA3	KA2

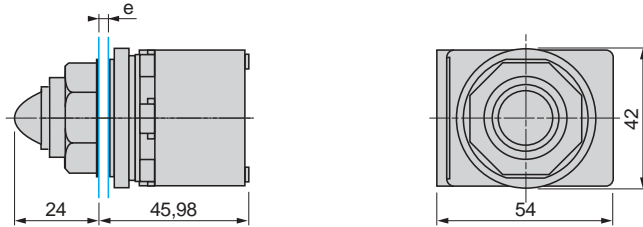
References with H●● suffix will have contacts mounted as shown.

1

Dimensions (continued)

Pilot lights

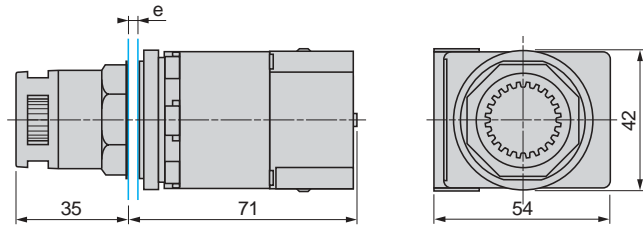
With BA 9s bulb 9001 KP●●● and 9001 SKP●●●



e: panel thickness 1 to 6 mm

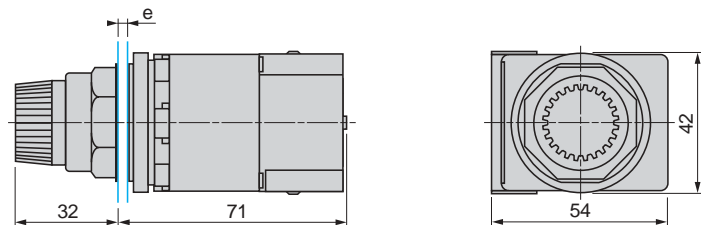
Illuminated pushbuttons, spring return

Flush push 9001 K3L●●●●H13



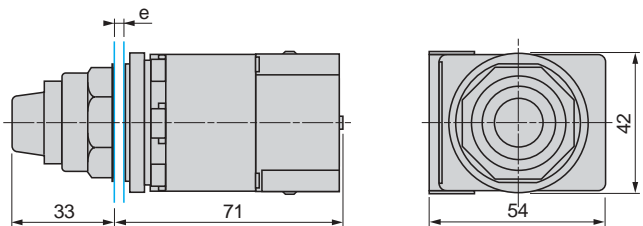
e: panel thickness 1 to 6 mm

Projecting push 9001 K2L●●●●H13 and 9001 SK2L●●●●H13



e: panel thickness 1 to 6 mm

"Push to test", projecting push 9001 KT●●●●31 and 9001 SKT●●●●31



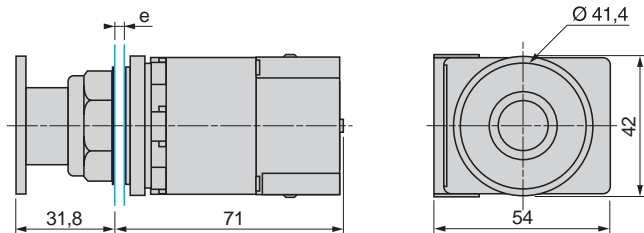
e: panel thickness 1 to 6 mm

1.7

Dimensions (continued)

Illuminated mushroom head pushbuttons

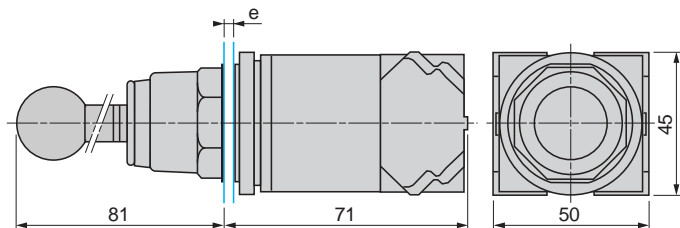
9001 KR●P●●● and 9001 SKR●P●●●



e: panel thickness 1 to 6 mm

Joystick controllers (for the chromium metal bezel range only)

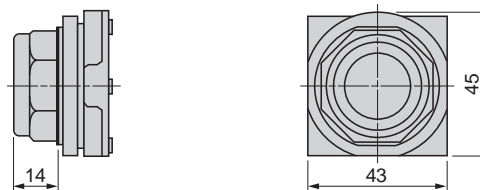
9001 K●●H●



e: panel thickness 1 to 6 mm

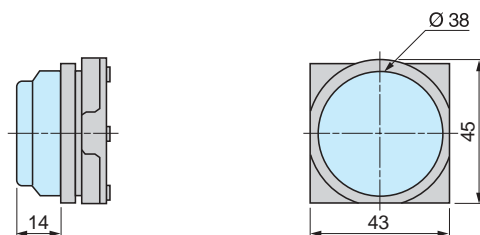
Heads for spring return pushbuttons

9001 KR●U and 9001 SKR●U



Boots for pushbuttons

9001 KU●

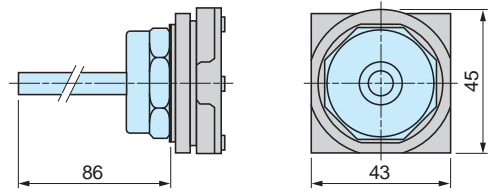


1

Dimensions (continued)

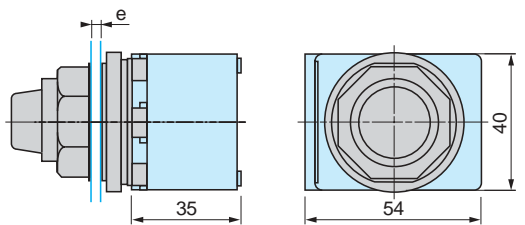
Rod for wobblestick

9001 K8



Light blocks for pilot lights and illuminated pushbuttons

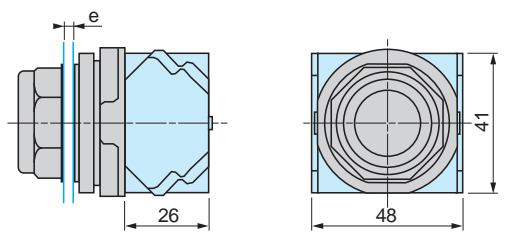
9001 KM●



e: panel thickness 1 to 6 mm

Contact blocks for pushbuttons (including illuminated)

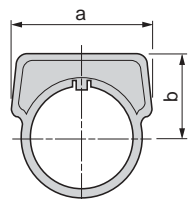
9001 KA●



e: panel thickness 1 to 6 mm

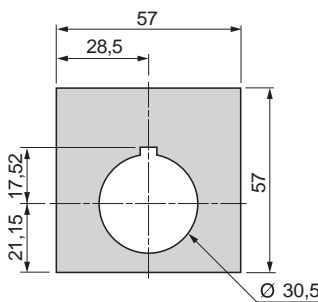
Legend plates

Aluminium plates 9001 KN●●●



	a	b
9001 KN2●●	41,3	24,6
9001 KN3●●	44,5	31,4

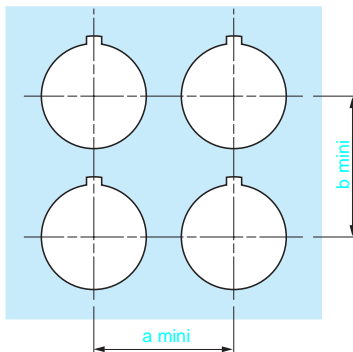
Plastic plates 9001 KN1●●●



1.7

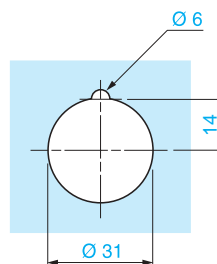
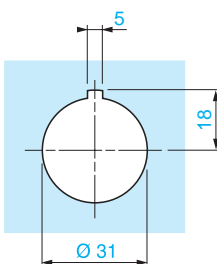
Dimensions (continued)

Panel cut-out



Individual cut-outs detail

2 alternatives



Type of 9001 K unit	Legend plate	a	b
All units except Ø 57 mushroom head pushbuttons	9001 KN2●●	57,2	44,5
	9001 KN3●●	57,2	50,8
Ø 57 mushroom head pushbuttons	9001 KN2●●	57,2	57,2
	9001 KN3●●	57,2	57,2

2 - Control stations, enclosures and installation system

Control stations and enclosures

Selection guide page 2/2









- XAL control stations for Harmony® style 5, Ø 22 control and signalling units with double insulated bezel
 - Complete stations (screw clamp terminal connections) page 2/8
 - Stations for user assembly: empty enclosures page 2/12
 - Stations for user assembly: electrical blocks page 2/13
 - Stations for user assembly: heads page 2/14
 - Stations for user assembly: accessories page 2/23
- XAL E control stations for Harmony® style 7, "Series E" monolithic standard Ø 22 control and signalling units
 - Complete stations page 2/32
 - Empty enclosures page 2/32
- Insulated, metal and flush mounting control station enclosures
 - With cut-outs for Ø 22 control and signalling units page 2/36
 - Undrilled or with cut-outs Ø 22 control and signalling units page 2/38
- Key operated control stations page 2/43
- Emergency stop and fire alarm stations page 2/44

Installation system

- Profil front panels
 - for Harmony® style 4 and style 5 pushbuttons, switches and pilot lights page 2/47
 - Separate components page 2/48

Selection guide Tego Dial page 2/50

- Tego Dial for Human-Machine interfaces
 - Dialboard front panel and Dialpack control consoles page 2/58
 - Plates for Ø 22 control and signalling units page 2/58
 - Plates for Ø 16 and Ø 30 control and signalling units page 2/59
 - Solid plates page 2/59
 - Plates for other units, pre-assembled kits page 2/60
 - Accessories page 2/61
 - Connections page 2/64
 - Dialfix fixed and rotating suspension arms page 2/65
 - Dialmove moving suspension arms page 2/67

Applications	Control stations, complete or for user assembly			Empty enclosures	
					
					
Features	Empty, drilled for user assembly, or complete For control and signalling units Harmony style 5		Empty, drilled for user assembly, or complete For monolithic control and signalling units Harmony style 7	Elbowed, empty, drilled For mounting on vertical support	Empty, drilled or undrilled
Material	Polycarbonate		Polypropylene	Aluminium alloy	Zinc or aluminium alloy
Colour	Yellow lid Light grey base	Dark grey lid Light grey base	Light grey lid Light grey base	Dark grey or yellow lid (enclosure with 1 cut-out) Light grey base	XAP M: <input type="checkbox"/> blue lid <input type="checkbox"/> Blue base XAP J: <input type="checkbox"/> yellow lid <input type="checkbox"/> blue base
Number of cut-outs for Ø 22 control and signalling units	1, 2, 3, 4 or 5	1, 2 or 3 (complete enclosures) 1 to 5 (empty enclosures)	1, 2 or 3 (complete enclosures) 1, 2 or 3 (empty enclosures)	1 to 7	1, 2, 3, 4, 6, 8 or 12
Degree of protection	IP 65	IP 65	IP 40	IP 65	IP 65
Function	Emergency stop	Start or Stop Start-Stop with pilot light Movement control	Start or Stop Movement control	–	–
Cable entries	Knock-outs			Via opening in rear of enclosure	Drilled
Type references	XAL K	XAL D	XAL E	XAM W●	XAP M, XAP J
Page(s)	2/9 and 2/12	2/8, 2/10 to 2/12	2/32	2/36	2/37 and 2/38

Empty enclosures	Flush mounting enclosures	Key operated control stations	Emergency stop and fire alarm stations	Pendant control stations
------------------	---------------------------	-------------------------------	--	--------------------------



Empty, drilled	Empty, drilled or undrilled	Front plate	With key lock	Emergency stop station: conforms to NF C 15-100 Fire alarm stations: <input type="checkbox"/> buildings type: semi-recessed mounting <input type="checkbox"/> industry type: wall mounting	Stations: <input type="checkbox"/> complete "ready for use" or <input type="checkbox"/> variable composition
Aluminium alloy or sheet steel	Polyester	Brushed aluminium	Zinc alloy	Emergency stop station: zinc alloy Fire alarm stations: <input type="checkbox"/> buildings type: plastic <input type="checkbox"/> industry type: zinc alloy	Polypropylene or polyester (depending on model)
Blue lid and base	Coloured grey throughout	Unpainted aluminium	Grey	Red cover and base	Yellow
8, 16, 24, 30 or 40	1, 2, 4, 8 or 16	1 to 5	-		Stations: <input type="checkbox"/> complete "ready for use": 1 to 8 <input type="checkbox"/> variable composition: 1 to 12
IP 54	IP 65	IP 65	IP 54	Emergency stop stations: IP 54 Fire alarm stations: <input type="checkbox"/> buildings type: IP 40 <input type="checkbox"/> industry type: IP 54	IP 65
-	-	-	Start-Stop	Emergency stop and fire alarm	Complete stations "ready for use": Emergency stop, control of single-speed and/or 2-speed motors Variable composition stations
Drilled	Undrilled	Knock-outs	Tapped for cable gland		Via cable sleeve
XB2 S	XAP A	XAP E	XAP S	XAS E, XAS P	XAC
2/37	2/36	2/38	2/43	2/44	6/2 and 6/3

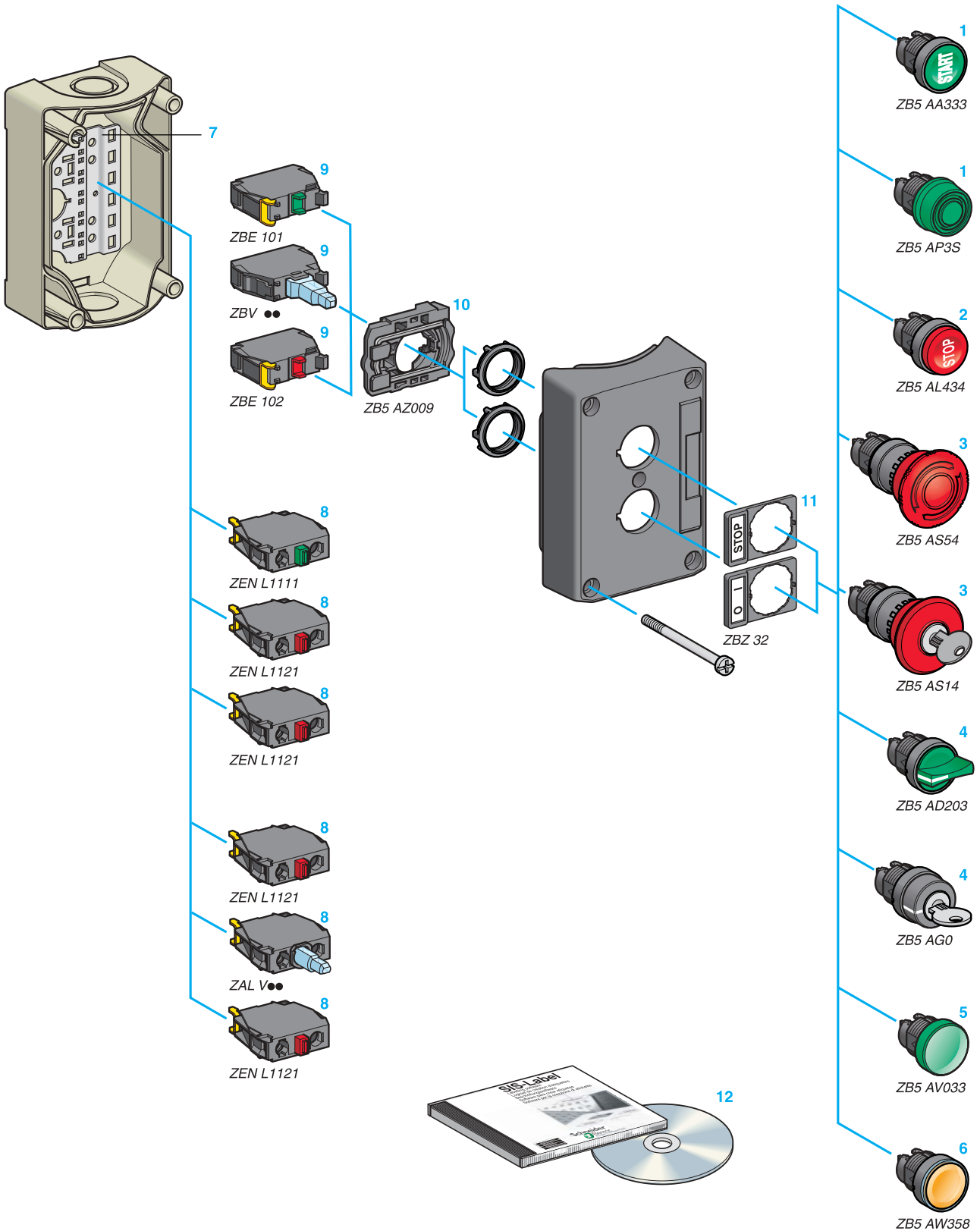
Control stations and enclosures

XAL control stations for Harmony® style 5

Ø 22 control and signalling units

With double insulated bezel

2



Control stations and enclosures

XAL control stations for Harmony® style 5

Ø 22 control and signalling units

With double insulated bezel

XAL D and XAL K control stations are available in two forms:

- Complete.
- For customer assembly

These control stations use the plastic bezel pushbuttons, switches and pilot lights of the Harmony style 5 range, which offers a wide choice of circular and square types of head.

Complete stations

Pre-assembled

These are complete, ready to install, stations fitted with 1 to 3 buttons to cater for the most commonly encountered functions:

- **Start or Stop**, with:

- 1 flush spring return pushbutton,
- 1 red, spring return, mushroom head pushbutton.

- **Emergency stop**, with:

- 1 red, latching, mushroom head pushbutton **3** (standard or trigger action), either push-pull or turn to release, with or without key.

- **Start-Stop**, with:

- 2 flush spring return pushbuttons,
- 1 flush spring return pushbutton **1** + 1 projecting spring return pushbutton **2**,
- 1 2-position selector switch **4** + 1 pilot light with integral red LED, if required.

- **Two functions**, with:

- 2 flush spring return pushbuttons **1**.

- **Three functions**, with:

- 3 flush spring return pushbuttons **1**,
- 2 flush spring return pushbuttons **1** + 1 projecting spring return pushbutton **2**,
- 2 flush spring return pushbuttons **1** + 1 red, latching, mushroom head pushbutton **3**.

These pushbuttons, switches and pilot lights comprise plastic heads from the Harmony style 5 range and electrical blocks (contact or light) **8** that are mounted in the back of the enclosure.

Stations for customer assembly

For customer assembly

These stations are for assembly by the user and offer a choice of 2 assembly methods:

- **Box method**

Identical to the pre-assembled versions. The electrical blocks **8** are mounted on a metal mounting plate in the back of the enclosure **7**.

- **Station method**

The electrical blocks **9** are mounted directly beneath the heads using a body/fixing collar **10**.

It is possible to assemble stations with 1 to 5 heads, each of which can be combined with 3 electrical blocks **8** or **9** (contact or light).

The XAL range offers a wide choice of head types for:

- Spring return pushbuttons **1** or **2**, either marked or unmarked.
- Spring return mushroom head pushbuttons.
- Latching mushroom head pushbuttons **3**.
- Selector switches with standard or long handle and key switches **4**.
- Toggle switches.
- Pilot lights **5**.
- Illuminated spring return pushbuttons **6**.
- Illuminated selector switches with standard handle.

Accessories

For heads

Markings can be customised by using legend holders **11** which can either be fitted with pre-marked legends or legends engraved by the user. Alternatively, paper legends (protected), prepared using "SIS Label" software **12**, or peel-off legends (supplied on sheet for marking by laser printer) can be used.

Environment characteristics

Protective treatment	Standard version		"TH"
Ambient air temperature around the device	For storage	°C	- 40...+ 70
	For operation	°C	- 25...+ 70 unless otherwise stated
Electric shock protection			Conforming to IEC 60536: class II
Degree of protection			Conforming to IEC 60529: IP 65
			Conforming to NEMA: NEMA type 4X and 13
High pressure cleaning resistance		Pa	70 x 10 ⁵ (70 bar); distance: 0.1 m Temperature: 55 °C
Mechanical shock protection	Conforming to EN 50102		With non illuminated heads: IK 03
			With illuminated heads: IK 05
Conformity to standards			IEC/EN 60947-1, IEC/EN 60947-5-1, IEC/EN 60947-5-4, IEC/EN 60947-5-5, EN 418 (trigger action Emergency Stop, see pages 2/9 and 2/16), JIS C 4520, UL 508, CSA C22-2 n° 14
Product certifications	UL Listed, CSA		Standard single contacts with screw clamp terminals: A600; R300 Light blocks with screw clamp terminals
Terminal referencing			Conforming to EN 50005 and EN 50013
Material and colours			XAL D: polycarbonate, light grey RAL 7035 and dark grey RAL 7016
			XAL K: polycarbonate, light grey RAL 7035 and yellow RAL 1021
Cable entries			Knock-out entries for n° 13 (CM12, Pg 13.5) cable gland and tapped ISO 20

Contact function characteristics

Mechanical characteristics

Contact operation	N/C or N/O		Slow break
Positive operation	Conforming to IEC/EN 60947-5-1 Appendix K		All functions incorporating a N/C contact are positive opening operation
Operating travel (to change electrical state)	Pushbutton	mm	Changing N/C state: 1.5 Changing N/O state: 2.6 Total travel: 4.3
Operating force	Pushbutton	N	Changing N/C state: 3.5 Changing N/O state: 3.8
	Additional contact only (extra to change state)	N	Single N/C contact: 2 Single N/O contact: 2.3
	Emergency stop with N/C + N/O	N	Standard push-pull: 45 Trigger action push-pull: 50 Standard turn to release (with or without key): 40 Trigger action turn to release (with or without key): 44
Operating torque (to change electrical state)	Selector switches	N.m	N/O contact: 0.14
	Additional contact only	N.m	N/O contact: 0.05
Mechanical durability (in millions of operating cycles)	Spring return pushbutton		5
	Non illuminated selector switch		3
	Illuminated selector switch		1
	Toggle switch		0.5
	Emergency stop pushbutton		0.3
Vibration resistance	Conforming to IEC 60068-2-6		Frequency: 12...500 Hz: 5 gn
Shock resistance	Conforming to IEC 60068-2-27		All functions except mushroom head pushbutton, spring return: <input type="checkbox"/> half sine wave acceleration 11 ms: 50 gn <input type="checkbox"/> half sine wave acceleration 18 ms: 30 gn Mushroom head pushbutton, spring return: <input type="checkbox"/> half sine wave acceleration 11 ms: 10 gn

Contact function characteristics (continued)

Electrical characteristics

Cabling capacity	Conforming to IEC/EN 60947-1	mm² mm²	Screw clamp terminals Min.: 1 x 0.22 without cable end Max.: 2 x 1.5 with cable end Cross head screws (Pozidriv or Philips type 1), slotted for flat 4 and 5.5 mm screwdriver Tightening torque: 0.8 N.m (1.2 N.m max.)		
Contact material			Silver alloy (Ag/Ni)		
Nominal thermal current	Conforming to IEC/EN 60947-5-1	A	Standard blocks with screw clamp terminals: 10		
Short-circuit protection	Conforming to IEC/EN 60947-5-1	A	Standard blocks with screw clamp terminals: 10 (gG cartridge fuse conforming to IEC 269-1)		
Rated insulation voltage	Conforming to IEC/EN 60947-1	V	Standard blocks with screw clamp terminals: U _i = 600 degree of pollution 3		
Rated impulse withstand voltage	Conforming to IEC/EN 60947-1	kV	Standard blocks with screw clamp terminals: U _{imp} = 6		
Rated operational characteristics Conforming to IEC/EN 60947-5-1	a.c. supply: utilisation category AC-15		A 600: U _e = 600 V and I _e = 1.2 A or U _e = 240 V and I _e = 3 A or U _e = 120 V and I _e = 6 A		
	d.c. supply: utilisation category DC-13		Q 600: U _e = 600 V and I _e = 0.1 A or U _e = 250 V and I _e = 0.1 A or U _e = 125 V and I _e = 0.22 A		
Electrical durability Conforming to IEC/EN 60947-5-1 Appendix C Operating rate: 3600 operating cycles/hour Load factor: 0.5	a.c. supply for 1 million operating cycles: utilisation category AC-15	V	24	120	230
		A	4	3	2
	d.c. supply for 1 million operating cycles: utilisation category DC-13	V	24	110	
		A	0.5	0.2	
Electrical reliability	Failure rate. Conforming to IEC/EN 60947-5-4		At 17 V and 5 mA, λ < 10 ⁻⁸ At 5 V and 1 mA, λ < 10 ⁻⁶		

Specific characteristics of light functions with integral LED

Mechanical characteristics

Vibration resistance	Conforming to IEC 60068-2-6		Frequency: 12...500 Hz: 5 gn		
Shock resistance	Conforming to IEC 60068-2-27		Half sine wave acceleration 11 ms: 50 gn Half sine wave acceleration 18 ms: 30 gn		

Electrical characteristics

Cabling capacity	Conforming to IEC/EN 60947-1	mm² mm²	Screw clamp terminals Min.: 1 x 0.22 without cable end Max.: 2 x 1.5 with cable end Cross head screws (Pozidriv or Philips type 1), slotted for flat 4 and 5.5 mm screwdriver Tightening torque: 0.8 N.m (1.2 N.m max.)		
Rated insulation voltage	Conforming to IEC/EN 60947-1	V	Pilot light blocks with integral LED: U _i = 250, degree of pollution 3		
Rated impulse withstand voltage	Conforming to IEC/EN 60947-1	kV	Pilot light blocks with integral LED: U _{imp} = 4		
Voltage limits	At nominal voltage	V	24 V: 19.2...30 ~; 21.6...26.4 ~ 48...120 V: 40...132 ~ 240 V: 195...264 ~		
Current consumption	For all colours	mA	≈ 12 V supply blocks: 18 ≈ 24 V supply blocks: 18 ~ 120 V supply blocks: 14 ~ 240 V supply blocks: 14		
Service life	At nominal voltage and at an ambient temperature of 25 °C	H	100,000		
Surge withstand	Conforming to IEC 6100-5-1	kV	1		
Resistance to fast transients	Conforming to IEC 6100-4-4	kV	2		
Resistance to electromagnetic fields	Conforming to IEC 6100-4-3	V/m	10		
Resistance to electrostatic discharges	Conforming to IEC 6100-4-2	kV	8/6		
Direct parallel connection across inductive load e.g. contactor coil or solenoid	Maximum power of load	VA	For applications involving high powers (≥ 30 VA), a ZBZ V suppressor must be connected across the light block terminals (see page 2/13)		
Electromagnetic emission	Conforming to IEC 55011		Class B		

Control stations and enclosures

XAL control stations for Harmony® style 5

Ø 22 control and signalling units

With double insulated bezel

Complete stations (screw clamp terminal connections)

Start or Stop function

Light grey base "RAL 7035", dark grey lid "RAL 7016", lid fixing screws and nut material: stainless steel type A4, AISI 316.

Description	Type of push	Type of contact		Marking	Reference	Weight kg
		N/O	N/C			
Marking on pushbutton						
1 spring return pushbutton	Flush green	1	-	I	XAL D102	0.135
				Marche	XAL D104	0.156
				Start	XAL D103	0.156
	Flush red	1	1	I	XAL D102E	0.165
				O	XAL D112	0.156
				Arrêt	XAL D117	0.156
	Projecting red	1	1	Stop	XAL D114	0.165
				O	XAL D112E	0.165
				Stop	XAL D114E	0.165
	Flush red	-	1	O	XAL D115	0.157
				Arrêt	XAL D118	0.157
				Stop	XAL D116	0.157
Marking on legend holder and legend below head						
1 spring return pushbutton	Flush green	1	-	Marche	XAL D101	0.157
				Start	XAL D101H29	0.157
	Flush red	-	1	Arrêt	XAL D111	0.157
				Stop	XAL D111H29	0.157
1 mushroom head pushbutton Ø 40 mm spring return	Red	-	1	Arrêt	XAL D164	0.182

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XAL D102



XAL D115



XAL D101



XAL D111



XAL D164

Control stations and enclosures

XAL control stations for Harmony® style 5





Ø 22 control and signalling units

With double insulated bezel

Complete stations (screw clamp terminal connections)

Emergency stop function

Light grey base "RAL 7035", dark grey lid "RAL 7016", lid fixing screws and nut material: stainless steel type A4, AISI 316.

Description	Type	Type of contact		Reference	Weight kg
		N/O	N/C		
Unmarked					
 XAL K174 1 mushroom head pushbutton Ø 40 mm, red Turn to release	Trigger action	–	2	XAL K178F (1)	0.194
		1	1	XAL K178E (1)	0.194
		1	2	XAL K178G (1)	0.194
	Standard	–	1	XAL K174 (1)	0.178
		–	2	XAL K174F (1)	0.188
		1	1	XAL K174E (1)	0.188
		1	2	XAL K174G (1)	0.197
 XAL K184 1 mushroom head pushbutton Ø 40 mm, red Key release (key n° 455)	Trigger action	–	2	XAL K188F (1)	0.188
		1	1	XAL K188E (1)	0.188
		1	2	XAL K188G (1)	0.188
	Standard	–	1	XAL K184 (1)	0.178
		–	2	XAL K184F (1)	0.188
		1	1	XAL K184E (1)	0.188
		1	2	XAL K184G (1)	0.197
 XAL K194 1 mushroom head pushbutton Ø 40 mm, red Push-pull	Standard	–	1	XAL K194 (1)	0.183
Marked "Emergency stop" on legend holder and legend below head					
 XAL K174 1 mushroom head pushbutton Ø 40 mm, red Turn to release	Standard	–	1	XAL K1741 (1)	0.185

(1) Mushroom for Emergency stop pushbuttons conform to standard IEC/EN 60947-5-5 and to Machinery Directive 98/37/EC.

Mushroom for trigger action Emergency stop pushbuttons conform to standard EN 418.

Please consult your Regional Sales Office for full details of these standards and directives.

Start Stop function

Light grey base "RAL 7035", dark grey lid "RAL 7016", lid fixing screws and nut material: stainless steel type A4, AISI 316.

Description	Type of push	Type of contact		Marking	Reference	Weight kg
		N/O	N/C			

Marking on pushbutton (1)

2 spring return pushbuttons	1 flush green	1	–	I	XAL D213	0.233
	1 flush red	–	1	O		
				Marche	XAL D224	0.233
				Arrêt		
				Start	XAL D215	0.233
				Stop		
		1	1	I	XAL D213E	0.252
		1	1	O		
	1 flush green	1	–	I	XAL D214	0.234
	1 projecting red	–	1	O		
				Start	XAL D225	0.234
				Stop		

Marking on legend holder and legend below head

2 spring return pushbuttons	1 flush green	1	–	Marche	XAL D211	0.233
	1 flush red	–	1	Arrêt		
				Start	XAL D211H29	0.233
				Stop		
	1 flush green	1	–	Ouverture	XAL D241	0.233
	1 flush green	1	–	Fermeture		
1 selector switch	Standard handle	1	–	O-I	XAL D134	0.163
		1	–	Arrêt-Marche		
2-position stay put				O-I	XAL D144	0.187
				1		
	Key switches key n° 455 key withdrawal from left-hand position			O-I	XAL D142	0.196
				1		

Description	Type of push	Type of contact		Marking	Pilot light supply V	Reference	Weight kg
		N/O	N/C				

With pilot light and marking on pushbutton (1)

2 spring return pushbuttons and 1 pilot light with integral red LED	1 flush green	1	–	I	~ 24	XAL D363B	0.261
	1 flush red	–	1	O	~ 120		
					~ 230	XAL D363M	0.261

With pilot light and marking on legend holder and legend below head

2 spring return pushbuttons and 1 pilot light with integral red LED	1 flush green	1	–	Marche	~ 24	XAL D361B	0.261
	1 flush red	–	1	Arrêt	~ 230		
					~ 230	XAL D361M	0.261

(1) Push supplied with cap not clipped-in, allowing orientation through 360° in 90° steps.

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XAL D224



XAL D211H29



XAL D134



XAL D144



XAL D363B

Control stations and enclosures

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Ø 22 control and signalling units

With double insulated bezel

Complete stations (screw clamp terminal connections)

Two function

Light grey base "RAL 7035", dark grey lid "RAL 7016", lid fixing screws and nut material: stainless steel type A4, AISI 316.

Description	Type of push	Type of contact		Marking	Reference	Weight kg
		N/O	N/C			
Marking on pushbutton (1)						
2 spring return pushbuttons	1 flush white	1	–	↑	XAL D222	0.233
	1 flush black	1	–	↓		
				→	XAL D223	0.233
				↔		
		1	1	↑	XAL D222E	0.233
		1	1	↓		



XAL D222

Three function (light grey base "RAL 7035", dark grey lid "RAL 7016")

Description	Type of push	Type of contact		Marking	Reference	Weight kg
		N/O	N/C			
Marking on pushbutton (1)						
3 spring return pushbuttons	1 flush green	1	–	I	XAL D339	0.298
	1 flush red	–	1	O		
	1 flush green	1	–	II		
	1 flush white	1	–	↑	XAL D324	0.298
	1 flush red	–	1	O		
	1 flush black	1	–	↓	XAL D326	0.298
				↑		
				Stop	XAL D334	0.298
				↓		
				→	XAL D324E	0.317
				O		
				↔	XAL D325	0.299
				↑		
		1	1	O	XAL D328	0.317
		1	1	↓		
		1	1	↑	XAL D325	0.299
		1	1	O		
		1	–	↓	XAL D328	0.317
		1	–	↑		
2 spring return pushbuttons + 1 latching mushroom head pushbutton Ø 30 mm	1 flush white	1	–	↑	XAL D328	0.317
	1 mushroom head red (2)	–	1	O		
	1 flush black	1	–	↓		



XAL D339



XAL D334



XAL D321

Marking on legend holder and legend below head

3 spring return pushbuttons	1 flush green	1	–	Avant	XAL D311	0.299
	1 flush red	–	1	Arrêt		
	1 flush green	–	–	Arrière		
				Montée	XAL D321	0.299
				Arrêt		
				Descente		

(1) Push supplied with cap not clipped-in, allowing orientation through 360° in 90° steps.

(2) Standard turn to release.

Control stations and enclosures

XAL control stations for Harmony® style 5

Ø 22 control and signalling units

With double insulated bezel

Stations for user assembly: empty enclosures

Empty enclosures (lid fixing screws and nut material: stainless steel type A4, AISI 316)

Description	Number of ways	Reference	Weight kg
Light grey base "RAL 7035" Dark grey lid "RAL 7016"	1	XAL D01	0.136
	2	XAL D02	0.193
	3	XAL D03	0.238
	4	XAL D04	0.278
	5	XAL D05	0.322
Light grey base "RAL 7035" Yellow lid "RAL 1021" For Emergency stop function	1	XAL K01	0.136
	2	XAL K02 ▲	0.193
	3	XAL K03 ▲	0.238
	4	XAL K04 ▲	0.278
	5	XAL K05 ▲	0.322
CSA + UL certified (1)			
Light grey base "RAL 7035" Dark grey lid "RAL 7016"	1	XAL D01H7	0.136
	2	XAL D02H7	0.205
	3	XAL D03H7	0.238

(1) Volt-free commoning/earth terminal included.

2



XAL D02

▲ Available : 1st quarter 2005.General :
pages 2/4 and 2/5Characteristics :
pages 2/6 and 2/7Dimensions :
pages 2/30 and 2/31

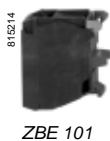
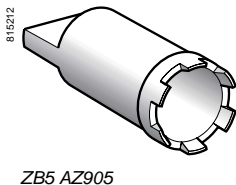
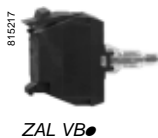
Control stations and enclosures

XAL control stations for Harmony® style 5

Ø 22 control and signalling units

With double insulated bezel

Stations for user assembly: electrical blocks



Electrical blocks and accessories for mounting on a plate in back of enclosure

Description	Description	Colour	Sold in lots of	Unit reference	Weight kg
Electrical blocks with screw clamp terminal connections					
Standard contact blocks (1)	N/O contact	–	5	ZEN L1111	0.015
	N/C contact	–	5	ZEN L1121	0.015
Light blocks with integral LED (1) Protected LED	~ 24 V	White	5	ZAL VB1	0.015
		Green	5	ZAL VB3	0.015
		Red	5	ZAL VB4	0.015
		Yellow	5	ZAL VB5	0.015
		Blue	5	ZAL VB6	0.015
		~ 48...120 V	White	5	ZAL VG1
	Green		5	ZAL VG3	0.015
	Red		5	ZAL VG4	0.015
	Yellow		5	ZAL VG5	0.015
	Blue		5	ZAL VG6	0.015
	~ 230...240 V		White	5	ZAL VM1
		Green	5	ZAL VM3	0.015
		Red	5	ZAL VM4	0.015
		Yellow	5	ZAL VM5	0.015
		Blue	5	ZAL VM6	0.015

Description	For use with	Sold in lots of	Unit reference	Weight kg
Accessories for electrical blocks				
Blanking plug	Ø 22 mm units	10	ZB5 SZ3	0.008
Nut	Head fixing	10	ZB5 AZ901	0.002
Volt-free terminal	Commoning/earth	10	XAL Z09	0.003
Bezel tool	For tightening nut ZB5 AZ901	1	ZB5 AZ905	0.016

Electrical blocks and accessories for mounting beneath heads

Description	Description	Colour	Sold in lots of	Unit reference	Weight kg
Electrical blocks with screw clamp terminal connections (2) (for use with body/fixing collar ZB5 AZ009)					
Standard contact blocks	N/O contact	–	5	ZBE 101	0.011
	N/C contact	–	5	ZBE 102	0.011
Light blocks with integral LED (3) Protected LED	~ 24 V	White	5	ZBV B1	0.017
		Green	5	ZBV B3	0.017
		Red	5	ZBV B4	0.017
		Yellow	5	ZBV B5	0.017
		Blue	5	ZBV B6	0.017
		~ 48...120 V	White	5	ZBV G1
	Green		5	ZBV G3	0.017
	Red		5	ZBV G4	0.017
	Yellow		5	ZBV G5	0.017
	Blue		5	ZBV G6	0.017
	~ 230...240 V		White	5	ZBV M1
		Green	5	ZBV M3	0.017
		Red	5	ZBV M4	0.017
		Yellow	5	ZBV M5	0.017
		Blue	5	ZBV M6	0.017

Description	For use with	Sold in lots of	Unit reference	Weight kg	
Accessories for electrical blocks					
LED suppressors	Electrical light blocks with integral LED	~ 120 V	1	ZBZ VG	0.010
		~ 230 V	1	ZBZ VM	0.010
Body/fixing collar	Electrical blocks (contact or light)		10	ZB5 AZ009	0.006

(1) A maximum of 3 electrical blocks may be fitted per associated head.

(2) For electrical blocks for printed circuit board connection: please consult your Regional Sales Office.

(3) To order a "high luminosity" version, add the letter **S** to the end of the reference (example: **ZBV B4S** for a red, 24 V, high luminosity block).

Control stations and enclosures











XAL control stations for Harmony® style 5

Ø 22 control and signalling units

With double insulated bezel

Stations for user assembly: heads

Heads for spring return pushbuttons - unmarked

Shape of head	Type of push	Colour of cap	Reference	Weight kg
	Without cap (1)	–	ZB5 AA0	0.022
	Flush, with set of 6 coloured caps	6 colours (2)	ZB5 AA9	0.027
	Flush	White	ZB5 AA1	0.018
		Black	ZB5 AA2	0.018
		Green	ZB5 AA3	0.018
		Red	ZB5 AA4	0.018
		Yellow	ZB5 AA5	0.018
		Blue	ZB5 AA6	0.018
		Grey	ZB5 AA8	0.018
			Flush with transparent cap, for insertion of legend (3)	White
Green	ZB5 AA38			0.018
Red	ZB5 AA48			0.018
Yellow	ZB5 AA58			0.018
Blue	ZB5 AA68			0.018
	Booted (coloured silicone) Can be replaced without dismantling the head	White	ZB5 AP1S	0.014
		Black	ZB5 AP2S	0.014
		Green	ZB5 AP3S	0.014
		Red	ZB5 AP4S	0.014
		Yellow	ZB5 AP5S	0.014
		Blue	ZB5 AP6S	0.014
	Projecting	White	ZB5 AL1	0.019
		Black	ZB5 AL2	0.019
		Green	ZB5 AL3	0.019
		Red	ZB5 AL4	0.019
		Yellow	ZB5 AL5	0.019
		Blue	ZB5 AL6	0.019
	Flush (high guard)	White	ZB5 AA14	0.020
		Black	ZB5 AA24	0.020
		Green	ZB5 AA34	0.020
		Red	ZB5 AA44	0.020
		Yellow	ZB5 AA54	0.020
		Blue	ZB5 AA64	0.020
	Recessed (high guard)	White	ZB5 AA16	0.019
		Black	ZB5 AA26	0.019
		Green	ZB5 AA36	0.019
		Red	ZB5 AA46	0.019
		Yellow	ZB5 AA56	0.019
		Blue	ZB5 AA66	0.019
	Flush	White	ZB5 CA1	0.019
		Black	ZB5 CA2	0.019
		Green	ZB5 CA3	0.019
		Red	ZB5 CA4	0.019
		Yellow	ZB5 CA5	0.019
		Blue	ZB5 CA6	0.019
	Projecting	White	ZB5 CL1	0.021
		Black	ZB5 CL2	0.021
		Green	ZB5 CL3	0.021
		Red	ZB5 CL4	0.021
		Yellow	ZB5 CL5	0.021
		Blue	ZB5 CL6	0.021

(1) Cap to be ordered separately, see page 2/28.

(2) Head supplied with 6 different coloured caps (white, black, green, red, yellow, blue).

(3) For legend ordering information, see page 2/27.

Control stations and enclosures




XAL control stations for Harmony® style 5

Ø 22 control and signalling units



With double insulated bezel

Stations for user assembly: heads

Heads for spring return pushbuttons - marked

Shape of head	Type of push	Marking		Colour of cap	Reference	Weight kg		
		Text	Colour					
 ZB5 AA331	Flush (1)	I	White	Green	ZB5 AA331	0.018		
			Black	White	ZB5 AA131	0.018		
		II	White	Green	ZB5 AA336	0.018		
			Black	White	ZB5 AA136	0.018		
		START	White	Green	ZB5 AA333	0.018		
			Black	White	ZB5 AA133	0.018		
		ON	White	Green	ZB5 AA341	0.018		
			Black	White	ZB5 AA141	0.018		
		MARCHE	White	Green	ZB5 AA342	0.018		
			Black	White	ZB5 AA142	0.018		
		⊕	White	Black	ZB5 AA245	0.018		
			Black	White	ZB5 AA145	0.018		
		O	White	Red	ZB5 AA432	0.018		
				Black	ZB5 AA232	0.018		
		ARRET	White	Red	ZB5 AA433	0.018		
				Black	ZB5 AA233	0.018		
		STOP	White	Red	ZB5 AA434	0.018		
				Black	ZB5 AA234	0.018		
OFF	White	Red	ZB5 AA435	0.018				
		Black	ZB5 AA235	0.018				
UP	Black	White	ZB5 AA343	0.018				
		Black	ZB5 AA344	0.018				
DOWN	White	Black	ZB5 AA344	0.018				
		Black	ZB5 AA345	0.018				
↑	White	Black	ZB5 AA335	0.018				
		Black	White	ZB5 AA334	0.018			
 ZB5 AL232	Projecting (1)	O	White	Red	ZB5 AL432	0.019		
			Black	ZB5 AL232	0.019			
		ARRET	White	Red	ZB5 AL433	0.019		
				Black	ZB5 AL233	0.019		
		STOP	White	Red	ZB5 AL434	0.019		
				Black	ZB5 AL234	0.019		
		OFF	White	Red	ZB5 AL435	0.019		
				Black	ZB5 AL235	0.019		
		 ZB5 CA331	Flush (1)	I	White	Green	ZB5 CA331	0.019
					White	Red	ZB5 CA432	0.019
+	White			Black	ZB5 CA2934	0.019		
	White			Black	ZB5 CA2912	0.019		
↑	White			Black	ZB5 CA2912	0.019		
	White			Blue	ZB5 CA6939	0.019		

Mushroom heads for spring return pushbuttons

Shape of head	Diameter of push mm	Colour of push	Reference	Weight kg
 ZB5 AC24	30	Black	ZB5 AC24	0.027
		Green	ZB5 AC34	0.027
		Red	ZB5 AC44	0.027
		Yellow	ZB5 AC54	0.027
		Blue	ZB5 AC64	0.027
 ZB5 AC2	40	Black	ZB5 AC2	0.046
		Green	ZB5 AC3	0.046
		Red	ZB5 AC4	0.046
		Yellow	ZB5 AC5	0.046
		Blue	ZB5 AC6	0.046

(1) Push supplied with cap not clipped-in, allowing orientation through 360° in 90° steps.

Control stations and enclosures

XAL control stations for Harmony® style 5









Ø 22 control and signalling units

With double insulated bezel

Stations for user assembly: heads

Mushroom heads for latching pushbuttons

(Emergency stop: colour red)

Shape of head	Type of push	Diameter of push mm	Colour of push	Reference	Weight kg
	Trigger action Push-pull	40	Red	ZB5 AT84 (1)	0.050
	Trigger action Turn to release	30	Red	ZB5 AS834 (1)	0.042
		40	Red	ZB5 AS844 (1)	0.046
	Trigger action Key release (Key n° 455) (3)	30	Red	ZB5 AS934 (1)	0.068
		40	Red	ZB5 AS944 (1) (2)	0.071
		60	Red	ZB5 AS964 (1)	0.092
	Trigger action Key release (Key n° 455)	40	Red	ZB5 AS944D (1)	0.071
			Push-pull	30	Black
	Red			ZB5 AT44 (1)	0.044
40	Black			ZB5 AT2 (1)	0.049
			Red	ZB5 AT4 (1)	0.049
	Turn to release	30	Black	ZB5 AS42 (1)	0.040
			Red	ZB5 AS44 (1)	0.040
		40	Black	ZB5 AS52 (1)	0.044
			Red	ZB5 AS54 (1)	0.044
			Yellow	ZB5 AS55 (1)	0.044
	Key release (key n° 455) (3)	30	Black	ZB5 AS72 (1)	0.040
			Red	ZB5 AS74 (1)	0.040
		40	Black	ZB5 AS12 (1)	0.044
			Red	ZB5 AS14 (1) (2)	0.044
	Key release (key n° 4A185)	40	Red	ZB5 AS14D (1)	0.044

(1) Mushroom heads for Emergency stop pushbuttons conform to standard IEC/EN 60947-5-5, EN 418 and to Machinery Directive 98/37/EC.

Please consult your Regional Sales Office for full details of these standards and directives.

(2) Other key numbers:

- key n° 421E: add suffix **12** to the reference.
- key n° 458A: add suffix **10** to the reference.
- key n° 520E: add suffix **14** to the reference.
- key n° 3131A: add suffix **20** to the reference.

Example: For a Ø 40 mushroom head for a trigger action, latching pushbutton, with release by key n° 421E, the reference becomes: **ZB5 AS94412**.

(3) For specific keys with other numbers, please consult your Regional Sales Office.

Control stations and enclosures

XAL control stations for Harmony® style 5

Ø 22 control and signalling units

With double insulated bezel

Stations for user assembly: heads



Heads for selector switches (1)

Shape of head	Type of operator	Number and type of positions		Reference	Weight kg
	Standard handle, black	2 - stay put		ZB5 AD2	0.024
		2 - spring return from right to left		ZB5 AD4	0.024
		3 - stay put		ZB5 AD3	0.024
		3 - spring return to centre		ZB5 AD5	0.024
		3 - spring return from left to centre		ZB5 AD7	0.024
		3 spring return from right to centre		ZB5 AD8	0.024
	Standard handle, white	2 - stay put		ZB5 AD201	0.024
		2 - spring return from right to left		ZB5 AD401	0.024
		3 - stay put		ZB5 AD301	0.024
		3 - spring return to centre		ZB5 AD501	0.024
		3 - spring return from left to centre		ZB5 AD701	0.024
		3 spring return from right to centre		ZB5 AD801	0.024
	Standard handle, green	2 - stay put		ZB5 AD203	0.024
		2 - spring return from right to left		ZB5 AD403	0.024
		3 - stay put		ZB5 AD303	0.024
		3 - spring return to centre		ZB5 AD503	0.024
		3 - spring return from left to centre		ZB5 AD703	0.024
		3 spring return from right to centre		ZB5 AD803	0.024

(1) Can only be used for actuation of end row (side) mounted contacts.

Control stations and enclosures



























XAL control stations for Harmony® style 5

Ø 22 control and signalling units

With double insulated bezel

Stations for user assembly: heads

Heads for selector switches (1) (continued)

Shape of head	Type of operator	Number and type of positions		Reference	Weight kg
 ZB5 AD●●●	Standard handle, red	2 - stay put		ZB5 AD204	0.024
		2 - spring return from right to left		ZB5 AD404	0.024
		3 - stay put		ZB5 AD304	0.024
		3 - spring return to centre		ZB5 AD504	0.024
		3 - spring return from left to centre		ZB5 AD704	0.024
		3 spring return from right to centre		ZB5 AD804	0.024
	Standard handle, yellow	2 - stay put		ZB5 AD205	0.024
		2 - spring return from right to left		ZB5 AD405	0.024
		3 - stay put		ZB5 AD305	0.024
		3 - spring return to centre		ZB5 AD505	0.024
		3 - spring return from left to centre		ZB5 AD705	0.024
		3 spring return from right to centre		ZB5 AD805	0.024
	Standard handle, blue	2 - stay put		ZB5 AD206	0.024
		2 - spring return from right to left		ZB5 AD406	0.024
		3 - stay put		ZB5 AD306	0.024
		3 - spring return to centre		ZB5 AD506	0.024
		3 - spring return from left to centre		ZB5 AD706	0.024
		3 spring return from right to centre		ZB5 AD806	0.024
 ZB5 AJ3	Long handle, black	2 - stay put		ZB5 AJ2	0.025
		2 - spring return from right to left		ZB5 AJ4	0.025
		3 - stay put		ZB5 AJ3	0.025
		3 - spring return to centre		ZB5 AJ5	0.025
		3 - spring return from left to centre		ZB5 AJ7	0.025
		3 spring return from right to centre		ZB5 AJ8	0.025

(1) Can only be used for actuation of end row (side) mounted contacts.

Control stations and enclosures

XAL control stations for Harmony® style 5

Ø 22 control and signalling units

With double insulated bezel

Stations for user assembly: heads

Heads for selector switches (1) (continued)



ZB5 AD●●

Knurled knob,
black

2 - stay put



ZB5 AD29

0.027

2 - spring return
from right to left

ZB5 AD49

0.027

3 - stay put



ZB5 AD39

0.027

3 - spring return to centre



ZB5 AD59

0.027

3 - spring return
from left to centre

ZB5 AD79

0.027

3 spring return
from right to centre

ZB5 AD89

0.027



ZB5 AG●

Key switch
with key n° 455 (4)

2 - stay put



ZB5 AG2 (3)

0.050



ZB5 AG4 (3)

0.050

2 - spring return
from right to left

ZB5 AG6 (3)

0.050

3 - stay put



ZB5 AG0 (3)

0.050



ZB5 AG3 (3)

0.050



ZB5 AG5 (3)

0.050



ZB5 AG9 (3)

0.050



ZB5 AG09 (3)

0.050

3 - spring return
from left to centre

ZB5 AG1 (3)

0.050

2 - spring return to centre



ZB5 AG7 (3)

0.050

3 spring return
from right to centre

ZB5 AG8 (3)


0.050



ZB5 AG08 (3)

0.050

(1) Can only be used for actuation of end row (side) mounted contacts.

(2) The symbol  indicates key withdrawal position(s).

(3) Other key numbers:

- key n° 421E: add suffix **12** to the reference,
- key n° 458A: add suffix **10** to the reference,
- key n° 520E: add suffix **14** to the reference,
- key n° 3131A: add suffix **20** to the reference.

Example:

For a switch head with key n° 421E, 2-position stay put with key withdrawal from the left-hand position, the reference becomes : **ZB5 AG212**.

(4) For specific keys with other numbers, please consult your Regional Sales Office.

Control stations and enclosures




















XAL control stations for Harmony® style 5

Ø 22 control and signalling units


With double insulated bezel

Stations for user assembly: heads


Heads for selector switches (1) (continued)

Shape of head	Type of operator	Number and type of positions (2)	Reference	Weight kg	
 ZB5 AG●●		2 - stay put		ZB5 AG2D	0.050
				ZB5 AG02D	0.050
				ZB5 AG4D	0.050
		2 - spring return from right to left		ZB5 AG6D	0.050
			3 - stay put		ZB5 AG0D
				ZB5 AG3D	0.050
				ZB5 AG5D	0.050
				ZB5 AG9D	0.050
				ZB5 AG09D	0.050
				ZB5 AG03D	0.050
				ZB5 AG04D	0.050
		3 - spring return from left to centre		ZB5 AG06D	0.050
				ZB5 AG1D	0.050
				ZB5 AG07D	0.050
		3 spring return from right to centre		ZB5 AG8D	0.050
				ZB5 AG08D	0.050
				ZB5 AG05D	0.050
		2 - spring return to centre		ZB5 AG7D	0.050

Heads for toggle switches

Shape of head	Description	Lever	Type of position	Reference	Weight kg
 ZB5 AD28	2-position	Black	Stay put	ZB5 AD28	0.023
			Spring return	ZB5 AD48	0.023
		White	Stay put	ZB5 AD2801	0.023
			Stay put	ZB5 AD2804	0.023
			Stay put	ZB5 AD2806	0.023
			Stay put	ZB5 AD2806	0.023

(1) Can only be used for actuation of end row (side) mounted contacts.

(2) The symbol  indicates key withdrawal position(s).

Control stations and enclosures

XAL control stations for Harmony® style 5

Ø 22 control and signalling units

With double insulated bezel

Stations for user assembly: heads



Heads for pilot lights

Shape of head	For use with body comprising light source type	Colour of lens	Reference	Weight kg
With plain lens				
	With integral LED Protected LED	White	ZB5 AV013	0.017
		Green	ZB5 AV033	0.017
		Red	ZB5 AV043	0.017
		Yellow	ZB5 AV053	0.017
		Blue	ZB5 AV063	0.017
	With integral LED Protected LED	White	ZB5 CV013	0.020
		Green	ZB5 CV033	0.020
		Red	ZB5 CV043	0.020
		Yellow	ZB5 CV053	0.020
		Blue	ZB5 CV063	0.020
		5 colours (1)	ZB5 CV003	0.028

With plain lens, for insertion of legend (2)

	With integral LED Protected LED	White	ZB5 AV013E	0.017
		Green	ZB5 AV033E	0.017
		Red	ZB5 AV043E	0.017
		Yellow	ZB5 AV053E	0.017
		Blue	ZB5 AV063E	0.017

With grooved lens (3)

	With integral LED Protected LED	White	ZB5 AV013S	0.017
		Green	ZB5 AV033S	0.017
		Red	ZB5 AV043S	0.017
		Yellow	ZB5 AV053S	0.017
		Blue	ZB5 AV063S	0.017

Heads for spring return illuminated pushbuttons

Shape of head	Type of push	Colour	Reference	Weight kg
Only for use with bodies comprising a light source with integral LED				
	Flush, plain lens	White	ZB5 AW313	0.017
		Green	ZB5 AW333	0.017
		Red	ZB5 AW343	0.017
		Yellow	ZB5 AW353	0.017
		Blue	ZB5 AW363	0.017
	Flush, grooved lens (3)	White	ZB5 AW313S	0.016
		Green	ZB5 AW333S	0.016
		Red	ZB5 AW343S	0.016
		Yellow	ZB5 AW353S	0.016
		Blue	ZB5 AW363S	0.016
	Flush for insertion of legend (1)	White	ZB5 AA18	0.018
		Green	ZB5 AA38	0.018
		Red	ZB5 AA48	0.018
		Yellow	ZB5 AA58	0.018
		Blue	ZB5 AA68	0.018
	Projecting	White	ZB5 AW113	0.018
		Green	ZB5 AW133	0.018
		Red	ZB5 AW143	0.018
		Yellow	ZB5 AW153	0.018
		Blue	ZB5 AW163	0.018
	Flush for insertion of legend (1)	White	ZB5 CW313	0.023
		Green	ZB5 CW333	0.023
		Red	ZB5 CW343	0.023
		Yellow	ZB5 CW353	0.023
		Blue	ZB5 CW363	0.023

(1) Head supplied with 5 different coloured lenses (white, green, red, yellow, blue) for insertion of legend.

For legend ordering information: see page 2/27.

(2) For legend ordering information: see page 2/27.

(3) For use in bright ambient light conditions (outdoors in sunlight, for example). For heads with grooved lens, the use of "high luminosity" LEDs is recommended, see page 1/83.

Other versions

Heads for flush pushbuttons with illuminated ring.
Please consult your Regional Sales Office.

Control stations and enclosures













XAL control stations for Harmony® style 5

Ø 22 control and signalling units

With double insulated bezel


Stations for user assembly: heads

Heads for illuminated selector switches with standard handle (1)

Shape of head	Number and type of positions	Colour of handle	Reference	Weight kg	
Only for use with bodies comprising a light source with integral LED					
	2 - stay put		White	ZB5 AK1213	0.021
			Green	ZB5 AK1233	0.021
			Red	ZB5 AK1243	0.021
			Yellow	ZB5 AK1253	0.021
			Blue	ZB5 AK1263	0.021
	2 - spring return from right to left		White	ZB5 AK1413	0.021
			Green	ZB5 AK1433	0.021
			Red	ZB5 AK1443	0.021
			Yellow	ZB5 AK1453	0.021
			Blue	ZB5 AK1463	0.021
	3 - stay put		White	ZB5 AK1313	0.021
			Green	ZB5 AK1333	0.021
			Red	ZB5 AK1343	0.021
			Yellow	ZB5 AK1353	0.021
			Blue	ZB5 AK1363	0.021
	3 - spring return to centre		White	ZB5 AK1513	0.021
			Green	ZB5 AK1533	0.021
			Red	ZB5 AK1543	0.021
			Yellow	ZB5 AK1553	0.021
			Blue	ZB5 AK1563	0.021
	3 spring return from right to centre		White	ZB5 AK1813	0.021
			Green	ZB5 AK1833	0.021
			Red	ZB5 AK1843	0.021
			Yellow	ZB5 AK1853	0.021
			Blue	ZB5 AK1863	0.021
	3 - spring return from left to centre		White	ZB5 AK1713	0.021
			Green	ZB5 AK1733	0.021
			Red	ZB5 AK1743	0.021
			Yellow	ZB5 AK1753	0.021
			Blue	ZB5 AK1763	0.021

Heads for Ø 40 illuminated, latching, mushroom head pushbuttons (2)

Only for use with bodies comprising a light source with integral "high luminosity" LED (3)

Shape of head	Type of push	Colour of push	Reference	Weight kg
	Turn to release	White	ZB5 AW713	0.022
		Green	ZB5 AW733	0.022
		Red	ZB5 AW743	0.022
		Yellow	ZB5 AW753	0.022
		Blue	ZB5 AW763	0.022

(1) NEMA type 13.

(2) Use electrical blocks type ZBE 10 specifically designed for "mounting beneath heads", see page 2/13.

(3) "High luminosity" LED, see page 2/13.

2



ZB5 AK1213



ZB5 AK1463



ZB5 AW743

Control stations and enclosures

XAL control stations for Harmony® style 5

Ø 22 control and signalling units

With double insulated bezel

Stations for user assembly: accessories

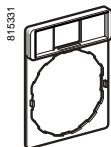
Standard (30 x 40 mm) legend holders for 8 x 27 mm legends

Description	Legend		Sold in lots of	Unit reference	Weight kg
	Colour	Marking			
Without legend	–	–	10	ZBZ 32	0.001
With blank legend (for engraving)	Black or red background	–	10	ZBY 2101	0.002
	White or yellow background	–	10	ZBY 4101	0.002
With 8 x 27 mm legend (with International marking)	Black or red background	O (black background)	1	ZBY 2146	0.002
		O (red background)	1	ZBY 2931	0.002
		I	1	ZBY 2147	0.002
		II	1	ZBY 2148	0.002
		O-I	1	ZBY 2178	0.002
		I-II	1	ZBY 2179	0.002
		I-O-II	1	ZBY 2186	0.002
		AUTO	1	ZBY 2115	0.002
		STOP	1	ZBY 2304	0.002
		ARRET (red background)	1	ZBY 2104	0.002
		ARRET (black background)	1	ZBY 0104	0.002
		ARRET GENERAL	1	ZBY 2129	0.002
		ARRET REARMEMENT	1	ZBY 2133	0.002
		ARRET D'URGENCE	1	ZBY 2130	0.002
		ARRET-MARCHE	1	ZBY 2166	0.002
ARRIERE	1	ZBY 2106	0.002		
AUTO CYCLE-CYCLE	1	ZBY 2198	0.002		
AUTO CYCLE-MAIN	1	ZBY 2199	0.002		
AUTO-MAIN	1	ZBY 2164	0.002		
AUTO-O-MAIN	1	ZBY 2185	0.002		
AVANT	1	ZBY 2105	0.002		
AVANT-O-ARRIERE	1	ZBY 2184	0.002		
C-P-C-NORMAL	1	ZBY 2165	0.002		
CYCLE-MAIN	1	ZBY 2197	0.002		
DECLENCHEMENT	1	ZBY 2132	0.002		
DEFAUT (black background)	1	ZBY 2134	0.002		
DEFAUT (red background)	1	ZBY 2135	0.002		
DEPART CYCLE	1	ZBY 2195	0.002		
DESCENTE	1	ZBY 2108	0.002		
DROITE	1	ZBY 2109	0.002		
ENCLENCHEMENT	1	ZBY 2131	0.002		
EN SERVICE	1	ZBY 2111	0.002		
FERMETURE	1	ZBY 2114	0.002		
GAUCHE	1	ZBY 2110	0.002		
HORS SERVICE	1	ZBY 2112	0.002		
HORS-EN	1	ZBY 2167	0.002		
LENT	1	ZBY 2127	0.002		
MAIN	1	ZBY 2116	0.002		
MARCHE	1	ZBY 2103	0.002		
MONTEE	1	ZBY 2107	0.002		
OUVERTURE	1	ZBY 2113	0.002		
PHASE / PHASE	1	ZBY 2196	0.002		
REARMEMENT (red background)	1	ZBY 2123	0.002		
REARMEMENT (black background)	1	ZBY 0123	0.002		
SOUS TENSION	1	ZBY 2126	0.002		
VITE	1	ZBY 2128	0.002		

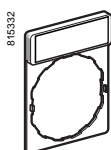
Legends for engraving (30 x 42 mm) for marking text

Description	Colour	Sold in lots of	Unit reference	Weight kg
Legends for engraving for marking 2 lines of text	Black or red background	10	ZAL Y2	0.001
	White or yellow background	10	ZAL Y4	0.001

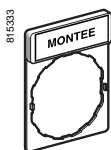
(1) "Start" functions: white letters on black background. "Stop" functions: white letters on red background (unless otherwise specified above).



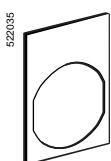
ZBZ 32



ZBY 101



ZBY 2107



ZAL Y4

Control stations and enclosures

XAL control stations for Harmony® style 5

Ø 22 control and signalling units

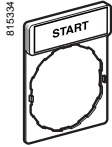
With double insulated bezel

Stations for user assembly: accessories

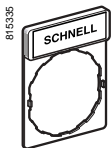
Standard (30 x 40 mm) legend holders for 8 x 27 mm legends (continued)

Description	Legend		Reference	Weight kg		
	Colour	Marking				
With legend (with English language marking)	Black or red background (1)	AUTO-HAND	ZBY 2364	0.002		
		AUTO-O-HAND	ZBY 2385	0.002		
		CLOSE	ZBY 2314	0.002		
		DOWN	ZBY 2308	0.002		
		EMERGENCY STOP	ZBY 2330	0.002		
		FAST	ZBY 2328	0.002		
		FORWARD	ZBY 2305	0.002		
		HAND	ZBY 2316	0.002		
		HAND-OFF-AUTO	ZBY 2387	0.002		
		INCH	ZBY 2321	0.002		
		LEFT	ZBY 2310	0.002		
		OFF	ZBY 2312	0.002		
		OFF-ON	ZBY 2367	0.002		
		ON	ZBY 2311	0.002		
		OPEN	ZBY 2313	0.002		
		POWER ON	ZBY 2326	0.002		
		RESET (red background)	ZBY 2323	0.002		
		RESET (black background)	ZBY 2322	0.002		
		REVERSE	ZBY 2306	0.002		
		RIGHT	ZBY 2309	0.002		
		RUN	ZBY 2334	0.002		
		SLOW	ZBY 2327	0.002		
		START	ZBY 2303	0.002		
		STOP-START	ZBY 2366	0.002		
		UP	ZBY 2307	0.002		
		With legend (with German language marking)	Black or red background (1)	AB	ZBY 2208	0.002
				AUF	ZBY 2207	0.002
				AUS	ZBY 2204	0.002
				AUS-EIN	ZBY 2266	0.002
				AUS-IN BETRIEB	ZBY 2267	0.002
AUS-RÜCKSTELLUNG	ZBY 2233			0.002		
AUSSCHALTEN	ZBY 2232			0.002		
AUTO-HAND	ZBY 2364			0.002		
AUTO-O-HAND	ZBY 2385			0.002		
AUTOZYKL-HAND	ZBY 2299			0.002		
AUTOZYKL-1 ZYKL	ZBY 2298			0.002		
C-P-C-NORMAL	ZBY 2265			0.002		
EIN	ZBY 2203			0.002		
EINSCHALTEN	ZBY 2231			0.002		
HAND	ZBY 2316			0.002		
LANGSAM	ZBY 2227			0.002		
LINKS	ZBY 2210			0.002		
NOT-AUS (red background)	ZBY 2230			0.002		
NOT-AUS (yellow background)	ZBY 22420001			0.002		
NOT-HALT	ZBY 2229			0.002		
ÖFFNEN	ZBY 2213			0.002		
RECHTS	ZBY 2209			0.002		
RÜCKSTELLUNG	ZBY 2223			0.002		
SCHLIESSEN	ZBY 2214			0.002		
SCHNELL	ZBY 2228			0.002		
SPANNUNG EIN	ZBY 2226			0.002		
STEUERUNG AUS	ZBY 2212			0.002		
STEUERUNG EIN	ZBY 2211			0.002		
STÖRUNG (black background)	ZBY 2234			0.002		
STÖRUNG (red background)	ZBY 2235			0.002		
VOR	ZBY 2205	0.002				
VOR-O-ZURÜCK	ZBY 2284	0.002				
ZURÜCK	ZBY 2206	0.002				
ZYKLUS-HAND	ZBY 2297	0.002				
ZYKLUS-START	ZBY 2295	0.002				

(1) "Start" functions: white letters on black background. "Stop" functions: white letters on red background (unless otherwise specified above).



ZBY 2303



ZBY 2228

Control stations and enclosures

XAL control stations for Harmony® style 5

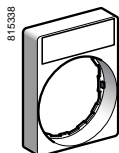
Ø 22 control and signalling units

With double insulated bezel

Stations for user assembly: accessories



ZBZ 34



ZBY 0H101



ZBY 02178



ZBY 00104

30 x 40 mm legend holders (flush mounting with bezel) for 8 x 27 mm legends

Description	For use with	Colour	Sold in lots of	Unit reference	Weight kg
Without legend	Circular heads	–	10	ZBZ 34	0.003
	Square heads	–	10	ZBC Z34	0.002
With blank legend	Circular heads	Black or red background	10	ZBY 2H101	0.004
		White or yellow background	10	ZBY 4H101	0.004
	Square heads	Black or red background	10	ZBC Y2H101	0.002
		White or yellow background	10	ZBC Y4H101	0.002

Legends for engraving

Description mm	For use with	Colour	Sold in lots of	Unit reference	Weight kg
8 x 27	30 x 40 mm legend holder	Black or red background	10	ZBY 0101	0.001
		White or yellow background	10	ZBY 0102	0.001

Sheets of peel-off legends (with backing board and protective transparent cover)

Description	For use with	Sold in lots of	Unit reference	Weight kg
Sheet of 76 8 x 27 mm legends	30 x 40 mm legend holder ZBZ 32 and ZBZ 34	10	ZBY 4100	0.043

8 x 27 mm marked legends (for 30 x 40 mm legend holders ZBZ 32 and ZBZ 34)

Colour	Marking	Reference	Weight kg	
Black or red background (1)	International	O (black background)	ZBY 02146 0.001	
		O (red background)	ZBY 02931 0.001	
		I	ZBY 02147 0.001	
		II	ZBY 02148 0.001	
		O-I	ZBY 02178 0.001	
		I-II	ZBY 02179 0.001	
		I-O-II	ZBY 02186 0.001	
		AUTO	ZBY 02115 0.001	
		STOP	ZBY 02304 0.001	
		French	ARRET (red background)	ZBY 02104 0.001
			ARRET (black background)	ZBY 00104 0.001
			ARRET GENERAL	ZBY 02129 0.001
			ARRET REARMEMENT	ZBY 02133 0.001
			ARRET D'URGENCE	ZBY 02130 0.001
ARRET-MARCHE	ZBY 02166 0.001			
ARRIERE	ZBY 02106 0.001			
AUTO CYCLE-CYCLE	ZBY 02198 0.001			
AUTO CYCLE-MAIN	ZBY 02199 0.001			
AUTO-MAIN	ZBY 02164 0.001			
AUTO-O-MAIN	ZBY 02185 0.001			
AVANT	ZBY 02105 0.001			
AVANT-O-ARRIERE	ZBY 02184 0.001			
C-P-C-NORMAL	ZBY 02165 0.001			
CYCLE-MAIN	ZBY 02197 0.001			
DECLenchement	ZBY 02132 0.001			
DEFAUT (black background)	ZBY 02134 0.001			
DEFAUT (red background)	ZBY 02135 0.001			
DEPART CYCLE	ZBY 02195 0.001			
DESCENTE	ZBY 02108 0.001			
DROITE	ZBY 02109 0.001			
ENCLenchement	ZBY 02131 0.001			
EN SERVICE	ZBY 02111 0.001			
FERMETURE	ZBY 02114 0.001			
GAUCHE	ZBY 02110 0.001			
HORS SERVICE	ZBY 02112 0.001			
HORS-EN	ZBY 02167 0.001			
LENT	ZBY 02127 0.001			
MAIN	ZBY 02116 0.001			
MARCHE	ZBY 02103 0.001			
MONTEE	ZBY 02107 0.001			
OUVERTURE	ZBY 02113 0.001			
PHASE / PHASE	ZBY 02196 0.001			

(1) "Start" functions: white letters on black background. "Stop" functions: white letters on red background (unless otherwise specified above).

Control stations and enclosures

XAL control stations for Harmony® style 5

Ø 22 control and signalling units

With double insulated bezel

Stations for user assembly: accessories

8 x 27 mm marked legends (for 30 x 40 mm legend holders ZBZ 32 and ZBZ 34) (continued)

Colour	Marking	Reference	Weight kg		
Black or red background (1)	French (continued)	REARMEMENT (red background)	ZBY 02123	0.001	
		REARMEMENT (black background)	ZBY 00123	0.001	
		SOUS TENSION	ZBY 02126	0.001	
		VITE	ZBY 02128	0.001	
	English	AUTO-HAND	ZBY 02364	0.001	
		AUTO-O-HAND	ZBY 02385	0.001	
		CLOSE	ZBY 02314	0.001	
		DOWN	ZBY 02308	0.001	
		EMERGENCY STOP	ZBY 02330	0.001	
		FAST	ZBY 02328	0.001	
		FORWARD	ZBY 02305	0.001	
		HAND	ZBY 02316	0.001	
		HAND-OFF-AUTO	ZBY 02387	0.001	
		INCH	ZBY 02321	0.001	
		LEFT	ZBY 02310	0.001	
		OFF	ZBY 02312	0.001	
		OFF-ON	ZBY 02367	0.001	
		ON	ZBY 02311	0.001	
		OPEN	ZBY 02313	0.001	
		POWER ON	ZBY 02326	0.001	
		RESET (red background)	ZBY 02323	0.001	
		RESET (black background)	ZBY 02322	0.001	
		REVERSE	ZBY 02306	0.001	
		RIGHT	ZBY 02309	0.001	
		RUN	ZBY 02334	0.001	
		SLOW	ZBY 02327	0.001	
		START	ZBY 02303	0.001	
		STOP-START	ZBY 02366	0.001	
		UP	ZBY 02307	0.001	
		German	AB	ZBY 02208	0.001
			AUF	ZBY 02207	0.001
			AUS	ZBY 02204	0.001
			AUS-EIN	ZBY 02266	0.001
			AUS-IN BETRIEB	ZBY 02267	0.001
	AUS-RÜCKSTELLUNG		ZBY 02233	0.001	
	AUSSCHALLEN		ZBY 02232	0.001	
	AUTO-HAND		ZBY 02364	0.001	
	AUTO-O-HAND		ZBY 02385	0.001	
	AUTOZYKL-HAND		ZBY 02299	0.001	
	AUTOZYKL- 1 ZYKL		ZBY 02298	0.001	
	C-P-C-NORMAL		ZBY 02265	0.001	
	EIN		ZBY 02203	0.001	
	EINSCHALTEN		ZBY 02231	0.001	
	HAND		ZBY 02316	0.001	
	LANGSAM		ZBY 02227	0.001	
	LINKS		ZBY 02210	0.001	
	NOT-AUS (red background)		ZBY 02230	0.001	
NOT-AUS (yellow background)	ZBY 022420001		0.001		
NOT-HALT	ZBY 02229		0.001		
ÖFFNEN	ZBY 02213		0.001		
RECHTS	ZBY-02209		0.001		
RÜCKSTELLUNG	ZBY-02223		0.001		
SCHLIESSEN	ZBY-02214		0.001		
SCHNELL	ZBY-02228		0.001		
SPANNUNG EIN	ZBY-02226		0.001		
STEUERUNG AUS	ZBY-02212		0.001		
STEUERUNG EIN	ZBY-02211		0.001		
STÖRUNG (black background)	ZBY-02234		0.001		
STÖRUNG (red background)	ZBY-02235		0.001		
VOR	ZBY-02205		0.001		
VOR-O-ZURÜCK	ZBY-02284		0.001		
ZURÜCK	ZBY-02206		0.001		
ZYKLUS-HAND	ZBY-02297	0.001			
ZYKLUS-START	ZBY-02295	0.001			

(1) "Start" functions: white letters on black background. "Stop" functions: white letters on red background (unless otherwise specified above).

2

815341

START

ZBY 02303

815342

SCHNELL

ZBY 02228

Control stations and enclosures

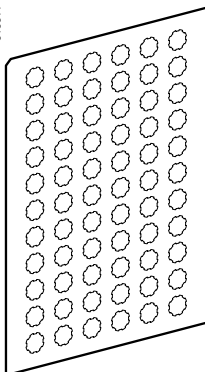
XAL control stations for Harmony® style 5

Ø 22 control and signalling units

With double insulated bezel

Stations for user assembly: accessories

815344



ZBY 1●●●

Legends for pushbuttons, switches and pilot lights XB5 A

Description	Marking	Sold in lots of	Unit reference	Weight kg	
Sheets of 66 circular peel-off transparent self-adhesive legends	Without	10	ZBY 1101	0.017	
	International	O	10	ZBY 1146	0.017
		I	10	ZBY 1147	0.017
		II	10	ZBY 1148	0.017
		III	10	ZBY 1149	0.017
		AUTO	10	ZBY 1115	0.017
		STOP	10	ZBY 1304	0.017
		↑	10	ZBY 1912	0.017
	French	ARRET	10	ZBY 1104	0.017
		ARRIERE	10	ZBY 1106	0.017
		AVANT	10	ZBY 1105	0.017
		DESCENTE	10	ZBY 1108	0.017
		MAIN	10	ZBY 1116	0.017
		MARCHE	10	ZBY 1103	0.017
		MONTEE	10	ZBY 1107	0.017
	English	HAND	10	ZBY 1316	0.017
		OFF	10	ZBY 1312	0.017
		ON	10	ZBY 1311	0.017
		START	10	ZBY 1303	0.017
German	AB	10	ZBY 1208	0.017	
	AUF	10	ZBY 1207	0.017	
	AUS	10	ZBY 1204	0.017	
	EIN	10	ZBY 1203	0.017	
Strip of 66 square peel-off transparent self-adhesive legends	Without	10	ZBC Y1101	0.017	

583527



XBY 2U

“SIS Label” labelling software (for legend sheets ZBY 1101, ZBY 4100 and ZBC Y1101)

Application	Reference	Weight kg
Legend design English, French, German, Italian, Spanish	XBY 2U	0.100

Control stations and enclosures

XAL control stations for Harmony® style 5

Ø 22 control and signalling units

With double insulated bezel

Stations for user assembly: accessories

Metal guards (3)

Description	For use with	Colour	Reference	Weight kg
Padlockable	Ø 40 Emergency stop mushroom head pushbuttons (standard or trigger action)	Chromium plated	ZBZ 1600	0.046
		Black	ZBZ 1602	0.046
		Red	ZBZ 1604	0.046
		Yellow	ZBZ 1605	0.046
		Blue	ZBZ 1606	0.046

Pushbutton caps - unmarked

For use with	Cap Type	Colour	Sold in lots of	Unit reference	Weight kg
ZB5 AA circular pushbutton heads supplied without cap	Flush	White	10	ZBA 1	0.001
		Black	10	ZBA 2	0.001
		Green	10	ZBA 3	0.001
		Red	10	ZBA 4	0.001
		Yellow	10	ZBA 5	0.001
		Blue	10	ZBA 6	0.001
		6 colours (1)	1	ZBA 9	0.006
	Projecting	White	10	ZBL 1	0.001
		Black	10	ZBL 2	0.001
		Green	10	ZBL 3	0.001
		Red	10	ZBL 4	0.001
		Yellow	10	ZBL 5	0.001
		Blue	10	ZBL 6	0.001
		6 colours (1)	1	ZBL 9	0.006

Pushbutton caps - marked (2)

For use with	Type of push	Marking Text	Colour	Colour of cap	Unit reference	Weight kg
ZB5 AA circular pushbutton heads supplied without cap (sold in lots of 10)	Flush	I	White	Green	ZBA 331	0.001
			Black	White	ZBA 131	0.001
		II	White	Green	ZBA 336	0.001
			Black	White	ZBA 136	0.001
		III	White	Green	ZBA 337	0.001
			Black	White	ZBA 137	0.001
		IV	White	Green	ZBA 338	0.001
			Black	White	ZBA 138	0.001
		START	White	Green	ZBA 333	0.001
			Black	White	ZBA 133	0.001
		ON	White	Green	ZBA 341	0.001
			Black	White	ZBA 141	0.001
		MARCHE	White	Green	ZBA 342	0.001
			Black	White	ZBA 142	0.001
		⊕	White	Black	ZBA 245	0.001
			Black	White	ZBA 145	0.001
		UP	Black	White	ZBA 343	0.001
			White	Black	ZBA 344	0.001
		DOWN	White	Black	ZBA 344	0.001
			Black	White	ZBA 334	0.001
		↑	White	Black	ZBA 335	0.001
			Black	White	ZBA 334	0.001
		O	White	Red	ZBA 432	0.001
			Black	Black	ZBA 232	0.001
		ARRET	White	Red	ZBA 433	0.001
				Black	ZBA 233	0.001
		STOP	White	Red	ZBA 434	0.001
				Black	ZBA 234	0.001
		OFF	White	Red	ZBA 435	0.001
				Black	ZBA 235	0.001
		⚡	White	Green	ZBA 346	0.001
				Blue	ZBA 639	0.001

(1) Set of 6 different coloured caps: white, black, green, red, yellow, blue.

(2) Can be clipped-in at 90° steps, through 360°.

(3) These guards can be used in conjunction with a legend holder, but only those for mounting directly beneath the head. See page 2/63.

Control stations and enclosures

XAL control stations for Harmony® style 5

Ø 22 control and signalling units

With double insulated bezel

Stations for user assembly: accessories



ZB2 BP01●



ZBV 01●3



ZBG 455

Coloured boots

For use with	Colour	Sold in lots of	Unit reference	Weight kg
Coloured boots (can be replaced without dismantling the head)	Black	10	ZB2 BP012	0.003
	Green	10	ZB2 BP013	0.003
	Red	10	ZB2 BP014	0.003
	Yellow	10	ZB2 BP015	0.003
	Blue	10	ZB2 BP016	0.003

Lens caps

Circular lens caps for light sources with integral LED

Pilot lights	White	10	ZBV 0113	0.002
	Green	10	ZBV 0133	0.002
	Red	10	ZBV 0143	0.002
	Yellow	10	ZBV 0153	0.002
	Blue	10	ZBV 0163	0.002
	5 different coloured grooved lenses (1)	1	ZBV 0103S	0.010
Illuminated pushbuttons, with flush push	White	10	ZBW 9113	0.002
	Green	10	ZBW 9133	0.002
	Red	10	ZBW 9143	0.002
	Yellow	10	ZBW 9153	0.002
	Blue	10	ZBW 9163	0.002
Illuminated pushbuttons, with projecting push	White	10	ZBW 9313	0.002
	Green	10	ZBW 9333	0.002
	Red	10	ZBW 9343	0.002
	Yellow	10	ZBW 9353	0.002
	Blue	10	ZBW 9363	0.002

Square lens caps for light sources with integral LED

Pilot lights	White	10	ZBC V0113	0.002
	Green	10	ZBC V0133	0.002
	Red	10	ZBC V0143	0.002
	Yellow	10	ZBC V0153	0.002
	Blue	10	ZBC V0163	0.002
Illuminated pushbuttons, with flush push	White	10	ZBC W9113	0.002
	Green	10	ZBC W9133	0.002
	Red	10	ZBC W9143	0.002
	Yellow	10	ZBC W9153	0.002
	Blue	10	ZBC W9163	0.002
Illuminated pushbuttons, with projecting push	White	10	ZBC W9313	0.002
	Green	10	ZBC W9333	0.002
	Red	10	ZBC W9343	0.002
	Yellow	10	ZBC W9353	0.002
	Blue	10	ZBC W9363	0.002

Replacement keys for Emergency stop key release heads and key switches

Description	Key number	Reference	Weight kg
Set of 2 keys	455	ZBG 455	0.013
	421E	ZBG 421E	0.014
	458A	ZBG 458A	0.014
	520E	ZBG 520E	0.014
	3131A	ZBG 3131A	0.014
	4A185	ZBD A185	0.014
	LU1	ZBD LU1	0.014
	LU2	ZBD LU2	0.014
	LU3	ZBD LU3	0.014
	LU4	ZBD LU4	0.014
	LU5	ZBD LU5	0.014
	LU6	ZBD LU6	0.014
	LU7	ZBD LU7	0.014
	LU8	ZBD LU8	0.014
	LU9	ZBD LU9	0.014
	LU10	ZBD LU10	0.014
	LU11	ZBD LU11	0.014
	LU12	ZBD LU12	0.014
	LU13	ZBD LU13	0.014
	LU14	ZBD LU14	0.014
8D1	ZBD 8D1	0.014	

(1) 5 different coloured lenses: white, green, red, yellow and blue.

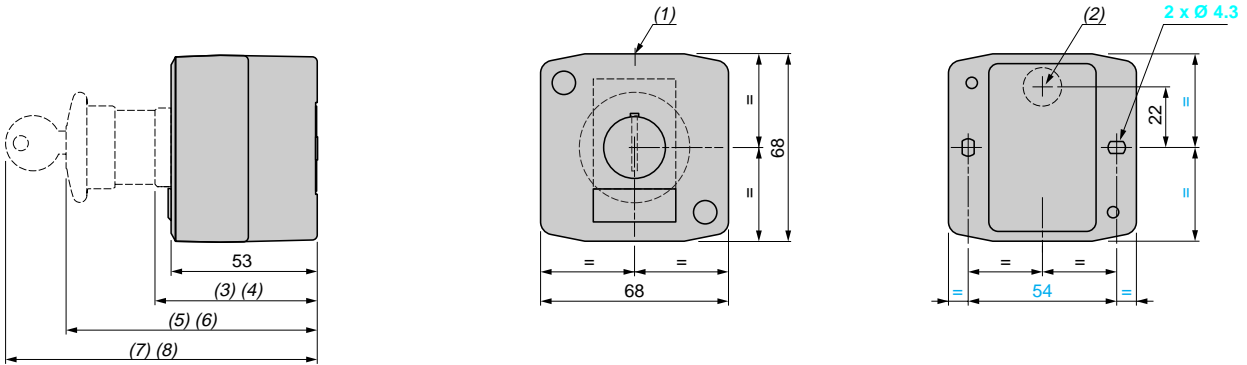
Control stations and enclosures

XAL control stations for Harmony® style 5
 Ø 22 control and signalling units
 With double insulated bezel

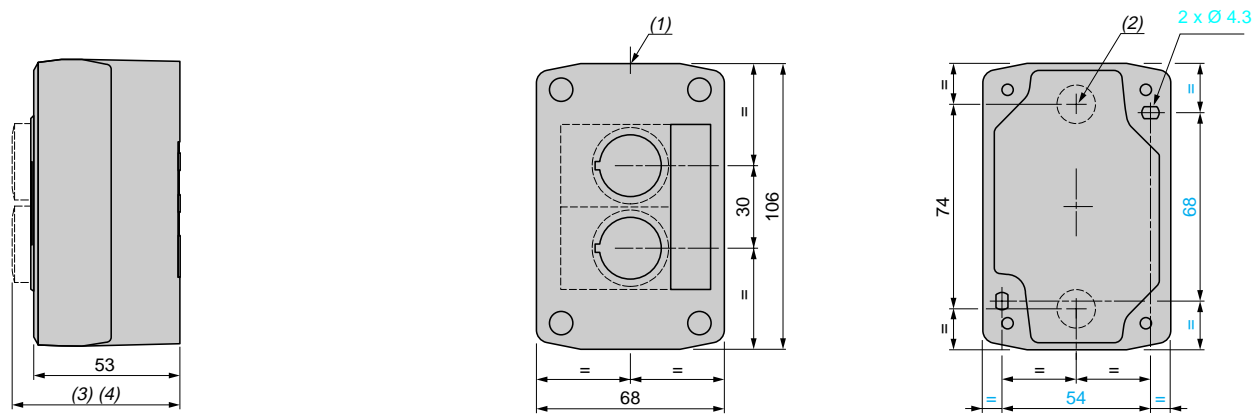
Dimensions

Single-way control stations XAL

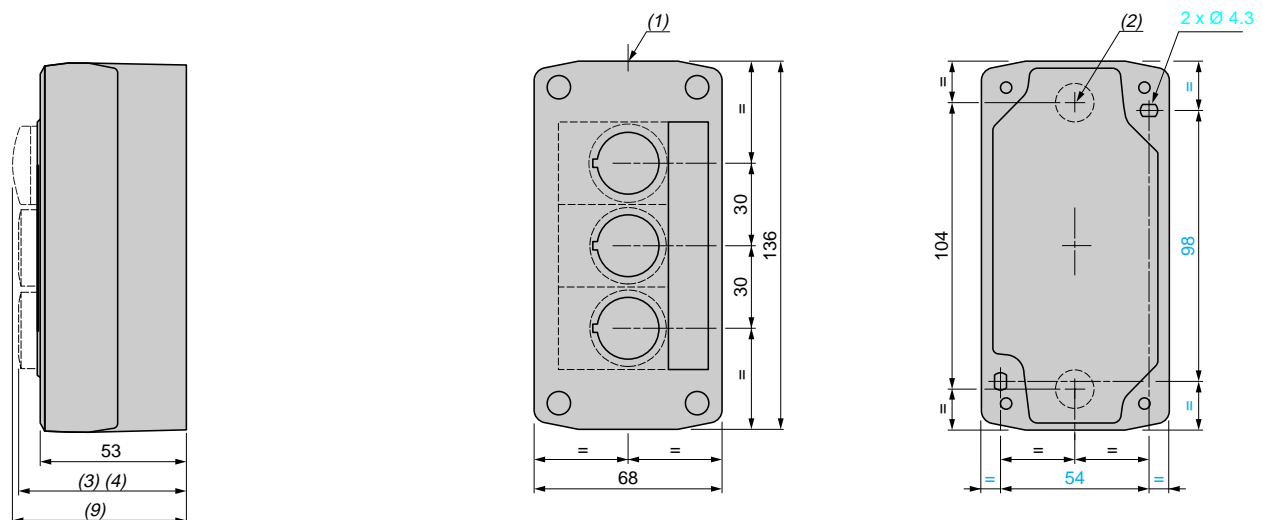
2



2-way control stations XAL



3-way control stations XAL



(1) 2 knock-outs for Pg 13.5 cable gland, maximum capacity 12 mm.

(2) Knock-out for cable entry, maximum capacity 14 mm.

Examples

(3) 62 mm for flush pushbuttons.

(4) 66 mm for projecting pushbuttons.

(5) 91 mm for latching mushroom head Emergency stop pushbuttons.

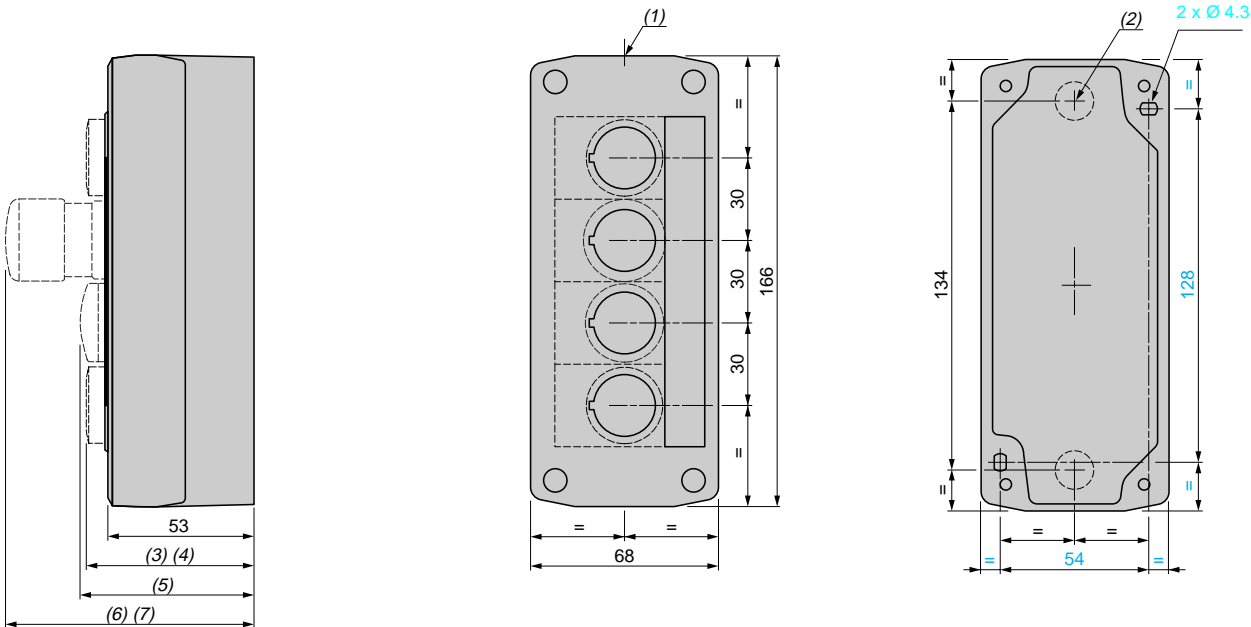
(6) 74 mm for key switches.

(7) 113 mm for latching mushroom head Emergency stop pushbuttons with key release.

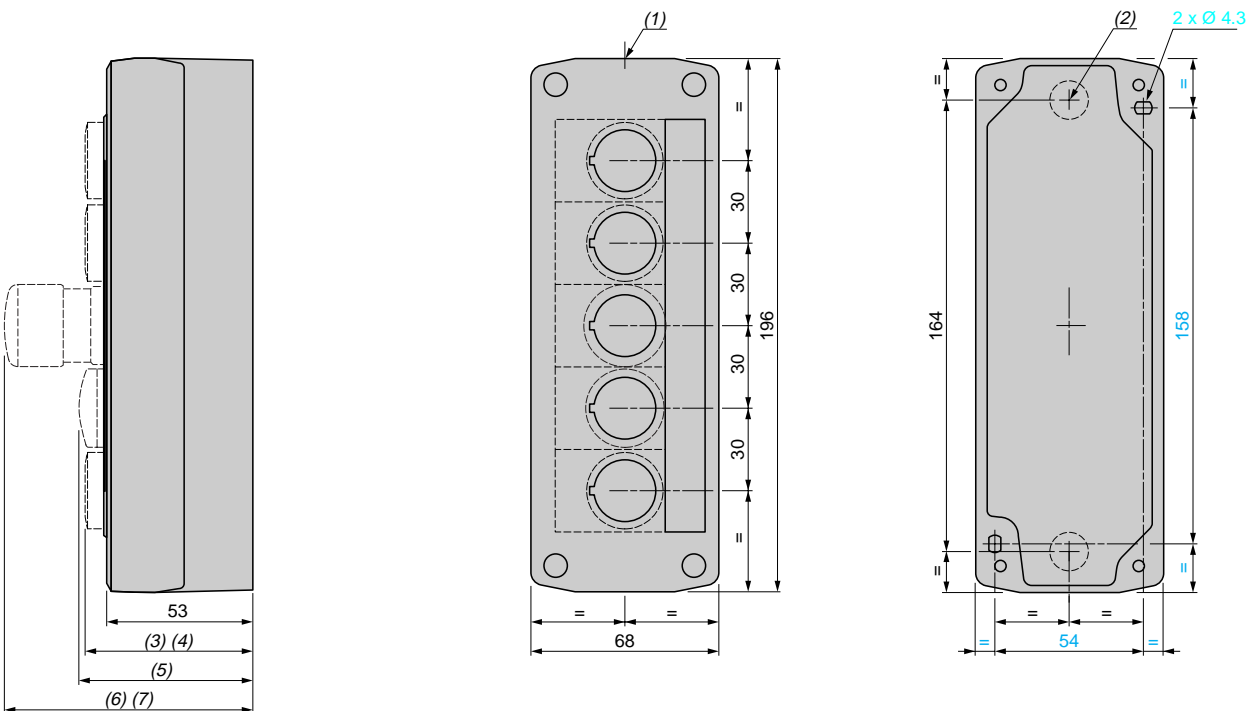
(8) 96 mm for key switches with key inserted.

(9) 64 mm for pilot lights.

Dimensions (continued)
4-way control stations XAL



5-way control stations XAL



(1) 2 knock-outs for Pg 13.5 cable gland, maximum capacity 12 mm.
 (2) Knock-out for cable entry, maximum capacity 14 mm.

Examples
 (3) 62 mm for flush pushbuttons.
 (4) 66 mm for projecting pushbuttons.
 (5) 64 mm for pilot lights.
 (6) 87 mm for mushroom head pushbuttons.
 (7) 78 mm for selector switches.

Control stations and enclosures

XAL E control stations for Harmony® style 7
“Series E” monolithic standard Ø 22 control and signalling units

2

Characteristics

Conformity to standards			IEC 947-1
Ambient air temperature	For operation	°C	- 25...+ 40
	For storage	°C	- 40...+ 60
Electric shock protection	Conforming to IEC 536		Class II
Degree of protection	Conforming to IEC 529		IP 40
Material and colour			PC, light grey RAL 7035
Cable entries			Knock-out entries for n° 13 (CM12, Pg 13.5) cable gland and tapped ISO 20

References

Complete stations

Description	Type of push	Type of contact		Reference	Weight kg
		N/O	N/C		
Start or Stop function (light grey RAL 7035 lid and base)					
1 spring return pushbutton	Flush, green	1	–	XAL E101	0.133
	Flush, red	–	1	XAL E112	0.133
1 2-position stay put selector switch	Standard black handle	1	–	XAL E130	0.138
1 Ø 40 mm mushroom head pushbutton	Red, turn to release	–	1	XAL E160	0.145
Two functions (light grey RAL 7035 lid and base)					
2 spring return pushbuttons	1 flush, green	1	–	XAL E210	0.206
	1 flush, red	–	1		
	1 flush, green	1	–	XAL E220	0.206
	1 flush, black	–	1		
Three functions (light grey RAL 7035 lid and base)					
3 spring return pushbuttons	1 flush, green	1	–	XAL E310	0.258
	1 flush, red	–	1		
	1 flush, black	1	–		
	1 flush, green	1	–	XAL E320	0.270
	1 mushroom head	–	1		
	1 flush, black	1	–		



XAL E320

Empty enclosures

Description	Number of cut-outs	Reference	Weight kg
Base and lid	1	XAL E01	0.113
	2	XAL E02	0.166
	3	XAL E03	0.198
Accessory (for IP 54 degree of protection)			
Seal	1	XAL E081	0.003
	2	XAL E082	0.005
	3	XAL E083	0.007



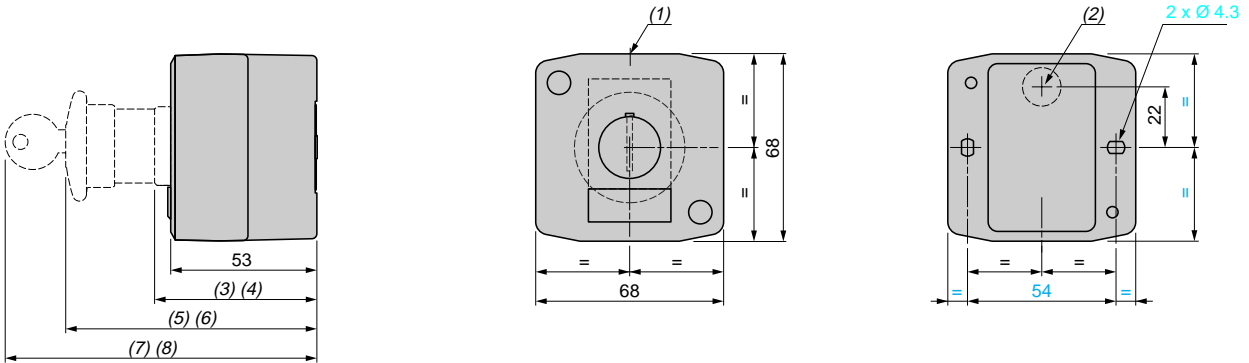
XAL E02

For customer assembly:

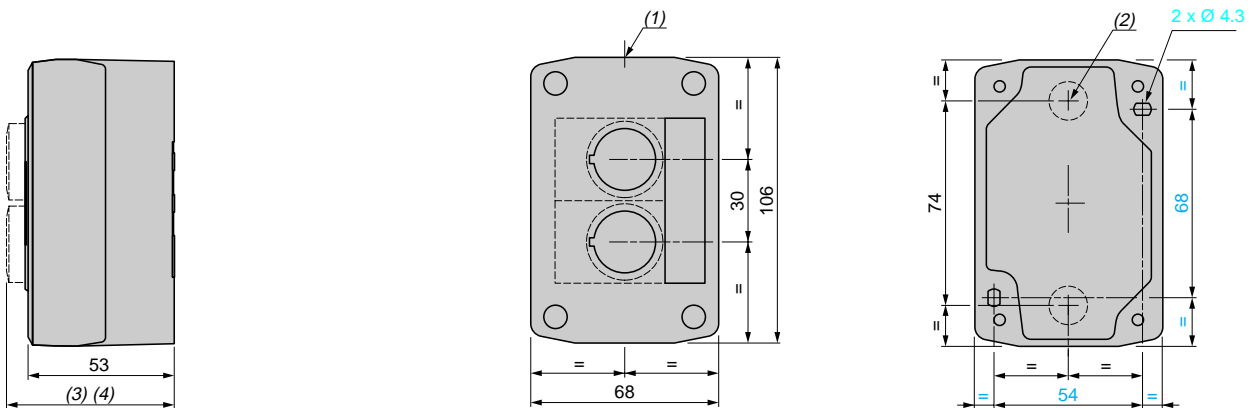
Other stations can be assembled using adaptable sub-assemblies: Empty enclosures XAL E0● (see above) and “Series E” monolithic standard pushbuttons, switches and pilot lights, except pilot lights with integral transformer XB7 EV8● (see pages 1/150 to 1/154).

Dimensions

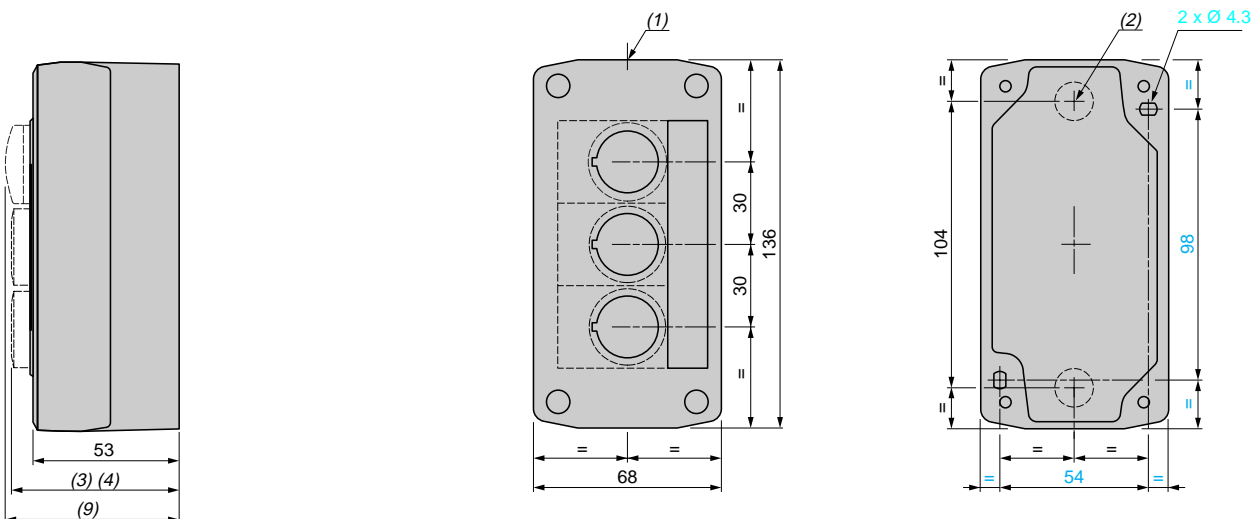
Single-way control stations XAL E1●●



2-way control stations XAL E2●●



3-way control stations XAL E3●●



- (1) 2 knock-outs for Pg 13.5 cable gland, maximum capacity 12 mm.
- (2) Knock-out for cable entry, maximum capacity 14 mm.

Examples

- (3) 62 mm for flush pushbuttons.
- (4) 66 mm for projecting pushbuttons.
- (5) 91 mm for latching mushroom head Emergency stop pushbuttons.
- (6) 74 mm for key switches.
- (7) 113 mm for latching mushroom head Emergency stop pushbuttons with key release.
- (8) 96 mm for key switches with key inserted.
- (9) 64 mm for pilot lights.

Characteristics

Insulated enclosures XAP A

Material and colour			Glass-reinforced polyester, coloured grey throughout
Product certifications	Special version		CSA ENCLOSURE 4 and 5
Protective treatment	Standard version		"TC" and "TH"
Ambient air temperature	For operation	°C	- 25...+ 70
	For storage	°C	- 40...+ 70
Degree of protection	Conforming to IEC 529		IP 65
	Conforming to NF C 20-010		IP 657
Electric shock protection	Conforming to IEC 536 and NF C 20-030		Class II
Flame resistance			CSTB: M3, NF C 20-455: 850 °C, IEC 92: 960 °C, UL 94: VO
Resistance to chemical agents			Highly resistant to acids, bases, sea water, mineral salts, all solvents, petrol, diesel, oils and greases
Cable entries			Undrilled

Elbowed metal enclosures XAM W

Material and colour			Aluminium alloy XAM WD: dark grey RAL 7016 lid, light grey RAL 7035 base XAM WK01: yellow RAL 1012 lid, light grey RAL 7035 base
Conformity to standards			IEC/EN 60947-1, IEC/EN 60947-5-1, IEC/EN 60947-5-4
Protective treatment	Standard version		"TC" and "TH"
Ambient air temperature	For operation	°C	- 25...+ 70
	For storage	°C	- 40...+ 70
Degree of protection	Conforming to IEC 529		IP 65
Electric shock protection	Conforming to IEC 536		Class I
Flame resistance			CSTB: M3, NF C 20-455: 850 °C, IEC 92: 960 °C, UL 94: VO
Resistance to chemical agents			Good resistance to organic acids, diluted mineral acids, salts, alcohol, acetone, chloride and fluoride solvents, oils and petrol
Cable entries			Via opening in rear of enclosure

Die-cast metal enclosures XAP M

Material and colour			XAP M1, M2, M3 and M4: zinc alloy. Blue paint finish XAP M5: aluminium alloy. Blue paint finish
Product certifications	Special version		CSA ENCLOSURE 4 and 5, UL ENCLOSURE 1, 3, 4 and 12K
Protective treatment	Standard version		"TC"
	Special version		"TH"
Ambient air temperature	For operation	°C	- 25...+ 70
	For storage	°C	- 40...+ 70
Degree of protection	Conforming to IEC 529		IP 65
	Conforming to NF C 20-010		IP 657
Electric shock protection	Conforming to IEC 536 and NF C 20-030		Class I
Resistance to chemical agents			Special treatments on request
Cable entries			Tapped entries for cable gland (see dimensions, page 2/39)

Characteristics

Metal enclosures XB2 S

Material and colour			Aluminium alloy or sheet steel. Blue paint finish
Protective treatment	Standard version		"TC"
	Special version		"TH"
Ambient air temperature	For operation	°C	- 25...+ 70
	For storage	°C	- 40...+ 70
Degree of protection	Conforming to IEC 529		IP 54
	Conforming to NF C 20-010		IP 547
Electric shock protection	Conforming to IEC 536 and NF C 20-030		Class I
Resistance to chemical agents			Special treatments on request
Cable entries	XB2 S in aluminium alloy		Tapped entries for cable gland (see dimensions, page 2/39)
	XB2 S in sheet steel		Undrilled

Flush mounting enclosures XAP E

Material and colour			Anodised aluminium front plate. Insulated protective rear cover
Protective treatment	Standard version		"TC" and "TH"
Ambient air temperature	For operation	°C	- 25...+ 70
	For storage	°C	- 40...+ 70
Degree of protection	Conforming to IEC 529		IP 65
	Conforming to NF C 20-010		IP 657
Electric shock protection	Conforming to IEC 536 and NF C 20-030		Class I
Resistance to chemical agents			Good resistance to organic acids, diluted mineral acids, salts, alcohol, acetone, chloride and fluoride solvents, oils and petrol
Cable entries			Through rear cover: knock-out cable entries

Control stations and enclosures

Control station enclosures: insulated, metal and flush mounting

With cut-outs for Ø 22 control and signalling units

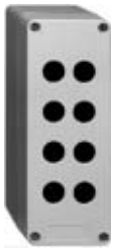
References

Insulated enclosures, glass-reinforced polyester (usable depth 83 mm)

Description	Front face dimensions mm	Number of cut-outs	Number of rows		Reference	Weight kg
			Vertical	Horizontal		
Without hinges	85 x 146	1	1	1	XAP A1110	0.470
		2	1	2	XAP A1120	0.450
		4	2	2	XAP A1104	0.460
	85 x 226	8	2	4	XAP A2108	0.580
	151 x 241	16	4	4	XAP A3116	0.820
With hinges	151 x 241	16	4	4	XAP A4116	0.850
Earthing plates sheet steel with earth screw		For XAP A1110			XAP Z110	0.080
		For XAP A1120			XAP Z120	0.070
		For XAP A1104			XAP Z104	0.070
		For XAP A2108			XAP Z208	0.110
		For XAP A3116 and A4116			XAP Z316	0.160



XAP A1104



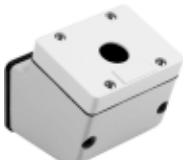
XAP A2108



XAP A3116



XAM WD03



XAM WK01

Elbowed metal enclosures for mounting on vertical support

Description	Colour	Number of cut-outs	Reference	Weight kg
Elbowed enclosures metal	Dark grey lid (RAL 7016) Light grey base (RAL 7035)	1	XAM WD01	0.465
		2	XAM WD02	0.545
		3	XAM WD03	0.725
		4	XAM WD04	0.725
		5	XAM WD05	0.790
		6	XAM WD06	0.990
		7	XAM WD07	0.990
	Yellow lid (RAL 1012) Light grey base (RAL 7035)	1	XAM WK01	0.465

Other versions

Insulated and metal control station enclosures with cut-outs for Ø 30 control and signalling units.
Protective guards and fixing lugs for die-cast metal enclosures.
Insulated and metal control station enclosures pre-fitted with Ø 22 units.
Adjustable floor mounting pedestal (790 mm to 1143 mm) for sheet steel enclosures.
Please consult your Regional Sales Office.

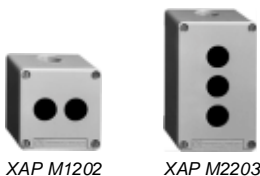
Control stations and enclosures

Control station enclosures: insulated, metal and flush mounting

With cut-outs for Ø 22 control and signalling units

References

Description	Front face dimensions mm	Number of cut-outs	Number of rows		Reference	Weight kg
			Vertical	Horizontal		
Die-cast metal enclosures (blue lid and base)						
Zinc alloy Usable depth 49 mm	80 x 80	1	1	1	XAP M1201	0.455
		2	2	1	XAP M1202	0.450
80 x 130	80 x 130	2	1	2	XAP M2202	0.610
		3	1	3	XAP M2203	0.605
		4	2	2	XAP M2204	0.600
80 x 175	80 x 175	3	1	3	XAP M3203	0.870
		4	1	4	XAP M3204	0.880
		6	2	3	XAP M3206	0.870
Zinc alloy Usable depth 74.5 mm	80 x 80	1	1	1	XAP M1501	0.605
		2	2	1	XAP M1502	0.600
80 x 130	80 x 130	2	1	2	XAP M2502	0.810
		3	1	3	XAP M2503	0.815
		4	2	2	XAP M2504	0.810
80 x 175	80 x 175	3	1	3	XAP M3503	1.145
		4	1	4	XAP M3504	1.140
		6	2	3	XAP M3506	1.130
80 x 220	80 x 220	6	1	6	XAP M4506	1.380
		8	2	4	XAP M4508	1.370
Aluminium Usable depth 74.5 mm	85 x 310	8	1	8	XAP M5508	0.810
		12	2	6	XAP M5512	0.790
Aluminium Usable depth 78 mm	150 x 150	6	3	2	XB2 SL32009	0.970
		8	4	2	XB2 SL42009	0.960
Die-cast metal enclosures (yellow lid, blue base)						
Zinc alloy Usable depth 49 mm	80 x 80	1	1	1	XAP J1201	0.455
Zinc alloy Usable depth 74.5 mm	80 x 80	1	1	1	XAP J1501	0.605
Sheet steel enclosures						
Usable depth 115 mm	200 x 200	8	4	2	XB2 SL42007	3.100
	200 x 260	16	4	4	XB2 SL44007	3.900
	260 x 260	24	6	4	XB2 SL64007	4.700
	260 x 320	30	6	5	XB2 SL65007	5.500
	320 x 320	40	8	5	XB2 SL85007	6.200
Other versions	Insulated and metal control station enclosures with cut-outs for Ø 30 control and signalling units. Protective guards and fixing lugs for die-cast metal enclosures. Insulated and metal control station enclosures pre-fitted with Ø 30 units. Adjustable floor mounting pedestal (790 mm to 1143 mm) for sheet steel enclosures. Please consult your Regional Sales Office.					



XAP M1202

XAP M2203



XAP M2504

XAP M4508



XB2 SL42009



XB2 SL64007

Control stations and enclosures

Control station enclosures: insulated, metal and flush mounting

Undrilled or with cut-outs for Ø 22 control and signalling units

2



XAP A1100

XAP A2100



XAP A3100



XAP M11

XAP M31



XAP E301



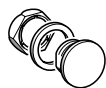
XAP E302



XAP E303



XAP E305



ZB2 SZ2

ZB2 SZ3
ZB2 SZ4

References

Insulated enclosures, undrilled

Description		Front face dimensions (mm)	Reference	Weight kg
Usable depth 83 mm	Without hinges	85 x 146	XAP A1100	0.470
		85 x 226	XAP A2100	0.600
	With hinges	151 x 241	XAP A3100	0.860
		151 x 241	XAP A4100	0.890
Earthing plates with earth screw	For XAP A1100	–	XAP Z100	0.080
	For XAP A2100	–	XAP Z200	0.130
	For XAP A3100 and A4100	–	XAP Z300	0.200

Die-cast metal enclosures, undrilled

Description	Material	Front face dimensions (mm)	Reference	Weight kg
Blue lid and base	Zinc alloy Usable depth 49 mm	80 x 80	XAP M11	0.460
		80 x 130	XAP M21	0.620
		80 x 175	XAP M31	0.900
	Zinc alloy Usable depth 74.5 mm	80 x 80	XAP M14	0.610
		80 x 130	XAP M24	0.830
		80 x 175	XAP M34	1.160
Yellow lid, blue base	Zinc alloy Usable depth 49 mm	80 x 80	XAP J11	0.460
		80 x 80	XAP J14	0.610
	Zinc alloy Usable depth 74.5 mm	80 x 175	XAP J34	1.160
		Aluminium Usable depth 74.5 mm	85 x 310	XAP M54
Aluminium Usable depth 78 mm	150 x 150	XB2 SA220095	0.970	

Flush mounting enclosures for Ø 22 control and signalling units

Description	Material	Number of cut-outs	Front face dimensions (mm)	Reference	Weight kg
Front plates with fixing screws	Aluminium, anodised	1	72 x 72	XAP E301	0.050
		2	72 x 105	XAP E302	0.075
		3	72 x 138	XAP E303	0.095
		4	72 x 171	XAP E304	0.115
		5	72 x 204	XAP E305	0.135
Protective rear covers	Insulated	For front plate XAP E301		XAP E901	0.040
		For front plate XAP E302		XAP E902	0.050
		For front plate XAP E303		XAP E903	0.060
		For front plate XAP E304		XAP E904	0.070
		For front plate XAP E305		XAP E905	0.080

Separate components

Description		Colour	Unit reference	Weight kg
Blanking plugs with seal and fixing nut for cut-outs Ø 22.3 ^{+0.4} mm	Insulated	Black	ZB2 SZ3	0.005
		Grey	ZB2 SZ4	0.005
	Metal	Blue	ZB2 SZ2	0.020
Seal (IP 65 degree of protection) (sold in lots of 7)	For mounting Ø 22 control and signalling units in XAM W enclosures		ZB2 BZ004	0.001

Other versions

Protective guards and fixing lugs for metal enclosures.
Flush mounting enclosures, undrilled or with Ø 30 cut-outs.
Flush mounting enclosures pre-fitted with Ø 22 units.
Please consult your Regional Sales Office.

Control stations and enclosures

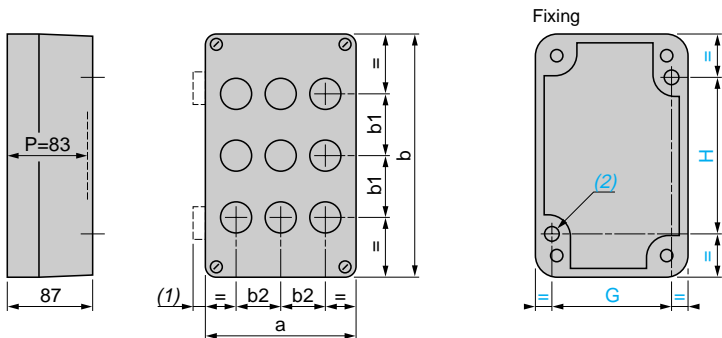
Control station enclosures: insulated, metal and flush mounting

With cut-outs for Ø 22 control and signalling units

Dimensions

Insulated enclosures with cut-outs

XAP A



XAP	a	b	b1	b2	G	H
A1110	85	146	-	-	70	105
A1120	85	146	40	-	70	105
A1104	85	146	40	30	70	105
A2108	85	226	40	30	70	180
A3116, A4116	151	241	40	30	135	200

Drill cable entries to suit.

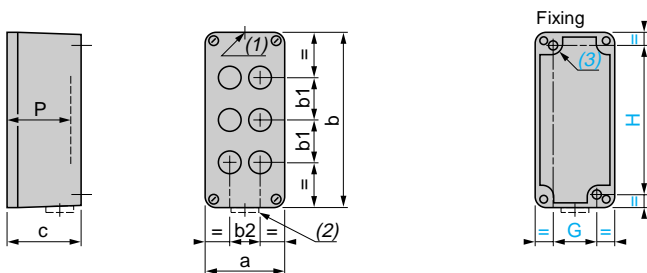
(1) 11 mm for XAP A4 enclosures with hinges.

(2) 2 x Ø 5.6 holes, depth 12.

P = Usable depth

Die-cast metal enclosures with cut-outs

XAP J, XAP M



XAP	a	b	b1	b2	c	G	H	P
J1201	80	80	-	-	51.5	50	65	49
J1501	80	80	-	-	77	50	65	74.5
M1201, M1202	80	80	-	-	51.5	50	65	49
M1501	80	80	-	-	77	50	65	74.5
M1502	80	80	-	30	77	50	65	74.5
M2202	80	130	40	-	51.5	50	115	49
M2203	80	130	30	-	51.5	50	115	49
M2204	80	130	40	30	51.5	50	115	49
M2502	80	130	40	-	77	50	115	74.5
M2503	80	130	30	-	77	50	115	74.5
M2504	80	130	40	30	77	50	115	74.5
M3203	80	175	40	-	51.5	50	160	49
M3204	80	175	30	-	51.5	50	160	49
M3206	80	175	40	30	51.5	50	160	49
M3503	80	175	40	-	77	50	160	74.5
M3504	80	175	30	-	77	50	160	74.5
M3506	80	175	40	30	77	50	160	74.5
M4506	80	220	30	-	77	50	205	74.5
M4508	80	220	40	30	77	50	205	74.5
M5508	85	310	30	-	77	55	295	74.5
M5512	85	310	40	30	77	55	295	74.5

(1) 1 hole, without blanking plug, for cable gland with 14 mm maximum clamping capacity, except:

- XAP M3 and XAP M4: maximum capacity 18 mm,
- XAP M5: maximum capacity 24 mm.

(2) 1 hole, with blanking plug (protrusion 6 mm), for cable gland with 14 mm maximum clamping capacity, except:

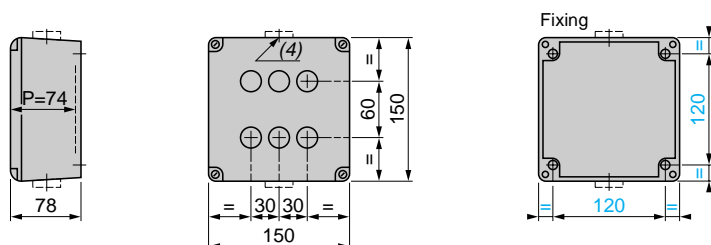
- XAP M3: maximum capacity 18 mm,
- XAP M4 and XAP M5: undrilled.

(3) 2 x Ø 5.6 holes, depth 20.

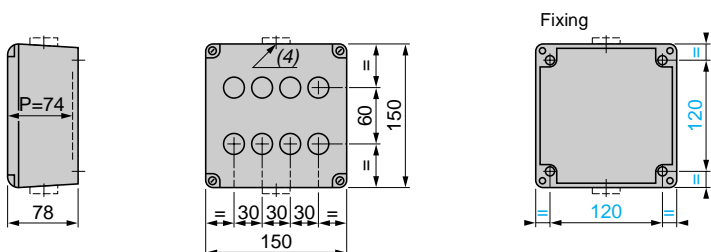
(4) 2 holes, with blanking plugs (protrusion 7.5 mm), for cable glands with 12 mm maximum clamping capacity.

P = Usable depth

XB2 SL32009



XB2 SL42009



Control stations and enclosures

Control station enclosures: insulated, metal and flush mounting

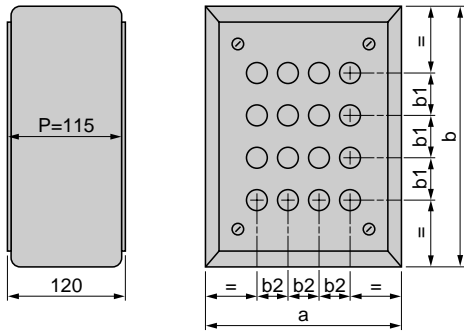
Undrilled or with cut-outs for Ø 22 control and signalling units

2

Dimensions

Sheet steel enclosures

XB2 SL

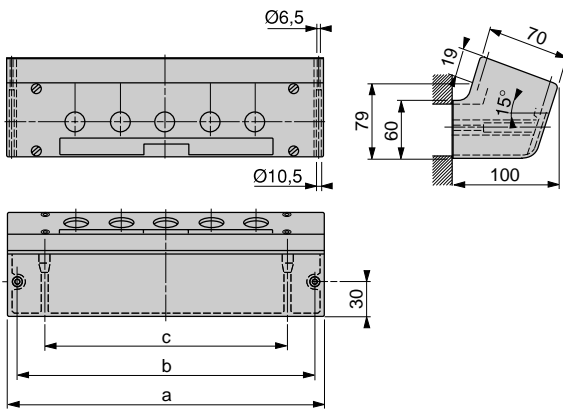


XB2	a	b	b1	b2
SL42007	200	200	40	30
SL44007	200	260	40	30
SL64007	260	260	40	30
SL65007	260	320	40	30
SL85007	320	320	40	30

Enclosures supplied without fixing points or cable entries. In both cases drill to suit. The depth of the enclosures enables all types of Ø 22 units to be mounted. P = Usable depth

Elbowed enclosures

XAM W●

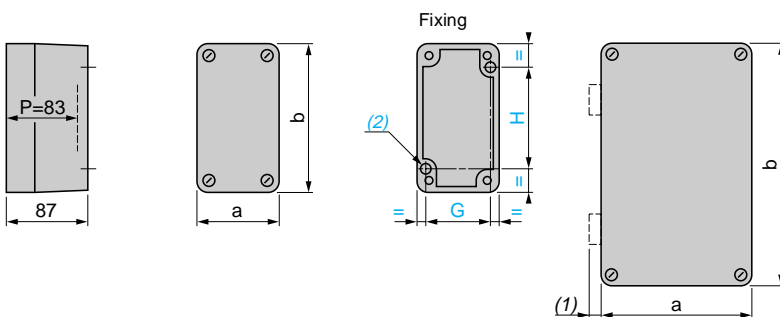


	a	b	c
XAM WD01	90	74	50
XAM WD02	135	119	95
XAM WD03	180	164	140
XAM WD04	180	164	140
XAM WD05	225	209	185
XAM WD06	290	274	230
XAM WD07	290	274	230
XAM WK01	90	74	50

Insulated enclosures, undrilled

XAP A1100, XAP A2100

XAP A3100, XAP A4100



XAP	a	b	G	H
A1110	85	146	70	105
A2100	85	226	70	180
A3100	151	241	135	200
A4100	151	241	135	200

Drill cable entries to suit.
(1) 11 mm for XAP A4●●● enclosures with hinges.
(2) 2 x Ø 5.6 holes, depth 12.

P = Usable depth

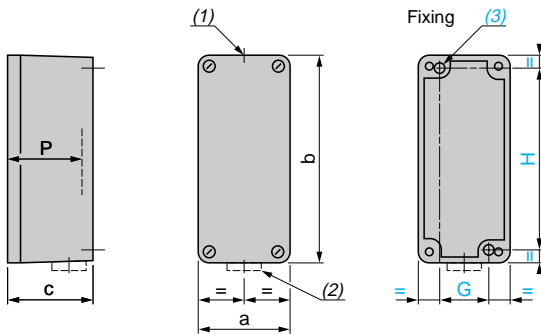
Control station enclosures: insulated, metal and flush mounting

Undrilled or with cut-outs for Ø 22 control and signalling units

Dimensions

Die-cast metal enclosures, undrilled

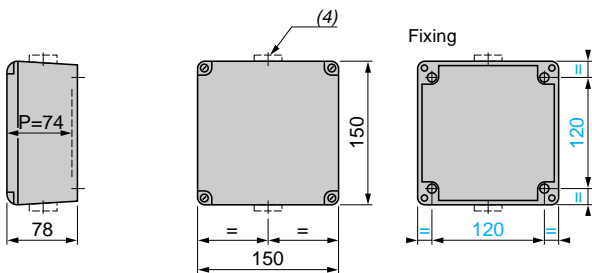
XAP J●●, XAP M●●



XAP	a	b	c	G	H	P
J11	80	80	51.5	50	65	49
J14	80	80	77	50	65	74.5
J34	80	175	77	50	160	74.5
M11	80	80	51.5	50	65	49
M14	80	80	77	50	65	74.5
M21	80	130	51.5	50	115	49
M24	80	130	77	50	115	74.5
M31	80	175	51.5	50	160	49
M34	80	175	77	50	160	74.5
M44	80	220	77	50	205	74.5
M54	85	310	77	55	295	74.5

- (1) 1 hole, without blanking plug, for cable gland with 14 mm maximum clamping capacity, except:
 - XAP J34, M31, M34 and M44: maximum capacity 18 mm,
 - XAP M54: maximum capacity 24 mm.
 - (2) 1 hole, with blanking plug (protrusion 6 mm), for cable gland with 14 mm maximum clamping capacity, except:
 - XAP J34, M31 and M34: maximum capacity 18 mm,
 - XAP M44, M54: undrilled.
 - (3) 2 x Ø 5.6 holes, depth 20.
 - (4) 2 holes, with blanking plug (protrusion 7.5 mm), for cable glands with 12 mm maximum clamping capacity.
- P = Usable depth

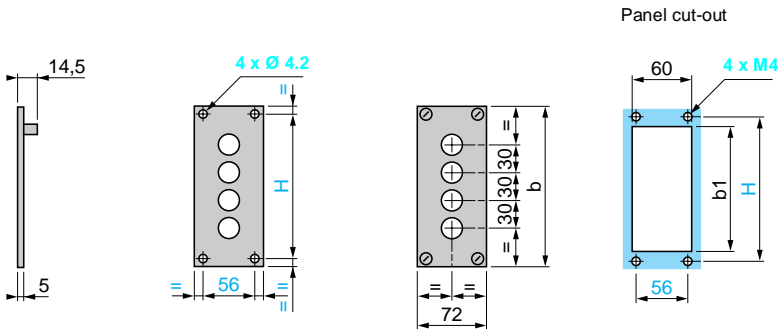
XB2 SA220095



Flush mounting enclosures

XAP E30●

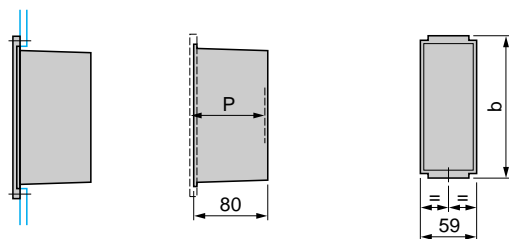
Front plates with cut-outs for Ø 22 control and signalling units



For Ø 22 control and signalling units

Front plate			
XAP	b	b1	H
E301	72	44	56
E302	105	77	89
E303	138	110	122
E304	171	143	155
E305	204	176	188

Mounting of front plate and protective rear cover on support panel



Protective rear cover for front plate XAP E30●

XAP	b	P
E901	52	82.5
E902	85	82.5
E903	118	82.5
E904	151	82.5
E905	184	82.5

P = Usable depth

Operating principle

These control stations are fitted with a key operated lock and are designed to provide a starting or authorisation sequence by using the key. To prevent unauthorised operation (shorting of the contact block) or tampering, the stations are fitted with a special lock featuring a pre-determined key position (other than its withdrawal position) that only allows removal of the front cover by the key holder. The control stations are supplied with 2 keys.

Environment

Conformity to standards			IEC 947-5-1, EN 60947-5-1
Protective treatment	Standard version		"TC"
	Special version		"TH"
Ambient air temperature	For operation	°C	- 25...+ 70
	For storage	°C	- 40...+ 70
Electric shock protection	Conforming to IEC 536		Class I
Degree of protection	Conforming to IEC 529		IP 54
	Conforming to EN 50102		IK 08
Cable entries			1 tapped entry for cable gland and 1 entry through the rear (Ø 17 mm knock-out), with rubber cable grommet (see dimensions on next page)

Contact block characteristics

Nominal thermal current	Conforming to IEC 947-5-1	A	10
Rated insulation voltage			U _i = 600 V, degree of pollution 3 conforming to IEC 947-1
Rated impulse withstand voltage			U _{imp} = 6 kV conforming to IEC 947-1
Contact	Type		1 N/O slow break contact
	Material		Silver alloy (Ag/Ni)
Resistance across terminals		mΩ	≤ 25
Terminal referencing			Conforming to EN 50013 and EN 50050
Short-circuit protection	Conforming to IEC 947-5-1		10 A cartridge fuse type gG
Rated operational power	Conforming to IEC 947-5-1. Utilisation categories AC-15 and DC-13. Operating rate: 3600 operating cycles/hour. Load factor: 0.5		
	AC-15: A600		
	U_e (V)	600	240 120
	I_e (A)	1.2	3 6
	DC-13: Q600		
	U_e (V)	600	250 125
	I_e (A)	0.1	0.27 0.55
	d.c. supply =		
	Power broken in W for 1 million operating cycles		
	Voltage (V)	24	48 120
	mm (W)	65	48 40
Connection			Screw clamp terminals, cross head screws slotted for 4 and 5.5 mm screwdrivers Maximum clamping capacity: 1 x 2.5 mm ² or 2 x 1.5 mm ² with or without cable end Tightening torque: 0.8 Nm

References



XAP S11111N



XAP S21111



XAP S21331



XAP S24431



XAP SZ12

Control stations with 1 N/O contact per function

Description	Key withdrawal	Marking	Mounting	Reference	Weight kg
2 position, stay put	Left-hand position	O I	Surface	XAP S11111N	0.830
			Flush	XAP S14111N	0.890
2 position, spring return from right to left	Left-hand position	→	Surface	XAP S11221N	0.830
			Flush	XAP S14221N	0.890
2 position, stay put + 2 spring return buttons	Left-hand position	↑ ↓	Surface	XAP S21111	1.080
			Flush	XAP S24111	1.190
3 position, stay put	Centre position	↑ O ↓	Surface	XAP S11331N	0.850
			Flush	XAP S14331N	0.910
3 position, spring return from left and right to centre	Centre position	↑ O ↓	Surface	XAP S11431N	0.850
			Flush	XAP S14431N	0.910
3 position, stay put + 1 spring return button	Centre position	← Stop O →	Surface	XAP S21331	1.070
			Flush	XAP S24331	1.180
3 position, spring return from left and right to centre + 1 spring return button	Centre position	← Stop O →	Surface	XAP S21431	1.070
			Flush	XAP S24431	1.180

100 x 100 front plates (for XAP S11●●●N control stations)

Description	Marking	Reference	Weight kg
2 position, stay put	O I	XAP SZ11	0.045
2 position	→	XAP SZ12	0.045
3 position	↑ O ↓	XAP SZ13	0.045

Other versions

XAP S control stations with front plate without fixing hole (fixing by enclosure).
XAP S control stations with specific markings and/or key numbers.
Please consult your Regional Sales Office.

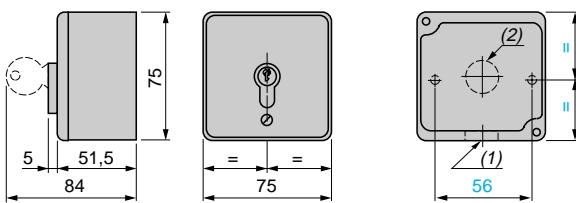
Accessories (for control stations XAP S11●●●N and XAP S14●●●N)

Description	Key number	Reference		Weight (kg)	
		Key only	2 keys + barrel (1)	Key only	2 keys + barrel
Keys	Number to be stated	XAP SZ50	XAP SZ15	0.011	0.140
	BC1011	XAP SZ01	XAP SZ16	0.011	0.140
	BC1025	XAP SZ02	XAP SZ17	0.011	0.140
	BC1029	XAP SZ03	XAP SZ18	0.011	0.140
	BC1031	XAP SZ04	XAP SZ19	0.011	0.140
	BC1069	XAP SZ05	XAP SZ20	0.011	0.140

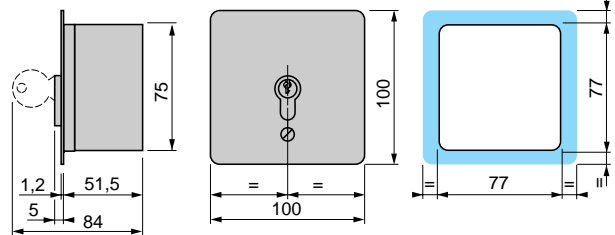
(1) For barrels with other key numbers, please consult your Regional Sales Office.

Dimensions, mounting

XAP S11●●●N



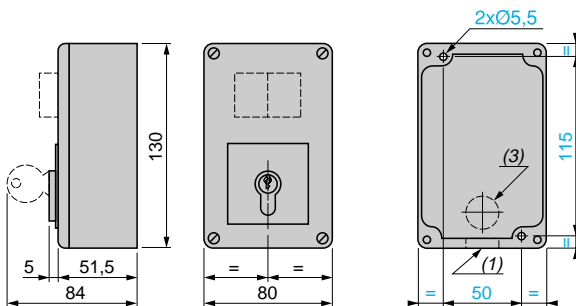
XAP S14●●●N



Panel cut-out

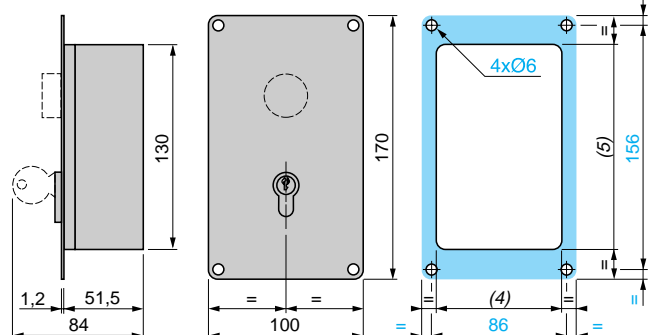
XAP S21●●●

Fixing



XAP S24●●●

Panel cut-out



(1) 1 tapped entry for 12 mm maximum capacity cable gland.
(2) Knock-out: cable entry through rear, Ø 17 mm.
(3) Optional: cable entry through rear.

(4) 81 mm min.
(5) 131 mm min.

Environment			
Conformity to standards	All models		IEC 337-1, NF C 63-140, VDE 0660-200, CSA C 22-2 n° 14.
	XAS E35		NF C 15-100 (537-2)
Product certifications	Standard version	XAS E, XAS P	NEMKO
Protective treatment	Standard version	XAS P, XAS E	"TC"
Ambient air temperature	For operation	°C	- 25...+ 70
	For storage	°C	- 40...+ 70
Vibration resistance	XAS E35		15 gn (40...500 Hz) conforming to IEC 68-2-6
Electric shock protection	XAS E		Class I conforming to IEC 526 and NF C 20-030
	XAS P		Class II conforming to IEC 526 and NF C 20-030
Degree of protection	XAS E		IP 54
	XAS P		IP 40
Cable entries			See dimensions, page 2/45

Contact block characteristics			
Nominal thermal current	A	10 conforming to IEC 337-1, NF C 63-140, VDE 0660-200	
Nominal insulation voltage	V	500 conforming to IEC 158-1, NF C 20-040, VDE 0110	
Insulation category		Group C conforming to NF C 20-040 and VDE 0110	
Contact operation		Slow break	
Terminal referencing		Conforming to CENELEC EN 50013	
Short-circuit protection		10 A cartridge fuse type g or N conforming to IEC 337-1B, VDE 0660-200	
Rated operational power		Conforming to IEC 337-1. Utilisation categories AC-11 and DC-11. Operating rate: 3600 operating cycles/hour. Load factor: 0.5.	
		a.c. supply ~ 50-60 Hz	d.c. supply =
		Power broken in VA	Power broken in W
		\sim Inductive circuit	\sim Inductive circuit
		Voltage V	Voltage V
		24 48 127 220	24 48 120
		XAS P●● 200 400 650 700	XAS P●● 65 48 40
		XAS E●● 200 550 750 650	XAS E●● 85 70 65

Connection		Screw clamp terminals. Clamping capacity: min. 1 x 0.5 mm ² , max. 1 x 2.5 mm ² or 2 x 1.5 mm ²
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References

Emergency stop stations				
Description	Release	Contacts	Reference	Weight kg
Conforming to standard NF C 15-100 Manually operated after breaking glass (1)	With hammer and access key	N/C	XAS E32	1.060
		N/C + N/O	XAS E35	1.075

Fire alarm stations					
Description	Application	Contact state (1)		Reference	Weight kg
		Closed	Open		
"Buildings" type Double insulated semi-recessed mounting (Ø 60 mm cut-out) using fixing clamps	Automatically operated as glass broken	1	–	XAS P11	0.140
		–	1	XAS P12	0.140
"Industry" type Zinc alloy Wall mounted using screw fixings Hammer and access key included	Automatically operated as glass broken	1	–	XAS E11	1.060
		–	1	XAS E12	1.060
		2	–	XAS E13	1.075
		–	2	XAS E14	1.075
		1 +	1	XAS E15	1.075
	Manually operated after breaking glass	1	–	XAS E21	1.060
		–	1	XAS E22	1.060
		2	–	XAS E23	1.075
		–	2	XAS E24	1.075
		1 +	1	XAS E25	1.075

(1) Contact state:
 for automatically operated stations: after breaking the glass,
 for manually operated stations: after breaking the glass and pressing the button.

Other versions Two-hand control station on adjustable height plinth.
Please consult your Regional Sales Office.

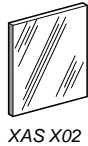
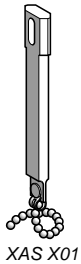
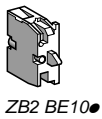


XAS P1●



XAS E11

References (continued)



Separate components and spare parts

Description	Application	Contact	Reference	Weight kg
Contact blocks slow break (1)	For XAS P1	Closed	ZB2 BE102	0.015
		Open	ZB2 BE101	0.015
	For XAS E1 (2)	Closed	XEN L2121	0.013
		Open	XEN L2111	0.013
	For XAS E2, XAS E3 (2)	Closed	XEN L2111	0.013
		Open	XEN L2121	0.013
Hammer	For XAS P or XAS E	-	XAS X01	0.090
Glass	For XAS P or XAS E	-	XAS X02	0.014
Access key	For XAS E	-	XAS X09	0.016

(1) The contact states (closed or open) for XAS P and XAS E1 control stations are after breaking the glass and for XAS E2 control stations, after breaking the glass and pressing the button.

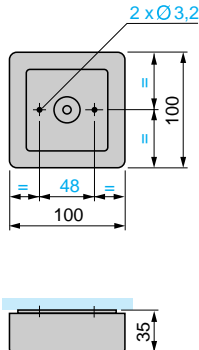
(2) For control stations with 2 contacts, use 2 single contact blocks.

Examples: for XAS E13, use 2 x XEN L2121; for XAS E25 or E35, use 1 x XEN L2121 + 1 x XEN L2111.

Dimensions

XAS P

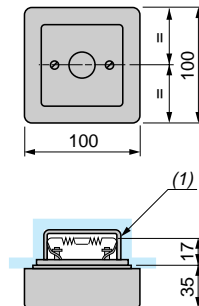
Screw fixing



For fixing, open cover.

XAS P

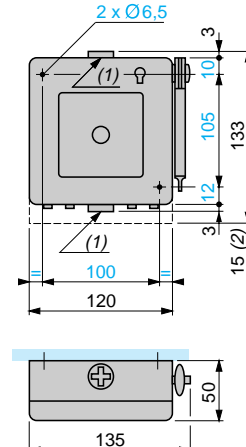
Fixing by clamps in Ø 60 cut-out for semi-recessed mounting



For fixing, open cover.
(1) Semi-recessed mounting.

XAS E

Screw fixing, cover opened for access



(1) 1 tapped entry for 12 mm maximum capacity cable gland.
(2) Allowance for opening cover.

Installation system

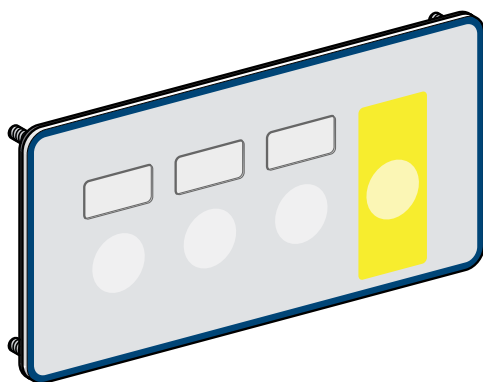
Profil front panels for Harmony® style 4 and style 5 pushbuttons, switches and pilot lights

2

Description

Profil is a modular front panel solution for standard Human-Machine Interface applications. The front panels are made of aluminium and are covered with a polyester membrane. Three sizes are available for fitting of 4, 8 or 12 metal or plastic Ø 22 mm control and signalling units. The front panel is held in position by threaded inserts. The rear panel comprises a printed circuit board onto which the contact blocks are fitted and a connector provides the electrical connection between the module and the rest of the installation. This simple and aesthetic solution simplifies the installation of a dialogue block by reducing both drilling and cabling operations. It is particularly suitable for small and medium sized groups of machines. When the Profil front panel is mounted directly on the machine, it incorporates a location for the Emergency stop unit and ensures a degree of protection of IP 65.

Profil front panels are available in three forms

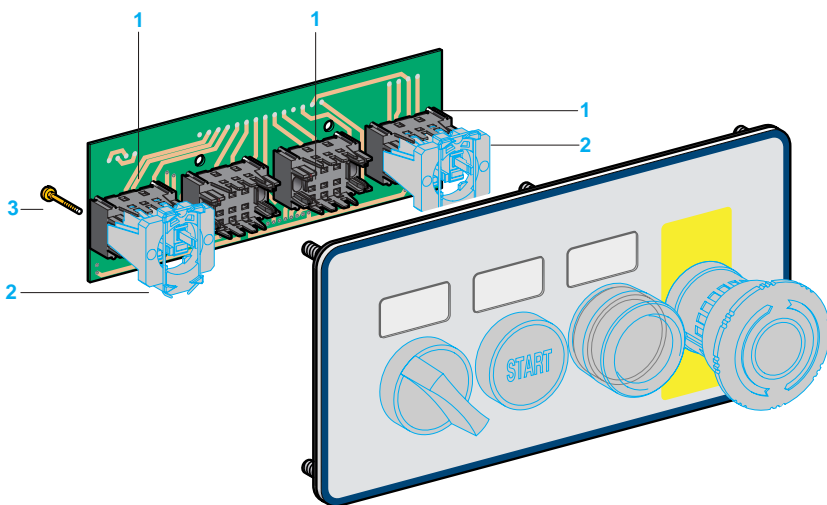


Front panel only

- for mounting dialogue components using traditional wiring,

or

- for implementation of printed circuit by the user.

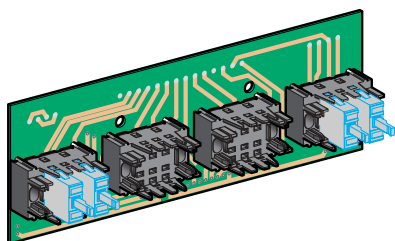


Front panel + printed circuit board

with corresponding adaptors 1 for the Ø 22 mm ranges of pushbuttons, switches, pilots, contact blocks and light blocks.

Connection by screw terminal connector.

Use at least one support pillar 2 with its 2 fixing screws 3 for every 2 dialogue components, and also beneath each Emergency stop unit.



Printed circuit board only




with soldered adaptor, screw terminal connector or 4 I/4 O connector for AS-Interface bus.

For quantities of units in excess of a few hundred, the front panels can be customised, for example: colours, logo, specific markings. Please consult your Regional Sales Office.

Characteristics

Conforming to standards			IEC 60947-1, IEC 60947-5-1, UL 508, CSA C-22-2 n° 14
Product certifications			CSA, UL
CE marking			Profil front panels have been designed to comply with European LV directives
Shock protection Conforming to IEC/EN 61140	Panel fitted with XB4 B units		Class I
	Panel fitted with XB5 A units		Class II
Degree of protection			IP 65
Ambient air temperature around the device	Operation	°C	- 25...+ 70
	Storage	°C	- 40...+ 70
Vibration resistance Conforming to IEC 60068-2-6	Panel fitted with XB4 B or XB5 A units		15 gn for all units except mushroom head pushbuttons (frequency 10 to 500 Hz) 5 gn for mushroom head pushbuttons (frequency 10 to 500 Hz)
	Panel fitted with XB4 B or XB5 A units		All functions except mushroom head pushbuttons (half sine wave acceleration 11 ms): 50 gn Mushroom head pushbuttons (half sine wave acceleration 11 ms): 10 gn
Rated operational current (Ie) Supply via connector	Per circuit comprising 4 units	A	1 at ≈ 30 V
	Total (3 circuits each comprising 4 units)	A	3 at ≈ 30 V
Cabling capacity	Using screw connector	mm²	1.5
	Connector for AS-Interface	mm²	1.5
AS-Interface profile S7.0	Outputs for 4 pilot lights		⎓ 24 V, 1.2 W, 50 mA per output
	Inputs for 4 N/C or 4 N/O contacts		24 V, 5 mA

References

	Description	Number of holes for dialogue units	Reference	Weight kg
	Front panels			
 KT4 F	Front panels only with location for Emergency stop unit	4	KT4 F	0.242
		8	KT8 F	0.340
		12	KT12 F	0.430
 KT8 F	Front panels only without location for Emergency stop unit	4	KT4 G	0.242
		8	KT8 G	0.340
		12	KT12 G	0.430
 KT8 F	Front panels with location for Emergency stop unit + printed circuit board with soldered adaptor	4	KT4 EHC	0.312
		8	KT8 EHC	0.466
		12	KT12 EHC	0.624
	Printed circuit board only			
 KT12 F	Printed circuit board with soldered adaptor	4	KT4 BHC	0.146
		8	KT8 BHC	0.230
		12	KT12 BHC	0.312
	Printed circuit board only with integral 4 I/O interface for AS-Interface line	4	KT4 BHS	0.230

Installation system

Profil front panels for Harmony® style 4 and style 5 pushbuttons, switches and pilot lights
Separate components

Separate components

Contact blocks for printed circuit board

Description	Type of contact		Sold in lots of	Unit reference	Weight kg
	N/O	N/C			
Standard contact blocks	1	–	10	ZBE 701	0.002
	–	1	10	ZBE 702	0.002
Special contact blocks (for low power switching and with dust protection)	1	–	10	ZBE 7016	0.003
	–	1	10	ZBE 7026	0.003

Light blocks for printed circuit board

Description	Supply voltage V	Colour of LED	Sold in lots of	Unit reference	Weight kg
Integral LED	≈ 24	White	5	ZBV B17	0.004
		Green	5	ZBV B37	0.004
		Red	5	ZBV B47	0.004
		Yellow	5	ZBV B57	0.004
		Blue	5	ZBV B67	0.004

Fixing collars with electrical blocks (contact or light)

For use with	Sold in lots of	Unit reference	Weight kg
XB4 B dialogue units	10	ZB4 BZ009	0.038
XB5 A dialogue units	10	ZB5 AZ009	0.006

Accessories for printed circuit board mounting

Description	For use with	Sold in lots of	Unit reference	Weight kg
Support pillar for printed circuit board (1)	XB4 B units	10	ZB4 BZ079	0.003
	XB5 A units	10	ZB5 AZ079	0.006

Adaptor (socket) for printed circuit board

For use with	Thickness of printed circuit board	Sold in lots of	Unit reference	Weight kg
Electrical block (contact or light)	1.6 mm ± 0.2	10	ZBZ 010	0.008
	2.2 mm ± 0.2	10	ZBZ 011	0.008
	3.2 mm ± 0.2	10	ZBZ 012	0.008

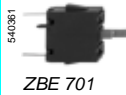
Fixing screws for mounting printed circuit board on support pillar	Mounting electrical blocks using adaptor ZBZ 010	10	ZBZ 006	0.011
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Other accessories

Description	For use with	Sold in lots of	Unit reference	Weight kg
Blank legend strip	4 dialogue units (1 row)	10	KTL	–
Sheet of 76 8 x 27 mm legends	For sticking onto strip KTL	10	ZBY 4100	0.043
"SIS Label" labelling software for use with legend strip KTL	English, French, German, Italian, Spanish	1	XBY 2U	0.100

(1) Use at least one support pillar with its 2 fixing screws for every 2 dialogue units fitted (and beneath each Emergency stop unit).

2



ZBE 701



ZBV B07



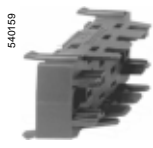
ZB4 BZ009



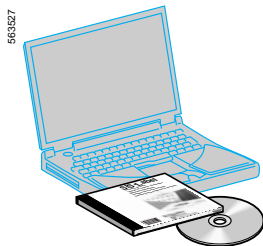
ZB5 AZ009 + ZB4 BZ079



ZB4 BZ079



ZB5 AZ079

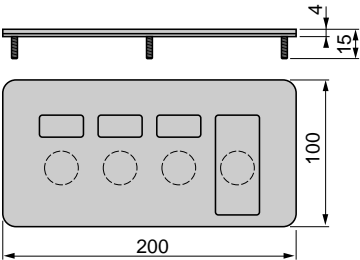


XBY 2U

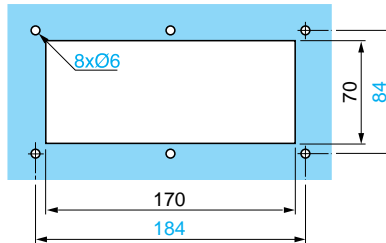
Installation system

Profil front panels for Harmony® style 4 and style 5 pushbuttons, switches and pilot lights

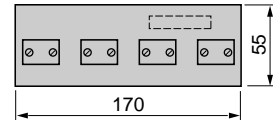
Front panel
KT4 F



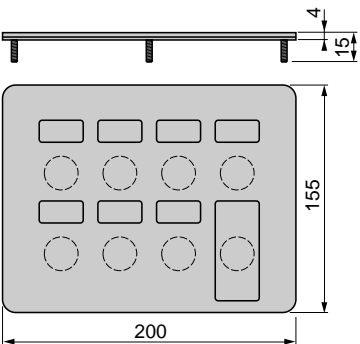
Support cut-out



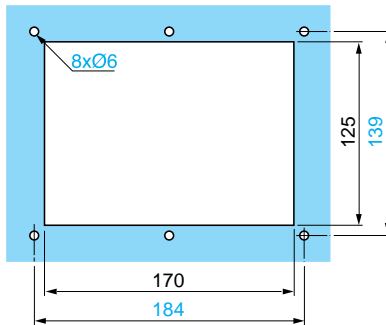
Printed circuit board
KT4 BHC



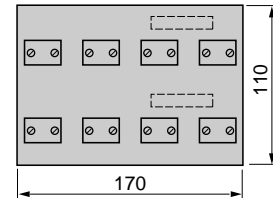
Front panel
KT8 F



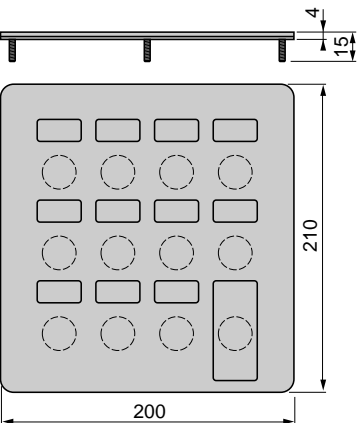
Support cut-out



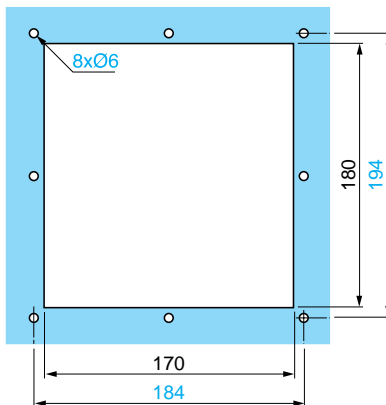
Printed circuit board
KT8 BHC



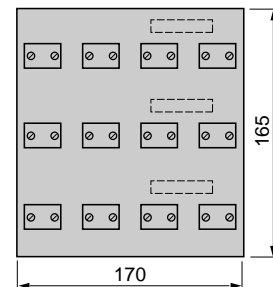
Front panel
KT12 F



Support cut-out

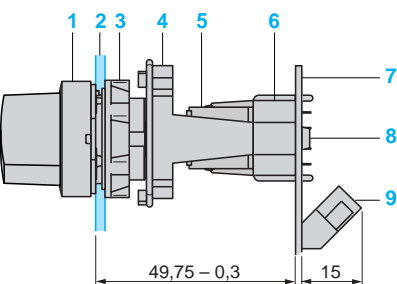


Printed circuit board
KT12 BHC

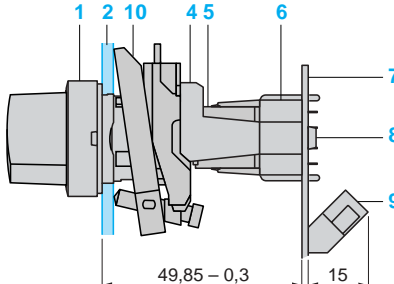


Mounting detail for printed circuit board

XB5 A



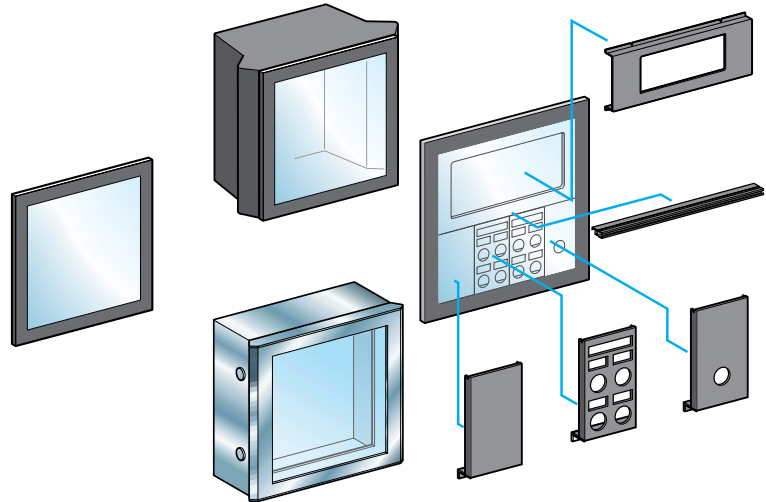
XB4 B



- 1 Head ZB5 A or ZB4 B
- 2 Panel (Profil front panel)
- 3 Fixing nut for head
- 4 Support pillar
- 5 Electrical block ZBE 70●/ZBV B●7
- 6 Adaptor socket ZBZ 01●
- 7 Printed circuit board
- 8 Fixing screw ZBZ 006
- 9 Connector (included with printed circuit board)
- 10 Fixing collar ZB4 BZ009

2

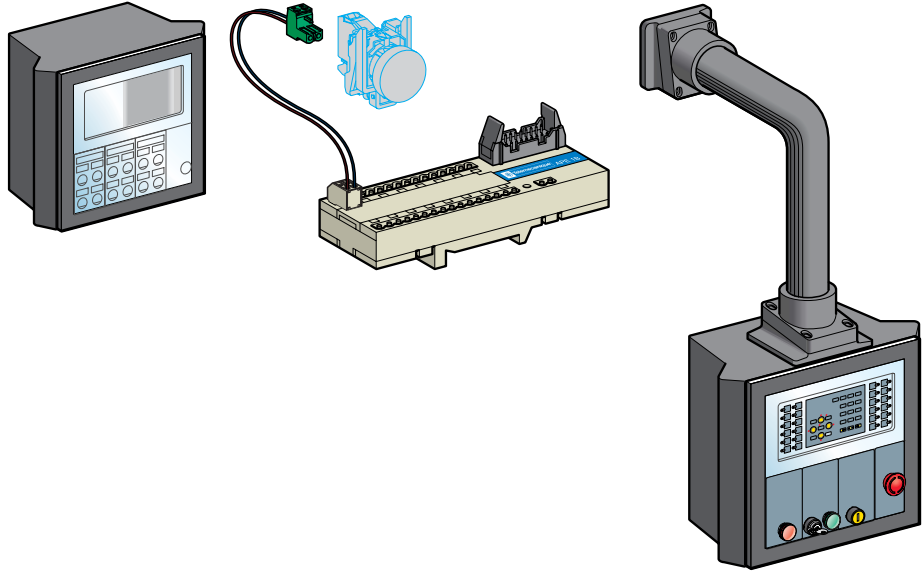
Functions	Define	Assemble
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Product type		Software	Dialboard front panels				Dialpack control console				Solid plates	Plates with cut-outs	
For Human-Machine Interfaces		All types	All types						Special types		Ø 16, 22 and 30 units		
Number of modules (1)	Height H	–	3	6	9	9	9	3	6	9	9	1 to 7	1 to 3
	Width W	–	4	4	2	4	6	4	4	4	6	1 to 4	1 to 4
Type		On CD-Rom	–										
Models		–	–				Steel or stainless steel type 304				–		
Set-up accessories		–	Tool kit, cross-pieces, brackets, wiring guide, ducting clips										
References		APD 1C	APD 1B				APD 1P				APD 1V	APD 1D	
Pages		2/61	2/58						2/59		2/58 and 2/59		

(1) H = 50 mm, L = 75 mm.

Connect **Build into machines**



	Pre-assembled kits	Connecting cables for pushbutton controls	Interfaces for Dialbase PLC or AS-Interface Line	Dialfix fixed arms	Dialmove moving arms
Display units Terminals Keypads	Magelis XBT P and Ø 22 pushbutton controls	Ø 16 and 22	-	-	-
1 to 7	6	-	-	-	-
1 to 6	4	-	-	-	-
	Dialboard Dialpack	-	-	Complete kit	Components to be assembled
<input type="checkbox"/> DIN display units <input type="checkbox"/> Magelis terminals <input type="checkbox"/> XBL C● keypads <input type="checkbox"/> Various display units	-	2-way connector	<input type="checkbox"/> HE10 connector 8/80 or 16l <input type="checkbox"/> 230 V <input type="checkbox"/> AS-Interface	<input type="checkbox"/> Straight fixed arm, 500 or 1000 mm in length <input type="checkbox"/> Elbowed fixed arm, 500 mm in length	<input type="checkbox"/> Straight tubes <input type="checkbox"/> Right-angled joints <input type="checkbox"/> Rotating or tilted joints <input type="checkbox"/> Straight or elbowed fixings, fixed or rotating
		Self-stripping connectors		-	

APD 1A	APD 1Z	APE 1C	APE 1B APE 1F	APD 1F	APD 1M
2/59 and 2/60	2/60	2/64		2/65	2/67

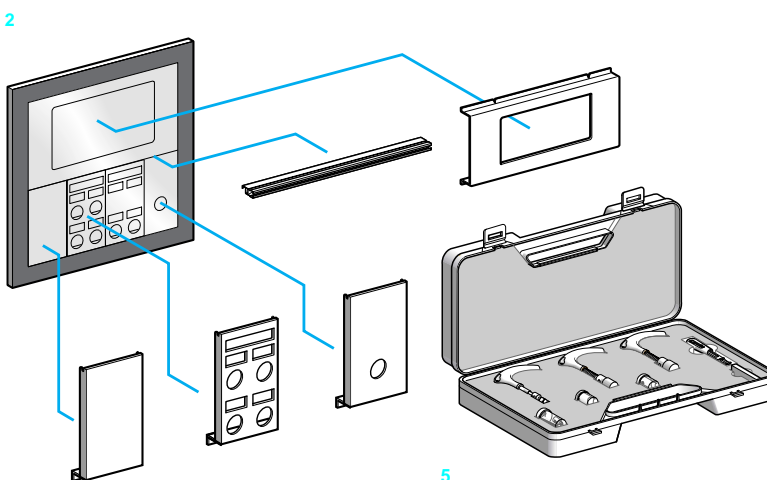
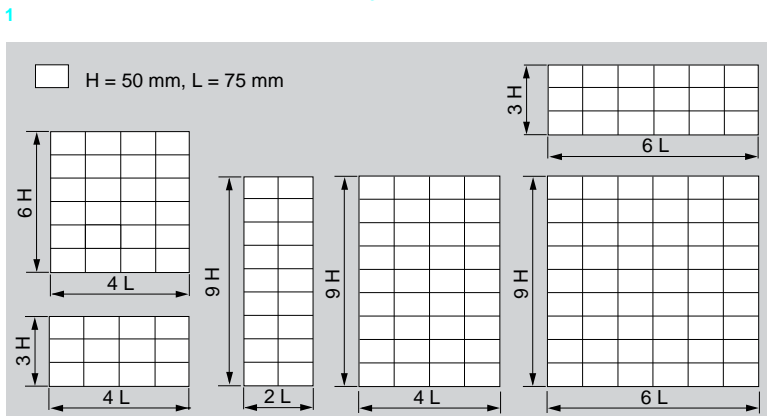
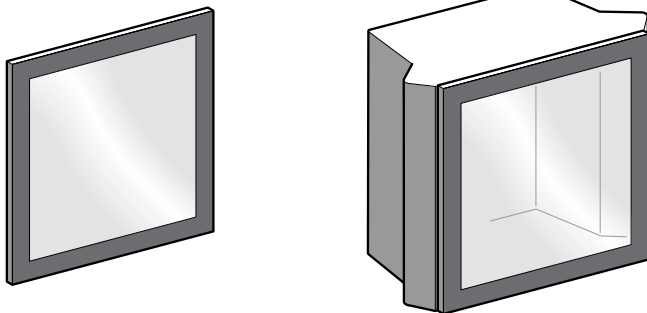
Presentation

The modular Tego Dial system is used to define Human-Machine interfaces. It facilitates the installation of Ø 22, 16 and 30 mm control and signalling units, DIN format display units, Magelis terminals and display units, XBL keypads and other products.

Tego Dial simplifies an HMI application by:

- definition of the application by Tego Dial Design software,
- quick assembly of control, signalling and display units, through the use of modular elements,
- standard connections from the control and signalling units to PLCs, buses and other products,
- easy integration of the dialogue application into the machine, control panel, enclosure or machine housing, either directly or using suspension arms.

Description



■ Tego Dial Design definition software

This software on CD-ROM facilitates graphical definition of the dialogue application in relation to the control units, pilot lights and display units necessary for the device.

It selects the correct Tego Dial components that are required for the application and also features a legend design and printing function, for both the front panel and the connections.

■ Dialboard front panels 1

The front panels basically comprise a grey, RAL 7016, painted aluminium frame which is covered by a polycarbonate film. Six sizes are available 2 based on a modular pattern of height H = 50 mm and width W = 75 mm. The sizes are 3H x 4W, 3H x 6W, 6H x 4W, 9H x 2W, 9H x 4W and 9H x 6W

■ Dialpack control consoles 3

Four control consoles are available in the following modular sizes: 3H x 4W, 6H x 4W, 9H x 4W and 9H x 6W.

The Dialpack console is an assembly comprising a Dialboard type front panel and a folded and welded sheet steel enclosure, painted in textured grey RAL 7016.

The front panel is hinged and can be opened to 120°. Closing is by a 1/4 turn device, with stop and locking by Ronis key n° 455. Double bar or CNOMO triangular key locks are also available. A customising component in 2 versions - yellow or unpainted - enhances the Dialpak unit and makes it more ergonomic. A Dialpack S version in stainless steel type 304 is available for corrosive environments. This version conforms to enclosure standard EN 50298.

■ Plates and cross-pieces 4

A range of modular dimensioned plates facilitates the installation of all combinations of control and signalling units, operator dialogue terminals and other devices. These plates are attached directly to the framework of the front panel.

The plates, made from sheet steel and painted grey RAL 7016, are designed for the following product ranges:

- Ø 22, Ø 16 and Ø 30 control and signalling units,
- DIN format display units,
- operator terminals and displays (Magelis and others),
- keypads,
- other units: joystick controllers, cam switches, etc.

Cross-pieces aid vertical mounting of several rows of plates. Cut-outs in the plates are dimensioned to suit the dialogue or display units that are to be installed. Some plate versions for Ø 22 units are available with knock-outs, which need to be removed before mounting the product. Other versions incorporate cut-outs for clip-in mounting of the transparent polycarbonate legend holders included with the plate. Alternatively, solid plates are also available for mounting any special equipment required.

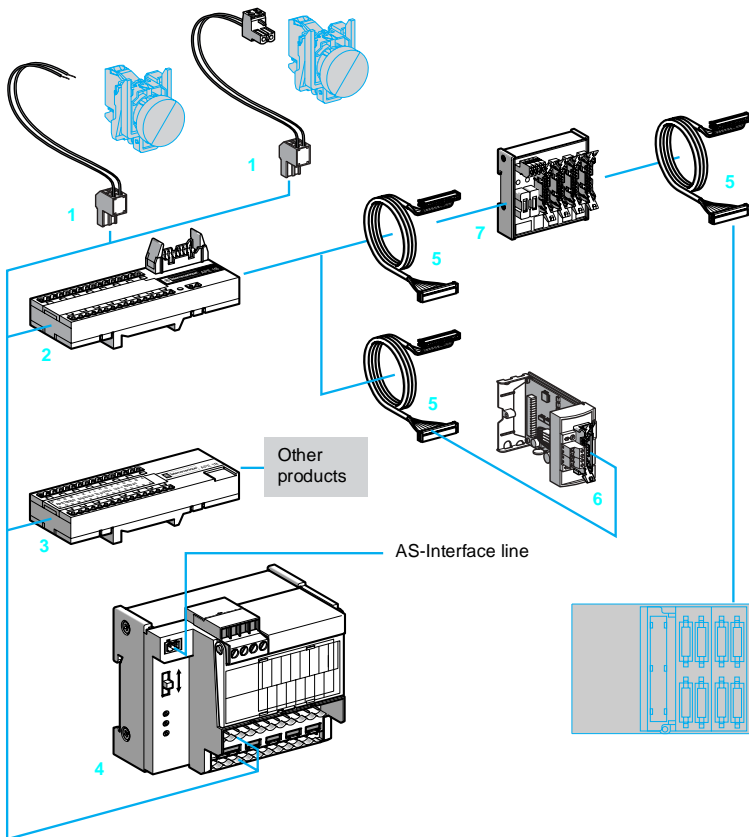
■ Tool Kit 5

The installation of dialogue and display units requires cut-outs to be made through the polycarbonate film. To simplify this operation, the plate is marked with cut-out guides and a tool kit is available, comprising cutting tools and replacement blades.

■ Pre-assembled kits

Dialboard and Dialpack with pre-assembled plates and cross-pieces are available.

Standard connections



Tego Dial offers a range of interface components and cabling accessories that simplify connection of control and signalling units to PLCs, buses and other products.

The main components which make up this range are:

- prefabricated connection cables and self-stripping connectors **1**, on 5 mm pitch, for connecting control and signalling units to Dialbase interfaces,
- Dialbase 8I/8O or 16I interfaces **2**, with integrated commons, for connecting control and signalling units to PLCs via prefabricated Telefast connection cables **5**,
- an active splitter block **7** for connecting a Dialbase 8I/8O interface to PLCs with a connection modularity greater than 8I/8O,
- a Dialbase 230 V interface **3** for connecting control and signalling units to any product up to 230V,
- a Dialbase AS-Interface 4I/4O module **4**, with integrated commons for connecting control and signalling units to the AS-Interface line.

The selection guide on page 2/62 indicates the type and quantity of components (Dialbase interfaces, active splitter block, Telefast connection cables) required to connect the control and signalling units to various types of PLC. The most efficient connection is achieved using the Dialbase 8I/8O interface and the Telemecanique TSX Micro PLC card TSX DMZ16DTK **6**.

2

Dialfix and Dialmove suspension arms



The Dialpack control console can be fitted directly using four adjustable lugs, AE3-FX122. However, for improved ergonomics, it is usually mounted on a suspension arm. This can be either fixed (Dialfix) or moving (Dialmove).

Dialfix fixed arms

Two versions are available:

- a straight fixed arm kit, comprising a straight \varnothing 70 mm tube, 500 or 1000 mm in length, and a pair of clamps (one for each end). Depending on which way round the clamps are fitted, an inclination of $\pm 15^\circ$ from the neutral position can be achieved.
- an elbowed (90°) fixed arm kit, 500 mm in length. This kit also includes the pair of clamps described above.

Arms for corrosive environments

These arms, in 304 type stainless steel, provide 350° rotation on the Dialpack fixing side. Two versions are available:

- straight arm kit, length 1000 mm.
- 90° elbowed arm kit, length 500 mm.

Dialmove moving arms

This arm enables an extensive choice of mounting configurations. The cabling runs through the elements which have removable side covers for easy access.

Various configurations can be achieved by combining the following components:

- straight tubes (100 to 1000 mm long),
- 90° joint,
- wall fixing brackets (straight or elbowed, fixed or mobile),
- straight fixing plates (one fixed, one rotating) for Dialpack,
- 15° tilted joints,
- rotating joint allowing -90° to $+90^\circ$ rotation in the same plane.

Environment									
Product type		Dialboard APD 1B●●	Dialpack APD 1P●●	Dialpack APD 1P●●S					
Protective treatment		"TC"		"TH"					
Ambient air temperature	Storage	°C - 25...+ 55							
	Assembly	°C - 5...+ 40							
Operating conditions		For indoor use only							
Vibration resistance	Conforming to Bureau VERITAS	5...100 Hz, 0.7 gn							
Resistance to mechanical shock	Conforming to IEC 68-2-27	11 ms (half sine wave), 15 gn (acceleration)							
Resistance to external mechanical impact	Conforming to EN-50-102	IK9							
Degree of protection	IEC 529 - DIN40050 NFC 20-010	IP 55 (Dialboard mounted in its cut-out)	IP 65						
Resistance to incandescent wire	Conforming to IEC 695-2-1	°C 960							
Maximum thermal resistance		W -	1P34 50	1P64 100	1P94 160	1P345 40	1P645 90	1P945 130	1P965 160
Product certifications		UL, CSA BV (pending)							

Mechanical characteristics				
Material	Front panel film	Polycarbonate (Vinyl-acrylic Co-polymer protection)		
	Frame	Aluminium	Aluminium (outside of Dialpack)	Aluminium (inside of Dialpack)
	Door	-	Aluminium + polycarbonate	Stainless steel type 304 + polycarbonate
	Rear console	-	Sheet steel, folded and welded	Stainless steel type 304
Paint finish	Frame	Textured, 100 % polyester powder over chromate primer		Clear anodising (inside of Dialpack)
	Rear console	-	Textured 100 % polyester over zinc phosphate primer	-
Colour	Frame	Grey RAL 7016		-
	Rear console	-	Grey RAL 7016	-
Door opening		-	Hinged, 120° opening	Hinged, 120° opening (can be lifted off hinges)
Closure system		-	1/4-turn device with stop, Ronis key n° 455	1/4-turn device with stainless steel stop, double bar key
Plates/frame earth continuity		Via construction + screw		
Earthing		By screw on frame	M6 studs + earth cable	
Permissible load		25 kg evenly distributed		
Sealing gasket		Polyurethane continuous seal		
Fixing		By clamps (included)	Drilled (positions premarked)	Drilled

Characteristics of front panel film: resistance to chemical products (1)						
Chemical products			Immersion in the product		Depositing of drips	
Family	Type	Concentration/pH	External panel	Internal panel	External panel	Internal panel
Solvents	Trichlo	100 %	Not resistant	Not resistant	Resistant	Not resistant
	Acetone	100 %	Not resistant	Not resistant	Resistant	Not resistant
	Balthane	100 %	Not resistant	Not resistant	Resistant	Not resistant
Hydrocarbons	Petrol	100 %	Resistant	Resistant 24 H	Resistant	Resistant
Cutting oil	40R oil	100 %	Resistant	Resistant	Resistant	Resistant
Alcohol	Methanol	100 %	Not resistant	Not resistant	Resistant	Resistant
	Ethanol	100 %	Not resistant	Not resistant	Resistant	Resistant
Miscellaneous	White spirit	100 %	Resistant	Resistant	Resistant	Resistant
Acids	Chlorine	30 %	Resistant	Resistant	Resistant	Resistant
	Lactic acid	pH4	Resistant	Resistant	Resistant	Resistant
Others	Sulphur	pH13	Resistant	Resistant	Resistant	Resistant
	Industrial detergent	pH10	Resistant	Resistant	Resistant	Resistant

(1) Information given is typical. Special conditions (temperature, immersion rates, mixing of products, etc) may cause results to vary. Please consult your Regional Sales Office which will be happy to provide samples for your tests.

Environment						
Product types		APE 1B24 \bullet , 1R1628, 1FASI1		APE 1PAD21	APE 1PR21	
Protective treatment		"TC"		–	–	
Degree of protection (against direct contact)	Conforming to IEC 529	IP 20		IP 20	IP 20	
Product certifications	UL, CSA	Yes		Yes	Pending	
	BV	Pending		Pending	Pending	
	AS-Interface (for APE 1FASI1 only)	N° 179		–	–	
Resistance to incandescent wire	Conforming to IEC 695-2-1	°C	750: extinction < 30 s	–	–	
Resistance to mechanical shock	Conforming to IEC 68-2-27	ms	11 (half sine wave)	–	–	
		gn	15 (acceleration)	–	–	
Vibration resistance	Conforming to Bureau VERITAS	Hz	5...100	–	–	
		gn	0.7 (acceleration)	–	–	
Resistance to electrostatic discharge	Conforming to IEC 1000-4-2	Level 3		–	–	
Resistance to radiated fields	Conforming to IEC 1000-4-3	MHz	Level 3	–	–	
Resistance to fast transients	Conforming to IEC 1000-4-4	Level 3		–	–	
Electrical surge withstand	Conforming to IEC 1000-4-5	kV	1 at 2 Ω (series mode), 2 at 12 Ω (common mode)	–	–	
Ambient air temperature	Operation	Conforming to IEC 1131-2	°C	- 5...+ 60	–	–
		Conforming to IEC 998-2-3/999-8-8	°C	–	< 60	< 55
	Storage	Conforming to IEC 1131-2	°C	- 40...+ 80	–	–
Insulation voltage	Terminals/mounting rails	kV	2 (for 1 minute)	–	4 (for 1 minute)	
	Conforming to IEC 998-1	kV	–	0.5	0.5	
Permissible voltage	Conforming to IEC 998-2-3	kV (c)	–	< 0.25	< 0.25	
Permissible current	Conforming to IEC 998-2	A	–	< 9	< 12	
Resistance to withdrawal of cable		N	–	30	50 (for 2.5 mm ²)	
Installation category	Conforming to IEC 664	II		–	–	
Degree of pollution	Conforming to IEC 664	2		–	–	
Mounting	Standard mounting rail or support supplied	Height of standard \square mounting rail 7.5 or 15 mm		–	–	

Connectors							
Base type	APE 1B24M	APE 1B24E	APE 1B230	APE 1R1628	APE 1FASI1	APE 1PAD21	APE 1PR21
Number of channels and functions	8 inputs and 8 outputs	16 inputs	–	16 I + 16 O in 2 x 8 I/8 O	4 inputs 4 solid state outputs	–	–
Number of active ways	–	–	16, volt-free	–	–	2	2
Connector type, component side	2-way, 5 mm pitch per channel	2-way, 5 mm pitch per channel	Up to 16-way, 5 mm pitch	2 x HE 10, 20-way	2-way, 5 mm pitch per channel	2-way, 5 mm pitch per channel	2-way, 5 mm pitch
Connector type / number of ways, PLC side	1 x HE 10, 20-way	1 x HE 10, 20-way	–	2 x HE 10, 20-way	–	–	–
Connector type, AS-Interface side	–	–	–	–	2 x 2-way, 5 mm pitch	–	–
Connection, cable side	–	–	–	–	–	Manual, cannot be disconnected	Spring, can be disconnected
Compatible cable	–	–	–	–	–	AWG-18-1007 or HO5VK 0.75 mm ² (1)	0.14 to 2.5 mm ² (1) 0.2 to 2.5 mm ² (2)

(1) Flexible cable, multicore, copper
(2) Rigid cable.

Supply characteristics								
Base type		APE 1B24M	APE 1B24E	APE 1B230	APE 1R1628	APE 1FASI1		
Connector type	Accessory plug		2-way, 5 mm pitch (1)	2-way, 5 mm pitch (1)	–	–	–	
	Supply plug		–	–	–	4-way, 5 mm pitch (1)	2 x 4-way, 5 mm pitch (1) inputs via AS-Interface line, outputs via external --- 24 V supply	
Supply indicator		–	Green LED on inputs		–	Green LED on inputs Green LED on outputs	Green LED on inputs (via AS-Interface line) Green LED on outputs (external)	
Supply voltage		---	V	Separate inputs and outputs 19 to 30 conforming to DIN, IEC 1131 (Un = 24)	≤ 250 ~	Inputs and outputs 19 to 30 conforming to DIN, IEC 1131 (Un = 24)	Inputs: via AS-Interface line Outputs: external 19 to 30 (conforming to DIN)	
Maximum permissible supply current	Inputs	A	1	2	–	0.9	< 0.25 (via AS-Interface line)	
	Outputs	A	1	–	–	1.8	4 (external)	
Maximum current from accessory plug		---	A	1 (less current drawn by inputs)	2 (less current drawn by inputs)	–	–	
Voltage drop at supply fuse		---	V	–	–	0.3	0.2	
Supply overload and short-circuit protection	Inputs	---	A	1 upstream per APE 1R1628 or PLC supply (2)	2 upstream per PLC supply (2) or per accessory plug (2)	–	1 per "quick- blow" fuse (included)	0.2 per current limiter (via AS-Interface line)
	Outputs	---	A	1 upstream per APE 1R1628 or PLC supply (2)	–	–	2 per "quick- blow" fuse (included)	4 per HPC" quick-blow" fuse (included) (external)
Input and output circuit characteristics (active side)								
Maximum permissible current		---	A	0.5 per channel	0.5 per channel	8 per way	0.5 per channel (1 A max. per group of 8 channels) (3)	Inputs: type II 1131-2 Outputs: 0.5 per channel, auto- protected
Maximum length of supply connection cables, for 1 volt voltage drop (4)	AWG 22 (5)	m	17.5 (1 A)	35 (1 A) - 18 (2 A)	–	–	–	–
	AWG 26 (6)	m	7.5 (1 A)	15 (1 A) - 10 (1.8 A)	–	–	–	–
	AWG 28 (7)	m	5 (1 A)	10 (1 A)	–	–	–	–

(1) Compatible with 5.08 mm pitch.
 (2) "Quick-blow" fuse (5 x 20 or 10 x 38) not included.
 (3) Output channels auto-protected against short-circuits and overloads ≥ 0.75 A.
 (4) For n volts tolerance, multiply length by n.
 (5) AWG 22, c.s.a. 0.324 mm², connection cables TSXCDP●●●3 and ABF A●●●.
 (6) AWG 26, c.s.a. 0.13 mm², connection cables ABF ●●●.
 (7) AWG 28, c.s.a. 0.008 mm², connection cables TSXCDP●●●2 and ABF H●●●.

Installation system

Tego Dial for Human-Machine interfaces

Dialfixe and Dialmove suspension arms

Dialfix suspension arms APD 1F●●● and APD 1S●K●

Reference	APD 1F●K●		APD 1S●K●	APD 1FSF1
Component	Tube	Clamp	Stainless steel arm	Support foot
Material	Aluminium 6060, treated	CFA glass fibre reinforced polyamide	Stainless steel type 304	Sheet steel, folded and welded
Paint finish	100 % polyester powder	Tinted throughout	–	100 % polyester powder
Colour	Grey RAL 7016	Grey RAL 7016	Satin finish stainless steel	Grey RAL 7016
Tube/clamp fixing	By 2 screws, Ø 4.2 (included) + 4 HCM6 screws (included)	–	By 2 screws (included)	–
Clamp fixing on Dialpack or support	–	By 4 M6 screws (included)	By 4 screws (included)	–
Earth continuity and earth connection	By cable (included)	–	By construction	By construction
Permanent permissible load	8 kg at 1 m, 16 kg at 0.5 m	8 kg at 1 m, 16 kg at 0.5 m	12 kg at 1 m, 24 kg at 0.5 m	8 kg at 1 m, 16 kg at 0.5 m
Fleeting permissible overload	30 kg at 1 m, 60 kg at 0.5 m	30 kg at 1 m, 60 kg at 0.5 m	40 kg at 1 m, 80 kg at 0.5 m	30 kg at 1 m, 60 kg at 0.5 m
Degree of protection of mounted assembly conforming to standards	IEC 529	IP 55	IP 55	IP 55
	DIN 40050	IP 55	IP 55	IP 55
	NF C 20-010	IP 55	IP 55	IP 55
Continuous sealing gasket	Polychloroprene	Polychloroprene	Nitrile elastomer	Polybutadiene nitrile acrylic
Protective treatment	"TC"	"TC"	–	"TC"
Product certifications	BV (pending)	BV (pending)	BV (pending)	BV (pending)

Dialmove suspension arms APD-1M●●●

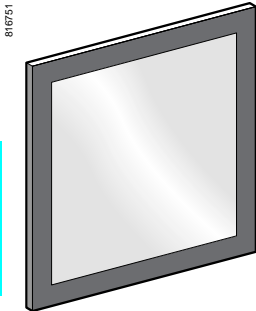
Component	Tubes APD 1M●●● except APD 1M1FDR and APD 1M1RDR	Tube APD 1M1FDR	Tube APD 1M1RDR	Cover for APD 1M●●●
Material	Aluminium	Aluminium	Aluminium-bronze	ABS
Paint finish	100 % polyester powder	100 % polyester powder	100 % polyester powder	Tinted throughout
Colour	Grey RAL 7016	Grey RAL 7016	Grey RAL 7016	Grey RAL 7016
Earth continuity	By construction	By construction	By construction	–
Earthing	By construction	By construction	By construction	–
Maximum permissible distance of load	1600 mm	600 mm	850 mm	–
Permanent permissible load	30 kg	15 kg	15 kg	–
Degree of protection of mounted assembly conforming to standards	IEC 529	IP 55 (assembly mounted)	IP 55 (assembly mounted)	IP 44 (cover on tubes)
	DIN 40050	IP 55 (assembly mounted)	IP 55 (assembly mounted)	IP 44 (cover on tubes)
	NF C 20-010	IP 55 (assembly mounted)	IP 55 (assembly mounted)	IP 44 (cover on tubes)
Fixing components sealing gasket	NBR 50-60 SHORE seal	NBR 50-60 SHORE seal	–	–
Protective treatment	"TC"	"TC"	"TC"	"TC"
Maximum number of cables (1)	4 x Ø 13 mm	4 x Ø 13 mm	4 x Ø 13 mm	–
Maximum room for connectors	60 x 25 mm	60 x 25 mm	60 x 25 mm	–
Product certifications	BV (pending)	BV (pending)	BV (pending)	BV (pending)

(1) Total number in the two spaces on either side of the arm.

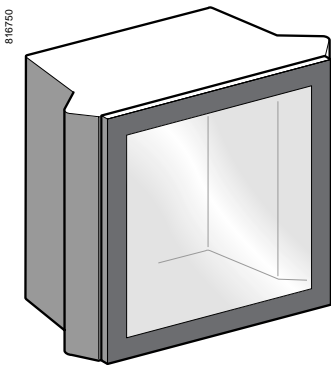
Installation system

Tego Dial for Human-Machine interfaces
Dialboard front panels and Dialpack control consoles
Plates for Ø 22 control and signalling units

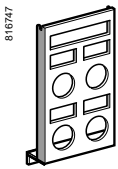
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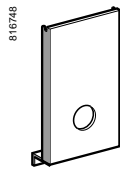
APD 1B●●



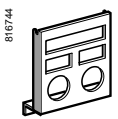
APD 1P●●



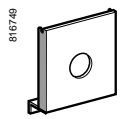
APD 1D2431●



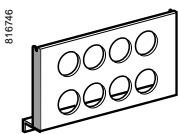
APD 1D21310



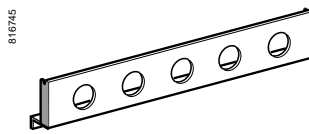
APD 1D2221●



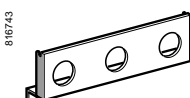
APD 1D21210



APD 1D28220



APD 1D25140



APD 1D23120

Dialboard front panels

Number of modules		Reference	Weight kg
H	W		
3	4	APD 1B34	0.600
	6	APD 1B36	0.800
6	4	APD 1B64	1.200
9	2	APD 1B92	1.150
9	4	APD 1B94	1.500
	6	APD 1B96	1.850

Dialpack control consoles (front panel included)

Number of modules		Material	Key supplied	Reference	Weight kg
H	W				
3	4	Sheet steel	N° 455	APD 1P34	3.300
		Stainless steel type 304	Double bar	APD 1P34S	5.900
6	4	Sheet steel	N° 455	APD 1P64	4.750
		Stainless steel type 304	Double bar	APD 1P64S	7.300
9	4	Sheet steel	N° 455	APD 1P94	6.000
		Stainless steel type 304	Double bar	APD 1P94S	9.200
6	6	Sheet steel	N° 455	APD 1P96	8.500
		Stainless steel type 304	Double bar	APD 1P96S	13.000

Plates for Ø 22 control and signalling units

No. of modules	Finish (1)		No. of units	Pitch between units		No. of legend holders (2)	Reference	Weight kg
	H	W		Horiz. mm	Vertical mm			
3	1	Drilled	4	37.5	55.5	3	APD 1D24310	0.120
		Knock-outs	4	37.5	55.5	3	APD 1D24311	0.130
		Drilled	1	-	-	0	APD 1D21310	0.130
2	1	Drilled	2	37.5	-	2	APD 1D22210	0.085
		Knock-outs	2	37.5	-	2	APD 1D22211	0.095
		Drilled	1	-	-	0	APD 1D21210	0.095
2	2	Drilled (3)	8	30	40	0	APD 1D28220	0.160
1	4	Drilled (3) (4)	5	56.25	-	0	APD 1D25140	0.230
1	2	Drilled (3) (4)	3	57	-	0	APD 1D23120	0.120

(1) The plates are supplied either pre-drilled or with knock-outs, depending on the reference. For the latter version, the required knock-outs must be removed in order to mount Ø 22 control and signalling units.

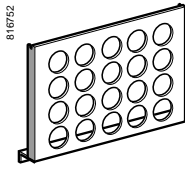
(2) Legend holders included with plates.

(3) Side covers included with plates.

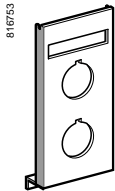
(4) The selector switches must be mounted horizontally.

Installation system

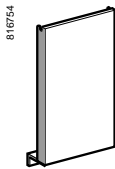
Tego Dial for Human-Machine interfaces
Plates for Ø 16 and Ø 30 control and signalling units
Solid plates and plates for other units



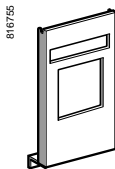
APD 1D1X220



APD 1D32310



APD 1V21



APD 1A21D44

Plates for Ø 16 and Ø 30 control and signalling units

Units Ø	No. of modules		Finish	Pitch between units		No. of legend holders (2)	Reference	Weight kg	
	No.	H		W	Horiz. mm				Vertical mm
16	5	1	2	Drilled (1)	24	–	–	APD 1D15120	0.120
	12	2	1	Drilled (1)	24	19	–	APD 1D1X210	0.085
	20	2	2	Drilled (1)	24	19	–	APD 1D1X220	0.160
30	2	3	1	Drilled (1)	–	60	1	APD 1D32310	0.120

Solid plates

Number of modules H	W	Reference	Weight kg
1	2	APD 1V12	0.130
	4	APD 1V14	0.250
	4	APD 1V21	0.100
2	2	APD 1V22	0.195
	4	APD 1V24 (3)	0.565
	4	APD 1V31	0.135
3	2	APD 1V32	0.255
	4	APD 1V34 (3)	0.680
	4	APD 1V41	0.200
4	4	APD 1V44 (3)	0.830
	6	APD 1V46 (3)	1.320
	4	APD 1V51	0.235
5	4	APD 1V54 (3)	0.950
	6	APD 1V56 (3)	1.500
	6	APD 1V61	0.270
6	4	APD 1V64 (3)	1.180
	6	APD 1V66 (3)	1.670
	7	APD 1V74 (3)	1.310
7	6	APD 1V76 (3)	1.850

Plates for DIN format display units

Type of DIN products		No. of modules		No. of products	No. of legend holders (2)	Reference	Weight kg
Height mm	width mm	H	W				
24	48	1	2	2 (1)	–	APD 1A12D24	0.115
		2	1	1	1	APD 1A21D24	0.085
		2	1	1	1	APD 1A21D44	0.065
72	72	2	1	1	–	APD 1A21D77	0.080
48	96	2	2	1	–	APD 1A22D49	0.160
24	48	3	1	2 (1)	2	APD 1A31D24	0.120
48	48	3	1	2 (1)	1	APD 1A31D44	0.100
96	48	3	1	1	0	APD 1A31D94	0.100

(1) Side covers included with plates.

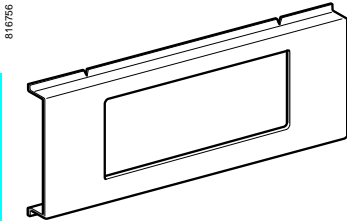
(2) Legend holders included with plates.

(3) This plate must be mounted on the first row at the top of Dialboard unit APD 1B●● or of the door of Dialpack unit APD 1P●●.

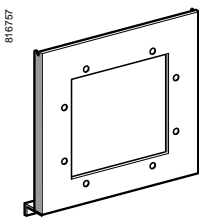
Installation system

Tego Dial for Human-Machine interfaces
Plates for other units, pre-assembled kits

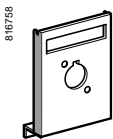
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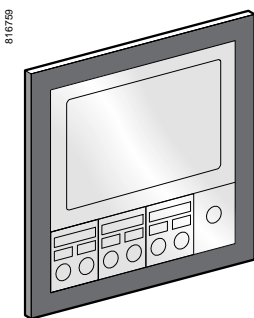
APD 1A34H00



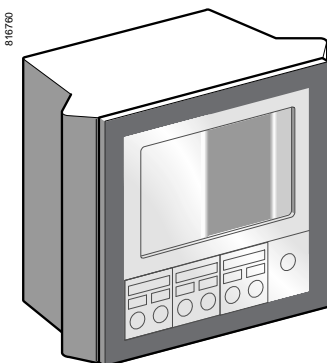
APD 1A32C12



APD 1A21XDA



APD 1ZB64PA



APD 1ZP64PA

Plates for Magelis operator terminals and display units (1)

Product type	No. of modules		No. of products	Reference	Weight kg
	H	W			
XBT H	3	4	1	APD 1A34H00	0.550
XBT HM	3	4	1	APD 1A34HM0	0.545
XBT P, XBT PM	4	4	1	APD 1A44P00	0.580
XBT F032	4	4	1	APD 1A44F32	0.630
XBT E	5	4	1	APD 1A54E00	0.560
XBT F033/034/FC044/ FC064/FC084, TXBT F034 (3)	5	4	1	APD 1A54F33 (4)	0.560
	5	6	1	APD 1A56F33	1.000
XBT F01	6	4	1	APD 1A64F1	0.778
XBT F02, TXBT F02 (3)	7	4	1	APD 1A74F2 (4)	0.650
	7	6	1	APD 1A76F2	1.025

Plates for various operator terminals and display units (1)

Product type	No. of modules		No. of products	Reference	Weight kg
	H	W			
T CCX17●OL●	5	4	1	APD 1A5417L	0.730
Siemens OP3, PILZ PX 30	3	4	1	APD 1A34S03	0.580
Siemens OP5, PILZ PXT 305	4	4	1	APD 1A44S05	0.650
Siemens OP07	4	4	1	APD 1A44S07	0.650
Siemens OP17	5	4	1	APD 1A54S17	0.600
Siemens OP25 and OP27	5	4	1	APD 1A54S25	0.600
Lauer PCS090	4	4	1	APD 1A44L90	0.650
Lauer PCS095	5	4	1	APD 1A54L95	0.600
Omron NT20S	3	4	1	APD 1A34O20	0.560

Plates for keypads

Product type	No. of modules		No. of products	Reference	Weight kg
	H	W			
XBL C1012/C5012R581	3	2	1	APD 1A32C12	0.215
XBL C1016	3	2	1	APD 1A32C16	0.205
XBL C1020	3	2	1	APD 1A32C20	0.195

Plates for various other products

Product type	No. of modules		No. of products	No. of legend holders (2)	Reference	Weight kg
	H	W				
Joystick controller XDA ●11 Mini-vario VN12, VN20 Vario V0 to V2, K cam switch	2	1	1	1	APD 1A21XDA	0.090
Joystick controller XDA ●11 Mini-vario VN12, VN20 Vario V0 to V2 K cam switch	3	1	1	1	APD 1A31XDA	0.130

Pre-assembled kits for Magelis XBT P (size 6H x 4W)

Type	Composition				Reference	Weight kg
	Support	Plate	Display	Buttons		
Dialboard kit	APD 1B64	1A44P00	1 x APD 1D21210	3 x APD 1D22211	APD 1ZB64PA	2.180
Dialpack kit	APD 1P64	1A44P00	1 x APD 1D21210	3 x APD 1D22211	APD 1ZP64PA	5.730

(1) This plate must be mounted on the first row at the top of Dialboard unit APD 1B●● or of the door of Dialpack unit APD 1P●●

(2) Legend holders included with plates.

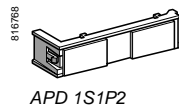
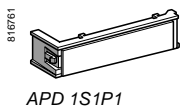
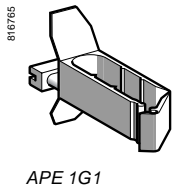
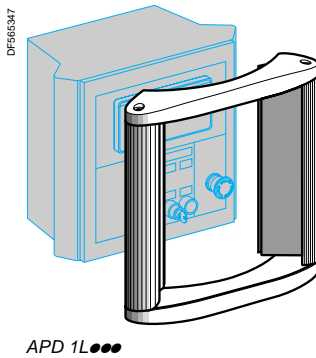
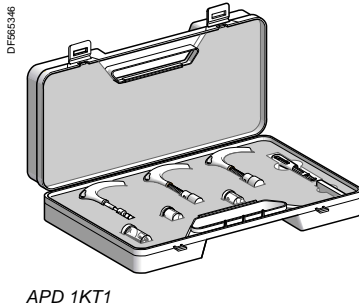
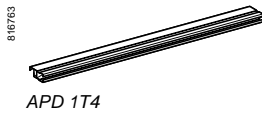
(3) A TXBT cannot be fitted in Dialpack consoles APD 1P●4.

(4) These plates are not compatible with Dialboard front panels and Dialpack APD 1●●6 terminals.

Installation system

Tego Dial for Human-Machine interfaces

Accessories



Cross-pieces

Description	Use	No. of modules W	Reference	Weight kg
Plate support cross-pieces	Dialboard	2	APD 1T2	0.045
	Dialboard or Dialpack	4	APD 1T4	0.085
		6	APD 1T6	0.125

Tego Dial Design

Description	Language	Version	Medium	Reference	Weight kg
Definition software	English and French	02	CD-Rom	APD 1C00M	0.100

Tools

Description	Use	Reference	Weight kg
Tool kit	For making Ø 22, 16, 5 and other size cut-outs	APD 1KT1	1.130
1 replacement blade	Ø 22 cut-out tool	APD 1KT2	0.009
	Ø 16 cut-out tool	APD 1KT16	0.023
1 pack of 10 replacement blades	Stanley knife	APD 1KTCU	0.050

Customising components for Dialpack

Description	For Dialpack Reference	Finish	Reference	Weight kg
Customising components/gripping handles	APD 1P34	Yellow	APD 1L34Y	0.820
		Unpainted	APD 1L340	0.820
	APD 1P64	Yellow	APD 1L64Y	1.120
		Unpainted	APD 1L640	1.120
	APD 1P94	Yellow	APD 1L94Y	1.420
		Unpainted	APD 1L940	1.420

Accessories

Description	Use	Material	Sold in lots of	Unit reference	Weight kg
Wire guide	Dialboard and Dialpack	Black polyamide	10	APE 1G1	0.005
Ducting support (1)	Dialboard and Dialpack	Black polyamide	10	APE 1G2	0.006
Self-adhesive Ø 60 yellow sticker, Emergency Stop	Ø 22 plates APD 1D21●1●	-	10	APD 1YARJ	0.002

Replacement legend holder

Description	Use	Sold in lots of	Unit reference	Weight kg
Legend holder	1 Plate function	10	APD 1S1P1	0.045
	2 Plate functions	10	APD 1S1P2	0.045

Separate locks for Dialpack APD 1P●●

Description	Use	Sold in lots of	Unit reference	Weight kg
Lock with double bar key		1	XAP P9110	0.100
Lock with triangular key	CNOMO n° 8	1	XAP P9111	0.100
	CNOMO n° 6.5	1	APD 1YST6	0.100

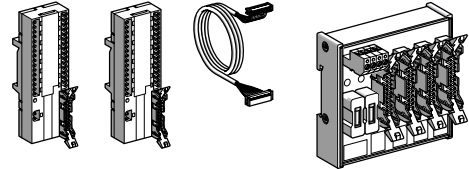
Fixing lugs for Dialpack APD 1P●●

Description	Use	Material	Sold in lots of	Unit reference	Weight kg
Rotatable fixing lugs	-	Steel	4	AE3 FX122	0.080

(1) Recommended ducting: AK2 GD2525 and AK2 GD2550 with cover AK2 CD25.

2

PLCs					Components required for connection to the PLC			
Brand	Type	Modularity of connection to the PLC	PLC terminal blocks	Compatible PLC cards	Tego Dialbase		Telefast cables	Splitter block
					APE 1B24M 8 I/8 O	APE 1B24E 16 I	ABF H20H●●0 or TSXCDP●●3	APE 1R1628

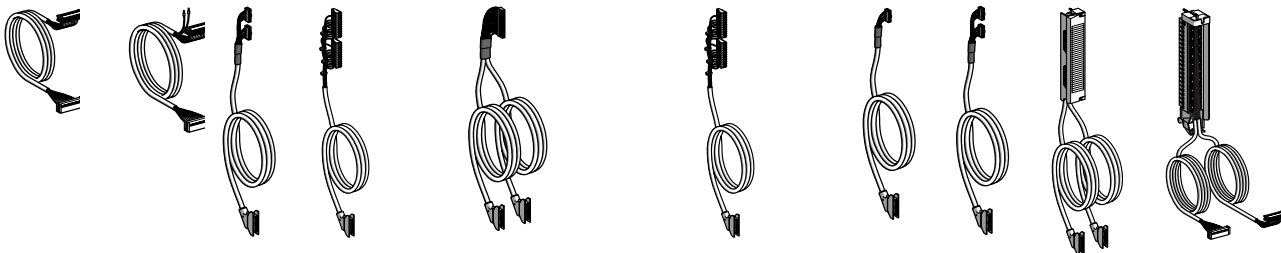


Telemecanique	TSX Micro	8 I + 8 O	–	TSXDMZ16DTK	1	–	–	–
		16 I + 16 O	–	TSXDMZ64DTK	1 (1)	–	1	1
		16 I	–	TSXDMZ64DTK/DMZ28DTK	–	1	–	–
Telemecanique	TSX premium	16 I + 16 O	–	TSXDEY16FK/32D2K/64D2K, TSXDSY32T2K/64T2K	1 (1)	–	1	1
		16 I	–	TSXDEY16FK/32D2K/64D2K	–	–	1	–
Telemecanique	TSX 47-107	16 I + 16 O	–	TSXBLK71 + TSXDET32●●, TSXBLK91 + TSXDST3292	1 (1)	–	1	1
		16 I	–	TSXBLK71 + TSXDET32●●	–	–	1	–
Modicon	Compact 984/A120	16 I + 16 O	–	DA0216, DAP216/217, DE0216, DEP217/220	1 (1)	–	1	1
		16 I	–	DE0216, DEP217, DEP220	1	–	–	–
Modicon	Quantum	32 I + 32 O	–	DDI353/853, DD0353	1 (1)	–	1	1
		32 I	–	DDI353/853	–	1	–	–
April	Series 1000	32 I + 32 O	–	IDB3224, QDB/QPA3205	1 (1)	–	1	1
		32 I	–	IDB3224	–	–	1	–
Siemens	95U and 100U	8 I + 8 O	Included with cable	4218MA12, 4318MA11, 4418MA11, 4518MA11	1 (1)	–	–	–
		16 I + 16 O	6EP5●●●●1AA00	4828MA13	1 (1)	–	1	1
		8 I + 8 I	Included with cable	4218MA12, 4318MA11	–	1	–	–
		16 I	6EP5●●●●1AA00	4228MA11, 4828MA13	–	1	–	–
Siemens	115U	8 I + 8 O	6EP5●●●●1AA00	4207LA11, 4307LA12, 4417LA11, 4517LA11/21	1	–	–	–
		8 I + 8 O	6EP5●●●●1AA00	4204UA14, 4304UA14, 4414UA14, 4514UA14	–	–	–	–
	135/155U	8 I	6EP5●●●●1AA00	4207LA11, 4307LA12, 4517LA21	–	1	–	–
		8 I	6EP5●●●●1AA00	4204UA14	–	–	–	–
Siemens	S7-300	8 I + 8 O	6ES79213AB00-0AA0	3211B●●-0AA0, 3221B●●-0AA0	1	–	–	–
	S7-400	8 I + 8 O	6ES79214AB00	4211B●●-0AA0, 4221B●●-0AA0	1	–	–	–
	S7-300	8 I	6ES79213AB00	3211B●●-0AA0	1	–	–	–
	S7-400	8 I	6ES79214AB00	4211B●●-0AA0	1	–	–	–
Allen Bradley	SLC500	16 I + 16 O	–	1746OB16, 1746IB16	1 (1)	–	1	1
		32 I + 32 O	–	1746IB32, 1746OB32/V32	1 (1)	–	1	1
		16 I	–	1746IB16	–	1	–	–
		32 I	–	1746IB32	–	–	1	–

(1) For connection of a second Dialbase APE 1B24M, use 2 x ABF H20H●●0 or TSXDP●●3. connecting cables.

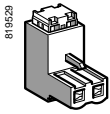
Telefast cables for connection to the PLC

ABF H20H●●0 or TSX CDP●●●	ABF H20H●●1	ABF H28H●●0	ABF S16H●●0	ABF		ABF			ABF H16H●●0	ABF H32H●●0	ABF M32H●●0	ABF A32H●●0
				H40H●●0	H40H●●1	R16H●●0	R16H●●1	M16H●●0				



2

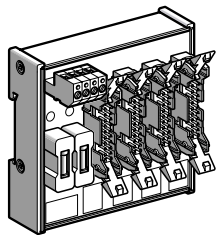
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2	-	-	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-	-	-
-	2	-	-	-	-	-	-	-	-	-	-	-
-	1	-	-	-	-	-	-	-	-	-	-	-
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-	-	1	-	1	1	-	-	-	-	-	-	-
-	-	1	-	-	1	-	-	1	-	-	-	-
-	-	1	-	-	1	-	-	-	-	-	-	-



APE 1PAD21

Connectors and cables for control and signalling units

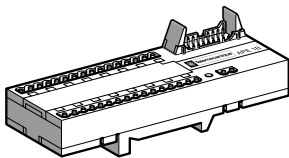
Description	For units	Wire c.s.a. mm ²	Cable length mm	Sold in lots of	Unit reference	Weight kg
Self-stripping connector 2-way, 5 mm pitch	Ø 22	0.75	–	1	APE 1PAD21	0.003
Spring terminal connections 2-way, 5 mm pitch	Ø 22	0.2 to 2.5	–	10	APE 1PRE21	0.003
Cable with 1 connector 2-way, 5 mm pitch	Ø 22	0.75	500 (1)	1	APE 1C2150	0.120
Cable with 2 self-stripping connectors 2-way, 5 mm pitch	Ø 22	0.75	500 (1)	1	APE 1C2250	0.130
Cable with 2 self-stripping connectors 2-way, 5 mm pitch and 2-way Faston connector	Ø 16	0.75	500 (1)	1	APE 1C1250	0.130



APE 1R1628

Active splitter

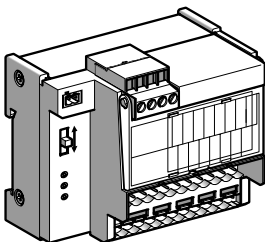
Description	Voltage U _s	Output type	Reference	Weight kg
Active splitter HE10 16 I/16 O in 2 x 8 I/8 O	24 V U _e 30 V max	Tungsten filament 2.6 W pilot light	APE 1R1628	0.130



APE 1B24

Dialbase for PLC and AS-Interface line connections

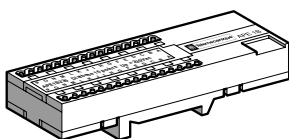
Description	Connector type to Components	PLC or AS-Interface line	Voltage U _e	Number of inputs	Number of outputs	Reference	Weight kg
Dialbase 24 V-8I/8O	2-way, 5 mm pitch per channel	PLC HE10, 20-way	24	8 channels	8 channels	APE 1B24M	0.080
Dialbase 24 V-16I	2-way, 5 mm pitch per channel	PLC HE10, 20-way	24	16 channels	–	APE 1B24E	0.080
Dialbase AS-Interface 4I/4O	2-way, 5 mm pitch per channel	AS-Interface line 2 x 2-way, 5 mm pitch	24	4 channels, 4 solid state supplied via AS-interface external line	4 channels	APE 1FASI1	0.240



APE 1FASI1

Dialbase for connection to other products (operating part)

Description	Connector type to components and other products	Voltage U _e	Number of ways	Reference	Weight kg
Dialbase 230 V	2 to 16-way, 5 mm pitch, modular	$\bar{\bar{=}}$ 5...130 V \sim 5...240 V	16-way, volt-free	APE 1B230	0.075



APE 1B230

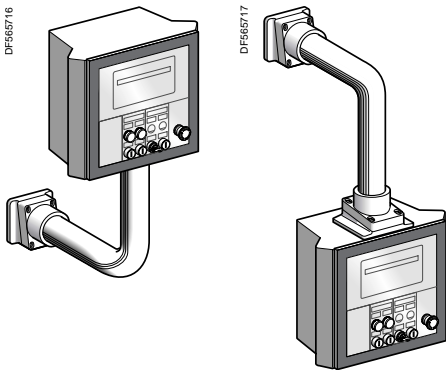
(1) The length of the cable can be reduced if necessary.

Description	Material	Tube		Rotation, Dialpack side	Number of clamps (included)	Inclination per clamp	Reference	Weight
		Max. int. Ø	L (1) mm					
Dialfix fixed suspension arms for normal industrial environments								
Fixed 90° elbowed arm kit	Painted alu./ polyamide	60	500	(2)	2	0°, +15°, -15°	APD 1F5KC	3.750
500 mm straight arm kit	Painted alu./ polyamide	60	500	(2)	2	0°, +15°, -15°	APD 1F5KD	3.350
1000 mm straight arm kit	Painted alu./ polyamide	60	1000	(2)	2	0°, +15°, -15°	APD 1F10KD	5.150
Floor fixing support foot (3)	Painted sheet steel	60	-	-	0	-	APD 1FSF1	1.550
Dialfix rotating suspension arms for corrosive environments								
90° elbowed arm kit	Stainless steel 304	40	500	350° (2)	2	APD 1S1RIR	APD 1S5KC	6.550
1000 mm straight arm kit	Stainless steel 304	40	1000	350° (2)	2	APD 1S1RIR	APD 1S10KD	7.200
Tilted joint	Stainless steel 304	40	-	-	-	-	APD 1S1RIR	0.700

Mounting examples

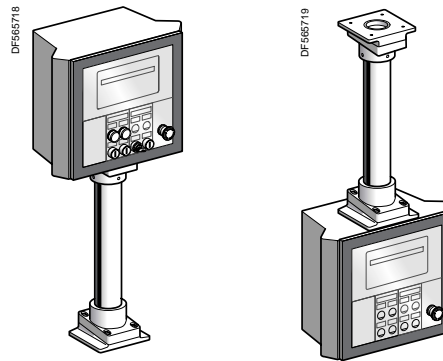
APD 1F5KC

Dialfix, fixed 90° elbowed arm kit



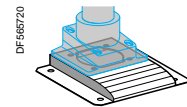
APD 1F●KD

Dialfix, fixed straight arm kit



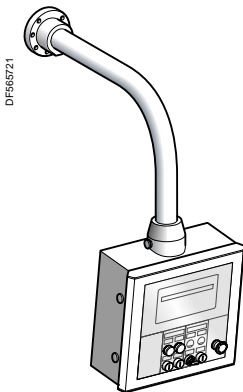
APD 1FSF1

Floor fixing support foot



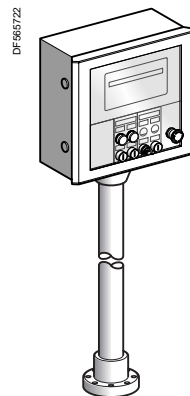
APD 1S5KC with APD 1S1RIR

Dialfix, rotating 90° elbowed arm kit



APD 1S10KD

Dialfix, rotating straight arm kit

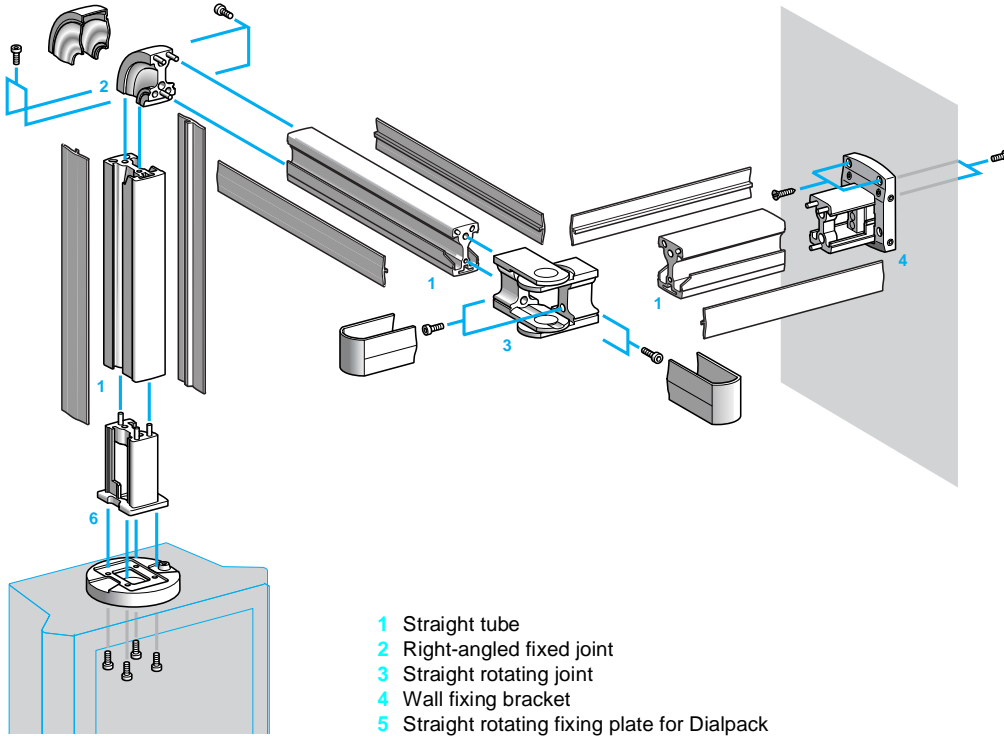


- (1) Cut to required length.
 (2) 360° mounting option, then fixed in operation. Reinforcement plate included.
 (3) Compatible with Dialfix APD 1F●●●● and Dialmove APD 1M1FDF.

Presentation

By using combinable modular elements, Dialmove moving suspension arms allow total configuration freedom. The exploded view shown below details the modular elements, their connection, fixing method and cable covers.

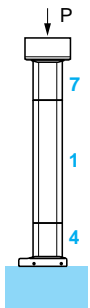
2



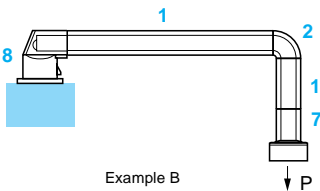
- 1 Straight tube
- 2 Right-angled fixed joint
- 3 Straight rotating joint
- 4 Wall fixing bracket
- 5 Straight rotating fixing plate for Dialpack

Mounting examples

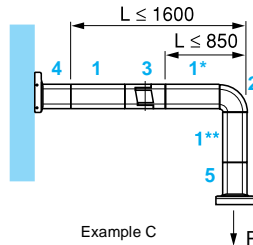
- 1 Straight tube
- 2 Right-angled fixed joint (can be fitted either way up)
- 3 Straight rotating joint
- 4 Wall fixing bracket
- 5 Straight fixed fixing plate for Dialpack
- 6 Tilted joint for straight fixed fixing plate
- 7 Straight rotating fixing plate for Dialpack
- 8 Right-angled rotating fixing plate
- 9 Rotating wall fixing bracket



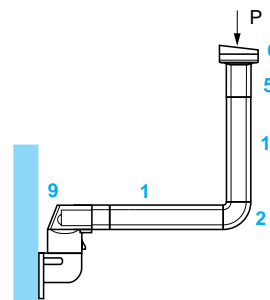
Example A



Example B



Example C



Example D

Example of load limit calculation

■ Examples A and B: the load is limited by component 7

Maximum weight = 15 kg.

■ Example C: the load is limited by component 3

- if $1^* = 750$ mm and $1^{**} = 250$ mm, maximum weight = 15 kg - weight of $(1^* + 1^{**} + 2 + 5) = 4.5$ kg

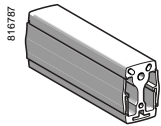
- if $1^* = 100$ mm and $1^{**} = 250$ mm, maximum weight = 15 kg - weight of $(1^* + 1^{**} + 2 + 5) = 10$ kg

■ Example D: the load is limited by component 9, if $1 = 1000$ mm, maximum weight = 30 kg - weight of $(1 + 1 + 2 + 5 + 6) = 12$ kg.

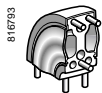
Installation system

Tego Dial for Human-Machine interfaces

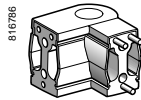
Dialmove moving suspension arms



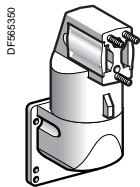
APD 1M025L



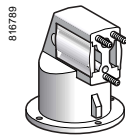
APD 1M1EF0



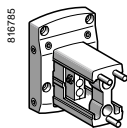
APD 1M1RDR



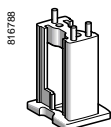
APD 1M1FMR



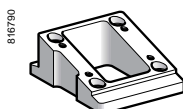
APD 1M1FER



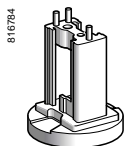
APD 1M1FM0



APD 1M1DFD



APD 1M1RIF



APD 1M1FDR



APD 1M1RIR

Dialmove moving suspension arms

Description	Usable length	Effect on angle	Angular movement from...to	Sold in lots of	Unit reference	Weight
	mm					kg
Straight tubes	100	–	–	1	APD 1M010L	0.900
	250	–	–	1	APD 1M025L	2.240
	500	–	–	1	APD 1M050L	4.370
	750	–	–	1	APD 1M075L	6.320
	1000	–	–	5	APD 1M100L	8.430
	1250	–	–	5	APD 1M125L	10.600
1500	–	–	5	APD 1M150L	12.800	
Right-angled fixed joint	102	90°	–	1	APD 1M1EF0	0.730
Straight rotating joint (1)	150 (when straight)	–	+90°...-90°	1	APD 1M1RDR	3.480
Rotating wall fixing bracket (2)	149	–	+160°...-160°	1	APD 1M1FMR	7.900
Right-angled rotating fixing plate (2)	85	90°	+160°...-160°	1	APD 1M1FER	5.700
Wall fixing bracket (2)	133	–	–	1	APD 1M1FM0	1.700
Straight fixed fixing plate for Dialpack	130	–	–	1	APD 1M1DFD	1.070
Tilted joint for straight fixed fixing plate	25	15°	–	1	APD 1M1RIF	0.296
Straight rotating fixing plate for Dialpack (3)	155	–	+160°...-160°	1	APD 1M1FDR	1.930
Tilted joint for straight rotating fixing plate	20	15°	–	1	APD 1M1RIR	0.442
Reinforcement plate for Dialpack	–	–	–	1	APD 1MYP1	0.600

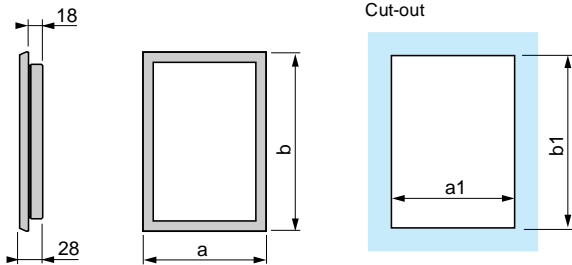
(1) Weight limit 15 kg at horizontal distance of 850 mm.

(2) Weight limit 30 kg at horizontal distance of 1600 mm.

(3) Weight limit 15 kg at horizontal distance of 600 mm.

Dialboard front panels

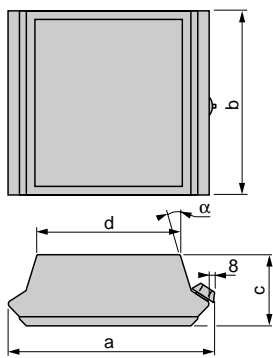
APD 1B●●



APD	a	b	a1 ± 1	b1 ± 1
1B34	359	201	334	175
1B36	509	201	484	175
1B64	359	351	334	325
1B92	209	501	184	475
1B94	359	501	334	475
1B96	509	501	484	475

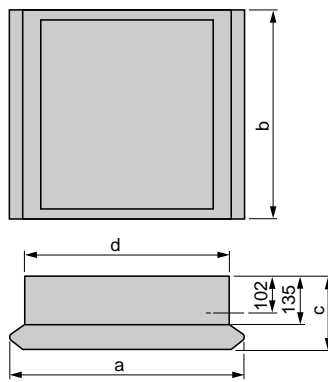
Dialpack control consoles

APD 1P●●



APD	a	b	c	d	α	no. of locks
1P34	401	204	151	278	13°	1
1P64	401	354	151	278	13°	1
1P94	401	504	151	278	13°	1
1P96	501	504	200	428	8°	2

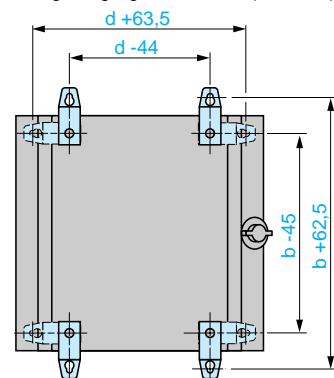
APD 1P●●S



APD	a	b	c	d	no. of locks
1P34S	440	250	177	400	1
1P64S	440	400	177	400	2
1P94S	440	550	177	400	2
1P96S	590	550	177	550	2

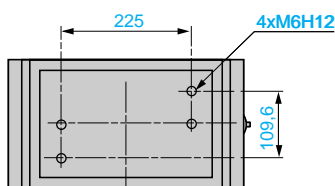
APD 1P●●

Fixing using lugs AE3 FX122 (rear view)

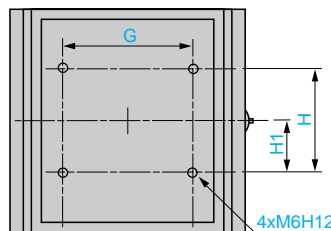


Fixing accessories for mounting (Plates, tubes, etc...)

APD 1P34



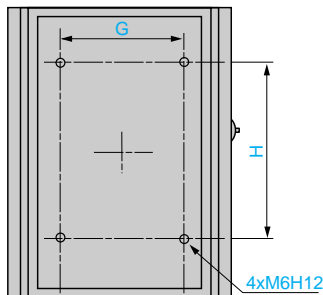
APD 1P64, APD 1P64S and APD 1P34S



APD	G	H	H1	Plates (1)
1P94	225	171.6	105.5	-
1P64S	325	225	62.5	AM3 PA43
1P34S	325	100	25	-

(1) Compatible Telequick mounting plates.

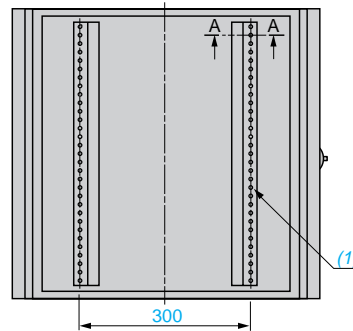
APD 1P94, APD 1P94S and APD 1P96S



APD	G	H	Plates (1)
1P94	225	321.6	-
1P94S	325	325	AM3 PA44
1P96S	325	325	AM3 PA44

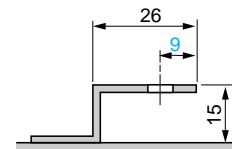
(1) Compatible Telequick mounting plates.

APD 1P96



(1) ∅ 6.5 at intervals of 15 mm.

Detail A



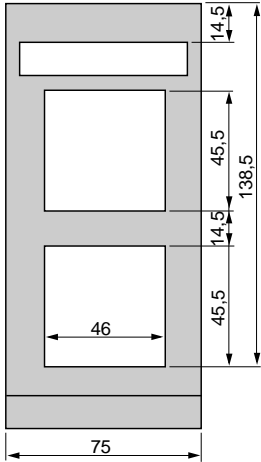
Plates (1)

AM1 PA030, PA130, PA230, PA330, PA430

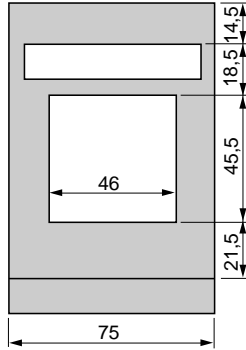
(1) Compatible Telequick mounting plates.

Plates for DIN 48 x 48 display units

APD 1A31D44

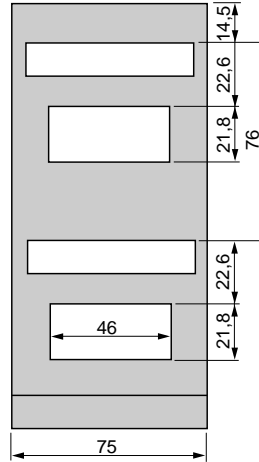


APD 1A21D44

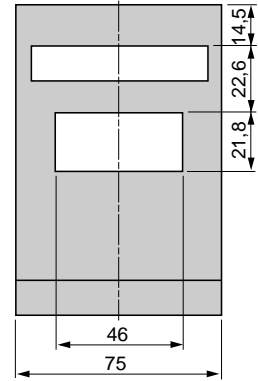


Plates for DIN 24 x 48 display units

APD 1A31D24

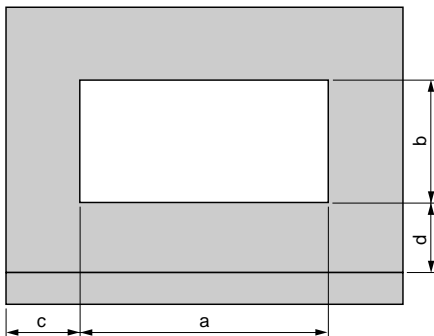


APD 1A21D24



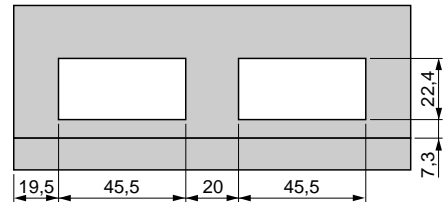
Plates for DIN 48 x 96 display units

APD 1A●●●●



APD	a	b	c	d
1A34S03	138	68	81.5	36.2
1A44F32	187	137	57	26.7
1A44L90	194	128	53.5	31.2
1A44P00	237	135	32	27.6
1A44S05	110	158	95.5	16.2
1A44S07	134	170	83.5	10.2
1A44S267	204	148	48.5	21.2
1A5417L	209	135	46	77.7
1A54E00	265.5	184	13.5	31
1A54F33	285	211	8	21.4
1A54L95	204	188	48.5	26.2
1A54S17	231.5	195.5	34.8	22.5
1A54S25	283	179	9	30.7
1A56F33	285	211	83	21
1A64F1	209	243	46	23.7
1A74F2	285	309	8	23.4
1A76F2	285	309	83	23

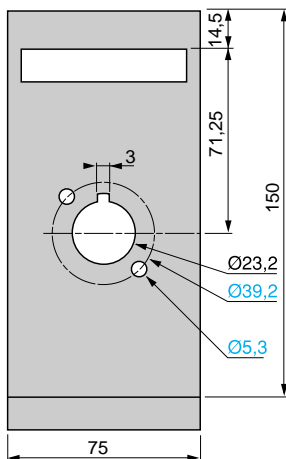
APD 1A12D24



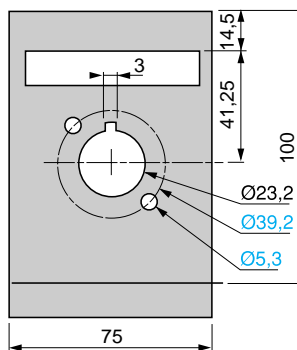
APD	a	b	c	d
1A21D77	68.5	68.5	3.15	10
1A22D49	93	46	28.5	27
1A31D96	92.8	45.5	29.6	27.5
1A34H00	186	92	54.5	24.2
1A34HM0	191	94	55	23.2
1A34O20	178	100	61.5	16.9

Plates for XDA joystick controllers, Vario or K cam switch

APD 1A31XDA



APD 1A21XDA



Installation system

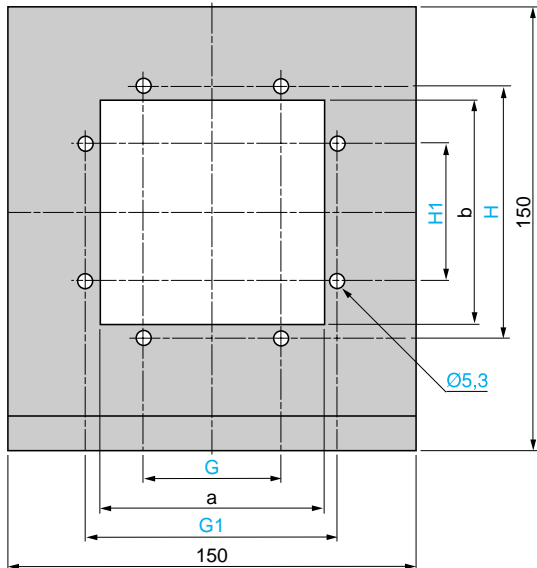
Tego Dial for Human-Machine interfaces

Plates for other products

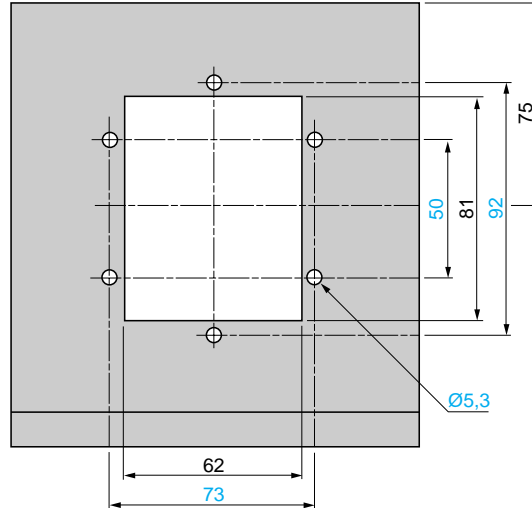
Dialbase and active splitter

2

Plates for keypads XBL C1016 and XBL C1020
APD 1A32C16, APD 1A32C20



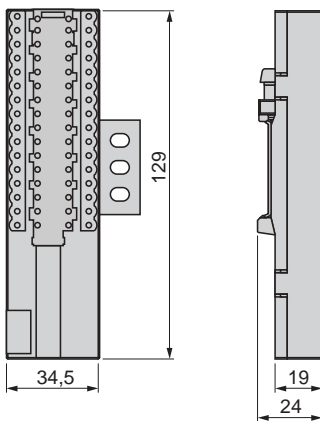
Plates for keypads XBL C1012 and XBL C5012R581
APD 1A32C12



APD	a	b	G	G1	H	H1
1A32C16	81	81	50	92	92	50
1A32C20	97.5	78.5	57	114	95	38

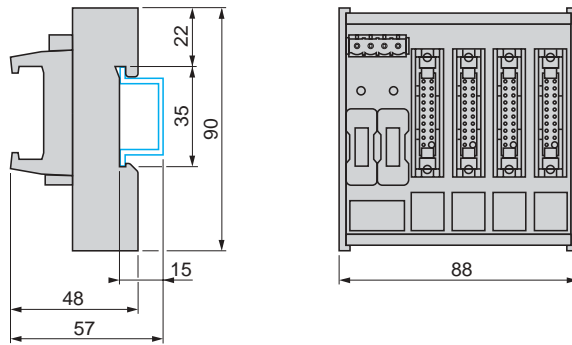
Dialbase

APE 1B24, APE 1B230



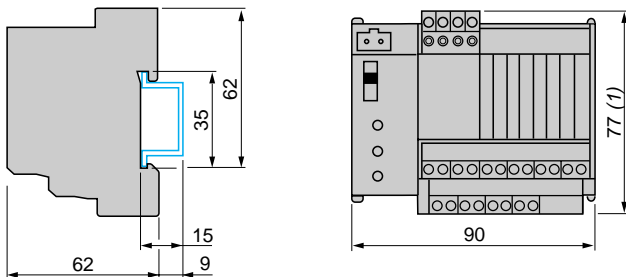
Active splitter

APE 1R1628



Dialbase

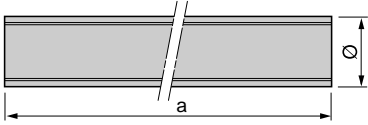
APE 1FAS11



(1) Connector fitted

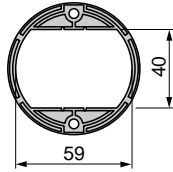
Fixed suspension arms - Dialfix straight

APD 1F0KD, APD 1S10KD



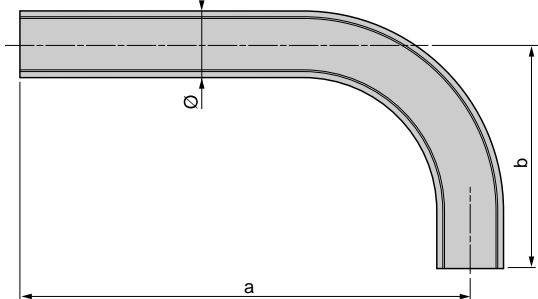
Available cross-section for cable outlet

APD 1F0000



Fixed suspension arms - Dialfix elbowed

APD 1F5KC, APD 1S5KC



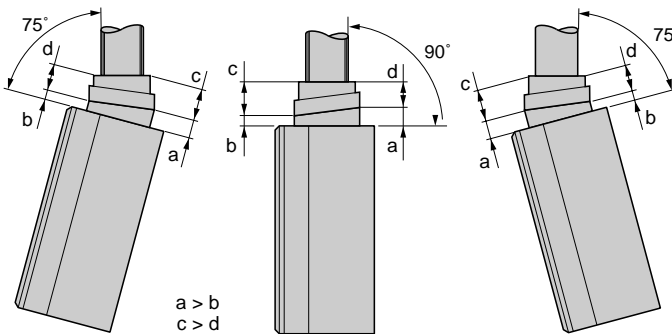
	a	Ø
APD 1F5KD	500 (1)	70
APD 1F10KD	1000 (1)	70
APD 1S10KD	1000 (1)	48

(1) Cut to required length.

	a	b	Ø
APD 1F5KC	465	250	70
APD 1S5KC	500	350	48

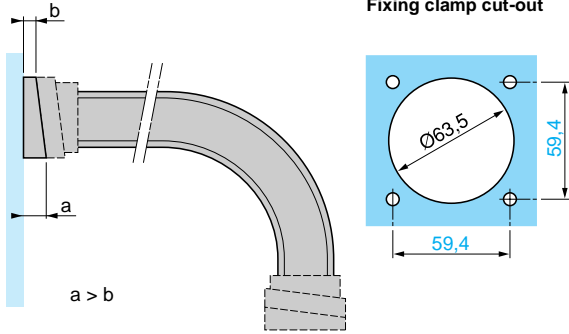
Orientation of Dialpack in relation to positioning of clamp parts

APD 1F0K0



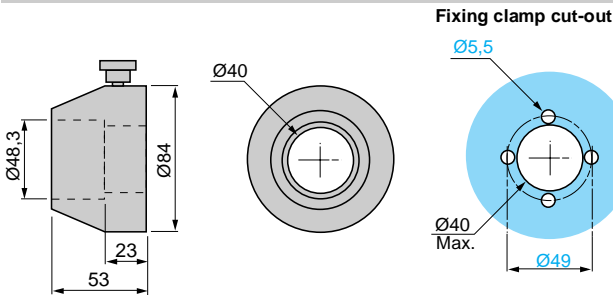
Mounting arm and clamp

APD 1F5KC



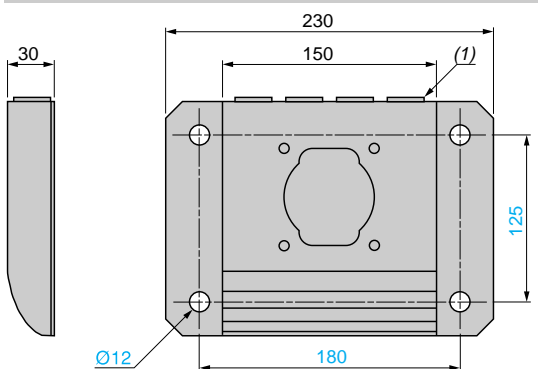
Rotating fixing clamp for Dialpack

APD 1S5KC, APD 1S10KD



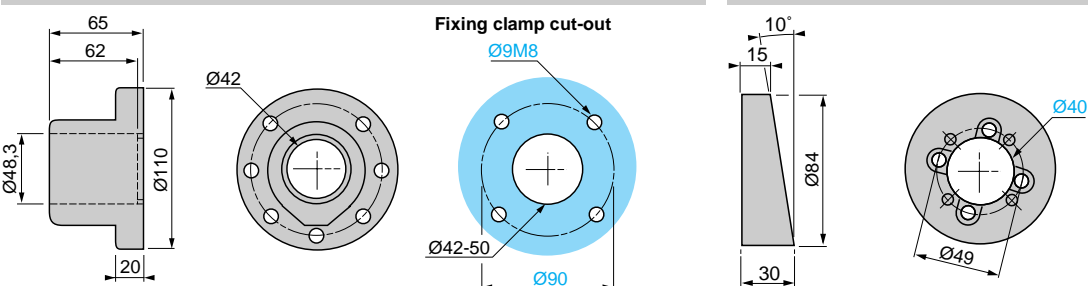
Floor fixing support foot

APD 1FSF1



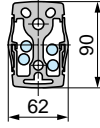
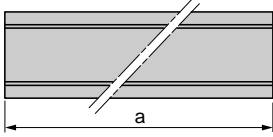
Wall and floor fixing clamp

APD 1S5KC, APD 1S10KD



Straight tubes

APD 1M●●●●

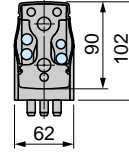
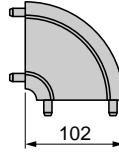


APD	a
1M010L	100
1M025L	250
1M050L	500
1M075L	750

APD	a
1M100L	1000
1M125L	1250
1M150L	1500

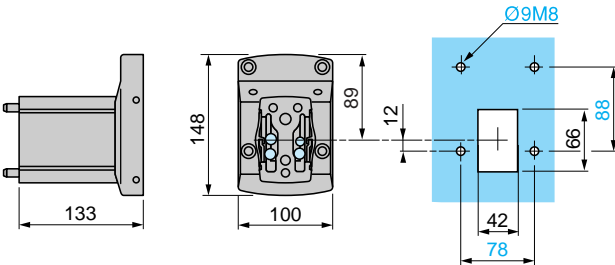
Right-angled fixed joint

APD 1M1EFO



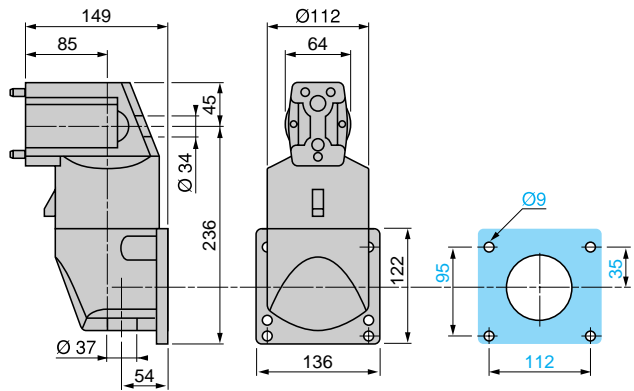
Wall fixing bracket

APD 1M1FMO



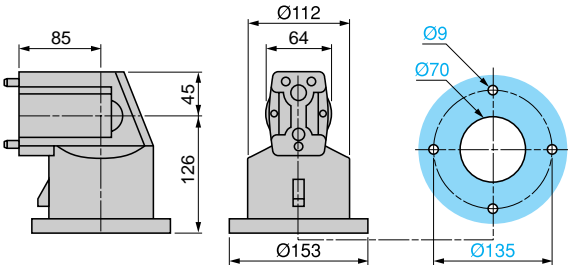
Rotating wall fixing bracket

APD 1M1FMR



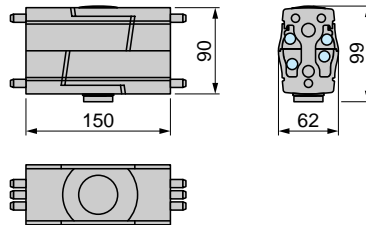
Right-angled rotating fixing plate

APD 1M1FER



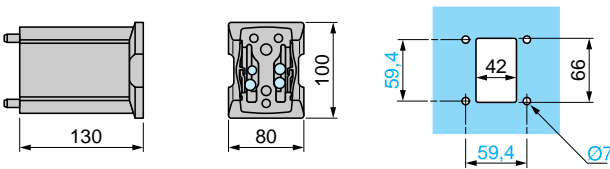
Straight rotating joint

APD 1M1RDR



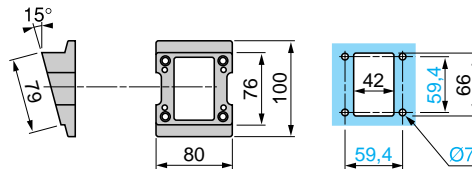
Straight fixed fixing plate for Dialpack

APD 1M1FDF



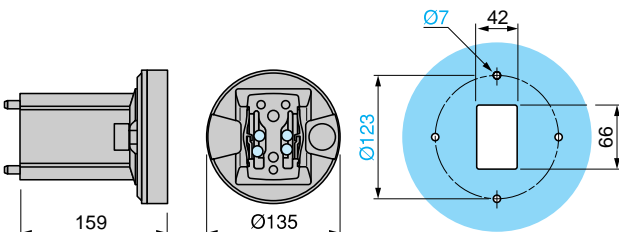
Tilted joint for straight fixed fixing plate

APD 1M1RIF



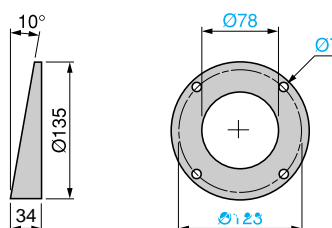
Straight rotating fixing plate for Dialpack

APD 1M1FDR

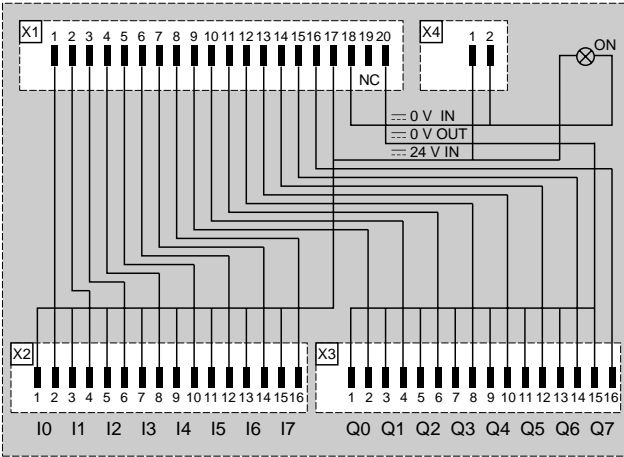


Tilted joint for straight rotating fixing plate

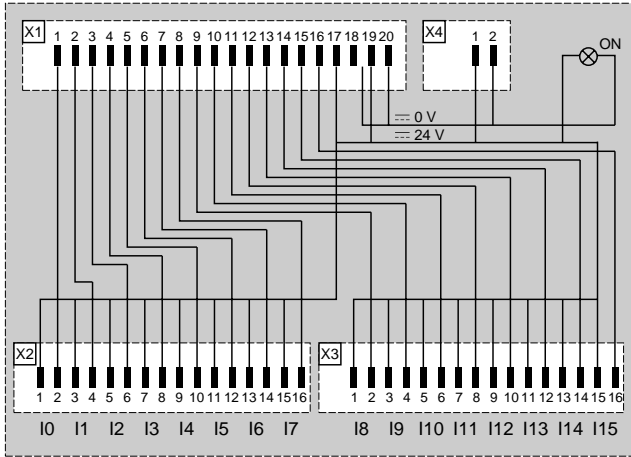
APD 1M1RIR



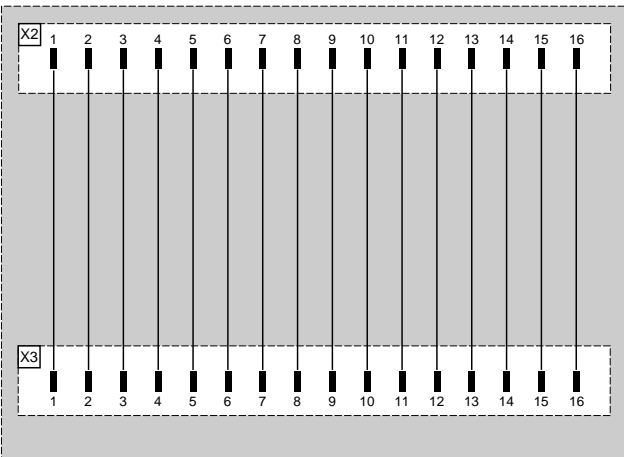
Dialbase APE 1B24M



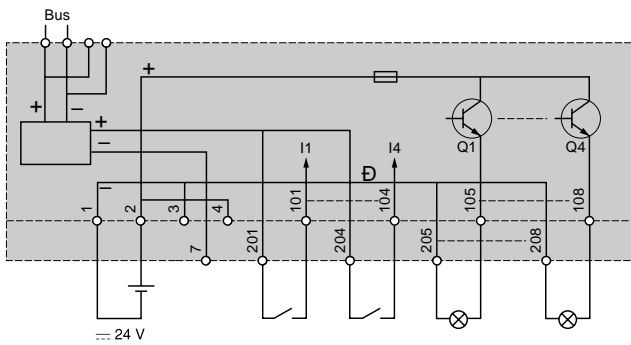
Dialbase APE 1B24E



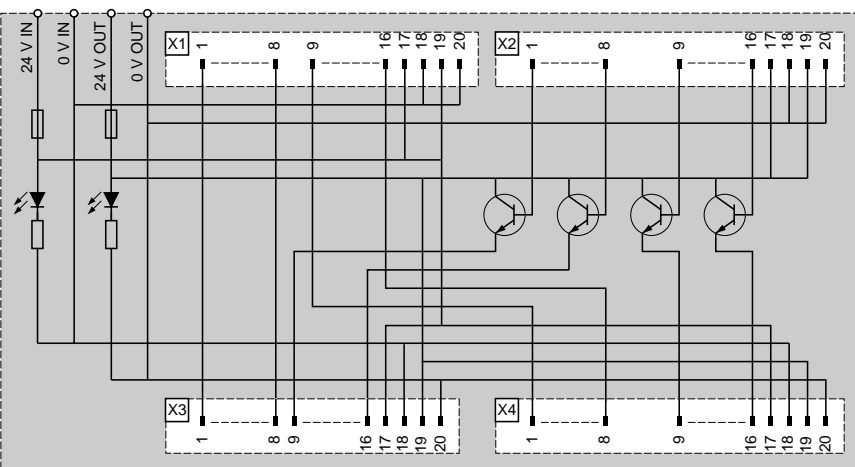
Dialbase APE 1B230



Dialbase APE 1FASI1



Active splitter APE 1R1628



Selection guide page 3/2

Complete switches, 10 A

- Front mounting by Ø 16 or Ø 22 mm hole, with 30 x 30 mm front plate page 3/8

Complete switches, 12 and 20 A

- Front mounting, "multi-fixing" or by Ø 22 mm hole, with 45 x 45 mm front plate
 - Switches page 3/20
 - Stepping switches page 3/23
 - Reversing and changeover switches page 3/29
 - Ammeter switches page 3/32
 - Voltmeter switches page 3/32

Adaptable sub-assemblies, 12 and 20 A

- Bodies (contact blocks + fixing plate)
 - Switches page 3/34
 - Changeover switches page 3/39
 - Encoded output switches page 3/41
 - Paralleling switches page 3/44
 - Stepping switches pages 3/46 and 3/59
 - Ammeter switches page 3/56
 - Voltmeter switches page 3/57
 - Multi-circuit switches page 3/60
 - Reversing switches page 3/61
 - Star-delta switches and reversing star-delta switches page 3/62
 - Pole change switches and reversing pole change switches page 3/63
- Operating heads
 - For "multi-fixing" or Ø 22 mm hole, front mounting bodies page 3/66
 - For 4 hole, rear mounting bodies page 3/67
- Legends
 - For multi-fixing heads page 3/68
 - For Ø 22 mm hole mounting heads with plastic bezel page 3/69
 - For Ø 22 mm hole mounting heads with chromium plated metal bezel page 3/70
 - Legend holders for heads page 3/71

Switches, 10 and 16 A, mounted in plastic enclosure

- Emergency stop switches page 3/78
- OFF-ON switches page 3/79

Complete switches, 12 A with key operated lock

- Front mounting by 6 screws Ø 5.2 mm, with 55 x 100 mm front plate
 - Stepping switches, 2 to 5 step page 3/80
 - Start selector switches page 3/84
 - Changeover switches page 3/85

Complete switches, 32 to 150 A

- With 64 x 64 mm front plate (32 to 63 A ratings) and 88 x 88 mm front plate (115 and 150 A ratings) page 3/88

Cam switches

Type K

3

Applications	Used in building control panels and consoles, type K cam switches allow control of processes and utilities in industry and buildings and direct control for simple machines.	
Functions		
Off-On/On-Off switches	1 to 4-pole	1 to 6-pole
Stepping switches	2 to 4-position, 1 and 2-pole	2 to 12-position, 1 to 4-pole
Changeover switches	1 to 4-pole	1 to 5-pole
Measurement switches	Voltmeter and ammeter	Voltmeter and ammeter
Reversing switches	–	2 and 3-pole
Reversing star-delta switches	–	–
Pole change switches	–	2 and 3-speed



Conventional rated thermal current (I_{th})	10 A	12 A
Rated insulation voltage (U_i)	440 V	690 V
Electrical operating characteristics	AC-15 - A300 240 V - 3 A	AC-3 - 3-phase 230 V - 1.1 kW - 4.6 A AC-15 230 V - 3 A
Front plate degree of protection	IP 65	IP 40 IP 65 (with seal)
Product composition	Complete switches	Complete switches Adaptable sub-assemblies Special products (please consult your Regional Sales Office)
Compatibility	Ø 16 and Ø 22 control and signalling units	Ø 22 control and signalling units
Fixing	Front mounting	Multi-fixing Single Ø 22 hole
	Rear mounting	Screw fixing, 4 holes on 36 mm centres
Front plate dimensions (mm)	30 x 30	45 x 45 60 x 60 (adaptable sub-assemblies)
Operating heads	Black standard handle Metallic legend, black marking	Black and red standard and long handles Key operator Metallic head Metallic legend with black marking or black legend with white marking
Approvals	cULus IEC/EN 60947-3 IEC/EN 60947-5-1	UL-CSA IEC/EN 60947-3 IEC/EN 60947-5-1
Type	Type K10	Type K1/K2
Cam switch model	K10 ●	K1 ●
Pages	3/8 to 3/12	3/20 to 3/73 and 3/80 to 3/85

1 to 6-pole	1 to 6-pole
2 to 12-position, 1 to 4-pole	-
1 to 5-pole	1 to 4-pole
-	-
2 and 3-pole	2 and 3-pole
Star-delta	Star-delta
2 and 3-speed	2-speed



20 A 690 V	32 A 690 V	50 A 690 V	63 A 690 V	115 A 690 V	150 A 690 V
AC-3 - 3-phase 230 V - 2.2 kW - 8.3 A	AC-3 - 3-phase 230 V - 5.5 kW	AC-3 - 3-phase 230 V - 7.5 kW	AC-3 - 3-phase 230 V - 11 kW	AC-3 - 3-phase 230 V - 15 kW	AC-3 - 3-phase 230 V - 22 kW
AC-15 230 V - 4 A	AC-15 230 V - 14 A	AC-15 230 V - 16 A	-	-	-
IP 40					
Complete switches					
-					
By 4 holes on 48 mm centres			By 4 holes on 68 mm centres		
Screw fixing, 4 holes on 48 mm centres			Screw fixing, 4 holes on 68 mm centres		
64 x 64			88 x 88		
Black standard handle Metallic legend, black marking					
cULus IEC/EN 60947-3					
Type K30...K150					
K2 ●	K30 ●	K50 ●	K63 ●	K115 ●	K150 ●
3/20 to 3/73	3/88 to 3/92				

Functions		Complete switches 10 A
		See pages
Switches	with 60° switching angle	3/8
	with 45° switching angle	–
	with 90° switching angle	–
	ON-OFF with spring return from 30° to "0" position	–
	OFF-ON with spring return from 30° to "0" position	–
	OFF-ON with spring return from 120° to 90°	–
	OFF-ON with spring return from 30° and from 330° to "0" position	–
	with 90° switching angle	–
	OFF-ON with 45° switching angle	–
	OFF-ON with momentary-contact function	–
paralleling with "0" position	–	
OFF-ON changeover switches	with spring return from 240° to 270° and from 120° to 90°	–
Stepping switches	single-pole with or without "0" position	3/8, 3/9
	2-pole with or without "0" position	3/9, 3/10
	2 to 5 step, single-pole, with or without "0" position	–
	2 to 5 step, 2-pole, with or without "0" position	–
	2 and 3 step, 3-pole, with or without "0" position	–
	2 to 11 step, single-pole, with or without "0" position	–
	2 to 6 step, 2-pole, with or without "0" position	–
	2 to 6 step, 3-pole, with or without "0" position	–
	2 to 5 step, 4-pole, with or without "0" position	–
	2 and 3 step, with "0" position + left-hand position	–
	3 step, without "0" position	–
	4 step, 4-pole, without "0" position	–
	2 step, with "0" position	–
3 step, 2-pole, with "0" position	–	
5 step, 2-pole, with "0" position	–	
Changeover switches	spring return to "0" position	3/10
	with or without "0" position	3/10
	with spring return from 315° and from 45° to "0" position	–
	1 to 4-pole with "0" position	–
	1 to 4-pole without "0" position	–
	with momentary-contact function	–
	with spring return from 240° to 270° and from 120° to 90°	–
	star-delta	–
pole change	–	
Voltmeter switches	with "0" position	3/11
	without "0" position	–
Ammeter switches	with "0" position	3/11
	without "0" position	–
Selector switches	BCD encoded output, with "0" position	–
	BCD encoded output, without "0" position	–
	multi-circuit	–
	star-delta	–
Reversing switches	with "0" position	–
	with spring return from 330° and from 30° to "0" position	–
Changeover switches	1-pole, 2-pole, 3-pole with "0" position	–
Pole change switches	for 2-speed motors	–
	for 3-speed motors	–
Start selector switches	3-position with "0" position	–
	4-position with "0" position	–
Starting switches	star-delta	–
	pole change	–

Complete switches 12 and 20 A	Complete switches 12 A, with key operated lock	Adaptable sub- assemblies 12 and 20 A	Complete switches 32 to 150 A
See pages	See pages	See pages	See pages
–	–	–	3/88
3/20	–	3/34	–
3/20	–	–	3/89
3/21	–	3/36	–
3/21	–	3/36	–
3/22	–	3/36	–
3/22	–	3/37	–
–	–	3/35	–
–	–	3/36	–
–	–	3/37	–
–	–	3/44, 3/45	–
–	–	3/37	–
–	–	–	–
–	–	–	–
3/23, 3/24	–	–	–
3/25, 3/26	–	–	–
3/27, 3/28	–	–	–
–	–	3/46, 3/47, 3/48, 3/49	–
–	–	3/50, 3/51	–
–	–	3/52, 3/53	–
–	–	3/54, 3/55	–
–	–	3/59	–
–	3/80	–	–
–	3/81	–	–
–	3/82	–	–
–	3/83	–	–
–	3/83	–	–
–	–	–	–
–	–	3/38, 3/39, 3/40	3/90
3/29	–	3/40	–
3/29	–	–	–
3/29	–	–	–
–	–	3/40	–
–	–	3/40	–
–	–	3/62, 3/63	3/91
–	–	3/64	–
3/32, 3/33	–	3/57, 3/58	–
3/32, 3/33	–	3/57, 3/58	–
3/30, 3/31	–	3/56	–
3/30, 3/31	–	3/56	–
–	–	3/41, 3/42	–
–	–	3/42, 3/43	–
–	–	3/60	–
–	–	3/62	–
–	–	3/61	3/92
–	–	3/61	–
–	3/85	–	–
–	–	–	–
–	–	3/63, 3/64	–
–	–	3/65	–
–	3/84	–	–
–	3/85	–	–
–	–	–	3/91
–	–	–	3/92

Cam switches

Complete switches, 10 A

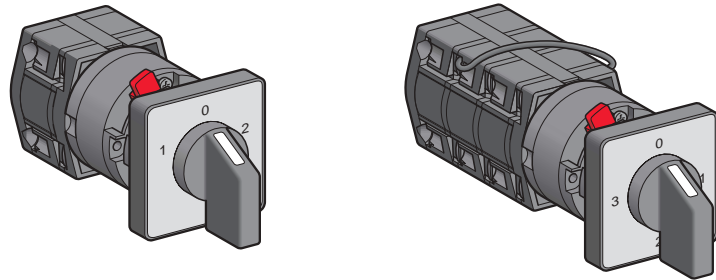
The range of K10 cam switches (10 A rating) comprises only complete switches. These products are more specifically designed for process control applications:

- compact size,
- easy to integrate with other Ø 16 and Ø 22 mm units,
- selection functions.

Complete switches

- switches
- stepping switches
- reversing switch
- changeover switches
- voltmeter switches
- ammeter switches

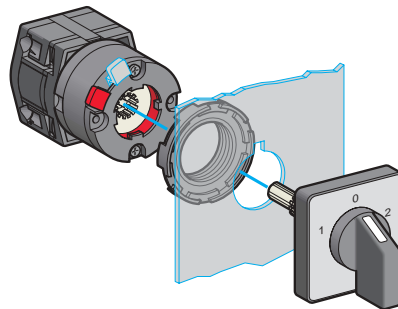
Front mounting



By Ø 16.3 or Ø 22.3 mm hole

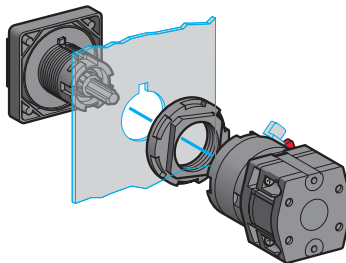
Mounting

Ø 16 or Ø 22 hole fixing

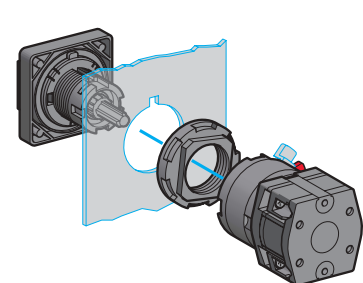


Locking/unlocking of the body-head assembly by spigot

Ø 16 hole fixing



Ø 22 hole fixing



Cam switches

Complete switches, 10 A

Front mounting by Ø 16 or Ø 22 mm hole

With 30 x 30 mm front plate

Environment

Conformity to standards	IEC/EN 60947-3 IEC/EN 60947-5-1
Product certifications	cULus
Protective treatment	Standard version: "TC"
Ambient air temperature	For operation: - 20...+ 55 °C For storage: - 40...+ 70 °C
Electric shock protection	Class II, conforming to IEC 60536
Degree of protection	IP 65 conforming to IEC 60529 (operating head) IP 20 (contact block)
Mechanical life	1 million operating cycles

Contact block characteristics

Rated operational characteristics	AC-15, A300	–	240 V	3 A
			120 V	6 A
	AC-21A, AC-1	–	400 V	10 A
	UL/Canada Heavy Duty A300	3-phase	110/120 V	0.75 hp
			220/240 V	1 hp
		single-phase	110/120 V	0.33 hp
			220/240 V	0.75 hp
	AC-23A	3-phase	220/240 V	1.8 kW
			110/120 V	0.37 kW
		single-phase	220/240 V	0.75 kW
d.c. current le resistive load	1 contact	24 V	10 A	
		110 V	0.7 A	
		220 V	0.3 A	
Short-circuit protection	10 A cartridge fuse type gG			
Conventional thermal current (I _{th})	10 A			
Rated insulation voltage (U _i)	440 V, degree of pollution 3, conforming to IEC 60947-1			
Contact operation	Slow break			
Terminal referencing	Conforming to CENELEC EN 50013			
Rated impulse withstand voltage (U _{imp})	4 kV conforming to IEC 60947-1			
Electrical reliability	Failure rate < 1 fault for 100 million operating cycles (--- 24 V PLC inputs)			
Connection	Captive screw clamp terminals Clamping capacity: 2 x 1.5 mm ²			

Cam switches

Complete switches, 10 A

Front mounting by Ø 16 or Ø 22 mm hole

With 30 x 30 mm front plate



K10 B002ACH

3

Switches

Wiring diagram and switching programme	Marking and switch position	Number of poles	Reference	Weight kg
		1	K10 A001ACH	0.030
		2	K10 B002ACH	0.035
		3	K10 C003ACH	0.045
		4	K10 D004ACH	0.045

Stepping switches, single-pole, with "0" position

Wiring diagram and switching programme	Marking and switch position	Number of steps	Reference	Weight kg
		2 + "0" position	K10 B002QCH	0.035
		3 + "0" position	K10 C003QCH	0.045
		4 + "0" position	K10 D004QCH	0.045



K10 D004QCH

Cam switches

Complete switches, 10 A

Front mounting by Ø 16 or Ø 22 mm hole

With 30 x 30 mm front plate



K10 D012QCH

Stepping switches, 2-pole, with "0" position

Wiring diagram and switching programme	Marking and switch position	Number of steps	Reference	Weight kg
 	 	2 + "0" position	K10 D012QCH	0.045

 	 	3 + "0" position	K10 F013QCH	0.055

Stepping switches, single-pole, without "0" position

 	 	3	K10 C003NCH	0.045

 	 	4	K10 D004NCH	0.045

3

Cam switches

Complete switches, 10 A

Front mounting by Ø 16 or Ø 22 mm hole

With 30 x 30 mm front plate

3

Stepping switches, 2-pole, without "0" position

Wiring diagram and switching programme	Marking and switch position	Number of steps	Reference	Weight kg
		3	K10 F013NCH	0.055

Changeover switch with spring return to "0" position

Wiring diagram and switching programme	Marking and switch position	Number of poles	Reference	Weight kg
		1	K10 B006TCH	0.035



K10 B006TCH

Changeover switches with "0" position

Wiring diagram and switching programme	Marking and switch position	Number of poles	Reference	Weight kg
		1	K10 B001UCH	0.035
		2	K10 D002UCH	0.045
		3	K10 F003UCH	0.055
		4	K10 H004UCH	0.065



K10 F003UCH

Changeover switches without "0" position

Wiring diagram and switching programme	Marking and switch position	Number of poles	Reference	Weight kg
		1	K10 B011UCH	0.035
		2	K10 D012UCH	0.045
		3	K10 F013UCH	0.055
		4	K10 H014UCH	0.065

Cam switches

Complete switches, 10 A

Front mounting by Ø 16 or Ø 22 mm hole

With 30 x 30 mm front plate

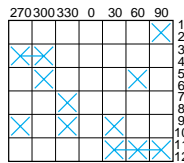
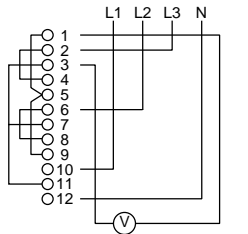


K10 F027MCH

Voltmeter switches

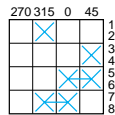
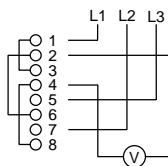
For measurements between 3 phases and between 1 phase and neutral

Wiring diagram and switching programme	Marking and switch position	Reference	Weight kg
--	-----------------------------	-----------	-----------



K10 F027MCH 0.055

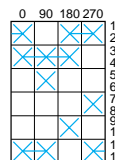
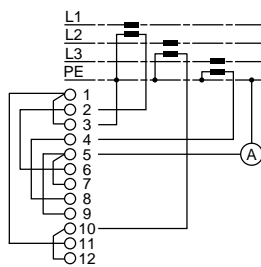
For measurements between 3 phases, with "0" position



K10 D024MCH 0.045

Ammeter switches

For 3 circuits, with "0" position



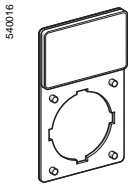
K10 F003MCH 0.055



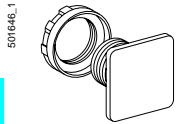
K10 F003MCH

Cam switches

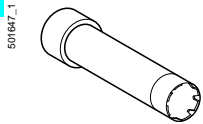
Complete switches, 10 A
 Front mounting by Ø 16 or Ø 22 mm hole
 With 30 x 30 mm front plate
 Accessories



Z227N



Z33



Z201

Legend holders

Description		Sold in lots of	Unit reference	Weight kg
For Ø 22 mm hole fixing	With metallic finish legend	25	Z227N	0.060

Accessories

Description	Colour	Sold in lots of	Unit reference	Weight kg
Blanking plug	Black	10	Z33	0.060
Nut wrench	–	5	Z201	0.020

3

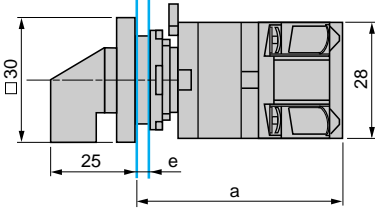
Cam switches

Complete switches, 10 A

Front mounting by Ø 16 or Ø 22 mm hole

With 30 x 30 mm front plate

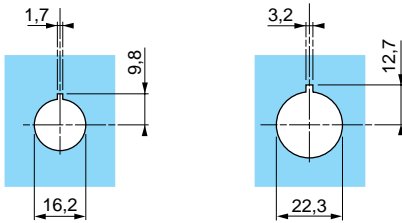
Cam switches, 10 A



	a
K10 A, B	51
K10 C, D	63
K10 F	75
K10 H	87

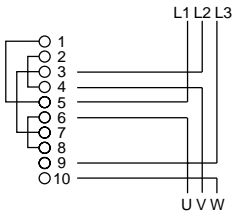
e: support panel thickness 0.5 to 5 mm.

Ø 16 and Ø 22 mm panel cut-outs

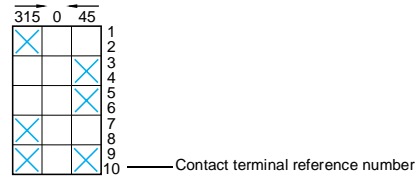


Convention used for switching programme representation

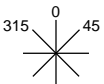
Link positions (factory mounted)



Graphic representation of switching positions and spring return to "0" position



Angular position of switch



- Contact closed
- Contact closed in 2 positions and maintained between the 2 positions
- Sealed assembly for auto-maintain control
- Overlapping contacts

Cam switches

Complete switches and adaptable sub-assemblies, 12 and 20 A

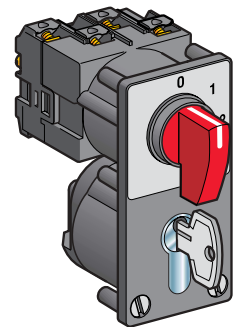
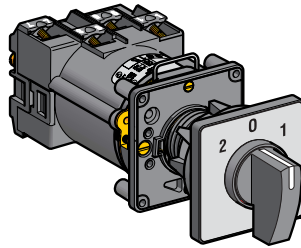
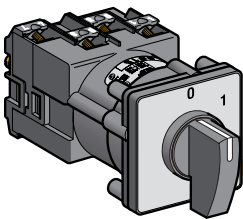
The cam switch range comprises the equally dimensioned and similar looking products of the K1 (12 A rating) series and K2 (20 A rating) series. Both series feature complete switches and adaptable sub-assemblies for user assembly.

Complete switches

Front mounting

- switches
- stepping switches (2 to 5 step)
- reversing and 1 to 4-pole changeover switches
- ammeter and voltmeter switches

3



"Multi-fixing"

By Ø 22 mm hole

Front mounting by 6 screws
Ø 5.2 mm and 55 x 100 mm
front plate

K1●●●●●H, K2●●●●●H

K1●●●●●H, K2●●●●●H

K1●●●●●Z●

See pages 3/20 to 3/27

See pages 3/20 to 3/27

See pages 3/80 to 3/85

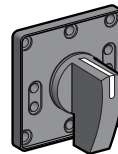
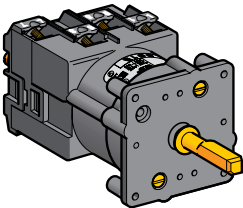
Switches for user assembly

Front mounting

Body sub-assembly

Head sub-assembly

- With 45 x 45 mm front plate and 35 mm handle



"Multi-fixing"

With blank legend

With marked legend

Without legend

K1●●●●●L, K2●●●●●LL

K●G 3H

KCG 3H

KDG 3H

See pages 3/34 to 3/65

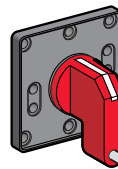
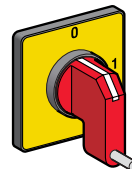
See page 3/66

See page 3/66

See page 3/66

Head sub-assembly

- With 45 x 45 mm front plate, 35 mm handle and padlocking device



With marked legend

Without legend

KCG 3Y

KDG 3Y

See page 3/66

See page 3/66

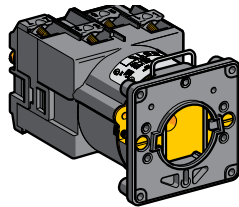
Cam switches

Complete switches and adaptable sub-assemblies, 12 and 20 A

Switches for user assembly (continued)

Front mounting (continued)

Body sub-assembly



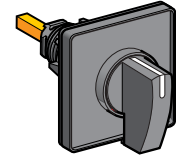
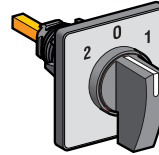
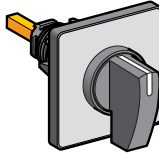
With Ø 22 mm hole

K1●●●●●●, K2●●●●●●L

See pages 3/34 to 3/65

Head sub-assembly

■ With 45 x 45 mm front plate and 35 mm handle



With blank legend

K●C 1H

See page 3/66

With marked legend (1)

K●C 1●●

See page 3/66

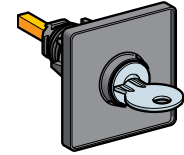
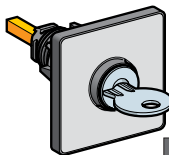
Without legend

KDC 1●●

See page 3/66

Head sub-assembly

■ With 45 x 45 mm front plate and key operator



With blank legend

K●C 1●

See page 3/66

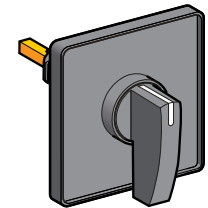
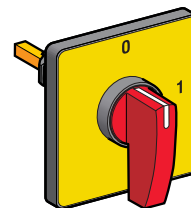
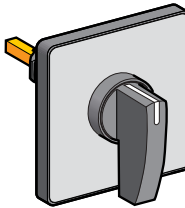
Without legend

KDC 1●

See page 3/66

Head sub-assembly

■ With 60 x 60 mm front plate and 42 mm handle



With blank legend

K●D 1H

See page 3/66

With marked legend

KCD 1●●

See page 3/66

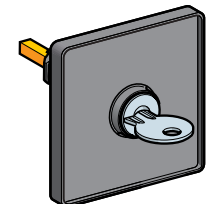
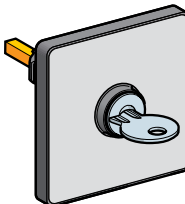
Without legend

KDD 1H

See page 3/66

Head sub-assembly

■ With 60 x 60 mm front plate and key operator



With blank legend

K●D 1●

See page 3/67

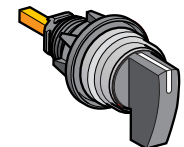
Without legend

KDD 1●

See page 3/67

Head sub-assembly

■ Circular with plastic bezel



Key operator

K●A 1●

See page 3/67

35 mm handle

K●A 1H

See page 3/67

(1) With or without padlocking device.

3

Cam switches

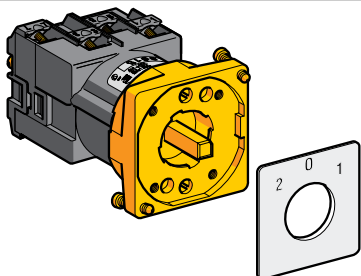
Complete switches and adaptable sub-assemblies, 12 and 20 A

Switches for user assembly (continued)

Front mounting (continued)

Body sub-assembly

Head sub-assembly
 ■ Circular with metal bezel



With Ø 22 mm hole and metal mounting plate

K1●●●●K, K2●●●●X

See pages 3/34 to 3/65

Standard handle

KAX Z1M1●

See page 3/67

Long handle

KAX Z1C1●

See page 3/67

Key operator

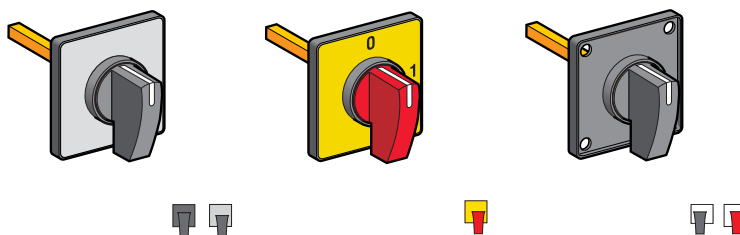
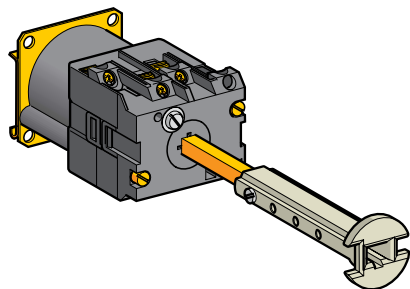
KAX Z1S1●●

See page 3/67

Rear mounting

Body sub-assembly

Head sub-assembly
 ■ With 45 x 45 mm front plate and 35 mm handle



With 4 holes

K1●●●●, K2●●●●

See pages 3/34 to 3/65

With blank legend

K●E 1H

See page 3/67

With marked legend (1)

KCE 1●

See page 3/67

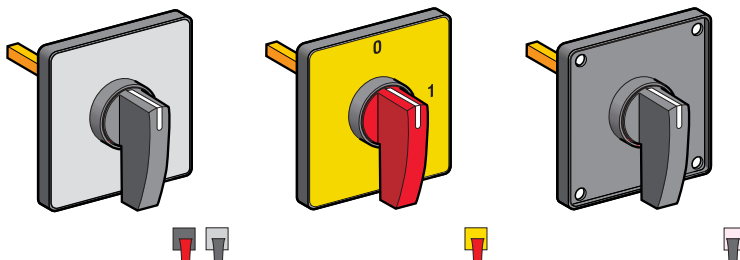
Without legend

KDE 1●

See page 3/67

Head sub-assembly

■ With 60 x 60 mm front plate and 42 mm handle



With blank legend

K●F 1H

See page 3/67

With marked legend

KCF 1MH

See page 3/67

Without legend

KDF 1H

See page 3/67

(1) With or without padlocking device.

Accessories

Various accessories complement the K1 - K2 cam switch range: legends, legend holders, terminal covers, seals, etc. See pages 3/68 to 3/73.

Switches with specific schemes

If you cannot find a standard switching programme listed in this catalogue to suit your application, please consult your Regional Sales Office.

Cam switches

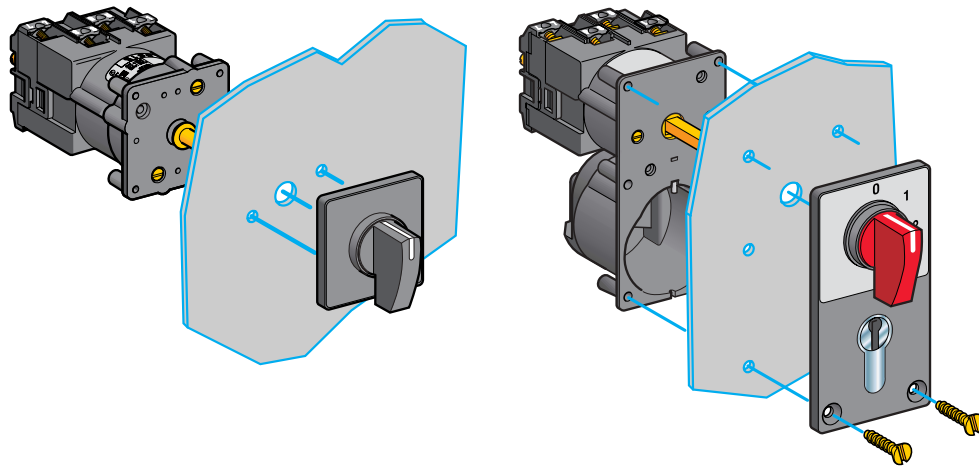
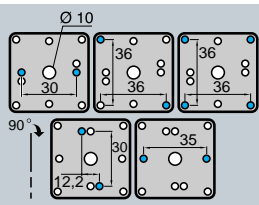
Complete switches and adaptable sub-assemblies, 12 and 20 A

The cam switches are available to suit various mounting and fixing methods.

Fixing

Front mounting

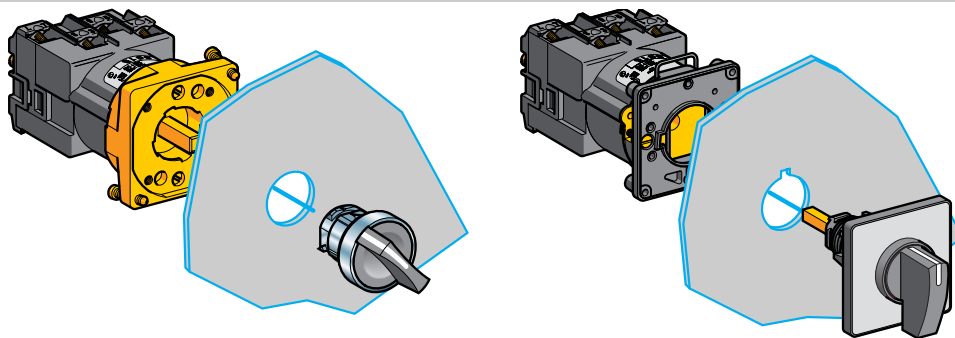
By means of "multi-fixing" front plate, using 2 or 4 screws



The "multi-fixing" concept enables the switch to be panel mounted using the most commonly used fixing centre dimensions. See drawing to left.

Fixing by 6 screws Ø 5.2 mm and 55 x 100 mm front plate.

By means of single Ø 22 mm hole

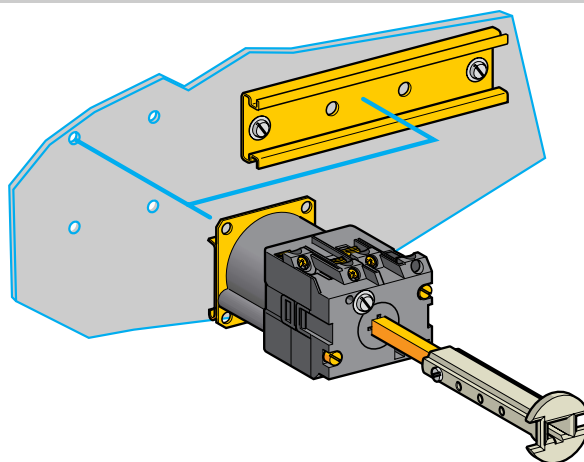


Ø 22.5 mm cut-out. Head attaches to plate using 1/4 turn bayonet locking and secured on panel by 2 needle screws.

Ø 22.5 mm cut-out with anti-rotation notch. Head clips into body and secured on panel by fixing nut.

Rear mounting

By means of 4 holes



Switch can be directly mounted on backplate using 4 screws. For DIN rail mounting, an adaptor is available as an accessory. See page 3/75.

3

Cam switches

Complete switches and adaptable sub-assemblies, 12 to 20 A

Characteristics					
Environment					
Cam switch type		K 1		K 2	
Conformity to standards	For control circuits		IEC/EN 60947-5-1		
	For power circuits		IEC/EN 60947-3		
Product certifications	UL, CSA A300		240 V 0.33 hp single-phase 2-pole	240 V 1 hp 3-phase	240 V 1 hp single-phase 2-pole
Protective treatment	Standard version		"TC"		
Ambient air temperature around the device	For operation	°C	- 25...+ 55		
	For storage	°C	- 40...+ 70		
Shock resistance	Conforming to IEC 68-2-27		30 gn		
Vibration resistance	Conforming to IEC 68-2-6		5 gn, 10...150 Hz		
Electric shock protection	Conforming to IEC 536 and NF C 20-030		Class II		
Degree of protection	Conforming to IEC 529 and NF C 20-010		IP 40, for fixing by front plate and 4 screws		
			IP 65, with additional seal		
Mechanical life	Operating cycles		1 million		
			IP 65, for Ø 22 mm hole fixing		

3

Cam switches

Complete switches and adaptable sub-assemblies, 12 to 20 A

Characteristics (continued)					
Contact blocks					
Cam switch type			K 1	K 2	
Rated insulation voltage (Ui)	Conforming to IEC 60947-1 degree of pollution 3		V	690	
Conventional thermal current	Screw clamp terminal connections	In open air (Ith)	A	12	
		In enclosure (Ithe)	A	10	
		Push-on connectors (Ith) (8 A max. per connector)	A	12	
Rated operational characteristics	~ AC-15			Conforming to IEC 947-5-1	
				230 V/3 A	
				400 V/2 A	
	~ AC-3	3-phase			Conforming to IEC 947-3
					230 V/1.1 kW/4.6 A
					400 V/1.5 kW/3.3 A
					500 V/1.5 kW/2.8 A
				690 V/1.5 kW/1.8 A	
		single-phase 2-pole			230 V/0.6 kW
			400 V/1.5 kW		
	~ AC-23 A	3-phase			230 V/1.5 kW/5.6 A
					400 V/2.2 kW/4.8 A
					500 V/2.2 kW/3.8 A
					690 V/2.2 kW/2.8 A
	~ AC-21	3-phase			230 V/4.8 kW
			400 V/8.3 kW		
			500 - 660 V/10.5 kW		
Electrical durability (millions of operating cycles)	AC-3 and AC 23			0.5	
	AC-15 and AC -21			1	
Operating rate (operating cycles/h)	AC-3, AC-23 and AC-21			150	
	AC-15			500	
Rated conditional short-circuit current			kA	10	
Short-circuit protection	Cartridge fuse			16 A gG	
Rated impulse withstand voltage	Conforming to IEC 947-1 (Uimp)		kV	6	
	In "isolating" function (Uimp)		kV	4	
Contact operation	Slow break with positive opening operation				
Terminal referencing	Conforming to CENELEC EN 50013				
Connection	Captive screw clamp terminals	mm ²		Solid cable, 1 x 2.5	
				Flexible cable, 1 x 2.5 or 2 x 1.5: with or without cable end	
	2 Faston connectors	mm		2.8 x 0.8, please consult your Regional Sales Office.	

Cam switches

Complete switches, 12 and 20 A

Front mounting, "multi-fixing" or by Ø 22 mm hole

With 45 x 45 mm front plate, 35 mm handle and metallic legend with black marking

Switches with 45° switching angle

Wiring diagram and switching programme	Marking and switch position	Front mounting method	Number of poles	Thermal current (Ith) A	Reference	Weight kg
<p><i>Kee 0000LH</i></p>		"Multi-fixing"	1	12	K1A 001ALH	0.103
				20	K2A 001ALH	0.103
			2	12	K1B 002ALH	0.113
				20	K2B 002ALH	0.113
			3	12	K1C 003ALH	0.133
				20	K2C 003ALH	0.133
			4	12	K1D 004ALH	0.138
				20	K2D 004ALH	0.138
			5	12	K1E 005ALH	0.158
				20	K2E 005ALH	0.158
			6	12	K1F 006ALH	0.168
				20	K2F 006ALH	0.168
<p><i>Kee 0000CH</i></p>		By Ø 22 mm hole	1	12	K1A 001ACH	0.123
				20	K2A 001ACH	0.123
			2	12	K1B 002ACH	0.133
				20	K2B 002ACH	0.133
			3	12	K1C 003ACH	0.153
				20	K2C 003ACH	0.153
			4	12	K1D 004ACH	0.158
				20	K2D 004ACH	0.158
			5	12	K1E 005ACH	0.178
				20	K2E 005ACH	0.178
			6	12	K1F 006ACH	0.188
				20	K2F 006ACH	0.188

Switches with 90° switching angle

		"Multi-fixing"	2	12	K1B 1002HLH	0.130			
				20	K2B 1002HLH	0.130			
			3	12	K1C 003HLH	0.135			
				20	K2C 003HLH	0.135			
			4	12	K1D 004HLH	0.140			
				20	K2D 004HLH	0.140			
					By Ø 22 mm hole	2	12	K1B 1002HCH	0.150
							20	K2B 1002HCH	0.150
3	12	K1C 003HCH				0.155			
	20	K2C 003HCH				0.155			
4	12	K1D 004HCH				0.160			
	20	K2D 004HCH				0.160			

Cam switches

Complete switches, 12 and 20 A

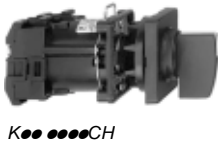
Front mounting, "multi-fixing" or by Ø 22 mm hole

With 45 x 45 mm front plate, 35 mm handle and metallic legend with black marking

ON-OFF switches with spring return from 30° to "0" position



Wiring diagram and switching programme	Marking and switch position	Front mounting method	Number of poles	Thermal current (Ith)	Reference	Weight
				A		kg
		"Multi-fixing"	1	12	K1A 002TLH	0.105
				20	K2A 002TLH	0.105
			By Ø 22 mm hole	12	K1A 002TCH	0.125
				20	K2A 002TCH	0.125



Wiring diagram and switching programme	Marking and switch position	Front mounting method	Number of poles	Thermal current (Ith)	Reference	Weight
				A		kg
		"Multi-fixing"	1	12	K1A 001TLH	0.105
				20	K2A 001TLH	0.105
			By Ø 22 mm hole	12	K1A 001TCH	0.125
				20	K2A 001TCH	0.125

Cam switches

Complete switches, 12 and 20 A

Front mounting, "multi-fixing" or by Ø 22 mm hole

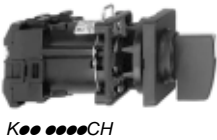
With 45 x 45 mm front plate, 35 mm handle and metallic legend with black marking

OFF-ON switches with spring return from 120° to 90°



Wiring diagram and switching programme	Marking and switch position	Front mounting method	Number of poles	Thermal current (Ith) A	Reference	Weight kg
		"Multi-fixing"	1	12	K1B 003TLH	0.115
				20	K2B 003TLH	0.115
		By Ø 22 mm hole	1	12	K1B 003TCH	0.135
				20	K2B 003TCH	0.135

OFF-ON switches with spring return from 30° and from 330° to "0" position



Wiring diagram and switching programme	Marking and switch position	Front mounting method	Number of poles	Thermal current (Ith) A	Reference	Weight kg
		"Multi-fixing"	1	12	K1B 004TLH	0.115
				20	K2B 004TLH	0.115
		By Ø 22 mm hole	1	12	K1B 004TCH	0.135
				20	K2B 004TCH	0.135

Cam switches

Complete switches, 12 and 20 A

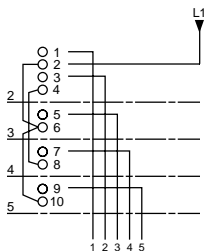
Front mounting, "multi-fixing" or by Ø 22 mm hole

With 45 x 45 mm front plate, 35 mm handle and metallic legend with black marking

Stepping switches (2 to 5 step), single-pole, with "0" position



K00000LH



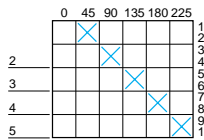
"Multi-fixing"

By Ø 22 mm hole

Thermal current (Ith)	Reference	Weight
2 step + "0"		
12	K1B 002QLH	0.115
20	K2B 002QLH	0.115
12	K1B 002QCH	0.135
20	K2B 002QCH	0.135



K00000CH



"Multi-fixing"

By Ø 22 mm hole

Thermal current (Ith)	Reference	Weight
3 step + "0"		
12	K1C 003QLH	0.135
20	K2C 003QLH	0.135
12	K1C 003QCH	0.155
20	K2C 003QCH	0.155



"Multi-fixing"

By Ø 22 mm hole

Thermal current (Ith)	Reference	Weight
4 step + "0"		
12	K1D 004QLH	0.140
20	K2D 004QLH	0.140
12	K1D 004QCH	0.160
20	K2D 004QCH	0.160



"Multi-fixing"

By Ø 22 mm hole

Thermal current (Ith)	Reference	Weight
5 step + "0"		
12	K1E 005QLH	0.160
20	K2E 005QLH	0.160
12	K1E 005QCH	0.180
20	K2E 005QCH	0.180


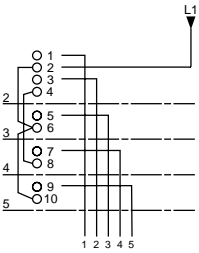


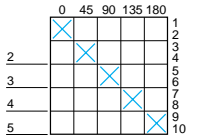





Cam switches

Complete switches, 12 and 20 A

Front mounting, "multi-fixing" or by Ø 22 mm hole

With 45 x 45 mm front plate, 35 mm handle and metallic legend with black marking

Stepping switches (2 to 5 step), single-pole, without "0" position

Wiring diagram and switching programme	Marking and switch position	Front mounting method	Thermal current (Ith)	Reference	Weight
			A		kg
 <p>K...LH</p> 		"Multi-fixing" By Ø 22 mm hole	2 step		
			12	K1B 002NLH	0.115
			20	K2B 002NLH	0.115
			12	K1B 002NCH	0.135
			20	K2B 002NCH	0.135
			 <p>K...CH</p> 		"Multi-fixing" By Ø 22 mm hole
12	K1C 003NLH	0.135			
20	K2C 003NLH	0.135			
12	K1C 003NCH	0.155			
20	K2C 003NCH	0.155			
		"Multi-fixing" By Ø 22 mm hole			
			12	K1D 004NLH	0.140
			20	K2D 004NLH	0.140
			12	K1D 004NCH	0.160
			20	K2D 004NCH	0.160
					"Multi-fixing" By Ø 22 mm hole
12	K1E 005NLH	0.160			
20	K2E 005NLH	0.160			
12	K1E 005NCH	0.180			
20	K2E 005NCH	0.180			

3


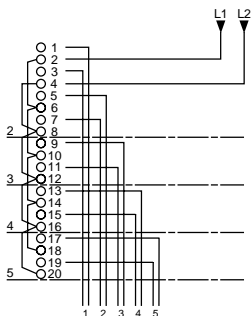



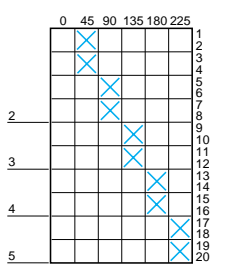










Cam switches

Complete switches, 12 and 20 A

Front mounting, "multi-fixing" or by Ø 22 mm hole

With 45 x 45 mm front plate, 35 mm handle and metallic legend with black marking

Stepping switches (2 to 5 step), 2-pole, with "0" position

Wiring diagram and switching programme	Marking and switch position	Front mounting method	Thermal current (Ith)	Reference	Weight
			A		kg
 Kee 0000LH 	 	"Multi-fixing" By Ø 22 mm hole	2 step + "0"		
			12	K1D 012QLH	0.140
			20	K2D 012QLH	0.140
			12	K1D 012QCH	0.160
			20	K2D 012QCH	0.160
			 Kee 0000CH 	 	"Multi-fixing" By Ø 22 mm hole
12	K1F 013QLH	0.170			
20	K2F 013QLH	0.170			
12	K1F 013QCH	0.190			
20	K2F 013QCH	0.190			
 Kee 0000CH 	 	"Multi-fixing" By Ø 22 mm hole			
			12	K1H 014QLH	0.195
			20	K2H 014QLH	0.195
			12	K1H 014QCH	0.215
			20	K2H 014QCH	0.215
			 Kee 0000CH 	 	"Multi-fixing" By Ø 22 mm hole
12	K1K 015QLH	0.225			
20	K2K 015QLH	0.225			
12	K1K 015QCH	0.245			
20	K2K 015QCH	0.245			

3


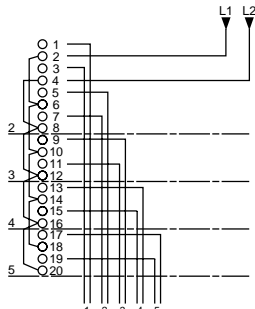
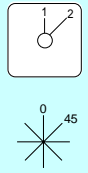

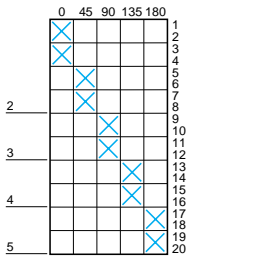
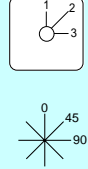


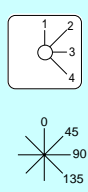


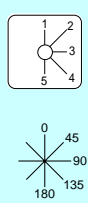
Cam switches

Complete switches, 12 and 20 A

Front mounting, "multi-fixing" or by Ø 22 mm hole

With 45 x 45 mm front plate, 35 mm handle and metallic legend with black marking

Stepping switches (2 to 5 step), 2-pole, without "0" position

Wiring diagram and switching programme	Marking and switch position	Front mounting method	Thermal current (Ith)	Reference	Weight	
			A		kg	
 Kee 0000LH			2 step			
			"Multi-fixing"	12	K1D 012NLH	0.140
				20	K2D 012NLH	0.140
			By Ø 22 mm hole	12	K1D 012NCH	0.160
				20	K2D 012NCH	0.160
			 Kee 0000CH			3 step
"Multi-fixing"	12	K1F 013NLH				0.170
	20	K2F 013NLH				0.170
By Ø 22 mm hole	12	K1F 013NCH				0.190
	20	K2F 013NCH				0.190
 Kee 0000CH						4 step
			"Multi-fixing"	12	K1H 014NLH	0.195
				20	K2H 014NLH	0.195
			By Ø 22 mm hole	12	K1H 014NCH	0.215
				20	K2H 014NCH	0.215
			 Kee 0000CH			5 step
"Multi-fixing"	12	K1K 015NLH				0.225
	20	K2K 015NLH				0.225
By Ø 22 mm hole	12	K1K 015NCH				0.245
	20	K2K 015NCH				0.245

3

Cam switches

Complete switches, 12 and 20 A

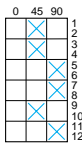
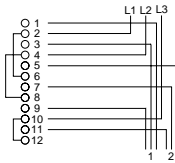
Front mounting, "multi-fixing" or by Ø 22 mm hole

With 45 x 45 mm front plate, 35 mm handle and metallic legend with black marking

Stepping switches (2 and 3 step), 3-pole, with "0" position



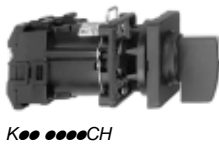
K●●●●●LH



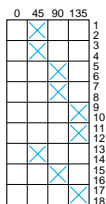
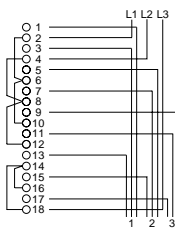
"Multi-fixing"

By Ø 22 mm hole

Thermal current (Ith)	Reference	Weight
2 step + "0"		
12	K1F 022QLH	0.170
20	K2F 022QLH	0.170
12	K1F 022QCH	0.190
20	K2F 022QCH	0.190



K●●●●●CH



"Multi-fixing"

By Ø 22 mm hole

Thermal current (Ith)	Reference	Weight
3 step + "0"		
12	K1I 023QLH	0.215
20	K2I 023QLH	0.215
12	K1I 023QCH	0.235
20	K2I 023QCH	0.235


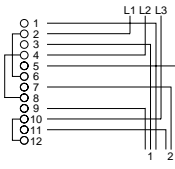
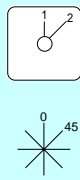

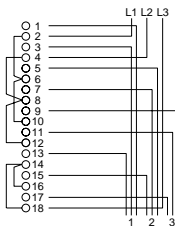
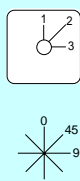
Cam switches

Complete switches, 12 and 20 A

Front mounting, "multi-fixing" or by Ø 22 mm hole

With 45 x 45 mm front plate, 35 mm handle and metallic legend with black marking

Stepping switches (2 and 3 step), 3-pole, without "0" position

Wiring diagram and switching programme	Marking and switch position	Front mounting method	Thermal current (Ith)	Reference	Weight	
			A		kg	
 <p>K1F 022NLH</p>			2 step			
			"Multi-fixing"	12	K1F 022NLH	0.170
				20	K2F 022NLH	0.170
			By Ø 22 mm hole	12	K1F 022NCH	0.190
				20	K2F 022NCH	0.190
			 <p>K1I 023NLH</p>			3 step
"Multi-fixing"	12	K1I 023NLH				0.215
	20	K2I 023NLH				0.215
By Ø 22 mm hole	12	K1I 023NCH				0.235
	20	K2I 023NCH				0.235

Cam switches

Complete switches, 12 and 20 A

Front mounting, "multi-fixing" or by Ø 22 mm hole

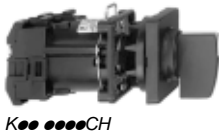
With 45 x 45 mm front plate, 35 mm handle and metallic legend with black marking

Reversing switches with spring return from 315° and from 45° to "0" position



Wiring diagram and switching programme	Marking and switch position	Front mounting method	Number of poles	Thermal current (Ith)	Reference	Weight
				A		kg
		"Multi-fixing"	1	12	K1B 006TLH	0.115
				20	K2B 006TLH	0.115
			By Ø 22 mm hole	12	K1B 006TCH	0.135
				20	K2B 006TCH	0.135

Changeover switches, 1 to 4-pole



Wiring diagram and switching programme	Marking and switch position	Front mounting method	Number of poles	With "0" position					
				Thermal current (Ith)	Reference				
		"Multi-fixing"	1	12	K1B 001ULH	0.115			
				20	K2B 001ULH	0.115			
			2	12	K1D 002ULH	0.140			
				20	K2D 002ULH	0.140			
			3	12	K1F 003ULH	0.170			
				20	K2F 003ULH	0.170			
			4	12	K1H 004ULH	0.195			
				20	K2H 004ULH	0.195			
			By Ø 22 mm hole		"Multi-fixing"	1	12	K1B 001UCH	0.135
							20	K2B 001UCH	0.135
						2	12	K1D 002UCH	0.160
							20	K2D 002UCH	0.160
						3	12	K1F 003UCH	0.190
							20	K2F 003UCH	0.190
						4	12	K1H 004UCH	0.215
							20	K2H 004UCH	0.215
		"Multi-fixing"	1	12	K1B 011ULH	0.115			
				20	K2B 011ULH	0.115			
			2	12	K1D 012ULH	0.140			
				20	K2D 012ULH	0.140			
			3	12	K1F 013ULH	0.170			
				20	K2F 013ULH	0.170			
			4	12	K1H 014ULH	0.195			
				20	K2H 014ULH	0.195			
			By Ø 22 mm hole		"Multi-fixing"	1	12	K1B 011UCH	0.135
							20	K2B 011UCH	0.135
						2	12	K1D 012UCH	0.160
							20	K2D 012UCH	0.160
						3	12	K1F 013UCH	0.190
							20	K2F 013UCH	0.190
						4	12	K1H 014UCH	0.215
							20	K2H 014UCH	0.215

3

Cam switches

Complete switches, 12 A

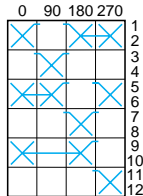
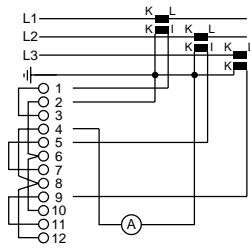
Front mounting, "multi-fixing" or by Ø 22 mm hole

With 45 x 45 mm front plate, 35 mm handle and metallic legend with black marking

Ammeter switches

Wiring diagram and switching programme	Marking and switch position	Front mounting method	Thermal current (Ith) A	Reference	Weight kg
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For 3 circuits

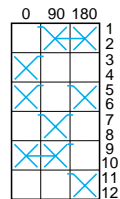
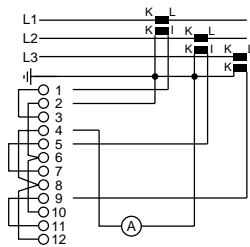
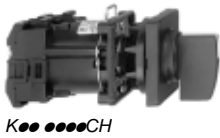


With "0" position

"Multi-fixing"	12	K1F 003MLH	0.170
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By Ø 22 mm hole	12	K1F 003MCH	0.190
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3



Without "0" position

"Multi-fixing"	12	K1F 013MLH	0.170
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By Ø 22 mm hole	12	K1F 013MCH	0.190
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Cam switches

Complete switches, 12 A

Front mounting, "multi-fixing" or by Ø 22 mm hole

With 45 x 45 mm front plate, 35 mm handle and metallic legend with black marking

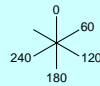
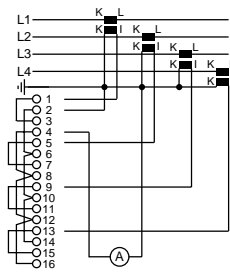
Ammeter switches (continued)

Wiring diagram and switching programme	Marking and switch position	Front mounting method	Thermal current (Ith) A	Reference	Weight kg
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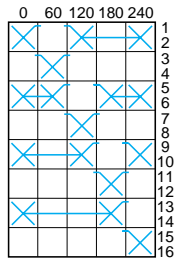
For 4 circuits



K1H 004MLH



K1H 004MCH



With "0" position	
"Multi-fixing"	12

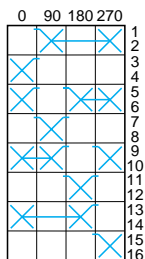
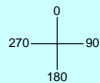
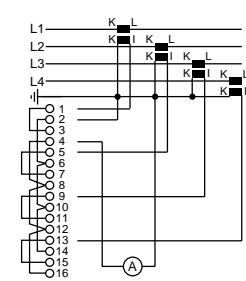
K1H 004MLH

0.195

By Ø 22 mm hole	12
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K1H 004MCH

0.215



Without "0" position	
"Multi-fixing"	12

K1H 014MLH

0.195

By Ø 22 mm hole	12
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K1H 014MCH

0.215

3

Cam switches

Complete switches, 12 A

Front mounting, "multi-fixing" or by Ø 22 mm hole

With 45 x 45 mm front plate, 35 mm handle and metallic legend with black marking

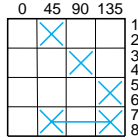
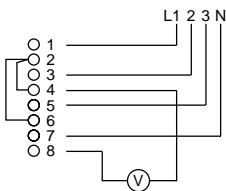
Voltmeter switches

Wiring diagram	Switching programme	Marking and switch position	Front mounting method	Thermal current (Ith)	Reference	Weight
				A		kg

For measurements between 3 phases and neutral



K1D 023MLH



With "0" position	
"Multi-fixing"	12 K1D 023MLH 0.140

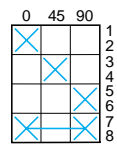


By Ø 22 mm hole	12 K1D 023MCH 0.160
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3



K1D 033MLH

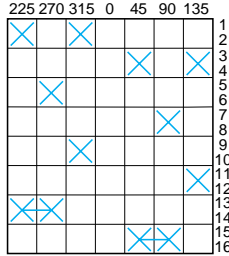
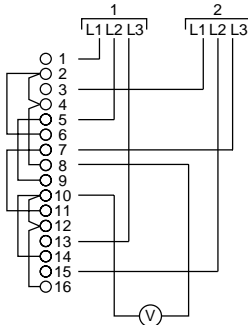


Without "0" position	
"Multi-fixing"	12 K1D 033MLH 0.140



By Ø 22 mm hole	12 K1D 033MCH 0.160
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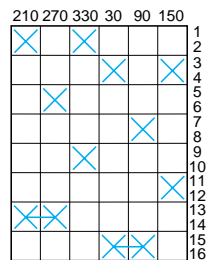
For measurements between 3 phases of 2 supplies



With "0" position	
"Multi-fixing"	12 K1H 026MLH 0.205



By Ø 22 mm hole	12 K1H 026MCH 0.215
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Without "0" position	
"Multi-fixing"	12 K1H 036MLH 0.205



By Ø 22 mm hole	12 K1H 036MCH 0.215
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Cam switches

Complete switches, 12 A

Front mounting, "multi-fixing" or by Ø 22 mm hole

With 45 x 45 mm front plate, 35 mm handle and metallic legend with black marking

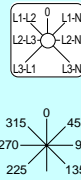
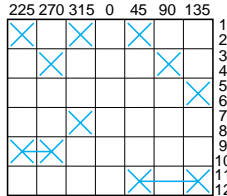
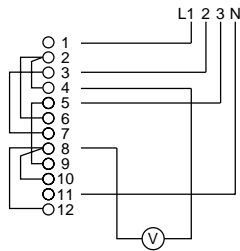
Voltmeter switches (continued)

Wiring diagram	Switching programme	Marking and switch position	Front mounting method	Thermal current (Ith)	Reference	Weight
				A		kg

For measurements between 3 phases and between each of the 3 phases and neutral



K1F 027MLH

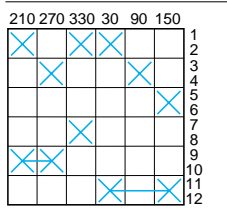


With "0" position
 "Multi-fixing" 12 K1F 027MLH 0.170

By Ø 22 mm hole
 12 K1F 027MCH 0.190



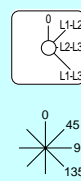
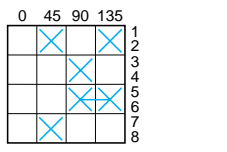
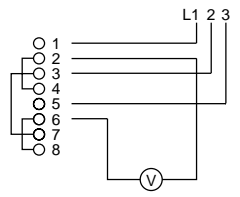
K1F 037MLH



Without "0" position
 "Multi-fixing" 12 K1F 037MLH 0.170

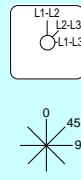
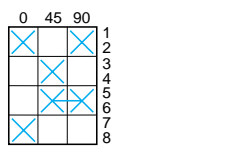
By Ø 22 mm hole
 12 K1F 037MCH 0.190

For measurements between 3 phases



With "0" position
 "Multi-fixing" 12 K1D 024MLH 0.140

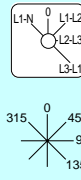
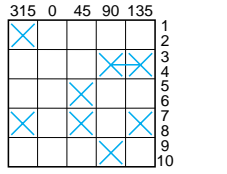
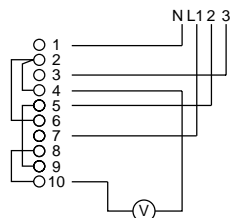
By Ø 22 mm hole
 12 K1D 024MCH 0.160



Without "0" position
 "Multi-fixing" 12 K1D 034MLH 0.140

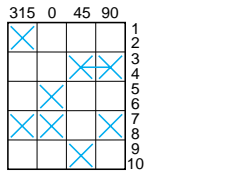
By Ø 22 mm hole
 12 K1D 034MCH 0.160

For measurements between 3 phases and between 1 phase and neutral



With "0" position
 "Multi-fixing" 12 K1E 025MLH 0.160

By Ø 22 mm hole
 12 K1E 025MCH 0.180



Without "0" position
 "Multi-fixing" 12 K1E 035MLH 0.160

By Ø 22 mm hole
 12 K1E 035MCH 0.180

Cam switches

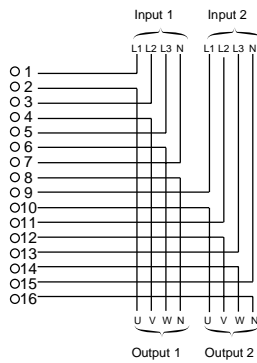
Adaptable sub-assemblies, 12 and 20 A
Bodies (contact blocks + fixing plate)To combine with operating heads: see pages 3/66
and 3/67

Switches

Wiring diagram
and
switching programme

Switch position

Mounting method

Reference, to
be completed
(1)Weight
kg

1-pole



Front

Multi-fixing

K0A 001AL

0.091

By Ø 22 mm hole

K0A 001A

0.075

Rear

K0A 001AX (2)

0.153

K0A 501A

0.115

2-pole



Front

Multi-fixing

K0B 002AL

0.101

By Ø 22 mm hole

K0B 002A

0.085

Rear

K0B 002AX (2)

0.163

K0B 502A

0.125

3-pole



Front

Multi-fixing

K0C 003AL

0.121

By Ø 22 mm hole

K0C 003A

0.105

Rear

K0C 003AX (2)

0.183

K0C 503A

0.140

4-pole



Front

Multi-fixing

K0D 004AL

0.126

By Ø 22 mm hole

K0D 004A

0.110

Rear

K0D 004AX (2)

0.188

K0D 504A

0.150

5-pole



Front

Multi-fixing

K0E 005AL

0.146

By Ø 22 mm hole

K0E 005A

0.130

Rear

K0E 005AX (2)

0.208

K0E 505A

0.165

6-pole



Front

Multi-fixing

K0F 006AL

0.156

By Ø 22 mm hole

K0F 006A

0.140

Rear

K0F 006AX (2)

0.218

K0F 506A

0.175

7-pole



Front

Multi-fixing

K0G 007AL

0.176

By Ø 22 mm hole

K0G 007A

0.160

Rear

K0G 507A

0.190

8-pole



Front

Multi-fixing

K0H 008AL

0.181

By Ø 22 mm hole

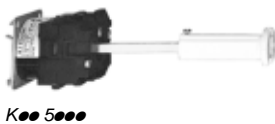
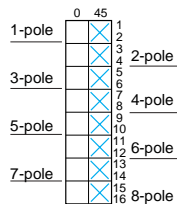
K0H 008A

0.165

Rear

K0H 508A

0.195


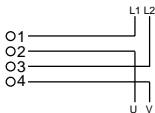


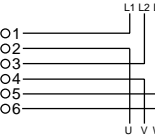
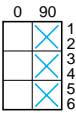

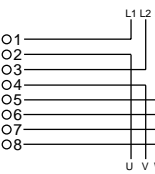
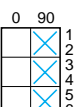
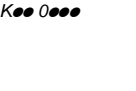
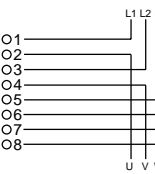
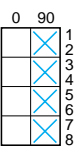
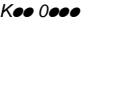
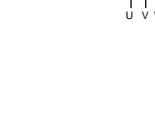


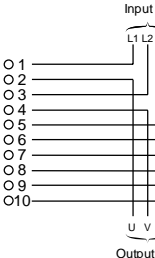
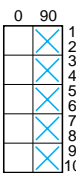

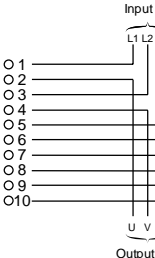
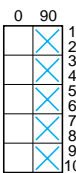

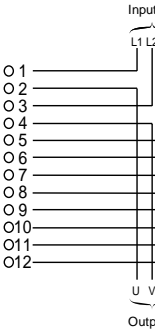


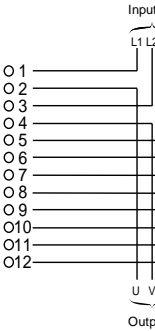

(1) To order a cam switch with thermal current $I_{th} = 12 A$, replace the ● in the reference by 1.
Example **K1A 001A**.To order a cam switch with thermal current $I_{th} = 20 A$, replace the ● in the reference by 2.Example **K2A 001A**.(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1000**.

Cam switches

Adaptable sub-assemblies, 12 and 20 A bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Switches (continued)

Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg	
 <p>K0B 000L</p>			2-pole			
			Front	Multi-fixing	K0B 1002HL	0.121
			By Ø 22 mm hole		K0B 1002H K0B 1002HX (2)	0.105 0.183
 <p>K0C 003H</p>			3-pole			
			Front	Multi-fixing	K0C 003HL	0.121
			By Ø 22 mm hole		K0C 003H K0C 003HX (2)	0.105 0.183
	Rear		K0C 503H	0.140		
 <p>K0C 023H</p>			3-pole with neutral wire terminal and Earth terminal			
			Front	Multi-fixing	K0C 023HL	0.121
			By Ø 22 mm hole		K0C 023H K0C 023HX (2)	0.105 0.183
	Rear		K0C 523H	0.140		
 <p>K0D 004H</p>			4-pole			
			Front	Multi-fixing	K0D 004HL	0.126
			By Ø 22 mm hole		K0D 004H K0D 004HX (2)	0.110 0.188
	Rear		K0D 504H	0.150		
 <p>K0D 024H</p>			4-pole with neutral wire terminal and Earth terminal			
			Front	Multi-fixing	K0D 024HL	0.126
			By Ø 22 mm hole		K0D 024H K0D 024HX (2)	0.110 0.188
	Rear		K0D 524H	0.150		
 <p>K0E 005H</p>			5-pole			
			Front	Multi-fixing	K0E 005HL	0.146
			By Ø 22 mm hole		K0E 005H K0E 005HX (2)	0.130 0.208
	Rear		K0E 505H	0.165		
 <p>K0E 025H</p>			5-pole with neutral wire terminal and Earth terminal			
			Front	Multi-fixing	K0E 025HL	0.146
			By Ø 22 mm hole		K0E 025H	0.130
	Rear		K0E 525H	0.165		
 <p>K0F 006H</p>			6-pole			
			Front	Multi-fixing	K0F 006HL	0.156
			By Ø 22 mm hole		K0F 006H K0F 006HX (2)	0.140 0.218
	Rear		K0F 506H	0.175		
 <p>K0F 026H</p>			6-pole with neutral wire terminal and Earth terminal			
			Front	Multi-fixing	K0F 026HL	0.156
			By Ø 22 mm hole		K0F 026H	0.140
	Rear		K0F 526H	0.175		

(1) To order a cam switch with thermal current $I_{th} = 12$ A, replace the ● in the reference by 1.

Example **K1C 003H**.

To order a cam switch with thermal current $I_{th} = 20$ A, replace the ● in the reference by 2.

Example **K2C 003H**.

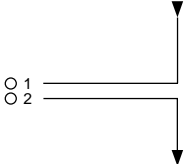


(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.

Cam switches

Adaptable sub-assemblies, 12 and 20 A bodies (contact blocks + fixing plate)

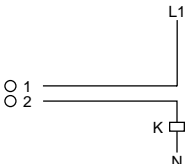


To combine with operating heads: see pages 3/66 and 3/67

OFF-ON switches

Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg
			Front	Multi-fixing By Ø 22 mm hole	K●A 001AL 0.091 K●A 001A 0.075 K●A 001AX (2) 0.153
			Rear		K●A 501A 0.115

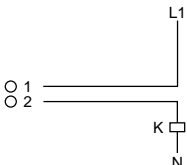


K●● 0●●●L

OFF-ON switches with spring return from 30° to "0" position

Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg
			Front	Multi-fixing By Ø 22 mm hole	K●A 001TL 0.091 K●A 001T 0.075 K●A 001TX (2) 0.153
			Rear		K●A 501T 0.115

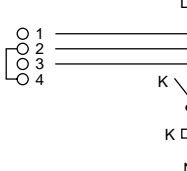


K●● 0●●●

ON-OFF switches with spring return from 30° to "0" position

Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg
			Front	Multi-fixing By Ø 22 mm hole	K●A 002TL 0.091 K●A 002T 0.075 K●A 002TX (2) 0.153
			Rear		K●A 502T 0.115

K●● 5●●●

OFF-ON switches with spring return from 120° to 90°

Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg
			Front	Multi-fixing By Ø 22 mm hole	K●B 003TL 0.101 K●B 003T 0.085
			Rear		K●B 503T 0.125

K●● 0●●●X

(1) To order a cam switch with thermal current $I_{th} = 12$ A, replace the ● in the reference by 1.Example **K1A 001A**.To order a cam switch with thermal current $I_{th} = 20$ A, replace the ● in the reference by 2.Example **K2A 001A**.(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.

Cam switches

Adaptable sub-assemblies, 12 and 20 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

OFF-ON switches with spring return from 330° and from 330° to "0" position



K00 0000L

Wiring diagram and switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg	
		Front	Multi-fixing	K0B 004TL	0.101
			By Ø 22 mm hole	K0B 004T	0.085
		Rear		K0B 504T	0.115

OFF-ON switches with momentary-contact function



K00 0000

Wiring diagram and switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg	
		Front	Multi-fixing	K0B 001DL	0.101
			By Ø 22 mm hole	K0B 001D	0.085
				K0B 001DX (2)	0.163
		Rear		K0B 501D	0.125

OFF-ON changeover switches with spring return from 240° to 270° and from 120° to 90°



K00 5000



K00 0000X

Wiring diagram and switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg	
		Front	Multi-fixing	K0D 005TL	0.126
			By Ø 22 mm hole	K0D 005T	0.110
		Rear		K0D 505T	0.150

(1) To order a cam switch with thermal current $I_{th} = 12$ A, replace the ● in the reference by 1.

Example K1B 004T.

To order a cam switch with thermal current $I_{th} = 20$ A, replace the ● in the reference by 2.

Example K2B 004T.

(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type KAX Z1000.

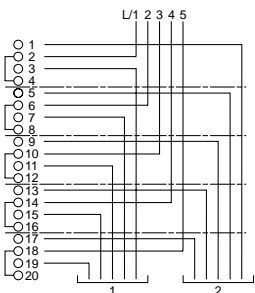
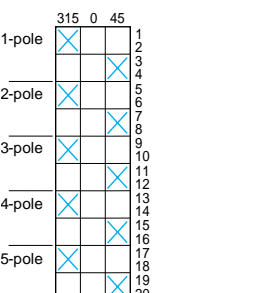










Cam switches

Adaptable sub-assemblies, 12 and 20 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Changeover switches with "0" position

Wiring diagram and switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg	
 	1-pole				
		Front	Multi-fixing	K●B 001UL	0.101
			By Ø 22 mm hole	K●B 001U	0.085
		Rear		K●B 001UX (2)	0.163
				K●B 501U	0.125
	2-pole				
		Front	Multi-fixing	K●D 002UL	0.126
			By Ø 22 mm hole	K●D 002U	0.110
		Rear		K●D 002UX (2)	0.188
				K●D 502U	0.150
	3-pole				
		Front	Multi-fixing	K●F 003UL	0.156
		By Ø 22 mm hole	K●F 003U	0.140	
	Rear		K●F 003UX (2)	0.218	
			K●F 503U	0.175	
4-pole					
	Front	Multi-fixing	K●H 004UL	0.181	
		By Ø 22 mm hole	K●H 004U	0.165	
	Rear		K●H 004UX (2)	0.243	
			K●H 504U	0.195	
5-pole					
	Front	Multi-fixing	K●K 005UL	0.211	
		By Ø 22 mm hole	K●K 005U	0.195	
	Rear		K●K 005UX (2)	0.273	
			K●K 505U	0.210	

(1) To order a cam switch with thermal current $I_{th} = 12$ A, replace the ● in the reference by 1.Example **K1B 001U**.To order a cam switch with thermal current $I_{th} = 20$ A, replace the ● in the reference by 2.Example **K2B 001U**.(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.

K●● 0●●●L

3



K●● 0●●●



K●● 5●●●



K●● 0●●●X

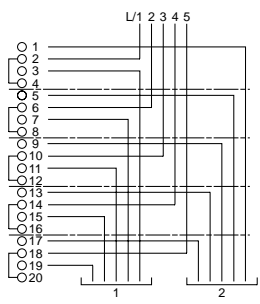




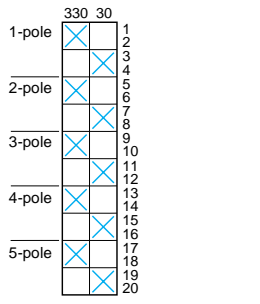






Cam switches

Adaptable sub-assemblies, 12 and 20 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Changeover switches without "0" position

Wiring diagram and switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg	
	1-pole				
		Front	Multi-fixing	K●B 011UL	0.101
			By Ø 22 mm hole	K●B 011U	0.085
		Rear		K●B 011UX (2)	0.163
				K●B 511U	0.125
	2-pole				
		Front	Multi-fixing	K●D 012UL	0.126
			By Ø 22 mm hole	K●D 012U	0.110
		Rear		K●D 012UX (2)	0.188
				K●D 512U	0.150
		3-pole			
			Front	Multi-fixing	K●F 013UL
			By Ø 22 mm hole	K●F 013U	0.140
		Rear		K●F 013UX (2)	0.218
				K●F 513U	0.175
4-pole					
		Front	Multi-fixing	K●H 014UL	0.181
			By Ø 22 mm hole	K●H 014U	0.165
		Rear		K●H 014UX (2)	0.243
				K●H 514U	0.195
5-pole					
		Front	Multi-fixing	K●K 015UL	0.211
		By Ø 22 mm hole	K●K 015U	0.195	
	Rear		K●K 015UX (2)	0.273	
			K●K 515U	0.220	

(1) To order a cam switch with thermal current $I_{th} = 12$ A, replace the ● in the reference by 1.Example **K1B 011U**.To order a cam switch with thermal current $I_{th} = 20$ A, replace the ● in the reference by 2.Example **K2B 011U**.(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.

Cam switches

Adaptable sub-assemblies, 12 and 20 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Reversing switches

Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg
			Front	Multi-fixing	KoB 001UL 0.101
			By Ø 22 mm hole	KoB 001U 0.085	
				KoB 001UX (2) 0.163	
			Rear		KoB 501U 0.125

KoB 0000L

Reversing switches with spring return from 315° and from 45° to "0" position

Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg
			Front	Multi-fixing	KoB 006TL 0.101
			By Ø 22 mm hole	KoB 006T 0.085	
				KoB 006TX (2) 0.163	
			Rear		KoB 506T 0.125

KoB 0000

Reversing switches with momentary-contact function

Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg
			Front	Multi-fixing	KoC 002DL 0.121
			By Ø 22 mm hole	KoC 002D 0.105	
				KoC 002DX (2) 0.183	
			Rear		KoC 502D 0.140

KoC 5000

Reversing switches with spring return from 240° to 270° and from 120° to 90° position

Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg
			Front	Multi-fixing	KoC 007TL 0.121
			By Ø 22 mm hole	KoC 007T 0.105	
			Rear		KoC 507T 0.140

KoC 0000X

(1) To order a cam switch with thermal current $I_{th} = 12$ A, replace the ● in the reference by 1.Example **K1B 001U**.To order a cam switch with thermal current $I_{th} = 20$ A, replace the ● in the reference by 2.Example **K2B 001U**.(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1000**.

Cam switches

Adaptable sub-assemblies, 12 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

BCD encoded output switches with "0" position

Wiring diagram	Switching programme	Switch position	Mounting method	Reference (1)	Weight kg	
			Front	Multi-fixing By Ø 22 mm hole	K1A 001BL K1A 001B K1A 001BX (2)	0.101 0.085 0.163
			Rear		K1A 501B	0.125
			Front	Multi-fixing By Ø 22 mm hole	K1B 002BL K1B 002B K1B 002BX (2)	0.101 0.085 0.163
			Rear		K1B 502B	0.125
			Front	Multi-fixing By Ø 22 mm hole	K1B 003BL K1B 003B K1B 003BX (2)	0.101 0.085 0.163
			Rear		K1B 503B	0.125
			Front	Multi-fixing By Ø 22 mm hole	K1C 004BL K1C 004B K1C 004BX (2)	0.121 0.105 0.183
			Rear		K1C 504B	0.140
			Front	Multi-fixing By Ø 22 mm hole	K1C 005BL K1C 005B K1C 005BX (2)	0.121 0.105 0.183
			Rear		K1C 505B	0.140
			Front	Multi-fixing By Ø 22 mm hole	K1C 006BL K1C 006B K1C 006BX (2)	0.121 0.105 0.183
			Rear		K1C 506B	0.140
			Front	Multi-fixing By Ø 22 mm hole	K1C 007BL K1C 007B K1C 007BX (2)	0.121 0.105 0.183
			Rear		K1C 507B	0.140
			Front	Multi-fixing By Ø 22 mm hole	K1D 008BL K1D 008B K1D 008BX (2)	0.126 0.110 0.188
			Rear		K1D 508B	0.150

(1) Ith = 12 A.

(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1000**.

Cam switches

Adaptable sub-assemblies, 12 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

3

BCD encoded output switches with "0" position (continued)

Wiring diagram and switching programme	Switch position	Mounting method	Reference (1)	Weight kg
 	9 decimal			
	Front	Multi-fixing	K1D 009BL	0.126
		By Ø 22 mm hole	K1D 009B	0.110
	Rear		K1D 009BX (2)	0.188
			K1D 509B	0.150
	 	10 decimal		
Front		Multi-fixing	K1D 010BL	0.126
		By Ø 22 mm hole	K1D 010B	0.110
Rear			K1D 510B	0.150
		11 decimal		
Front		Multi-fixing	K1D 011BL	0.126
	By Ø 22 mm hole	K1D 011B	0.110	
Rear		K1D 511B	0.150	



BCD encoded output switches without "0" position

Wiring diagram and switching programme	Switch position	Mounting method	Reference (1)	Weight kg
 	1 and 2 decimal			
	Front	Multi-fixing	K1B 022BL	0.101
		By Ø 22 mm hole	K1B 022B	0.085
	Rear		K1B 022BX (2)	0.163
			K1B 522B	0.125
	 	3 decimal		
Front		Multi-fixing	K1B 023BL	0.101
		By Ø 22 mm hole	K1B 023B	0.085
Rear			K1B 023BX (2)	0.163
			K1B 523B	0.125
 		4 decimal		
	Front	Multi-fixing	K1C 024BL	0.121
		By Ø 22 mm hole	K1C 024B	0.105
	Rear		K1C 024BX (2)	0.183
			K1C 524B	0.140
	 	5 decimal		
Front		Multi-fixing	K1C 025BL	0.121
		By Ø 22 mm hole	K1C 025B	0.105
Rear			K1C 025BX (2)	0.183
			K1C 525B	0.140
 		6 decimal		
	Front	Multi-fixing	K1C 026BL	0.121
		By Ø 22 mm hole	K1C 026B	0.105
	Rear		K1C 026BX (2)	0.183
			K1C 526B	0.140



(1) Ith = 12 A.

(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1000**.


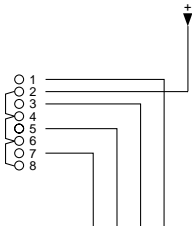

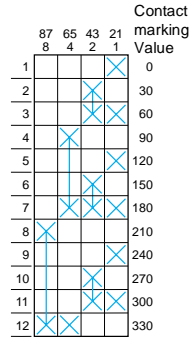




Cam switches

Adaptable sub-assemblies, 12 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

BCD encoded output switches without "0" position (continued)

Wiring diagram and switching programme	Switch position	Mounting method	Reference (1)	Weight kg
 <p>Kee 0000L</p> 	7 decimal			
	Front	Multi-fixing	K1C 027BL	0.121
		By Ø 22 mm hole	K1C 027B	0.105
	Rear		K1C 027BX (2)	0.183
			K1C 527B	0.140
	 <p>Kee 0000</p> 	8 decimal		
Front		Multi-fixing	K1D 028BL	0.126
		By Ø 22 mm hole	K1D 028B	0.110
Rear			K1D 028BX (2)	0.188
			K1D 528B	0.150
 <p>Kee 0000</p>		9 decimal		
	Front	Multi-fixing	K1D 029BL	0.126
		By Ø 22 mm hole	K1D 029B	0.110
	Rear		K1D 029BX (2)	0.188
			K1D 529B	0.150
	 <p>Kee 5000</p>	10 decimal		
Front		Multi-fixing	K1D 030BL	0.126
		By Ø 22 mm hole	K1D 030B	0.110
Rear			K1D 030BX (2)	0.188
			K1D 530B	0.150
 <p>Kee 5000</p>		11 decimal		
	Front	Multi-fixing	K1D 031BL	0.126
		By Ø 22 mm hole	K1D 031B	0.110
	Rear		K1D 031B	0.150
	 <p>Kee 0000X</p>	12 decimal		
Front		Multi-fixing	K1D 032BL	0.126
		By Ø 22 mm hole	K1D 032B	0.110
Rear			K1D 032B	0.150

(1) Ith = 12 A.

(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1000**.

Cam switches

Adaptable sub-assemblies, 12 and 20 A
Bodies (contact blocks + fixing plate)To combine with operating heads: see pages 3/66
and 3/67

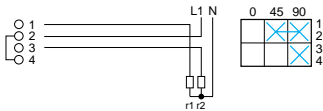
Paralleling switches with "0" position

Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg
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1-pole for 2 loads



Kee 0000L

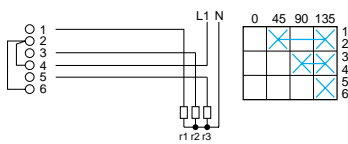


Front	Multi-fixing	K0B 002GL	0.101
	By Ø 22 mm hole	K0B 002G	0.085
		K0B 002GX (2)	0.163
Rear		K0B 502G	0.125

1-pole for 3 loads

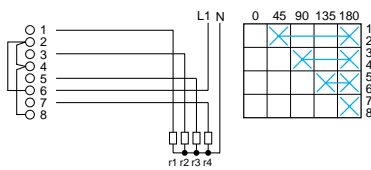


Kee 0000



Front	Multi-fixing	K0C 003GL	0.121
	By Ø 22 mm hole	K0C 003G	0.105
		K0C 003GX (2)	0.183
Rear		K0C 503G	0.140

1-pole for 4 loads

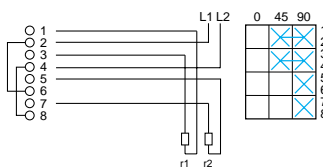


Front	Multi-fixing	K0D 004GL	0.126
	By Ø 22 mm hole	K0D 004G	0.110
		K0D 004GX (2)	0.188
Rear		K0D 504G	0.150

2-pole for 2 loads



Kee 5000

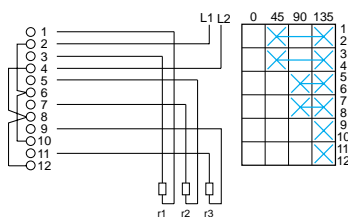


Front	Multi-fixing	K0D 012GL	0.126
	By Ø 22 mm hole	K0D 012G	0.110
		K0D 012GX (2)	0.188
Rear		K0D 512G	0.150

2-pole for 3 loads



Kee 0000X



Front	Multi-fixing	K0F 013GL	0.156
	By Ø 22 mm hole	K0F 013G	0.140
		K0F 013GX (2)	0.218
Rear		K0F 513G	0.175

(1) To order a cam switch with thermal current $I_{th} = 12$ A, replace the ● in the reference by 1.Example **K1B 002G**.To order a cam switch with thermal current $I_{th} = 20$ A, replace the ● in the reference by 2.Example **K2B 002G**.(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1000**.


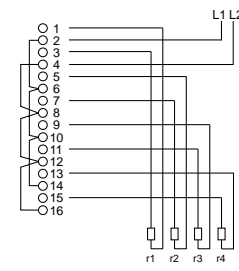
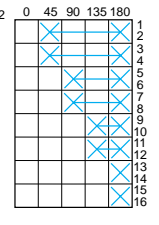
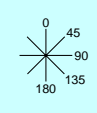

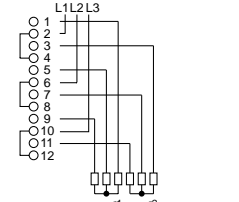
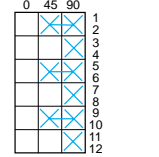


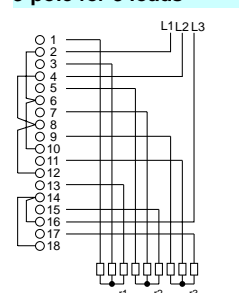
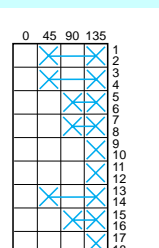
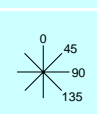

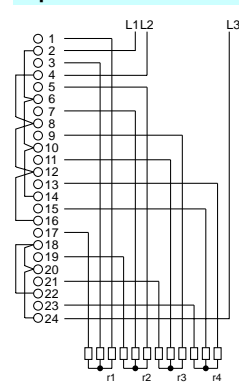
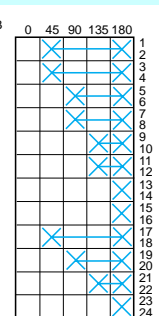
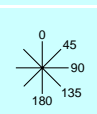
Cam switches

Adaptable sub-assemblies, 12 and 20 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Paralleling switches with "0" position (continued)

Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg		
2-pole for 4 loads							
 K●● 0●●●L				Front	Multi-fixing	K●H 014GL	0.181
					By Ø 22 mm hole	K●H 014G	0.165
				Rear		K●H 014GX (2)	0.243
						K●H 514G	0.195
3-pole for 2 loads							
 K●● 0●●●				Front	Multi-fixing	K●F 022GL	0.156
					By Ø 22 mm hole	K●F 022G	0.140
				Rear		K●F 022GX (2)	0.218
						K●F 522G	0.175
3-pole for 3 loads							
 K●● 5●●●				Front	Multi-fixing	K●L 023GL	0.201
					By Ø 22 mm hole	K●L 023G	0.185
				Rear		K●L 023GX (2)	0.263
						K●L 523G	0.215
3-pole for 4 loads							
 K●● 0●●●X				Front	Multi-fixing	K●M 024GL	0.241
					By Ø 22 mm hole	K●M 024G	0.225
				Rear		K●M 024GX (2)	0.303
						K●M 524G	0.245

(1) To order a cam switch with thermal current $I_{th} = 12$ A, replace the ● in the reference by 1.

Example K1H 014G.

To order a cam switch with thermal current $I_{th} = 20$ A, replace the ● in the reference by 2.


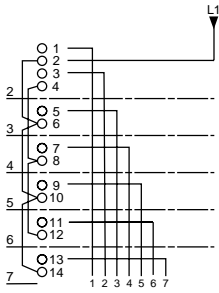

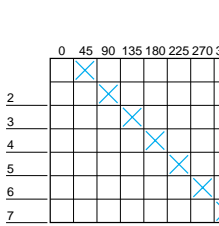

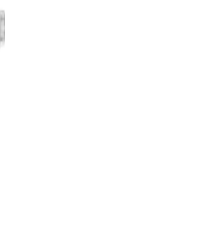

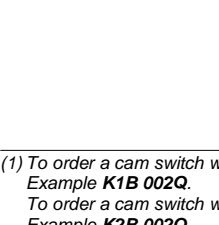

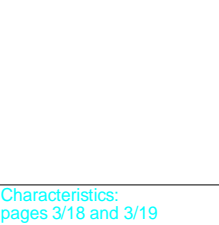
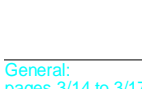
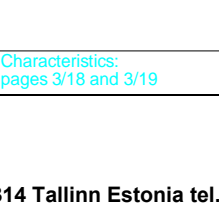
Example K2H 014G.

(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type KAX Z1●●●.

Cam switches

Adaptable sub-assemblies, 12 and 20 A
Bodies (contact blocks + fixing plate)To combine with operating heads: see pages 3/66
and 3/67

Stepping switches (2 to 11 step), single-pole, with "0" position

Wiring diagram and switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg
 K00 0000L		2 step + "0"		
		Front	Multi-fixing By Ø 22 mm hole	K0B 002QL K0B 002Q K0B 002QX (2)
		Rear	K0B 502Q	0.125
 K00 0000		3 step + "0"		
		Front	Multi-fixing By Ø 22 mm hole	K0C 003QL K0C 003Q K0C 003QX (2)
		Rear	K0C 503Q	0.140
 K00 0000		4 step + "0"		
		Front	Multi-fixing By Ø 22 mm hole	K0D 004QL K0D 004Q K0D 004QX (2)
		Rear	K0D 504Q	0.150
 K00 5000		5 step + "0"		
		Front	Multi-fixing By Ø 22 mm hole	K0E 005QL K0E 005Q K0E 005QX (2)
		Rear	K0E 505Q	0.165
 K00 5000		6 step + "0"		
		Front	Multi-fixing By Ø 22 mm hole	K0F 006QL K0F 006Q K0F 006QX (2)
		Rear	K0F 506Q	0.175
 K00 0000X		7 step + "0"		
		Front	Multi-fixing By Ø 22 mm hole	K0G 007QL K0G 007Q K0G 007QX (2)
		Rear	K0G 507Q	0.190

(1) To order a cam switch with thermal current $I_{th} = 12$ A, replace the ● in the reference by 1.Example **K1B 002Q**.To order a cam switch with thermal current $I_{th} = 20$ A, replace the ● in the reference by 2.Example **K2B 002Q**.(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1000**.


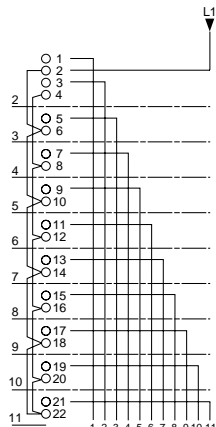
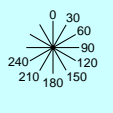

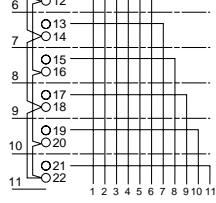
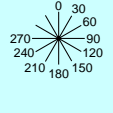

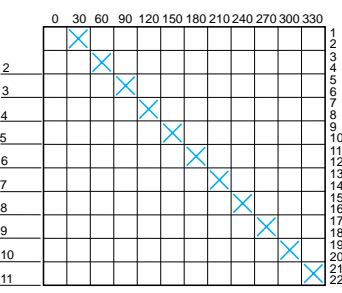
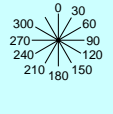

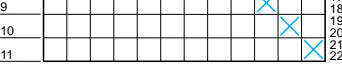
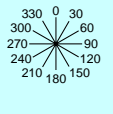
Cam switches

Adaptable sub-assemblies, 12 and 20 AA

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Stepping switches (2 to 11 step), single-pole, with "0" position (continued)

Wiring diagram and switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg
 <p>K00 0000L</p>		8 step + "0"		
			Front Multi-fixing By Ø 22 mm hole	K0H 008QL 0.181 K0H 008Q 0.165 K0H 008QX (2) 0.243
 <p>K00 00000</p>		9 step + "0"		
			Front Multi-fixing By Ø 22 mm hole	K0I 009QL 0.201 K0I 009Q 0.185 K0I 009QX (2) 0.263
 <p>K00 50000</p>		10 step + "0"		
			Front Multi-fixing By Ø 22 mm hole	K0K 010QL 0.211 K0K 010Q 0.195 K0K 010QX (2) 0.273
 <p>K00 00000X</p>		11 step + "0"		
			Front Multi-fixing By Ø 22 mm hole	K0L 011QL 0.231 K0L 011Q 0.215 K0L 011QX (2) 0.293

(1) To order a cam switch with thermal current $I_{th} = 12$ A, replace the ● in the reference by 1.

Example **K1H 008Q**.

To order a cam switch with thermal current $I_{th} = 20$ A, replace the ● in the reference by 2.

Example **K2H 008Q**.


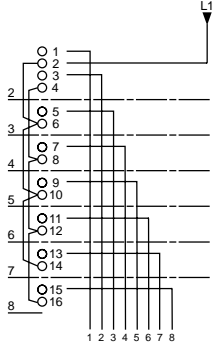


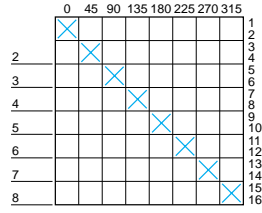





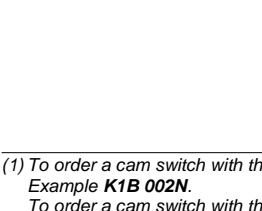




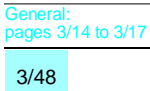
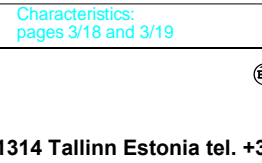


(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1000**.

3

Cam switches

Adaptable sub-assemblies, 12 and 20 A
Bodies (contact blocks + fixing plate)To combine with operating heads: see pages 3/66
and 3/67

Stepping switches (2 to 12 step), single-pole, without "0" position

Wiring diagram and switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg	
 K0000L 	2 step				
		Front	Multi-fixing By Ø 22 mm hole	K0B 002NL	0.101
				K0B 002N	0.085
		Rear		K0B 002NX (2)	0.163
				K0B 502N	0.125
	 K0000 	3 step			
		Front	Multi-fixing By Ø 22 mm hole	K0C 003NL	0.121
				K0C 003N	0.105
		Rear		K0C 003NX (2)	0.183
				K0C 503N	0.140
 K0000 		4 step			
		Front	Multi-fixing By Ø 22 mm hole	K0D 004NL	0.126
				K0D 004N	0.110
		Rear		K0D 004NX (2)	0.188
				K0D 504N	0.150
	 K0050 	5 step			
		Front	Multi-fixing By Ø 22 mm hole	K0E 005NL	0.146
				K0E 005N	0.130
		Rear		K0E 005NX (2)	0.208
				K0E 505N	0.165
 K0050 		6 step			
		Front	Multi-fixing By Ø 22 mm hole	K0F 006NL	0.156
				K0F 006N	0.140
		Rear		K0F 006NX (2)	0.218
				K0F 506N	0.175
	 K0070 	7 step			
		Front	Multi-fixing By Ø 22 mm hole	K0G 007NL	0.176
				K0G 007N	0.160
		Rear		K0G 007NX (2)	0.238
				K0G 507N	0.190
 K0080X 		8 step			
		Front	Multi-fixing By Ø 22 mm hole	K0H 008NL	0.181
				K0H 008N	0.165
		Rear		K0H 008NX (2)	0.243
				K0H 508N	0.195





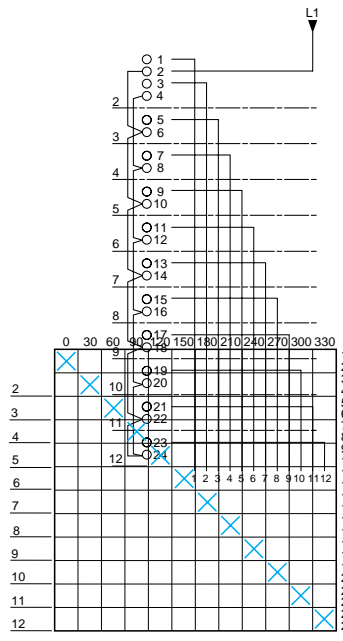
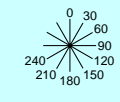
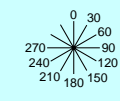
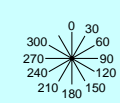
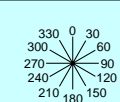
(1) To order a cam switch with thermal current $I_{th} = 12$ A, replace the ● in the reference by 1.Example **K1B 002N**.To order a cam switch with thermal current $I_{th} = 20$ A, replace the ● in the reference by 2.Example **K2B 002N**.(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1000**.

Cam switches

Adaptable sub-assemblies, 12 and 20 A
Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Stepping switches (2 to 12 step), single-pole, without "0" position (continued)

Wiring diagram and switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg	
 <p>K00 0000L</p>  <p>K00 0000</p>  <p>K00 5000</p>  <p>K00 0000X</p> 	9 step				
		Front	Multi-fixing By Ø 22 mm hole	K00 009NL K00 009N K00 009NX (2)	0.201 0.185 0.263
		Rear		K00 509N	0.215
	10 step				
		Front	Multi-fixing By Ø 22 mm hole	K00 010NL K00 010N K00 010NX (2)	0.211 0.195 0.273
		Rear		K00 510N	0.220
	11 step				
		Front	Multi-fixing By Ø 22 mm hole	K00 011NL K00 011N K00 011NX (2)	0.231 0.215 0.293
		Rear		K00 511N	0.240
	12 step				
		Front	Multi-fixing By Ø 22 mm hole	K00 021NL K00 021N K00 021NX (2)	0.241 0.225 0.303
		Rear		K00 521N	0.245

(1) To order a cam switch with thermal current $I_{th} = 12$ A, replace the ● in the reference by 1.

Example **K11 009N**.

To order a cam switch with thermal current $I_{th} = 20$ A, replace the ● in the reference by 2.

Example **K21 009N**.

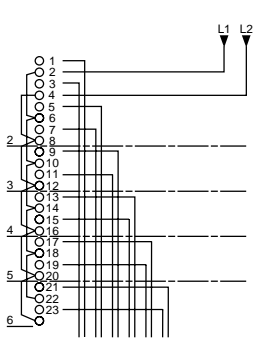

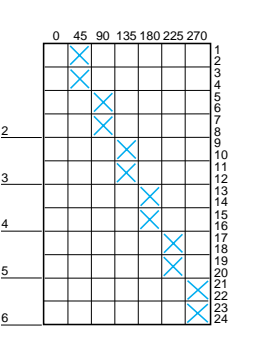

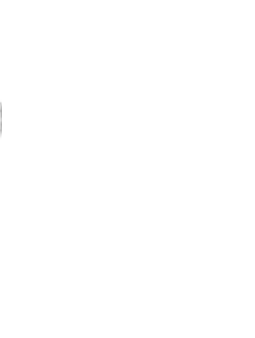

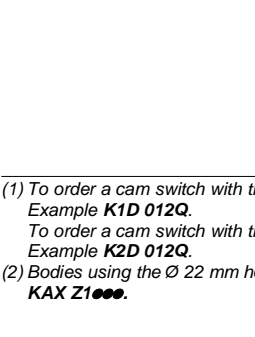

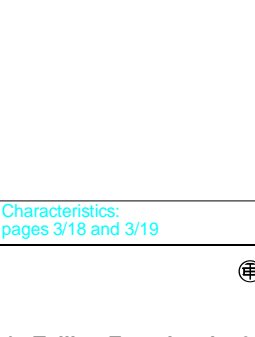

(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1000**.

3

Cam switches

Adaptable sub-assemblies, 12 and 20 A
Bodies (contact blocks + fixing plate)To combine with operating heads: see pages 3/66
and 3/67

Stepping switches (2 to 6 step), 2-pole, with "0" position

Wiring diagram and switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg	
	2 step + "0"				
		Front	Multi-fixing	K●D 012QL	0.126
			By Ø 22 mm hole	K●D 012Q	0.110
		Rear		K●D 012QX (2)	0.188
				K●D 512Q	0.150
		3 step + "0"			
		Front	Multi-fixing	K●F 013QL	0.156
			By Ø 22 mm hole	K●F 013Q	0.140
		Rear		K●F 013QX (2)	0.218
				K●F 513Q	0.175
		4 step + "0"			
		Front	Multi-fixing	K●H 014QL	0.181
			By Ø 22 mm hole	K●H 014Q	0.165
		Rear		K●H 014QX (2)	0.243
				K●H 514Q	0.195
		5 step + "0"			
		Front	Multi-fixing	K●K 015QL	0.211
			By Ø 22 mm hole	K●K 015Q	0.195
		Rear		K●K 015QX (2)	0.273
				K●K 515Q	0.220
		6 step + "0"			
		Front	Multi-fixing	K●M 016QL	0.241
			By Ø 22 mm hole	K●M 016Q	0.225
		Rear		K●M 016QX (2)	0.303
				K●M 516Q	0.245

(1) To order a cam switch with thermal current $I_{th} = 12$ A, replace the ● in the reference by 1.Example **K1D 012Q**.To order a cam switch with thermal current $I_{th} = 20$ A, replace the ● in the reference by 2.Example **K2D 012Q**.(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.

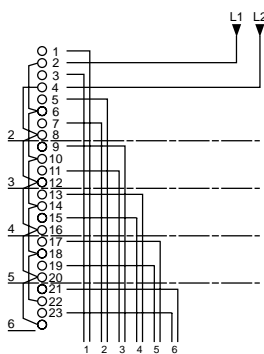
Cam switches

Adaptable sub-assemblies, 12 and 20 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

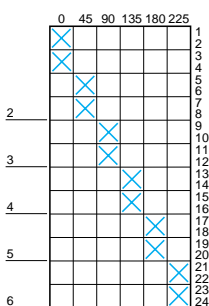
Stepping switches (2 to 6 step), 2-pole, without "0" position



2 step



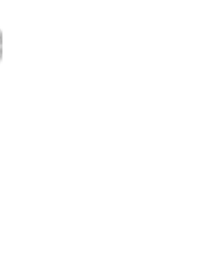
Switch position	Mounting method	Reference, to be completed (1)	Weight kg
Front	Multi-fixing	K0D 012NL	0.126
	By Ø 22 mm hole	K0D 012N	0.110
Rear		K0D 012NX (2)	0.188
		K0D 512N	0.150



3 step



Switch position	Mounting method	Reference, to be completed (1)	Weight kg
Front	Multi-fixing	K0F 013NL	0.156
	By Ø 22 mm hole	K0F 013N	0.140
Rear		K0F 013NX (2)	0.218
		K0F 513N	0.175



4 step



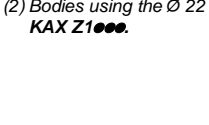
Switch position	Mounting method	Reference, to be completed (1)	Weight kg
Front	Multi-fixing	K0H 014NL	0.181
	By Ø 22 mm hole	K0H 014N	0.165
Rear		K0H 014NX (2)	0.243
		K0H 514N	0.195



5 step



Switch position	Mounting method	Reference, to be completed (1)	Weight kg
Front	Multi-fixing	K0K 015NL	0.211
	By Ø 22 mm hole	K0K 015N	0.195
Rear		K0K 015NX (2)	0.273
		K0K 515N	0.220



6 step



Switch position	Mounting method	Reference, to be completed (1)	Weight kg
Front	Multi-fixing	K0M 016NL	0.241
	By Ø 22 mm hole	K0M 016N	0.225
Rear		K0M 016NX (2)	0.303
		K0M 516N	0.245

(1) To order a cam switch with thermal current $I_{th} = 12$ A, replace the ● in the reference by 1.Example **K1D 012N**.To order a cam switch with thermal current $I_{th} = 20$ A, replace the ● in the reference by 2.Example **K2D 012N**.(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1000**.

Cam switches


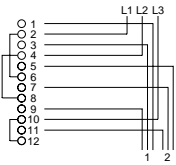
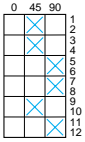


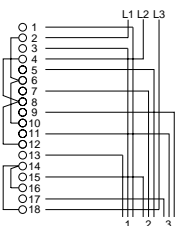
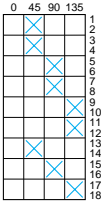


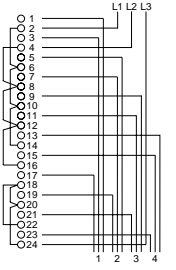
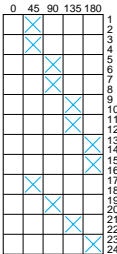


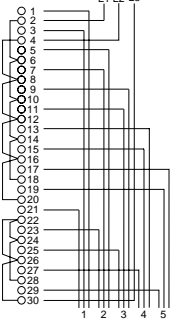
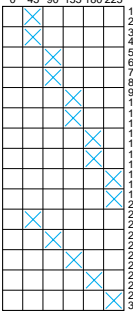


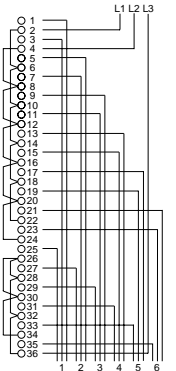
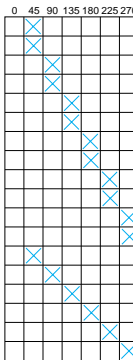

Adaptable sub-assemblies, 12 and 20 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

3

Stepping switches (2 to 6 step), 3-pole, with "0" position

	Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg	
 <p>K0F 022QL</p>			2 step + "0" 	Front	Multi-fixing	K0F 022QL	0.156
				By Ø 22 mm hole		K0F 022Q	0.140
						K0F 022QX	(2) 0.218
Rear		K0F 522Q	0.175				
 <p>K0I 023QL</p>			3 step + "0" 	Front	Multi-fixing	K0I 023QL	0.201
				By Ø 22 mm hole		K0I 023Q	0.185
						K0I 023QX	(2) 0.263
Rear		K0I 523Q	0.215				
 <p>K0M 024QL</p>			4 step + "0" 	Front	Multi-fixing	K0M 024QL	0.241
				By Ø 22 mm hole		K0M 024Q	0.225
						K0M 024QX	(2) 0.303
Rear		K0M 524Q	0.245				
 <p>K0P 025QL</p>			5 step + "0" 	Front	Multi-fixing	K0P 025QL	0.286
				By Ø 22 mm hole		K0P 025Q	0.270
						K0P 025QX	(2) 0.348
Rear		K0P 525Q	0.285				
 <p>K0S 026QL</p>			6 step + "0" 	Front	Multi-fixing	K0S 026QL	0.321
				By Ø 22 mm hole		K0S 026Q	0.305
						K0S 026QX	(2) 0.383
Rear		K0S 526Q	0.320				

(1) To order a cam switch with thermal current $I_{th} = 12 A$, replace the ● in the reference by 1.
 Example **K1F 022Q**.

To order a cam switch with thermal current $I_{th} = 20 A$, replace the ● in the reference by 2.
 Example **K2F 022Q**.


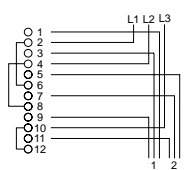
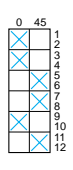


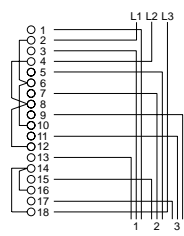
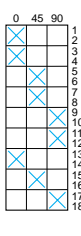


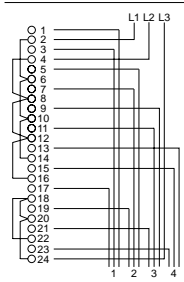
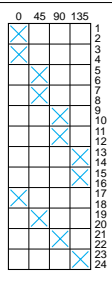


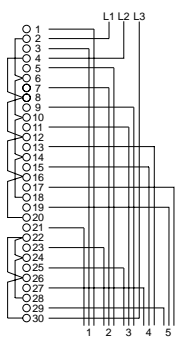
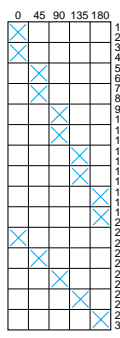


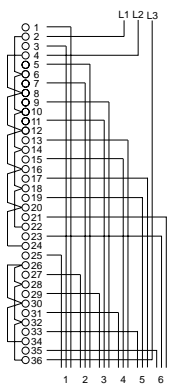
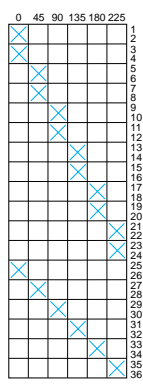

(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.

Cam switches

Adaptable sub-assemblies, 12 and 20 A
Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Stepping switches (2 to 6 step), 3-pole, without "0" position

	Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg
 K0F 022NL			2 step 	Front Multi-fixing	K0F 022NL	0.156
				By Ø 22 mm hole	K0F 022N	0.140
				Rear	K0F 022NX (2)	0.218
					K0F 522N	0.175
 K0I 023NL			3 step 	Front Multi-fixing	K0I 023NL	0.201
				By Ø 22 mm hole	K0I 023N	0.185
				Rear	K0I 023NX (2)	0.263
					K0I 523N	0.215
 K0M 024NL			4 step 	Front Multi-fixing	K0M 024NL	0.241
				By Ø 22 mm hole	K0M 024N	0.225
				Rear	K0M 024NX (2)	0.303
					K0M 524N	0.245
 K0P 025NL			5 step 	Front Multi-fixing	K0P 025NL	0.286
				By Ø 22 mm hole	K0P 025N	0.270
				Rear	K0P 025NX (2)	0.348
					K0P 525N	0.285
 K0S 026NL			6 step 	Front Multi-fixing	K0S 026NL	0.321
				By Ø 22 mm hole	K0S 026N	0.305
				Rear	K0S 026NX (2)	0.383
					K0S 526N	0.320

(1) To order a cam switch with thermal current $I_{th} = 12$ A, replace the ● in the reference by 1.
Example **K1F 022N**.

To order a cam switch with thermal current $I_{th} = 20$ A, replace the ● in the reference by 2.
Example **K2F 022N**.

(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1000**.


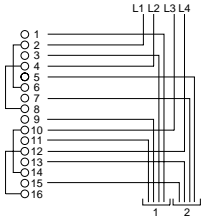
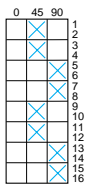


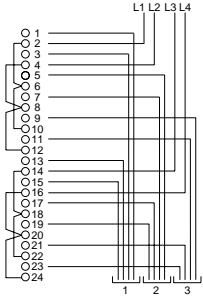
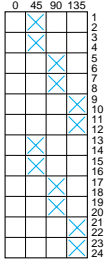


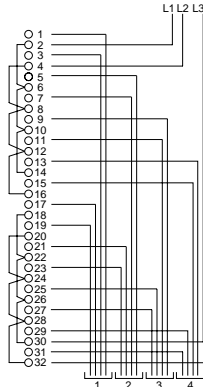
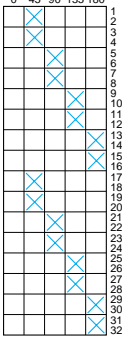


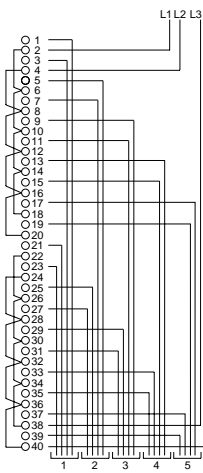
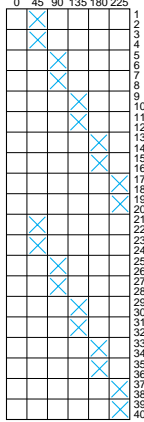

Cam switches

Adaptable sub-assemblies, 12 and 20 A
Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

3

Stepping switches (2 to 5 step), 4-pole, with "0" position

	Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg	
 K0H 032QL			2 step + "0" 	Front	Multi-fixing	K0H 032QL	0.181
					By Ø 22 mm hole	K0H 032Q	0.165
				Rear		K0H 032QX (2)	0.200
				Rear		K0H 532Q	0.195
 K0M 033QL			3 step + "0" 	Front	Multi-fixing	K0M 033QL	0.241
					By Ø 22 mm hole	K0M 033Q	0.225
				Rear		K0M 533Q	0.245
 K0Q 034QL			4 step + "0" 	Front	Multi-fixing	K0Q 034QL	0.296
					By Ø 22 mm hole	K0Q 034Q	0.280
				Rear		K0Q 534Q	0.295
 K0U 035QL			5 step + "0" 	Front	Multi-fixing	K0U 035QL	0.351
					By Ø 22 mm hole	K0U 035Q	0.335
				Rear		K0U 535Q	0.345

(1) To order a cam switch with thermal current $I_{th} = 12 A$, replace the ● in the reference by 1.

Example **K1H 032Q**.

To order a cam switch with thermal current $I_{th} = 20 A$, replace the ● in the reference by 2.

Example **K2H 032Q**.


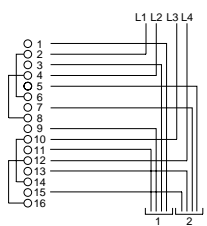
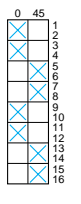


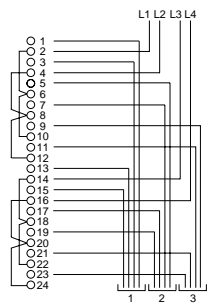
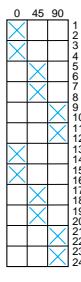


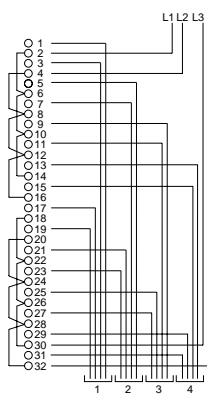
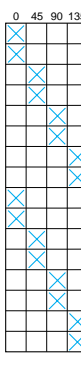


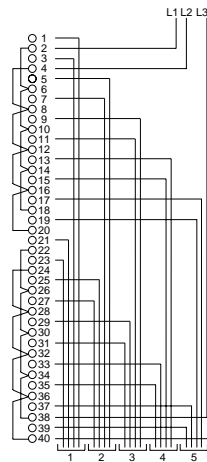
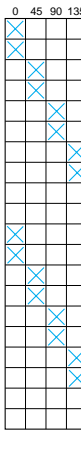

(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1000**.

Cam switches

Adaptable sub-assemblies, 12 and 20 A
Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Stepping switches (2 to 5 step), 4-pole, without "0" position

	Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg	
 K00 0000L			2 step 	Front	Multi-fixing	K0H 032NL	0.181
					By Ø 22 mm hole	K0H 032N	0.165
				Rear		K0H 032NX (2)	0.200
				Rear		K0H 532N	0.195
 K00 0000			3 step 	Front	Multi-fixing	K0M 033NL	0.241
					By Ø 22 mm hole	K0M 033N	0.225
				Rear		K0M 533N	0.245
 K00 5000			4 step 	Front	Multi-fixing	K0Q 034NL	0.296
					By Ø 22 mm hole	K0Q 034N	0.280
				Rear		K0Q 534N	0.295
 K00 0000X			5 step 	Front	Multi-fixing	K0U 035NL	0.351
					By Ø 22 mm hole	K0U 035N	0.335
				Rear		K0U 535N	0.345

(1) To order a cam switch with thermal current $I_{th} = 12$ A, replace the ● in the reference by 1.

Example **K1H 032N**.

To order a cam switch with thermal current $I_{th} = 20$ A, replace the ● in the reference by 2.

Example **K2H 032N**.

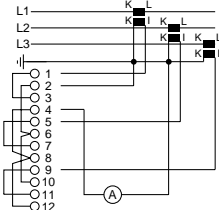
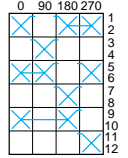
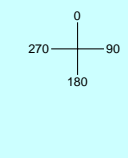
(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1000**.

3

Cam switches

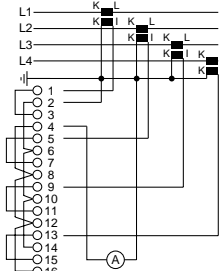
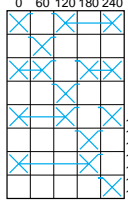
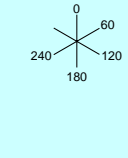
Adaptable sub-assemblies, 12 and 20 A
Bodies (contact blocks + fixing plate)To combine with operating heads: see pages 3/66
and 3/67

Ammeter switches with "0" position

Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg
For 3 circuits					
			Front	Multi-fixing	K●F 003ML 0.156
			By Ø 22 mm hole	K●F 003M 0.140	
				K●F 003MX (2) 0.218	
Rear		K●F 503M 0.175			

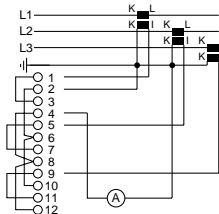
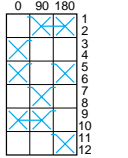
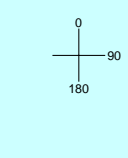


For 4 circuits

			Front	Multi-fixing	K●H 004ML 0.181
			By Ø 22 mm hole	K●H 004M 0.165	
				K●H 004MX (2) 0.243	
Rear		K●H 504M 0.195			

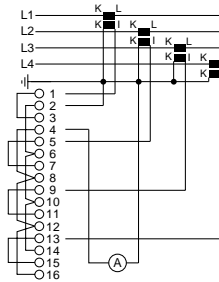
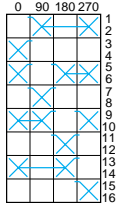
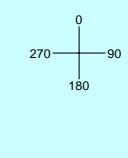


Ammeter switches without "0" position

Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg
For 3 circuits					
			Front	Multi-fixing	K●F 013ML 0.156
			By Ø 22 mm hole	K●F 013M 0.140	
				K●F 013MX (2) 0.218	
Rear		K●F 513M 0.175			



For 4 circuits

			Front	Multi-fixing	K●H 014ML 0.181
			By Ø 22 mm hole	K●H 014M 0.165	
				K●H 014MX (2) 0.243	
Rear		K●H 514M 0.195			

(1) To order a cam switch with thermal current $I_{th} = 12$ A, replace the ● in the reference by 1.Example **K1F 003M**.To order a cam switch with thermal current $I_{th} = 20$ A, replace the ● in the reference by 2.Example **K2F 003M**.(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.

Cam switches

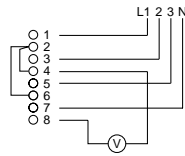
Adaptable sub-assemblies, 12 and 20 A
Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

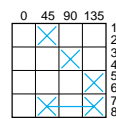
Voltmeter switches

Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg
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For measurements between 3 phases and neutral

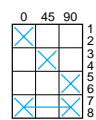


With "0" position



Front	Multi-fixing	K0D 023ML	0.126
	By Ø 22 mm hole	K0D 023M	0.110
Rear		K0D 023MX (2)	0.188
		K0D 523M	0.150

Without "0" position

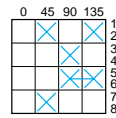
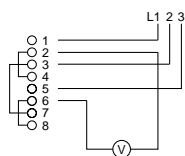


Front	Multi-fixing	K0D 033ML	0.126
	By Ø 22 mm hole	K0D 033M	0.110
Rear		K0D 533M	0.150



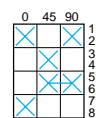
For measurements between 3 phases

With "0" position



Front	Multi-fixing	K0D 024ML	0.126
	By Ø 22 mm hole	K0D 024M	0.110
Rear		K0D 024MX (2)	0.188
		K0D 524M	0.150

Without "0" position

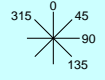
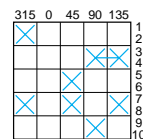
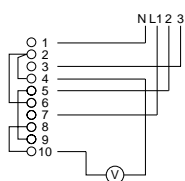


Front	Multi-fixing	K0D 034ML	0.126
	By Ø 22 mm hole	K0D 034M	0.110
Rear		K0D 534M	0.150



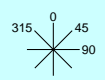
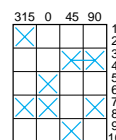
For measurements between 3 phases and between 1 phase and neutral

With "0" position



Front	Multi-fixing	K0E 025ML	0.146
	By Ø 22 mm hole	K0E 025M	0.130
Rear		K0E 025MX (2)	0.208
		K0E 525M	0.165

Without "0" position



Front	Multi-fixing	K0E 035ML	0.146
	By Ø 22 mm hole	K0E 035M	0.130
		K0E 535M	0.165



(1) To order a cam switch with thermal current $I_{th} = 12$ A, replace the ● in the reference by 1.

Example **K1D 023M**.

To order a cam switch with thermal current $I_{th} = 20$ A, replace the ● in the reference by 2.

Example **K2D 023M**.

(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1000**.

Cam switches

Adaptable sub-assemblies, 12 and 20 A
Bodies (contact blocks + fixing plate)

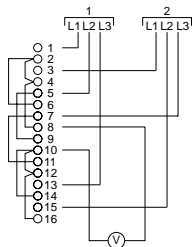
To combine with operating heads: see pages 3/66 and 3/67

3

Voltmeter switches (continued)

Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg
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For measurements between 3 phases of 2 supplies



With "0" position

225	270	315	0	45	90	135
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16					



Front	Multi-fixing	K0H 026ML	0.181
	By Ø 22 mm hole	K0H 026M	0.165

Rear		K0H 526M	0.195
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Without "0" position

210	270	330	30	90	150
1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16		



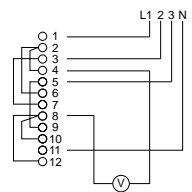
Front	Multi-fixing	K0H 036ML	0.181
	By Ø 22 mm hole	K0H 036M	0.165

Rear		K0H 536M	0.195
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For measurements between 3 phases and between each of the 3 phases and neutral

With "0" position



225	270	315	0	45	90	135
1	2	3	4	5	6	7
8	9	10	11	12		



Front	Multi-fixing	K0F 027ML	0.156
	By Ø 22 mm hole	K0F 027M	0.140

Rear		K0F 527M (2)	0.175
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Without "0" position

210	270	330	30	90	150
1	2	3	4	5	6
7	8	9	10	11	12



Front	Multi-fixing	K0F 037ML	0.156
	By Ø 22 mm hole	K0F 037M	0.140

Rear		K0F 537M	0.175
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(1) To order a cam switch with thermal current $I_{th} = 12$ A, replace the ● in the reference by 1.

Example **K1H 026M**.

To order a cam switch with thermal current $I_{th} = 20$ A, replace the ● in the reference by 2.

Example **K2H 026M**.


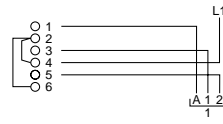
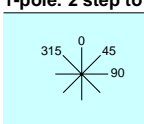

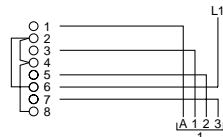
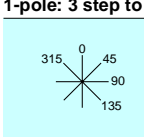

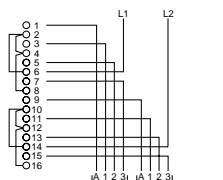
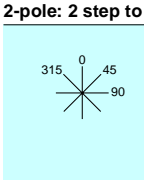
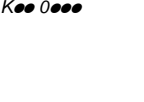
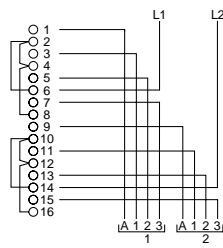
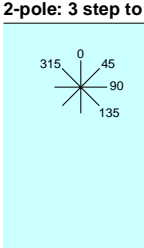

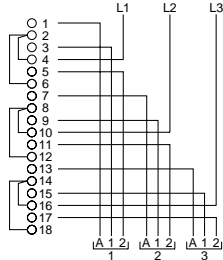
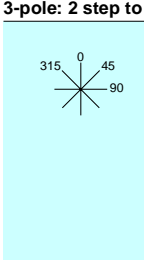

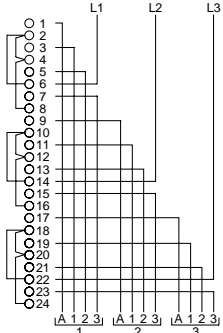
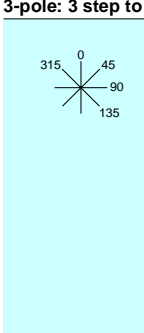
(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1000**.

Cam switches

Adaptable sub-assemblies, 12 and 20 A
Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Stepping switches (2 and 3 step), with "0" position + left-hand position

Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg
			1-pole: 2 step to right + 1 step to left		
			Front	Multi-fixing	K0C 002LL
			By Ø 22 mm hole	K0C 002L	0.105
			Rear	K0C 002LX (2)	0.183
				K0C 502L	0.140
			1-pole: 3 step to right + 1 step to left		
			Front	Multi-fixing	K0D 003LL
			By Ø 22 mm hole	K0D 003L	0.110
			Rear	K0D 003LX (2)	0.188
				K0D 503L	0.150
			2-pole: 2 step to right + 1 step to left		
			Front	Multi-fixing	K0F 012LL
			By Ø 22 mm hole	K0F 012L	0.140
			Rear	K0F 012LX (2)	0.218
				K0F 512L	0.175
			2-pole: 3 step to right + 1 step to left		
			Front	Multi-fixing	K0H 013LL
			By Ø 22 mm hole	K0H 013L	0.165
			Rear	K0H 013LX (2)	0.243
				K0H 513L	0.195
			3-pole: 2 step to right + 1 step to left		
			Front	Multi-fixing	K0I 022LL
			By Ø 22 mm hole	K0I 022L	0.185
			Rear	K0I 522L	0.210
			3-pole: 3 step to right + 1 step to left		
			Front	Multi-fixing	K0M 023LL
			By Ø 22 mm hole	K0M 023L	0.225
			Rear	K0M 523L	0.245

(1) To order a cam switch with thermal current $I_{th} = 12$ A, replace the ● in the reference by 1.
Example **K1C 002L**.

To order a cam switch with thermal current $I_{th} = 20$ A, replace the ● in the reference by 2.
Example **K2C 002L**.

(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.

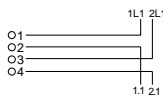
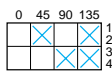

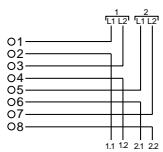
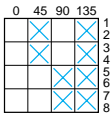

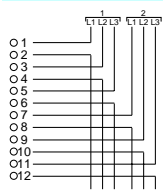
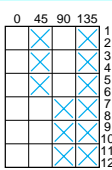

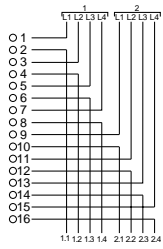
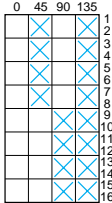

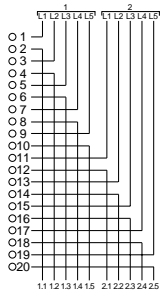
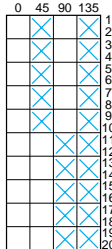

Cam switches

Adaptable sub-assemblies, 12 and 20 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Multi-circuit switches

Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg
1-pole					
			Front	Multi-fixing	K●B 001SL 0.101
			By Ø 22 mm hole	K●B 001S	0.085
				K●B 001SX (2)	0.163
			Rear	K●B 501S	0.125
2-pole					
			Front	Multi-fixing	K●D 002SL 0.126
			By Ø 22 mm hole	K●D 002S	0.110
				K●D 002SX (2)	0.188
			Rear	K●D 502S	0.150
3-pole					
			Front	Multi-fixing	K●F 003SL 0.156
			By Ø 22 mm hole	K●F 003S	0.140
				K●F 003SX (2)	0.218
			Rear	K●F 503S	0.175
4-pole					
			Front	Multi-fixing	K●H 004SL 0.181
			By Ø 22 mm hole	K●H 004S	0.165
			Rear	K●H 504S	0.195
5-pole					
			Front	Multi-fixing	K●K 005SL 0.211
			By Ø 22 mm hole	K●K 005S	0.195
			Rear	K●K 505S	0.220



K●● 0●●●L

3



K●● 0●●●



K●● 5●●●



K●● 0●●●X

(1) To order a cam switch with thermal current $I_{th} = 12$ A, replace the ● in the reference by 1.
Example **K1F 003S**.To order a cam switch with thermal current $I_{th} = 20$ A, replace the ● in the reference by 2.
Example **K2F 003S**.(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.

Cam switches

Adaptable sub-assemblies, 12 and 20 A

Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Reversing switches with "0" position

Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg	
2-pole						
			Front	Multi-fixing	K●D 002WL	0.126
				By Ø 22 mm hole	K●D 002W	0.110
					K●D 002WX (2)	0.188
			Rear		K●D 502W	0.150



K●● 0●●●L

3-pole

3-pole						
			Front	Multi-fixing	K●E 003WL	0.146
				By Ø 22 mm hole	K●E 003W	0.130
					K●E 003WX (2)	0.208
			Rear		K●E 503W	0.165



K●● 0●●●

Reversing switches with spring return from 330° and from 30° to "0" position

Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg
----------------	---------------------	-----------------	-----------------	--------------------------------	-----------

2-pole						
			Front	Multi-fixing	K●D 022WL	0.126
				By Ø 22 mm hole	K●D 022W	0.110
					K●D 022WX (2)	0.188
			Rear		K●D 522W	0.150



K●● 5●●●

3-pole

3-pole						
			Front	Multi-fixing	K●E 023WL	0.146
				By Ø 22 mm hole	K●E 023W	0.130
					K●E 023WX (2)	0.208
			Rear		K●E 523W	0.165



K●● 0●●●X

(1) To order a cam switch with thermal current $I_{th} = 12$ A, replace the ● in the reference by 1.
Example **K1D 002W**.To order a cam switch with thermal current $I_{th} = 20$ A, replace the ● in the reference by 2.
Example **K2D 002W**.(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.

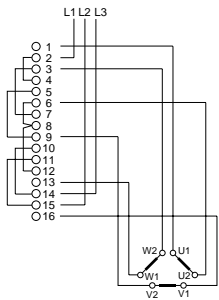
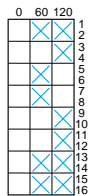

Cam switches

Adaptable sub-assemblies, 12 A

Bodies (contact blocks + fixing plate)

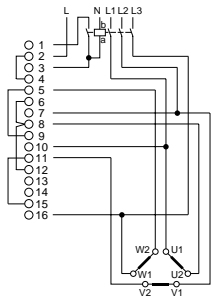
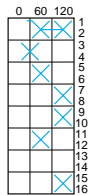

To combine with operating heads: see pages 3/66 and 3/67

Star-delta switches

Wiring diagram	Switching programme	Switch position	Mounting method	Reference (1)	Weight kg
			Front Multi-fixing	K2H 001YL	0.181
			By Ø 22 mm hole	K2H 001Y	0.165
				K2H 001YX (2)	0.243
			Rear	K2H 501Y	0.195

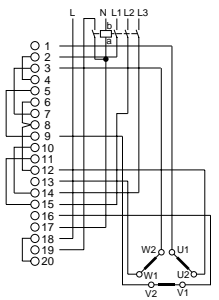
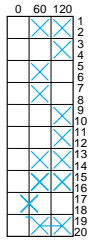

K2H 000L

With slave contact, without supply disconnection

			Front Multi-fixing	K2G 003YL	0.176
			By Ø 22 mm hole	K2G 003Y	0.160
				K2G 003YX (2)	0.238
			Rear	K2G 503Y	0.190

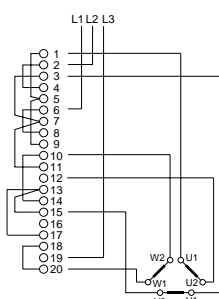
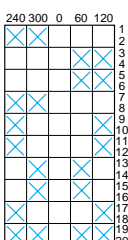

K2G 003Y

With slave contact, with supply disconnection

			Front Multi-fixing	K2K 004YL	0.211
			By Ø 22 mm hole	K2K 004Y	0.195
				K2K 004YX (2)	0.273
			Rear	K2K 504Y	0.220

K2K 004Y

Reversing star-delta switches

Wiring diagram	Switching programme	Switch position	Mounting method	Reference (1)	Weight kg
Without slave contact					
			Front Multi-fixing	K2K 006YL	0.211
			By Ø 22 mm hole	K2K 006Y	0.195
			Rear	K2K 506Y	0.220

K2K 006Y

(1) I_{th} = 20 A.(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1000**.

Cam switches

Adaptable sub-assemblies, 12 and 20 A
Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Reversing star-delta switches (continued)



K●● 0●●●L

Wiring diagram	Switching programme	Switch position	Mounting method	Reference (2)	Weight kg	
With slave contact						
			Front	Multi-fixing	K2M 007YL	0.241
				By Ø 22 mm hole	K2M 007Y	0.225
			Rear		K2M 507Y	0.245

Pole change switches for 2-speed motors



K●● 0●●●

Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg	
For motors with 2 separate windings						
			Front	Multi-fixing	K●F 001PL	0.156
				By Ø 22 mm hole	K●F 001P	0.140
					K●F 001PX (3)	0.218
		Rear		K●F 501P	0.175	

For motors with 2 separate windings, with centre "0" position



K●● 5●●●

Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg	
For motors with 2 separate windings, with centre "0" position						
			Front	Multi-fixing	K●F 002PL	0.156
				By Ø 22 mm hole	K●F 002P	0.140
					K●F 002PX (3)	0.218
		Rear		K●F 502P	0.175	

For motors with tapped "Dahlander" windings



K●● 0●●●X

Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg	
For motors with tapped "Dahlander" windings						
			Front	Multi-fixing	K●H 004PL	0.181
				By Ø 22 mm hole	K●H 004P	0.165
					K●H 004PX (3)	0.243
		Rear		K●H 504P	0.195	

(1) To order a cam switch with thermal current $I_{th} = 12$ A, replace the ● in the reference by 1.

Example **K1F 001P**.

To order a cam switch with thermal current $I_{th} = 20$ A, replace the ● in the reference by 2.

Example **K2F 001P**.

(2) $I_{th} = 20$ A.

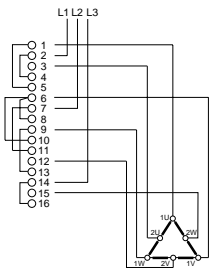
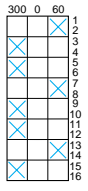
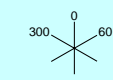
(3) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1●●●**.

Cam switches

Adaptable sub-assemblies, 12 and 20 A
Bodies (contact blocks + fixing plate)

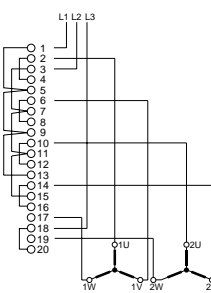
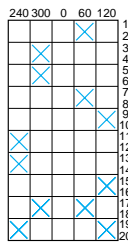
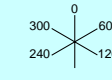
To combine with operating heads: see pages 3/66 and 3/67

Pole change switches for 2-speed motors (continued)

Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg	
For motors with tapped "Dahlander" windings, with centre "0" position						
			Front	Multi-fixing	KoH 005PL	0.181
				By Ø 22 mm hole	KoH 005P	0.165
					KoH 005PX (2)	0.243
			Rear		KoH 505P	0.195

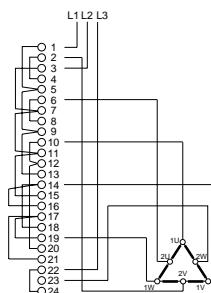
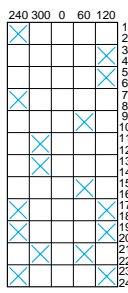
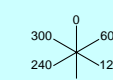


Reversing pole change switches for 2-speed motors

Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg	
For motors with 2 separate windings, with centre "0" position						
			Front	Multi-fixing	KoK 008PL	0.211
				By Ø 22 mm hole	KoK 008P	0.195
			Rear		KoK 508P	0.220



For motors with tapped "Dahlander" windings, with centre "0" position

			Front	Multi-fixing	KoM 009PL	0.241
				By Ø 22 mm hole	KoM 009P	0.225
			Rear		KoM 509P	0.245



(1) To order a cam switch with thermal current $I_{th} = 12$ A, replace the ● in the reference by 1.

Example **K1H 005P**.

To order a cam switch with thermal current $I_{th} = 20$ A, replace the ● in the reference by 2.

Example **K2H 005P**.

(2) Bodies using the Ø 22 mm hole mounting method that can be fitted with chromium plated metal bezel operating heads, type **KAX Z1000**.

Cam switches

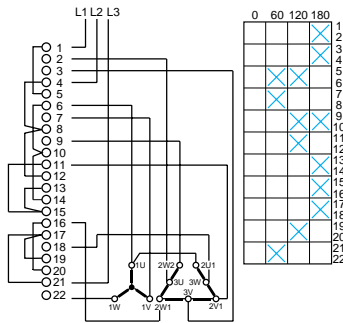
Adaptable sub-assemblies, 12 and 20 A
Bodies (contact blocks + fixing plate)

To combine with operating heads: see pages 3/66 and 3/67

Pole change switches for 3-speed motors

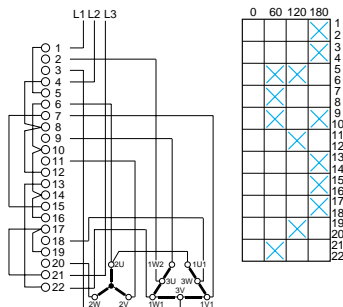
Wiring diagram	Switching programme	Switch position	Mounting method	Reference, to be completed (1)	Weight kg
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For motors with open tapped "Dahlander" winding and separate winding for low speed



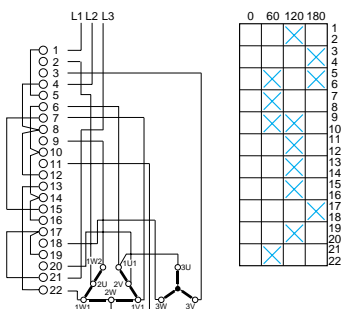
Front	Multi-fixing	K0L 010PL	0.231
	By Ø 22 mm hole	K0L 010P	0.215
Rear		K0L 510P	0.240

For motors with open tapped "Dahlander" winding and separate winding for intermediate speed



Front	Multi-fixing	K0L 011PL	0.231
	By Ø 22 mm hole	K0L 011P	0.215
Rear		K0L 511P	0.240

For motors with open tapped "Dahlander" winding and separate winding for high speed



Front	Multi-fixing	K0L 012PL	0.231
	By Ø 22 mm hole	K0L 012P	0.215
Rear		K0L 512P	0.240



(1) To order a cam switch with thermal current $I_{th} = 12$ A, replace the ● in the reference by 1.
Example **K1L 010P**.
To order a cam switch with thermal current $I_{th} = 20$ A, replace the ● in the reference by 2.
Example **K2L 010P**.

Cam switches

Adaptable sub-assemblies, 12 and 20 A
Operating heads

To combine with bodies: see pages 3/34 to 3/65



KBG 3H



KCG 3Y



KAC 1H



KCC 1Y



KBC 1







KBD 1H

Heads for "multi-fixing" front mounting bodies

Description	Switching angle and marking	Type of operator	Background colour of legend	Padlocking device	Reference	Weight kg
With 45 x 45 mm front plate and handle						
With blank legend (for engraving by user)	-	Black handle L = 35 mm	Matt black	Without	KAG 3H	0.012
			Metallic	Without	KBG 3H	0.012
With marked legend	90°	 Red handle L = 35 mm	Yellow	Without	KCG 3H	0.012
				With	KCG 3Y	0.024
Without legend (1)	-	Black handle L = 35 mm	-	Without	KDG 3H	0.010
		Red handle L = 35 mm	-	With	KDG 3Y	0.022


Heads for Ø 22 mm hole, front mounting bodies

Description	Switching angle and marking	Type of operator	Background colour of legend	Padlocking device	Reference	Weight kg
With 45 x 45 mm front plate and handle						
With blank legend (for engraving by user)	-	Black handle L = 35 mm	Matt black	Without	KAC 1H	0.048
			Metallic	Without	KBC 1H	0.048
With marked legend	45°	 Black handle L = 35 mm	Matt black	Without	KAC 1H41	0.012
			Metallic	Without	KBC 1H41	0.012
	45°	 Black handle L = 35 mm	Matt black	Without	KAC 1H48	0.012
			Metallic	Without	KBC 1H48	0.012
60°	 Black handle L = 35 mm	Matt black	Without	KAC 1H61	0.048	
		Metallic	Without	KBC 1H61	0.048	
90°	 Red handle L = 35 mm		Yellow	Without	KCC 1LH	0.048
				With	KCC 1Y	0.060
Without legend (1)	-	Black handle L = 35 mm	-	Without	KDC 1H	0.046
		Red handle L = 35 mm	-	Without	KDC 1LH	0.046

With 45 x 45 mm front plate and key operator (2)

With blank legend (for engraving by user)	45° and 90°	Key (2)	Matt black	Without	KAC 1S	0.063
			Metallic	Without	KBC 1S	0.063
	60°	Key (2)	Matt black	Without	KAC 1Z	0.063
Metallic			Without	KBC 1Z	0.063	
Without legend (1)	45° and 90°	Key (2)	-	Without	KDC 1S	0.061
			60°	Key (2)	-	Without

With 60 x 60 mm front plate and handle

With blank legend (for engraving by user)	-	Black handle L = 42 mm	Matt black	Without	KAD 1H	0.053
			Metallic	Without	KBD 1H	0.053
With marked legend	90°	 Red handle L = 42 mm	Yellow	Without	KCD 1MH	0.053
Without legend (1)	-	Black handle L = 42 mm	-	Without	KDD 1H	0.053

(1) For separate marked legend ordering information, see pages 3/68 to 3/71.

(2) Head supplied with "Ronis" 8R1 key. To order a head with a "Ronis" 455 key, add the suffix **R** to the references listed above.

Example: reference for Ø 22 mm hole, front mounting 45 x 45 mm operating head with 45° switching angle and matt black legend, becomes **KAC 1SR**. For a head with "Ronis" 8R15 key, use the suffix **R1**.

Cam switches

Adaptable sub-assemblies, 12 and 20 A
Operating heads

To combine with bodies: see pages 3/34 to 3/65



KBD 1●



KBA 1H



KBA 1●



KAX Z1C12



KBE 1H

Heads for Ø 22 mm hole, front mounting bodies (continued)

Description	Switching angle and marking	Type of operator	Background colour of legend	Padlocking device	Reference	Weight kg
With 60 x 60 mm front plate and key operator (1)						
With blank legend (to be engraved by user)	45° and 90°	Key (1)	Matt black	Without	KAD 1S	0.068
			Metallic	Without	KBD 1S	0.068
	60°	Key (1)	Matt black	Without	KAD 1Z	0.068
			Metallic	Without	KBD 1Z	0.068
Without legend (2)	45° and 90°	Key (1)	–	Without	KDD 1S	0.066
	60°	Key (1)	–	Without	KDD 1Z	0.066

With Ø 29 mm, metallic finish, plastic bezel and handle or key operator (1)

Description	Switching angle and marking	Type of operator	Colour of bezel	Padlocking device	Reference	Weight kg
Circular heads	–	Black handle L = 35 mm	Matt black	Without	KAA 1H	0.042
			Metallic	Without	KBA 1H	0.042
	45°	Key (1)	Matt black	Without	KAA 1S	0.057
			Metallic	Without	KBA 1S	0.057
	60°	Key (1)	Matt black	Without	KAA 1Z	0.057
			Metallic	Without	KBA 1Z	0.057



With Ø 38 mm, black, plastic bezel and handle

Circular head	–	Black handle L = 35 mm	Matt black	Without	KAA 2H	0.048
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With Ø 28.5 mm chromium plated, metal bezel (3) (2) and standard, handle, long handle or key operator (4)

Circular heads	–	Standard black handle	Metal	Without	KAX Z1M12	0.040
		Standard red handle	Metal	Without	KAX Z1M14	0.040
		Long black handle	Metal	Without	KAX Z1C12	0.040
		Long red handle	Metal	Without	KAX Z1C14	0.040
	30°	Key	Metal	Without	KAX Z1S13● (4)	0.065
	45°	Key	Metal	Without	KAX Z1S14● (4)	0.065
	60°	Key	Metal	Without	KAX Z1S16● (4)	0.065
	90°	Key	Metal	Without	KAX Z1S19● (4)	0.065

Operating heads for 4 hole, rear mounting bodies

Description	Switching angle and marking	Type of operator	Background colour of legend	Padlocking device	Reference	Weight kg
With 45 x 45 mm front plate and handle						
With blank legend (to be engraved by user)	–	Black handle L = 35 mm	Matt black	Without	KAE 1H	0.029
			Metallic	Without	KBE 1H	0.029
With marked legend	90°	 Red handle L = 35 mm	Yellow	Without	KCE 1LH	0.029
				With	KCE 1Y	0.060
Without legend (2)	–	Black handle L = 35 mm	–	Without	KDE 1H	0.027
		Red handle L = 35 mm	–	Without	KDE 1LH	0.027
With 60 x 60 mm front plate and handle						
With blank legend (to be engraved by user)	–	Black handle L = 42 mm	Matt black	Without	KAF 1H	0.068
			Metallic	Without	KBF 1H	0.068
With marked legend	90°	 Red handle L = 42 mm	Yellow	Without	KCF 1MH	0.068
Without legend (2)	–	Black handle L = 42 mm	–	Without	KDF 1H	0.066

(1) Head supplied with "Ronis" 8R1 key. To order a head with a "Ronis" 455 key, add the suffix **R** to the references listed above.
Example: reference for operating head with 60 x 60 mm front plate, key operator, blank legend, 45° switching angle and matt black background, becomes **KAD 1SR**. For a head with "Ronis" 8R15 key, use the suffix **R1**.

(2) For separate marked legend ordering information, see pages 3/68 to 3/71.

(3) Heads **only** for use with bodies **K●●●●●X**, incorporating adaptor plate **KZ 127**. See pages 3/34 to 3/65.

(4) To order:

- a head with key n° 455, replace the ● in the reference by 1. Example: **KAX Z1S131**,

- a head with key n° 421, replace the ● in the reference by 2. Example: **KAX Z1S132**,

- a head with key n° 520, replace the ● in the reference by 3. Example: **KAX Z1S133**,

- a head with a special key, replace the ● in the reference by 9. Example: **KAX Z1S139** (state the key number on the order).

Key withdrawal from all positions.

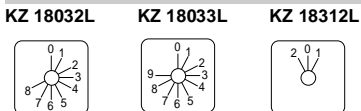
Cam switches

Adaptable sub-assemblies, 12 and 20 A
Legends for **MULTI-FIXING** heads

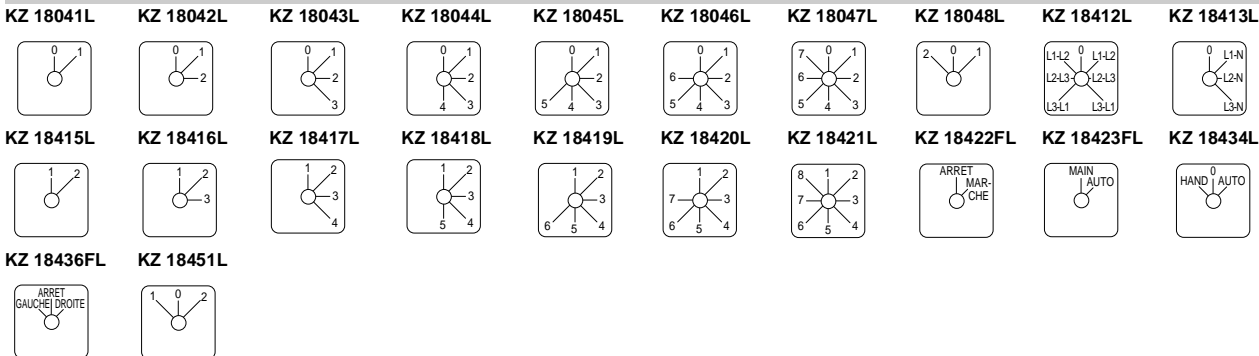
45 x 45 mm legends - marked (1)

White text on black background

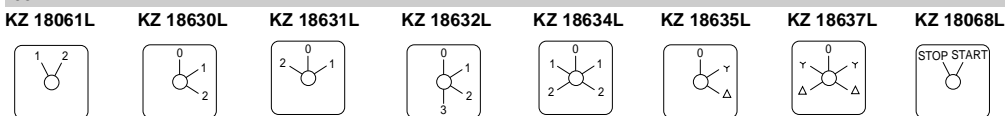
30°



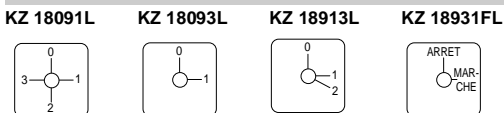
45°



60°

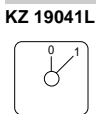


90°



Black text on yellow background

45°



90°



45 x 45 mm legends - unmarked

Colour	Sold in lots of	Unit reference	Weight kg
Black	20	KZ 17L	0.003
Metallic	20	KZ 18L	0.003
Yellow	10	KZ 19L	0.003

(1) Weight = 0.003 kg.

3

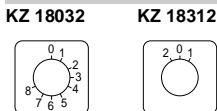
Cam switches

Adaptable sub-assemblies, 12 and 20 A
Legends for $\varnothing 22$ mm HOLE mounting heads with plastic bezel

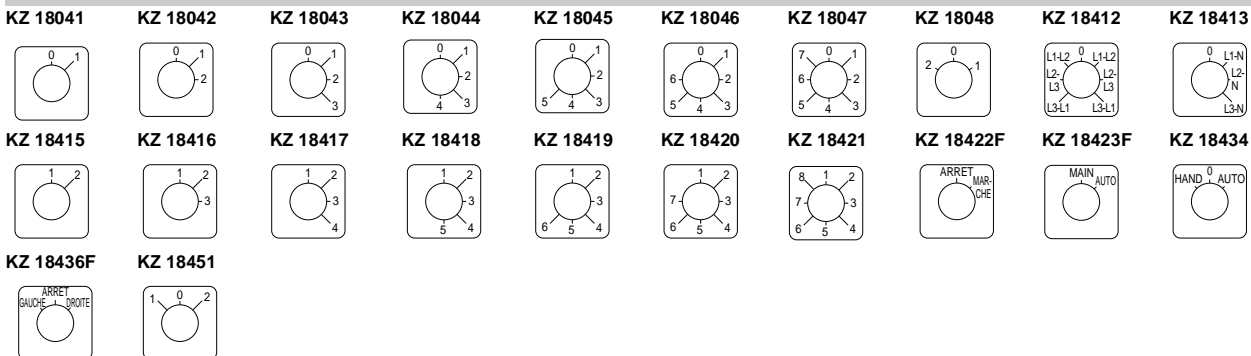
45 x 45 mm legends - marked (1)

Black text on metallic background

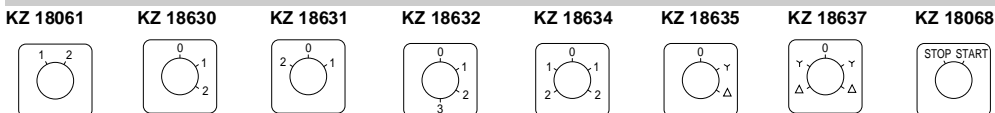
30°



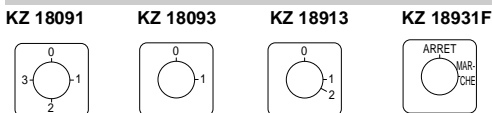
45°



60°

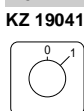


90°

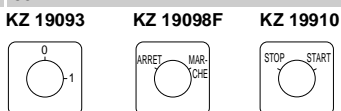


Black text on yellow background

45°



90°



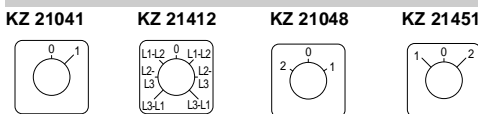
45 x 45 mm legends - unmarked

Colour	Sold in lots of	Unit reference	Weight kg
Black	20	KZ 17	0.003
Metallic	20	KZ 18	0.003
Yellow	10	KZ 19	0.003

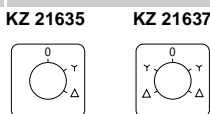
60 x 60 mm legends - marked (2)

Black text on metallic background

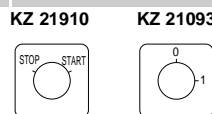
45°



60°



90°



60 x 60 mm legends - unmarked

Colour	Sold in lots of	Unit reference	Weight kg
Black	20	KZ 20	0.005
Metallic	20	KZ 21	0.005
Yellow	10	KZ 22	0.005

(1) Weight = 0.003 kg.
(2) Weight = 0.005 kg.

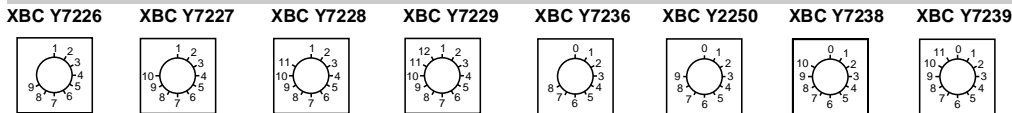
Cam switches

Adaptable sub-assemblies, 12 and 20 A
Legends for $\varnothing 22$ mm HOLE mounting heads
with chromium plated metal bezel, type KAX Z1●●●

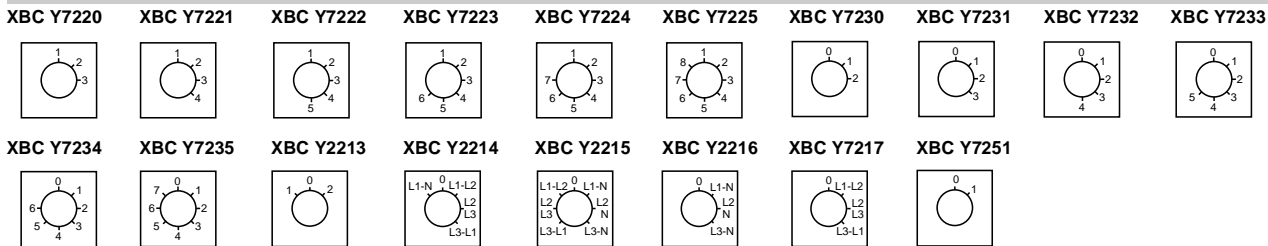
46 x 46 mm - marked (PVC) (1)

White text on black background

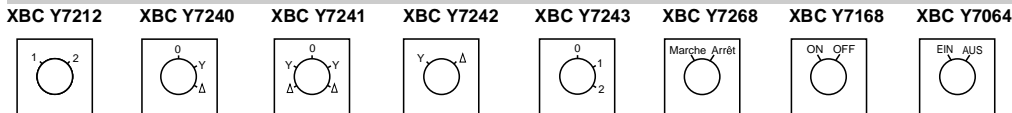
30°



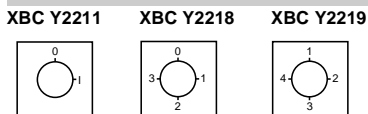
45°



60°



90°



46 x 46 mm legends - unmarked (PVC)

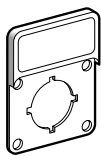
Colour	Sold in lots of	Unit reference	Weight kg
Black/red	10	KZ 17X	0.004
White/yellow	10	KZ 19X	0.004

(1) Weight = 0.004 kg.

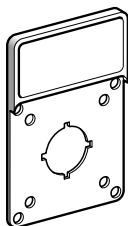
3

Cam switches

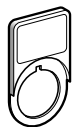
Adaptable sub-assemblies, 12 and 20 A
Legend holders for heads



KZ 13



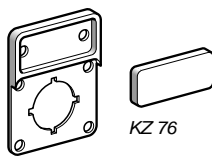
KZ 15



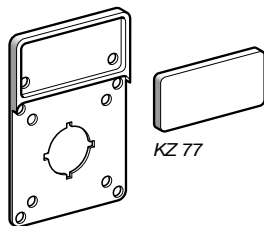
KZ 01R



KZ 2



KZ 14



KZ 16

Legend holders with and without legend

Description	For use with heads	Legend marking	Sold in lots of	Unit reference	Weight kg
With blank legend	With 45 x 45 mm front plate (1)	–	5	KZ 13	0.004
	With 60 x 60 mm front plate (1)	–	5	KZ 15	0.010
	Circular, with Ø 29 mm collar	–	5	KZ 01R ▲	0.010
With marked legend	Circular, with Ø 29 mm collar	1 2	1	KZ 1	0.003
		2 0 1	5	KZ 2	0.003
Without legend	With 45 x 45 mm front plate (1)	–	20	KZ 14	0.003
	With 60 x 60 mm front plate (1)	–	10	KZ 16	0.007

Blank legends (for engraving) for legend holders

Description	For use with heads	Sold in lots of	Unit reference	Weight kg
Legend for legend holder KZ 14 Plastic with metallic finish. Self-adhesive. For engraved markings.	With 45 x 45 mm front plate (1)	20	KZ 76	0.002
Legend for legend holder KZ 16 Plastic with metallic finish. Self-adhesive. For engraved markings.	With 60 x 60 mm front plate (1)	10	KZ 77	0.003

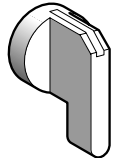
(1) Operating heads for single Ø 22 mm hole or 4 hole mounting.

Cam switches

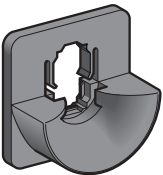
Complete switches, 12 and 20 A
Separate components and accessories



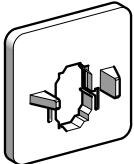
KZ 27H



KZ 27



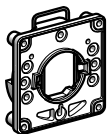
KZ 32



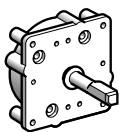
KZ 83



KZ 127



KZ 140



KZ 141

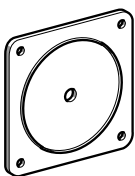
Handles

Description	Colour	Dimensions	Sold in lots of	Unit reference	Weight
		mm			kg
New shape	Black	35	5	KZ 27H	0.007
		42	5	KZ 28H	0.009
	Red	35	5	KZ 41H	0.007
		42	5	KZ 42H	0.009
Old shape	Black	34	5	KZ 27	0.007
		42	5	KZ 28	0.009

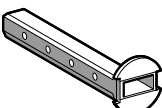
Accessories

Description	For use with	Dimensions	Sold in lots of	Unit reference	Weight
		mm			kg
Door interlocking plate	Rear mounting switches	45 x 45	5	KZ 32	0.010
Plate with rubber seal	Rear mounting switches. IP 65 between front plate and operating head	60 x 60	5	KZ 83	0.018
Adaptor plate, metal (replacement)	Mounting KAX Z1●●● chromium plated metal bezel heads on front mounting bodies for Ø 22 mm hole	–	1	KZ 127	0.088
Plastic plate (replacement)	Ø 22 mm hole, front mounting, clip-in bodies	–	1	KZ 140	0.010
Multi-fixing plate (replacement)	"Multi-fixing", front mounting, – bodies	–	1	KZ 141	0.026

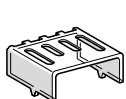
Cam switches

Complete switches, 12 and 20 A
Separate components and accessories

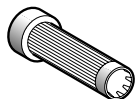
KZ 6●



KZ 5●



KZ 3●



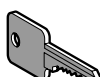
Z 01



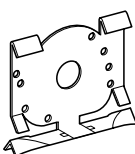
KZ 30



KZ 93



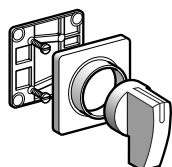
Z 18



KZ 31



KZ 95



KZ 91H

Accessories (continued)

Description	For use with		Sold in lots of	Unit reference	Weight kg
Rubber seals for IP 65 degree of protection	Ø 22 mm or 4 hole, front mounting, operating heads with 45 x 45 mm front plate		5	KZ 65	0.003
	Ø 22 mm or 4 hole, front mounting, operating heads with 60 x 60 mm front plate		5	KZ 66	0.004
	Multi-fixing operating heads with 45 x 45 mm front plate		5	KZ 73	0.004
Shaft couplers	Ø 6 mm shaft	Length = 26 mm	3	KZ 52	0.007
		Length = 60 mm	3	KZ 50	0.013
Terminal covers	Contact blocks	4 contacts	1	KZ 35	0.010
		8 contacts	1	KZ 36	0.020
		12 contacts	1	KZ 37	0.004
		16 contacts	1	KZ 38	0.040
		20 contacts	1	KZ 39	0.050
Nut wrench	M22 fixing nuts		5	Z 01	0.010
Fixing nut, M22	Fixing operating heads on panel or in an enclosure		5	KZ 30	0.007
Mounting adaptor	Converting Ø 30.5 mm fixing hole to Ø 22.5 mm		50	KZ 93	0.003
Keys	8D1 key lock		2	Z 18	0.010
	"Ronis" 8R1 key lock		2	Z 18R1	0.010
	"Ronis" 455 key lock		2	Z 18R	0.010
	"Ronis" 8R15 key lock		2	Z 18R15	0.010
Quick assembly device	Mounting on 35 mm rails to DIN 46277. 2 fixing screws included for rear mounting		5	KZ 31	0.030
Fixing screws 3.5 x 16 mm	4 hole fixing operating heads		100	KZ 95	0.001
Cam switch installation kit	Installation of a cam switch on a distribution panel Comprising: - mounting plate, - 45 x 45 mm front plate, without legend - black handle, length 35 mm (KZ 27H). - 2 fixing screws		1	KZ 91H	0.010

Cam switches

Complete switches, 12 and 20 A

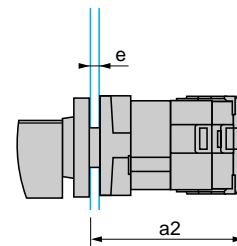
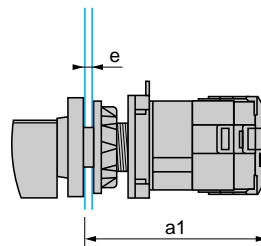
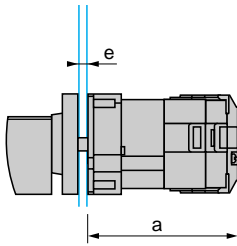
Operating heads and bodies, front mounting

"Multi-fixing"

By Ø 22 mm hole

With plastic base

With metal base



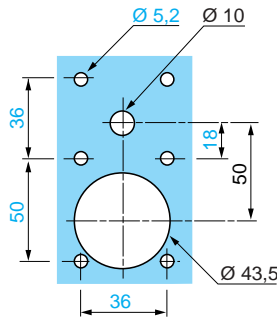
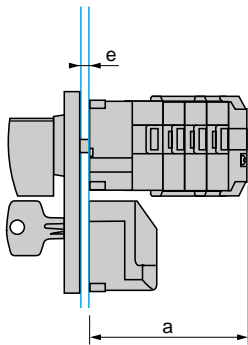
e: support panel thickness 1 to 6 mm.

3

Front mounting by 6 screws Ø 5.2 mm and 55 x 100 mm front plate for cam switch with key operated lock

With plastic base and key locking

Panel cut-out

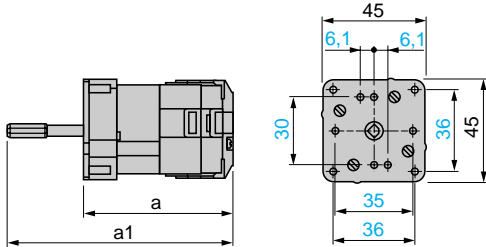


e: support panel thickness 1 to 6 mm.

Type of switch	Operating head + body, front mounting		
	Multi-fixing or by 6 screws Ø 5.2 mm with 55 x 100 mm front plate	By Ø 22 mm hole Plastic base	Metal base
	a	a1	a2
KeA ●●●●, KeB ●●●●	53	70.5	61
KeC ●●●●, KeD ●●●●	63	80.5	71
KeE ●●●●, KeF ●●●●	73	90.5	81
KeG ●●●●, KeH ●●●●	83	100.5	91
KeI ●●●●, KeK ●●●●	93	110.5	101
KeL ●●●●, KeM ●●●●	103	120.5	111
KeN ●●●●, KeO ●●●●	113	130.5	121
KeP ●●●●, KeQ ●●●●	123	140.5	131
KeR ●●●●, KeS ●●●●	133	150.5	141
KeT ●●●●, KeU ●●●●	143	160.5	151

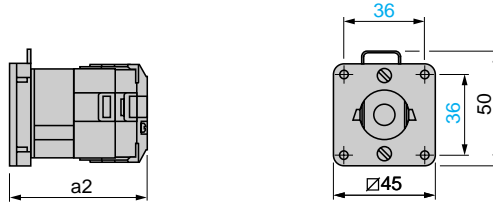
Bodies

Front mounting "multi-fixing", 2 or 4 screws



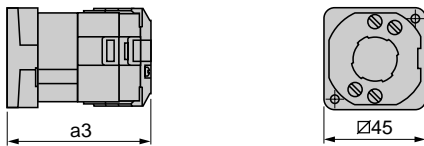
Front mounting by Ø 22 mm hole

With plastic base

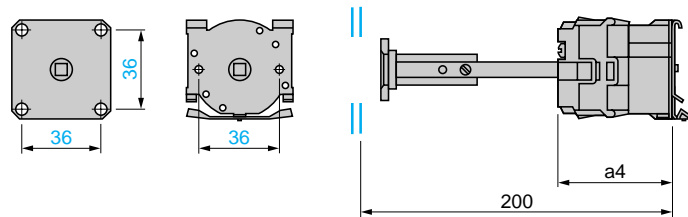


Front mounting by Ø 22 mm hole

With metal base, secured by needle screws



Rear mounting

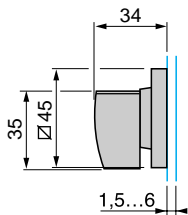


Type of body	Front mounting				Rear mounting
	Multi-fixing		By Ø 22 mm hole		a4
	a	a1	Plastic base	Metal base	
KoA ●●●●, KoB ●●●●	53	77	49	55	42.5
KoC ●●●●, KoD ●●●●	63	87	59	65	52.5
KoE ●●●●, KoF ●●●●	73	97	69	75	62.5
KoG ●●●●, KoH ●●●●	83	107	79	85	72.5
KoI ●●●●, KoK ●●●●	93	117	89	95	82.5
KoL ●●●●, KoM ●●●●	103	127	99	105	92.5
KoN ●●●●, KoO ●●●●	113	137	109	115	102.5
KoP ●●●●, KoQ ●●●●	123	147	119	125	112.5
KoR ●●●●, KoS ●●●●	133	157	129	135	122.5
KoT ●●●●, KoU ●●●●	143	167	139	145	132.5

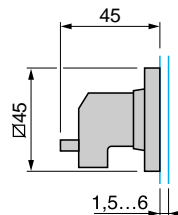
Operating heads and legend holders

For "multi-fixing", front mounting bodies

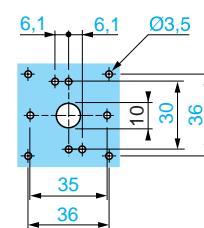
KoG 3H



KDG 3Y



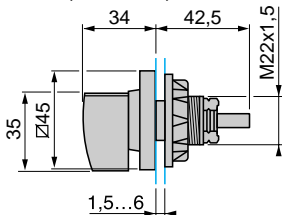
Panel cut-out (1)



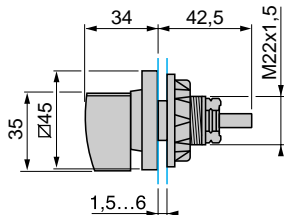
(1) Ø 10 mm central hole for operating shaft access. 2 or 4 holes for cam switch fixings (choice made by installer).

For Ø 22 mm hole, front mounting bodies - with 45 x 45 mm front plate

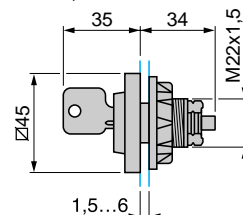
KoC 1H, KoC 1H●, KoC 1LH



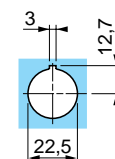
KCC 1Y



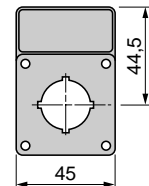
KoC 1S, KoC 1Z



Panel cut-out



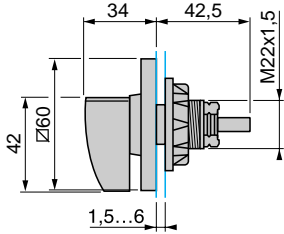
KZ 13, KZ 14



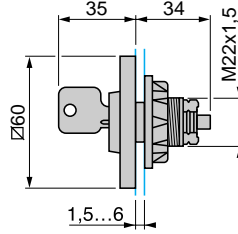
Operating heads and legend holders (continued)

For $\varnothing 22$ mm hole, front mounting bodies - with 60 x 60 mm front plate

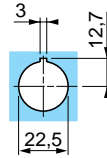
K \bullet D 1H, KCD 1MH



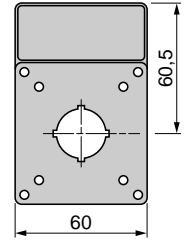
K \bullet D 1S, K \bullet D 1Z



Panel cut-out



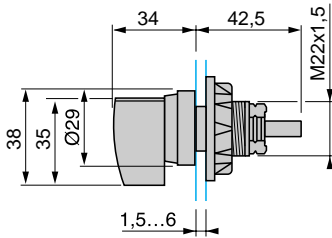
KZ 15, KZ 16



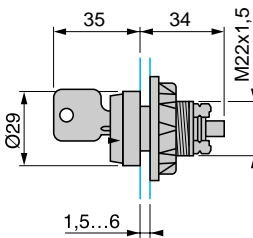
3

For $\varnothing 22$ mm hole, front mounting bodies - with $\varnothing 29$ mm metallic finish plastic bezel
Head + adaptor plate

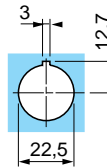
K \bullet A 1H



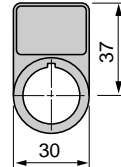
K \bullet A 1S, K \bullet A 1Z



Panel cut-out

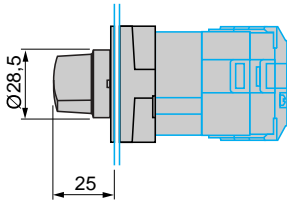


KZ 01R, KZ 1, KZ 2

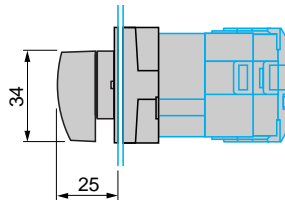


For $\varnothing 22$ mm hole, front mounting bodies - with $\varnothing 28.5$ mm chromium plated metal bezel

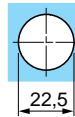
KAX Z1M1 \bullet + KZ 127



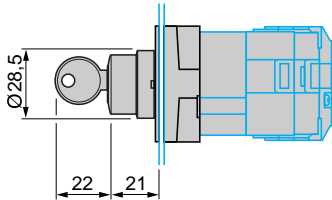
KAX Z1C1 \bullet + KZ 127



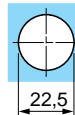
Panel cut-out



KAX Z1S1 \bullet + KZ 127



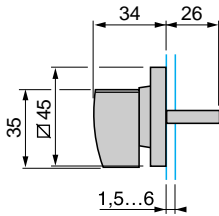
Panel cut-out



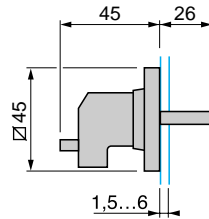
Operating heads and legend holders (continued)

For 4 hole, rear mounting bodies - with 45 x 45 mm front plate

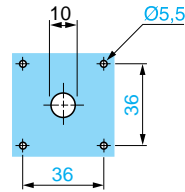
KOE 1H, KOE 1LH



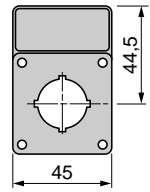
KCE 1Y



Panel cut-out

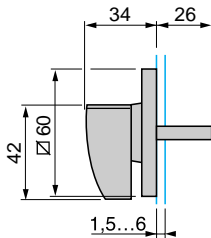


KZ 13, KZ 14

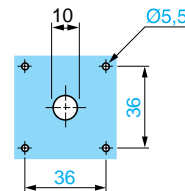


For 4 hole, rear mounting bodies - with 60 x 60 mm front plate

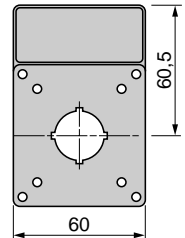
KOF 1H, KCF 1MH



Panel cut-out

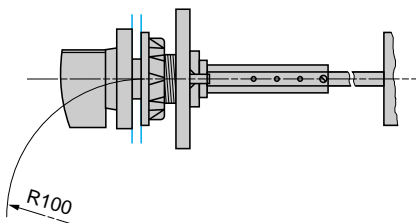


KZ 15, KZ 16



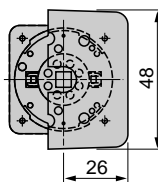
Shaft coupler and door interlock

(minimum door opening radius in mm)



Terminal cover

KZ 3●



Convention used for switching programme representation



Contact closed



Contact closed in 2 positions and maintained between the 2 positions



Sealed assembly for auto-maintain control

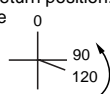


Overlapping contacts



Spring return position: for a switching angle of 90°, spring return is over 30° after the last position (for a maximum of 3 simultaneous contacts).

Example



Cam switches

Switches mounted in plastic enclosure,
10 and 16 A

3



KA●●●●●G

“Emergency stop” switches

Specifications

- PVC enclosure.
- 60 x 60 mm operating head, red handle (without padlocking device) (1) on yellow background. Marking: O I.
- Legend holder with metallic finish blank legend.

Composition (2)	Poles	N	N/O	N/C	Thermal current (Ithe) (3)	Reference	Weight
1	-	-	-	-	10	KA1 A050G	0.365
					16	KA2 A050G	0.365
3	-	-	-	-	10	KA1 C051G	0.390
					16	KA2 C051G	0.390
3	1	-	-	-	10	KA1 D052G	0.400
					16	KA2 D052G	0.400
3	-	1	-	-	10	KA1 D053G	0.400
					16	KA2 D053G	0.400
3	-	1	1	1	10	KA1 E054G	0.694
					16	KA2 E054G	0.694
3	-	2	2	2	10	KA1 G055G	0.719
					16	KA2 G055G	0.719
3	1	1	1	1	10	KA1 F056G	0.704
					16	KA2 F056G	0.704
6	-	-	-	-	10	KA1 F057G	0.704
					16	KA2 F057G	0.704
6	1	-	-	-	10	KA1 G058G	0.719
					16	KA2 G058G	0.719
6	-	1	-	-	10	KA1 G059G	0.719
					16	KA2 G059G	0.719
6	-	1	1	1	10	KA1 H060G	0.724
					16	KA2 H060G	0.724
9	-	-	-	-	10	KA1 I061G	0.744
					16	KA2 I061G	0.744
9	1	-	-	-	10	KA1 K062G	0.749
					16	KA2 K062G	0.719
9	-	1 (4)	-	-	10	KA1 K063G	0.719
					16	KA2 K063G	0.719

(1) To order a switch with a red padlockable handle (up to 3 padlocks), replace the letter **A** (2nd letter) in the references shown above by the letter **C**.

Example : **KA1 A050G** becomes **KC1 A050G**.

(2) Poles : main contacts

- N/O contact : late make (unballasting contact)
- N/C contact : signalling contact
- Neutral conductor (N) : early make, late break.

(3) Permissible power, AC-23 at 400 V :

- K1 switches : 2.2 kW,
- K2 switches : 5.5 kW.

(4) Contact not late make.

Cam switches

Switches mounted in plastic enclosure,
10 and 16 A



KD●●●●G

OFF-ON switches

Specifications

- PVC enclosure.
- 60 x 60 mm operating head, black handle (without padlocking device) on metallic background. Marking: O I.
- Legend holder with metallic finish blank legend.

Composition (1)	Poles			Thermal current (Ithe) (2)	Reference	Weight
	N	N/O	N/C			
				A		kg
1	-	-	-	10	KD1 A050G	0.365
				16		KD2 A050G
3	-	-	-	10	KD1 C051G	0.390
				16		KD2 C051G
3	1	-	-	10	KD1 D052G	0.400
				16		KD2 D052G
3	-	1	-	10	KD1 D053G	0.400
				16		KD2 D053G
3	-	1	1	10	KD1 E054G	0.694
				16		KD2 E054G
3	-	2	2	10	KD1 G055G	0.719
				16		KD2 G055G
3	1	1	1	10	KD1 F056G	0.704
				16		KD2 F056G
6	-	-	-	10	KD1 F057G	0.704
				16		KD2 F057G
6	1	-	-	10	KD1 G058G	0.719
				16		KD2 G058G
6	-	1	-	10	KD1 G059G	0.719
				16		KD2 G059G
6	-	1	1	10	KD1 H060G	0.724
				16		KD2 H060G
9	-	-	-	10	KD1 I061G	0.744
				16		KD2 I061G
9	1	-	-	10	KD1 K062G	0.749
				16		KD2 K062G
9	-	1 (3)	-	10	KD1 K063G	0.749
				16		KD2 K063G

(1) Poles : main contacts

□ N/O contact : late make (unballasting contact)

□ N/C contact : signalling contact

□ Neutral conductor (N) : early make, late break.

(2) Permissible power, AC-23 at 400 V :

□ K1 switches : 2.2 kW,

□ K2 switches : 5.5 kW.

(3) Contact not late make.

Cam switches

Complete switches, 12 A with key operated lock
 Front mounting by 6 screws Ø 5.2 mm
 with 55 x 100 mm front plate

3



K1C 003NZ2

Stepping switches (3 step), without "0" position

Wiring diagram and switching programme	Marking and switch position	Colour of handle	Reference	Weight kg
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1-pole				
		Red	K1C 003NZ2	0.170
		Black	K1C 003NZ4	0.170

2-pole				
		Red	K1F 013NZ2	0.170
		Black	K1F 013NZ4	0.170

3-pole				
		Red	K1I 023NZ2	0.170
		Black	K1I 023NZ4	0.170

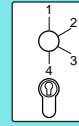
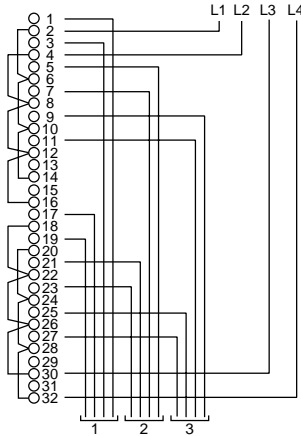
Cam switches

Complete switches, 12 A with key operated lock
 Front mounting by 6 screws Ø 5.2 mm
 with 55 x 100 mm front plate

Stepping switches (4 step), 4-pole, without "0" position

Wiring diagram and switching programme	Marking and switch position	Colour of handle	Reference	Weight kg
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4 step (1)

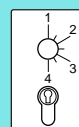
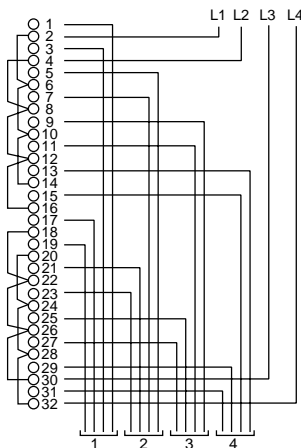


Red **K1Q 034NZ2** 0.170

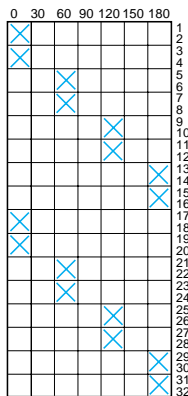


Black **K1Q 034NZ4** 0.170

4 step with intermediate steps at 30°



Red **K1Q 8621Z1** 0.170



(1) Switching programme identical for 4 step and 4 step with intermediate steps at 30°.

3

Cam switches

Complete switches, 12 A with key operated lock
 Front mounting by 6 screws Ø 5.2 mm
 with 55 x 100 mm front plate

3

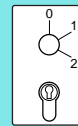
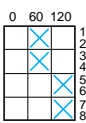
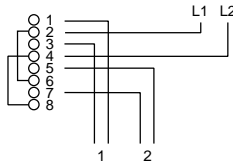


K1D 012QZ2

Stepping switches (2 step), with "0" position

Wiring diagram and switching programme	Marking and switch position	Colour of handle	Reference	Weight kg
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2-pole

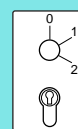
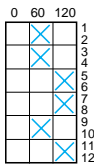
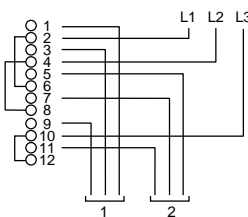


Red **K1D 012QZ2** 0.170



Black **K1D 012QZ4** 0.170

3-pole

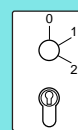
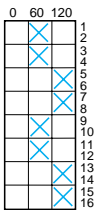
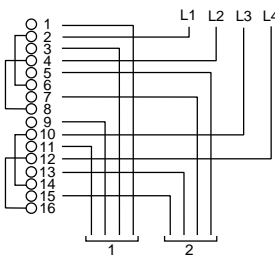


Red **K1F 022QZ2** 0.170



Black **K1F 022QZ4** 0.170

4-pole



Red **K1H 032QZ2** 0.170



Black **K1H 032QZ4** 0.170

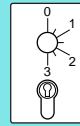
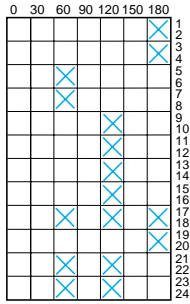
Cam switches

Complete switches, 12 A with key operated lock
Front mounting by 6 screws Ø 5.2 mm
with 55 x 100 mm front plate

Stepping switches (3 step), 2-pole, with "0" position

Switching programme	Marking and switch position	Colour of handle	Reference	Weight kg
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3 step with intermediate steps at 30°



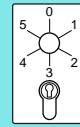
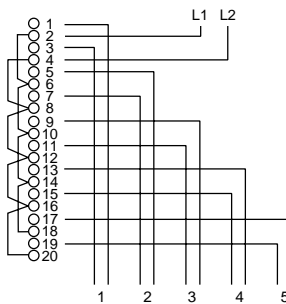
Red	K1M 10317Z1	0.170

3

Stepping switches (5 step), 2-pole, with "0" position

Wiring diagram and switching programme	Marking and switch position	Colour of handle	Reference	Weight kg
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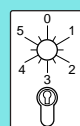
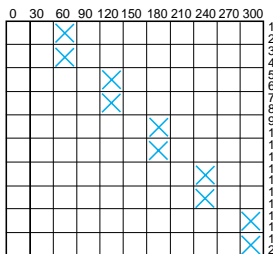
5 step (1)



Red	K1K 015NZ2	0.170

Black	K1K 015NZ4	0.170

5 step with intermediate steps at 30°



Red	K1K 1060Z1	0.170

(1) Switching programme identical for 5 step and 5 step with intermediate steps at 30°.

Cam switches

Complete switches, 12 A with key operated lock
 Front mounting by 6 screws Ø 5.2 mm
 with 55 x 100 mm front plate



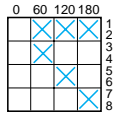
K1D 032RZ2

3

Start selector switches (3-position) with "0" position

Switching programme	Marking and switch position	Colour of handle	Reference	Weight kg
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1-pole

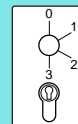
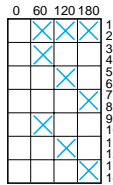


Red **K1D 032RZ2** 0.170



Black **K1D 032RZ4** 0.170

2-pole

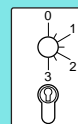
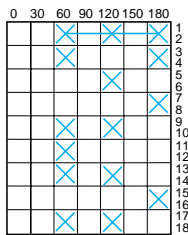


Red **K1G 043RZ2** 0.170



Black **K1G 043RZ4** 0.170

2-pole with intermediate positions at 30°



Red **K1I 9289Z1** 0.170



Cam switches

Complete switches, 12 A with key operated lock
Front mounting by 6 screws \varnothing 5.2 mm
with 55 x 100 mm front plate



K1B 001UZ2

Start selector switches (4-position) with “0” position

Switching programme	Marking and switch position	Colour of handle	Reference	Weight kg
		Red	K1Q 10805Z1	0.170

Changeover switches with “0” position

Wiring diagram and switching programme	Marking and switch position	Colour of handle	Reference	Weight kg
1-pole 		Red	K1B 001UZ2	0.170

2-pole

		Red	K1D 002UZ2	0.170

3-pole

		Red	K1F 003UZ2	0.170

3

Cam switches

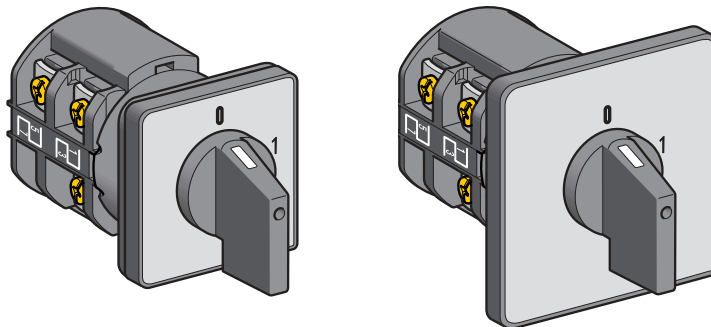
Complete switches, 32 to 150 A

The range of K30 to K150 cam switches (32 to 150 A ratings) comprises only complete switches. These products are more specifically designed for direct control of simple machines.

Complete switches

- switches
- ON-OFF switches
- changeover switches
- star-delta switches
- pole change switches
- reversing switches

Front mounting

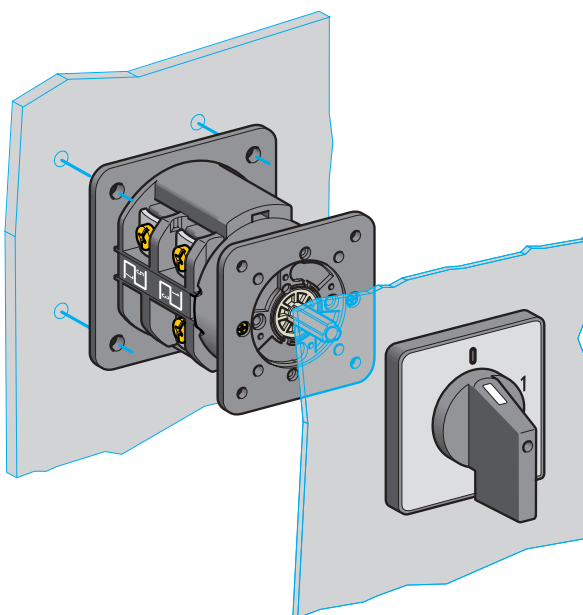


By 4 holes
with 64 x 64 mm front plate
32 to 63 A ratings
K30, K50 and K63

By 4 holes
with 88 x 88 mm front plate
115 to 150 A ratings
K115 and K150

"Multi-fixing" mounting

Rear mounting



By 4 holes on 48 mm centres
32 to 63 A ratings
K30, K50 and K63

By 4 holes on 68 mm centres
115 to 150 A ratings
K115 and K150

3

Cam switches

Complete switches, 32 to 150 A

Switch type		K30	K50	K63	K115	K150				
Environment characteristics										
Conformity to standards	IEC/EN 60947-3									
Product certifications	cULus	120 V - 1-phase	2 hp	3 hp	3 hp	5 hp	7.5 hp			
		240 V - 1-phase	5 hp	7.5 hp	7.5 hp	10 hp	15 hp			
		240 V - 3-phase	5 hp	7.5 hp	10 hp	20 hp	25 hp			
		480 V - 3-phase	20 hp	25 hp	25 hp	30 hp	40 hp			
Protective treatment	Standard version: "TC"									
Ambient air temperature	For operation	- 25...+ 55 °C								
	For storage	- 40...+ 70 °C								
Electric shock protection	Class II, conforming to IEC 60536 and NF C 20-030									
Degree of protection	IP 40									
Conforming to IEC 529 and NF C 20-010										
Mechanical life	300,000 operating cycles									
Contact block characteristics										
Rated insulation voltage	Ui = 690 V conforming to IEC/EN 60947-1 - Degree of pollution 3									
Conventional thermal current	Screw clamp terminals	In open air	Ith = 32 A	Ith = 50 A	Ith = 63 A	Ith = 115 A	Ith = 150 A			
Rated operational characteristics										
Conforming to IEC/EN 60947-5-1	~ AC-15	220...240 V	14 A	16 A	—	—	—			
		380...440 V	6 A	7 A	—	—	—			
Conforming to IEC/EN 60947-3	~ AC-3	3-phase	220...240 V	5.5 kW	7.5 kW	11 kW	15 kW	22 kW		
		3-pole	380...440 V	11 kW	15 kW	18.5 kW	30 kW	37 kW		
			660...690 V	11 kW	15 kW	18.5 kW	30 kW	37 kW		
	1-phase	110 V	2.2 kW	2.5 kW	3 kW	3.7 kW	5.5 kW			
		2-pole	220...240 V	4 kW	5.5 kW	6 kW	7.5 kW	11 kW		
			380...440 V	5.5 kW	7.5 kW	11 kW	13 kW	18.5 kW		
~ AC-23A	3-phase	220...240 V	7.5 kW	11 kW	15 kW	30 kW	37 kW			
		3-pole	380...440 V	15 kW	22 kW	30 kW	45 kW	75 kW		
			660...690 V	15 kW	22 kW	55 kW	65 kW	65 kW		
1-phase	2-pole	110 V	2.2 kW	2.5 kW	4 kW	5.5 kW	11 kW			
		220...240 V	4 kW	5.5 kW	10 kW	15 kW	22 kW			
		380...440 V	7.5 kW	11 kW	18.5 kW	22 kW	37 kW			
~ AC-21A			32 A	40 A	63 A	100 A	150 A			
Rated conditional short-circuit current	Power: kA	5	5	10	15	25				
Short-circuit protection	Cartridge fuse type gG, A	50	63	80	125	200				
Rated impulse withstand voltage	U imp = 6 kV conforming to IEC/EN 947-1									
Contact operation	Slow break with positive opening operation									
Connection	Captive screw clamp terminals (For 2 x 2.8 x 0.8 mm push-on connectors, please consult your Regional Sales office)									
	Solid cable		2 x 6 mm ²	2 x 10 mm ²	2 x 16 mm ²	1 x 35 mm ²	1 x 70 mm ²			
	Flexible cable with or without cable end		2 x 4 mm ²	2 x 6 mm ²	2 x 10 mm ²	1 x 25 mm ²	1 x 50 mm ²			
	Tightening torque		1.2 N.m	2 N.m	2.5 N.m	2.5 N.m	2.5 N.m			
Switching capacity ---	Number of contacts in series	1	2	3						
		Resistive load V T ≤ 1 ms	24	48	70	32 A	50 A	63 A	115 A	150 A
			48	95	140	32 A	40 A	63 A	100 A	150 A
	60		120	180	23 A	37 A	30 A	—	—	
	110		220	330	6.5 A	—	—	—	—	
	220		440	660	1.2 A	—	—	—	—	
	440		660	—	0.4 A	—	—	—	—	
	Inductive load V T = 50 ms	24	48	70	32 A	40 A	63 A	100 A	150 A	
		30	60	90	25 A	30 A	55 A	33 A	50 A	
		48	95	140	16 A	20 A	20 A	—	—	
		60	120	180	11 A	15 A	—	—	—	
		110	220	330	3.2 A	3.5 A	—	—	—	
		—	—	—	—	—	—	—	—	

Cam switches

Complete switches, 32 to 150 A
 With 64 x 64 mm front plate (32 to 63 A ratings)
 and 88 x 88 mm front plate (115 and 150 A ratings)

3



K30 C003AP



K50 C003AP

Switches with 45° switching angle

Front mounting

Wiring diagram and switching programme	Marking and switch position	Number of poles	Thermal current (Ith) A	Reference	Weight kg
		1	32	K30 A001AP	0.130
			50	K50 A001AP	0.175
		2	32	K30 B002AP	0.170
			50	K50 B002AP	0.215
		3	32	K30 C003AP	0.224
			50	K50 C003AP	0.275
			63	K63 C003AP	0.345
			115	K115 C003AP	0.680
			150	K150 C003AP	0.790
		4	32	K30 D004AP	0.250
			50	K50 D004AP	0.305
			63	K63 D004AP	0.390
			115	K115 D004AP	0.745
			150	K150 D004AP	0.880
		6	32	K30 F006AP	0.425
			50	K50 F006AP	0.530
		63	K63 F006AP	0.590	

Cam switches

Complete switches, 32 to 150 A
 With 64 x 64 mm front plate (32 to 63 A ratings)
 and 88 x 88 mm front plate (115 and 150 A ratings)



K63 C003HP



K150 D004HP

Switches with 490° switching angle

Front mounting

Wiring diagram and switching programme	Marking and switch position	Number of poles	Thermal current (Ith)	Reference	Weight
			A		
<p>Input: L1, L2, L3, N Output: U, V, W, N</p>		3	32	K30 C003HP	0.224
			50	K50 C003HP	0.275
			63	K63 C003HP	0.345
			115	K115 C003HP	0.680
			150	K150 C003HP	0.790
			<p>3-pole: 1, 2, 3, 4, 5, 6, 7, 8 4-pole: 1, 2, 3, 4, 5, 6, 7, 8</p>		4
50	K50 D004HP	0.305			
63	K63 D004HP	0.390			
115	K115 D004HP	0.745			
150	K150 D004HP	0.880			

Rear mounting

<p>Input: L1, L2, L3, N Output: U, V, W, N</p>		3	32	K30 C503HP	0.250
			50	K50 C503HP	0.300
			63	K63 C503HP	0.370
			115	K115 C503HP	0.720
			150	K150 C503HP	0.830
			<p>3-pole: 1, 2, 3, 4, 5, 6, 7, 8 4-pole: 1, 2, 3, 4, 5, 6, 7, 8</p>		4
50	K50 D504HP	0.350			
63	K63 D504HP	0.440			
115	K115 D504HP	0.790			
150	K150 D504HP	0.930			

Cam switches

Complete switches, 32 to 150 A
 With 64 x 64 mm front plate (32 to 63 A ratings)
 and 88 x 88 mm front plate (115 and 150 A ratings)

3



K50 B001UP

Changeover switches with "0" position

Front mounting

Wiring diagram and switching programme	Marking and switch position	Number of poles	Thermal current (Ith) A	Reference	Weight kg	
		1	32	K30 B001UP	0.170	
			50	K50 B001UP	0.215	
			150	K150 B001UP	0.790	
			2	32	K30 D002UP	0.250
				50	K50 D002UP	0.305
			3	32	K30 F003UP	0.425
				50	K50 F003UP	0.530
				63	K63 F003UP	0.590
				115	K115 F003UP	0.645
				150	K150 F003UP	0.760
			4	32	K30 H004UP	0.485
				50	K50 H004UP	0.610
63				K63 H004UP	0.680	
115				K115 H004UP	0.750	
150	K150 H004UP	0.880				



K63 F013UP

Changeover switches without "0" position

Front mounting

		3	32	K30 F013UP	0.425	
			50	K50 F013UP	0.530	
			63	K63 F013UP	0.590	
			3	115	K115 F013UP	0.645
				150	K150 F013UP	0.760
			4	32	K30 H014UP	0.485
				50	K50 H014UP	0.610
				63	K63 H014UP	0.680
				115	K115 H014UP	0.750
				150	K150 H014UP	0.880

Cam switches

Complete switches, 32 to 150 A
 With 64 x 64 mm front plate (32 to 63 A ratings)
 and 88 x 88 mm front plate (115 and 150 A ratings)



K50 H001YP

Star-delta switches

Front mounting

Wiring diagram and switching programme	Marking and switch position	Number of poles	Thermal current (Ith) A	Reference	Weight kg
		3	32	K30 H001YP	0.485
			50	K50 H001YP	0.610
			63	K63 H001YP	0.680
			115	K115 H001YP	0.750
			150	K150 H001YP	0.880



K115 K006YP

Reversing star-delta switches

Front mounting

Wiring diagram and switching programme	Marking and switch position	Number of poles	Thermal current (Ith) A	Reference	Weight kg
		3	32	K30 K006YP	0.560
			50	K50 K006YP	0.690
			63	K63 K006YP	0.770
			115	K115 K006YP	0.880
			150	K150 K006YP	0.990

Cam switches

Complete switches, 32 to 150 A
 With 64 x 64 mm front plate (32 to 63 A ratings)
 and 88 x 88 mm front plate (115 and 150 A ratings)
 Accessories

3



K63 H004PP

Pole change switches for 2-speed motors

(for motors with tapped "Dahlander" windings)

Front mounting

Wiring diagram and switching programme	Marking and switch position	Number of poles	Thermal current A	Reference	Weight kg
		3	32	K30 H004PP	0.485
			50	K50 H004PP	0.610
			63	K63 H004PP	0.680



K150 D002WP

Reversing switches with "0" position

Front mounting

		2	32	K30 D002WP	0.250
			50	K50 D002WP	0.305
			63	K63 D002WP	0.390
			115	K115 D002WP	0.745
		3	32	K30 E003WP	0.385
			50	K50 E003WP	0.485
			63	K63 E003WP	0.540
			115	K115 E003WP	0.590
			150	K150 E003WP	0.710

Accessories

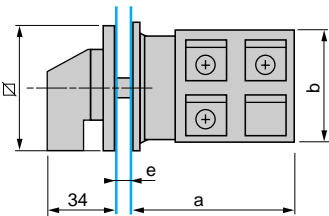
Description	For use with	Sold in lots of	Unit reference	Weight kg
Legend holders With blank legend	Square heads 64 x 64 mm	5	KZN 15	0.020
	Square heads 88 x 88 mm	5	KZN 103	0.040
Replacement blank legends for legend holder	KZN 15	5	KZ 77N	0.025
	KZN 103	5	KZ 100N	0.040
Blank legends for metallic finish front plate	64 x 64	5	KZN 21	0.035
	88 x 88	5	KZN 24	0.045

Cam switches

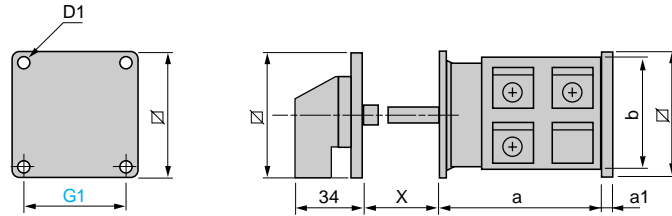
Complete switches, 32 to 150 A
With 64 x 64 mm front plate (32 to 63 A ratings)
and 88 x 88 mm front plate (115 and 150 A ratings)

Cam switches from 32 to 150 A

Front mounting



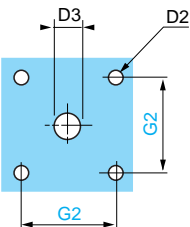
Rear mounting



	K30 A K30 B	K30 C K30 D	K30 E K30 F	K30 H	K30 K	K50 A K50 B	K50 C K50 D	K50 E K50 F	K50 H	K50 K	K63 A K63 B	K63 C K63 D	K63 E K63 F	K63 H	K63 K
a	41	53.7	66.4	79.1	104.5	45.8	63.3	80.8	98.3	133.3	49.8	71.3	92.8	114.3	157.3
a1	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
b	58	58	58	58	58	60	60	60	60	60	66	66	66	66	66
∅	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
D1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	5.4	5.4	5.4	5.4	5.4
G1	-	48	-	-	-	-	48	-	-	-	-	48	-	-	-
X	-	78 to 97	-	-	-	-	78 to 97	-	-	-	-	78 to 97	-	-	-
	K115 A K115 B	K115 C K115 D	K115 E K115 F	K115 H	K115 K	K150 A K150 B	K150 C K150 D	K150 E K150 F	K150 H	K150 K					
a	61.5	88	114.5	141	194	67.5	100	132.5	165	230					
a1	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9					
b	84	84	84	84	84	88	88	88	88	88					
∅	88	88	88	88	88	88	88	88	88	88					
D1	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4					
G1	-	68	-	-	-	-	68	-	-	-					
X	-	120 to 150	-	-	-	-	120 to 150	-	-	-					

e: support panel thickness 0.5 to 5.5 mm.

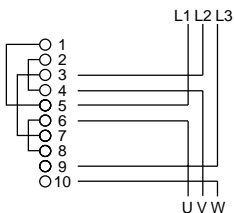
Panel cut-out



	K30/K50/K63	K115/K150
D2	4.5	6
D3	10	13
G2	48	68

Convention used for switching programme representation

Link positions (factory mounted)

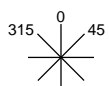


Graphic representation of switching positions and spring return to "0" position



- Contact closed
- Contact closed in 2 positions and maintained between the 2 positions
- Sealed assembly for auto-maintain control
- Overlapping contacts

Angular position of switch



[Selection guide](#) page 4/2

Beacons and indicator banks, Ø 45 mm Optimum

- Illuminated beacons, Harmony type XVD LS, miniature page 4/5
- Indicator banks, Harmony type XVM
 - Pre-cabled indicator banks page 4/9
 - Customer assembled indicator banks, accessories page 4/11

Indicator banks Ø 50 mm Universal, Harmony type XVP C

- Indicator banks for customer assembly, up to 5 units
 - Illuminated units for BA 15 d bulb or LED page 4/17
 - Illuminated and audible units page 4/18
 - Base units, covers and accessories page 4/19

Beacons and indicator banks Ø 70 mm Optimum, Harmony type XVE

- Illuminated beacons page 4/25
- Indicator banks for customer assembly page 4/26
- Separate components for beacons and indicator banks page 4/27

Beacons and indicator banks Ø 70 mm Universal, Harmony type XVB

- Illuminated beacons, type XVB L
 - For incandescent bulbs or LEDs (BA 15d base fitting) page 4/34
 - With LED light source page 4/35
 - With "flash" discharge tube page 4/36
- Indicator banks, type XVB C (for customer assembly, up to 5 units)
 - Illuminated units for incandescent bulbs or LEDs (BA 15 d base fitting) page 4/37
 - Illuminated units with integral LED page 4/38
 - Illuminated units with integral "flash" discharge tube page 4/39
 - Audible units, base units, cover, accessories page 4/40
- Accessories for beacons and indicator banks type XVB page 4/41

Beacons and indicator banks Ø 70 mm Application, Harmony type XVD

- Illuminated beacons for customer assembly page 4/48
- Indicator banks (variable composition of up to 5 units), for customer assembly
 - Illuminated units page 4/49
 - Audible units, base units, accessories page 4/50
- Accessories for beacons and indicator banks page 4/51

Rotating mirror beacons and sirens

- Rotating mirror beacons, type XVR page 4/55
- Sirens, type XVS page 4/57

4

Harmony type XV

Optimum



Type of products	Pilot lights	Miniature beacons	Indicator banks	Beacons and indicator banks
Diameter (mm)	Ø 25	Ø 45	Ø 45	Ø 70
Features	Complete pre-cabled products, height 55 mm	Complete products	Complete pre-cabled products or for customer assembly	Products for customer assembly
Description of the range	-	Illuminated beacons - steady light, - with "flash" discharge tube	-	Illuminated beacons - steady light, - flashing light, - with "flash" discharge tube
	-	-	Variable composition indicator banks for customer assembly of up to 5 units: - illuminated units with steady light, flashing light or "flash" discharge tube signalling, - audible units	
Light sources	Incandescent bulb	■	■	■
	LED	-	-	■
	"Flash" discharge tube	-	■	■
	Halogen bulb	-	-	-
Degree of protection conforming to IEC 529 and NF C 20-010	IP 40	IP 40	IP 40	IP 42 mounted vertically, IP 40 for other positions. IP 54 with reinforced protection (using sealing kit)
Colours of illuminated units	<input type="checkbox"/> Green <input type="checkbox"/> Red <input type="checkbox"/> Clear <input type="checkbox"/> Yellow	<input type="checkbox"/> Green <input type="checkbox"/> Red <input type="checkbox"/> Orange <input type="checkbox"/> Blue <input type="checkbox"/> Clear <input type="checkbox"/> Yellow	<input type="checkbox"/> Red <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Blue <input type="checkbox"/> Clear	<input type="checkbox"/> Green <input type="checkbox"/> Red <input type="checkbox"/> Orange <input type="checkbox"/> Blue <input type="checkbox"/> Clear
Connection	Flying leads, length 360 mm	Screw clamp terminals	Screw terminals	Screw clamp terminals
Support panel drilling or cut-out	Ø 22 or Ø 30	3 x Ø 3.3 or M3	Mounted on bracket: 2 x Ø 9	Direct mounting: 4 x Ø 5.5 or M5
Type references	XV1 CA	XVD LS	XVM ▲	XVE L, XVE C
Page(s)	Please consult your Regional Sales Office	4/5	4/9 to 4/11	4/25 and 4/26

▲ Available: 1st quarter 2005.

Universal

Application



4

Indicator banks	Beacons and indicator banks		Rotating mirror beacon	Sirens
Ø 50	Ø 70	Ø 70	Ø 165	Ø 92
Products for customer assembly			Complete products	
–	Illuminated beacons - steady light, - flashing light, - with "flash" discharge tube		Rotating mirror beacon - with halogen bulb, - with incandescent bulb	Power - 106 dB, single tone, - 106 dB, 2 tone
Variable composition indicator banks for customer assembly of up to 5 units: - illuminated units with steady light, flashing light or "flash" discharge tube signalling - audible units			–	–
■	■	■	■	–
■ "PROTECTED LED"	■ "PROTECTED LED"	■ "PROTECTED LED"	–	–
■	■	■	–	–
–	–	–	■	–
IP 65	IP 65 (mounted on fixing base XVB Z0●) IP 66 (mounted on base unit)	IP 40	IP 65	IP 40
<input type="checkbox"/> Green <input type="checkbox"/> Red <input type="checkbox"/> Orange <input type="checkbox"/> Blue <input type="checkbox"/> Clear <input type="checkbox"/> Yellow			<input type="checkbox"/> Green <input type="checkbox"/> Red <input type="checkbox"/> Orange <input type="checkbox"/> Blue <input type="checkbox"/> Yellow	–
Screw clamp terminals			Push-on connectors	Screw terminals
Direct mounting: 2 x Ø 4.2 x 16 Mounted on support tube: 4 x M5	Direct mounting: 2 x Ø 4.5 or M4 Mounted on support tube: 4 x Ø 5.5 or M5		3 x Ø 6.5	
XVP C	XVB L, XVB C	XVD L, XVD C	XVR	XVS
4/17 to 4/19	4/34 to 4/41	4/48 to 4/51	4/55	4/57

Beacons and indicator banks

Illuminated beacons Ø 45 mm Optimum,
Harmony type XVD LS, miniature

Presentation

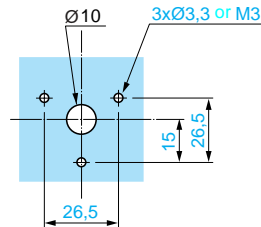
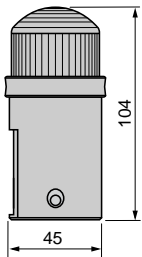
Miniature illuminated beacons XVD LS are suitable for installation on small machines for short distance signalling of the process status.

Characteristics

Product certifications	Standard version, CSA, UL	V	Pending
Conformity to standards			IEC/EN 60947-5-1
Protective treatment	Standard version		"TC"
Ambient air temperature	For storage	°C	- 40...+ 70
	For operation	°C	With incandescent bulb: - 25...+ 70 With "flash" discharge tube: - 10...+ 50
Electric shock protection	Conforming to IEC 536		Class II
Degree of protection	Conforming to IEC 529 and NF C 20-010		IP 40
Material	Illuminated units		Polycarbonate
	Base unit and cover		Glass-reinforced polyamide and polycarbonate
Rated insulation voltage (Ui)	Conforming to IEC 947-1	V	250
Consumption	With "flash" discharge tube circuit	mA	≈ 24: < 65
		mA	~ 120: < 15
		mA	~ 230: < 19
Rated impulse withstand voltage	Conforming to IEC 947-1	kV	U imp = 4
Light source	Illuminated units with steady light		Incandescent bulbs with BA 15d base fitting, maximum power 5 W
Illuminating power	Illuminated units with discharge circuit (flash lamp with integral tube)	cds	1.4 (integral high intensity tube) with clear lens unit
Connection	Maximum clamping capacity on protected, ready-to-tighten, screw and captive cable clamp terminals	mm²	1 x 1.5 with cable end
Cable entry			For cable gland n° 7 (DIN Pg 7), not included

Dimensions

Panel cut-out for direct fixing



Beacons and indicator banks

Illuminated beacons Ø 45 mm Optimum,
Harmony type XVD LS, miniature



XVD LS

Beacons with steady light signalling

Description	Light source, to be ordered separately	Colour	Reference	Weight kg
Complete unit comprising: - 1 illuminated unit - 1 base unit (direct fixing)	Incandescent bulb 5 W max. 230 V max.	Green	XVD LS33	0.080
		Red	XVD LS34	0.080
		Orange	XVD LS35	0.080
		Blue	XVD LS36	0.080
		Clear	XVD LS37	0.080
		Yellow	XVD LS38	0.080

Bulbs for beacons with steady light signalling

Description	Characteristics		Sold in lots of	Unit reference	Weight kg
Incandescent bulbs BA 15d base fitting	24 V	4 W	10	DL1 BEBS	0.090
	120 V	5 W	10	DL1 BEGS	0.090
	230 V	5 W	10	DL1 BEMS	0.090

Beacons with 0.5 Joule "flash" discharge tube

Description	Light source (included)	Colour	Reference	Weight kg	
Complete unit comprising: - 1 illuminated unit - 1 base unit (direct fixing)	"Flash" discharge tube ≈ 24 V	Green	XVD LS6B3	0.085	
		Red	XVD LS6B4	0.085	
		Orange	XVD LS6B5	0.085	
		Blue	XVD LS6B6	0.085	
		Clear	XVD LS6B7	0.085	
		Yellow	XVD LS6B8	0.085	
		"Flash" discharge tube ~ 120 V	Green	XVD LS6G3	0.085
			Red	XVD LS6G4	0.085
	Orange		XVD LS6G5	0.085	
	Blue		XVD LS6G6	0.085	
	Clear		XVD LS6G7	0.085	
	Yellow		XVD LS6G8	0.085	
	"Flash" discharge tube ~ 230 V		Green	XVD LS6M3	0.085
			Red	XVD LS6M4	0.085
		Orange	XVD LS6M5	0.085	
		Blue	XVD LS6M6	0.085	
		Clear	XVD LS6M7	0.085	
		Yellow	XVD LS6M8	0.085	

Beacons and indicator banks

Indicator banks Ø 45 mm Optimum,
Harmony type XVM

4



Indicator banks XVM supplied complete and pre-cabled, with 2, 3 or 4 illuminated units and fitted with buzzer

Presentation

Ø 45 mm indicator banks XVM are available in 2 forms:

- **Supplied complete**, with 2, 3 or 4 illuminated units, with or without buzzer.
- Pre-assembled, they are pre-cabled and fitted with a fixing base mounted on a bracket for vertical mounting on their support.
- These pre-assembled and pre-cabled indicator banks cannot be modified since the wiring connections are permanent (soldered).
- But they are also available as separate components for **customised assembly** to suit the requirements of the customer.

Light signalling

- 5 catalogued lens unit colours available: red, orange, green, clear or blue.
These illuminated units incorporate a BA 15d base that can be fitted (by simple 15° rotation) with the choice of light source:
- 1 incandescent bulb,
 - 1 LED, or
 - 1 "flash" discharge tube.

These 3 types of light source enable:

- steady light signalling using an incandescent bulb or an LED (1),
- flashing light signalling using an LED,
- "flash" light signalling using a "flash" discharge tube.

(1) A flashing function can also be obtained from a steady light LED by using a PLC output signal.

Audible signalling

The indicator bank is supplied with or without an audible (buzzer) unit depending on the configuration required. The buzzer is housed in the base unit of the indicator bank.

- There is also a potentiometer in the base unit for adjusting the volume of the audible signal, up to a value of 80 decibels.
- A selector enables the choice of signalling: continuous or intermittent tone.

Modularity

Indicator banks XVM are supplied pre-assembled and pre-cabled, with or without an audible (buzzer) unit, but they can also be assembled using separate components, all of which are catalogued listed:

- either 5 illuminated units maximum, or
- a base unit with integral buzzer and 4 illuminated units.

The light sources (incandescent bulb, LED or "flash" discharge tube) are interchangeable. This enables, for example, the replacement of incandescent bulbs initially fitted in an indicator bank by LEDs (longer service life) in order to reduce maintenance operations. The current consumption of LEDs is very low and consequently, their usage has a definite effect on the reduction of power consumption.

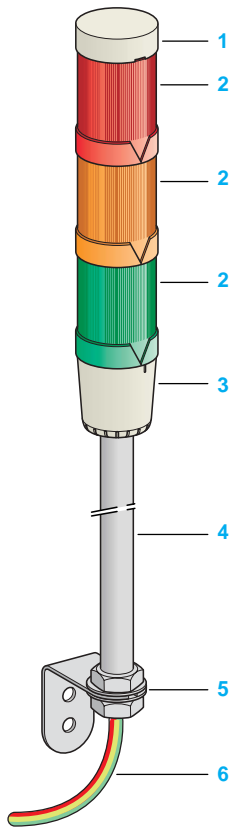
The illuminated units easily fit together and electrical connections are made automatically.
Connections in the base unit for indicator banks assembled by the customer are made to a screw terminal block.

Cabling

Indicator banks XVM supplied complete feature referenced wires with a wiring instructions label. Each illuminated unit of the indicator bank is identified by a different wire colour.

Beacons and indicator banks

Indicator banks Ø 45 mm Optimum, Harmony type XVM



Description

Complete, pre-cabled indicator banks

The pre-assembled Ø 45 mm indicator banks XVM comprise:

- 1 A cover.
- 2 Two, three or four coloured illuminated units (red, green, orange or blue). Each illuminated unit is fitted with an incandescent bulb or an LED, depending on the model selected from the catalogue.
- 3 A base unit integrating the buzzer (depending on model).
- 4 A fixing base, height 250 mm.
- 5 A fixing bracket for mounting on a vertical support.
- 6 300 mm flying lead connections, each wire identified.

Breakdown of the reference for a complete indicator bank (1)

XVM	Voltage	Light source (2)	Illuminated unit	Number of units			
				1 unit	2 units	3 units	4 units
	~ 24 V	Incandescent bulb	Colour	R	R	R	R
	~ 120 V	LED	Red	A	A	A	A
	~ 230 V		Orange	A	A	A	A
			Green	G	G	G	G
			Blue	B	B	B	B
			Clear	C	C	C	C
			Signalling	Steady	(3)	(3)	(3)
			Flashing	5	5	5	5
			"Flash"	6	6	6	6
			Buzzer	Without			
			With				

Reference example

XVM B2R6AGS = indicator bank for ~ 24 V supply, with LEDs, with 1 red lens unit with "flash" discharge tube signalling, 2 lens units (1 orange and 1 green) with steady light signalling and with buzzer.

(1) This table is for information only and must not be used to create a product reference.

(2) "Flash" discharge tube to be ordered separately, see page 0/11.

(3) Not indicated, default value.

Customer assembled indicator banks

The customised composition of indicator banks XVM is obtained by assembling:

- 1 A cover and a base unit, with or without integral buzzer.
- 2 5 illuminated units maximum (1), red, orange, green, blue or clear lens units (light source not included).

Each illuminated unit can be fitted with either:

- 3 an incandescent bulb,
- 4 an LED, or
- 5 a "flash" discharge tube.

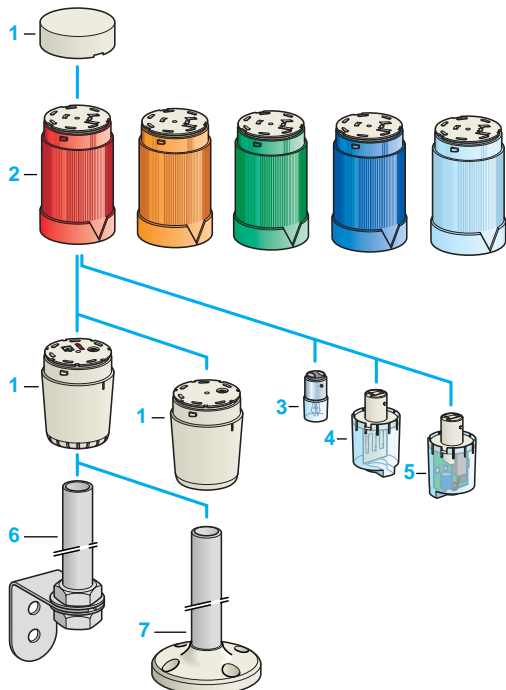
Both the LED and the "flash" discharge tube types can be fitted or removed without using a tool.

The assembly detailed above mounts on either:

- 6 an aluminium support tube (length 100, 250 or 400 mm) with a fixing bracket,
- 7 an aluminium support tube (length 100, 250 or 400 mm) with a plastic fixing plate.

(1) Maximum configuration possibilities:

- 5 illuminated units mounted on base unit without buzzer.
- 4 illuminated units mounted on base unit fitted with buzzer.



Environment characteristics

Degree of protection			IP 42 mounted vertically IP 40 in other positions
Product certifications			CCC
Approval			C€
Conformity to standards			IEC/EN 60947-1, IEC/EN 60947-5-1
Ambient air temperature	For storage	°C	- 25...+ 70
	For operation	°C	- 10...+ 50
Electric shock protection Conforming to IEC 61140, IEC 60947-1 and IEC 60947-5-1	Mounted on aluminium support tube		Class I
	Mounted on base		Class II
Protective treatment			Standard version "TC"
Electronic components protection (LED and "flash")	By integral fuse in series on the common	A	0.2 (~ 120...230 V)

Electrical characteristics

Light sources		Incandescent bulbs	LEDs		"Flash" discharge tube, 0.8 Joule	
			Steady light	Flashing light		
Rated insulation voltage (Ui)	Conforming to IEC 60947-1	V	250			
Voltage limits	Conforming to IEC 60947-5-1		0.85...1.10 Un			
Light source type	For mounting in BA 15d base, 15° rotation		BA 15d base fitting			
Consumption	On ~ 24 V	mA	Depending on bulb used	43	45	140 (on ~) 98 (on ---)
	On ~ 120 V	mA	Depending on bulb used	16	16	33
	On ~ 230 V	mA	Depending on bulb used	15	15	20
Rated impulse withstand voltage	Conforming to IEC 60947-1	kV	Uimp = 4			
Illuminating power	Average value for all colours	cds/m ²	650	900	900	-
Flashing frequency	Nominal value	Hz	-	-	1	1
Audible unit (base unit fitted with buzzer)						
Consumption	On ~ 24 V	mA	15			
	On ~ 120 V	mA	18			
	On ~ 230 V	mA	18			
Power	Continuous or intermittent tone	dB	0...80 at 1 m			
	Fundamental frequency	kHz	4 for continuous tone			
Connection of illuminated and audible units						
Terminal referencing			<input type="checkbox"/> 1 terminal referenced N : common to all 5 units, including base unit fitted with buzzer <input type="checkbox"/> 1 terminal referenced B : for base unit fitted with buzzer <input type="checkbox"/> 4 terminals referenced 1 - 2 - 3 - 4 : for 4 illuminated units mounted on base unit fitted with buzzer <input type="checkbox"/> 5 terminals referenced 1 - 2 - 3 - 4 - 5 : for 5 illuminated units mounted on base unit without buzzer			
Connection	Flying leads on pre-cabled indicator banks		Wire c.s.a.: 1 x 0.325 mm ² / AWG 22 (1)			
	Screw terminals		Max.: 1 x 1.5 mm ² Min.: 2 x 0.325 mm ²			

(1) AWG: American Wire Gauge.

Beacons and indicator banks

Indicator banks Ø 45 mm Optimum,

Harmony type XVM

Pre-cabled indicator banks



Pre-cabled indicator banks

Description	Light source (included)	Voltage (V)	Signalling colour (1)			Reference (2)	Weight kg	
			Steady	Flashing	"Flash"			
With 2 illuminated units								
Without buzzer	Incandescent bulb, 5 W	≈ 24	R-G	–	–	XVM B1RG	0.392	
		≈ 120	R-G	–	–	XVM G1RG	0.392	
		≈ 230	R-G	–	–	XVM M1RG	0.392	
	LED	≈ 24	R-G	–	–	XVM B2RG	0.395	
		≈ 120	R-G	–	–	XVM G2RG	0.395	
		≈ 230	R-G	–	–	XVM M2RG	0.395	
With buzzer integrated in base unit	Incandescent bulb, 5 W	≈ 24	R-G	–	–	XVM B1RGS	0.402	
		≈ 120	R-G	–	–	XVM G1RGS	0.402	
		≈ 230	R-G	–	–	XVM M1RGS	0.402	
	LED	≈ 24	R-G	–	–	XVM B2RGS	0.404	
		≈ 120	R-G	–	–	XVM G2RGS	0.404	
		≈ 230	R-G	–	–	XVM M2RGS	0.404	
With 3 illuminated units								
Without buzzer	Incandescent bulb, 5 W	≈ 24	R-O-G	–	–	XVM B1RAG	0.493	
		≈ 120	R-O-G	–	–	XVM G1RAG	0.493	
		≈ 230	R-O-G	–	–	XVM M1RAG	0.493	
		≈ 24	O-G	–	R	XVM B1R6AG	0.454	
		≈ 120	O-G	–	R	XVM G1R6AG	0.454	
		≈ 230	O-G	–	R	XVM M1R6AG	0.454	
		LED	≈ 24	R-O-G	–	–	XVM B2RAG	0.443
			≈ 120	R-O-G	–	–	XVM G2RAG	0.443
			≈ 230	R-O-G	–	–	XVM M2RAG	0.443
	≈ 24		O-G	–	R	XVM B2R6AG	0.456	
	≈ 120		O-G	–	R	XVM G2R6AG	0.456	
	≈ 230		O-G	–	R	XVM M2R6AG	0.456	
	≈ 24		R-G	O	–	XVM B2RA5G	0.443	
	≈ 120		R-G	O	–	XVM G2RA5G	0.443	
	≈ 230		R-G	O	–	XVM M2RA5G	0.443	
	≈ 24	G	R-O	–	XVM B2R5A5G	0.443		
	≈ 120	G	R-O	–	XVM G2R5A5G	0.443		
	≈ 230	G	R-O	–	XVM M2R5A5G	0.443		
	≈ 24	G	O	R	XVM B2R6A5G	0.456		
	≈ 120	G	O	R	XVM G2R6A5G	0.456		
	≈ 230	G	O	R	XVM M2R6A5G	0.456		

(1) Signalling colour: R: red; G: green; O: orange; B: blue.

(2) The colours are listed in same order in the references as the mounting order of the illuminated units (from top to bottom).

Beacons and indicator banks

Indicator banks Ø 45 mm Optimum,
Harmony type XVM
Pre-cabled indicator banks

Pre-cabled indicator banks (continued)

Description	Light source (included)	Voltage (V)	Signalling colour (1)			Reference (2)	Weight kg
			Steady	Flashing	"Flash"		
With 3 illuminated units (continued)							
With buzzer integrated in base unit	Incandescent bulb, 5 W	≈ 24	R-O-G	–	–	XVM B1RAGS	0.449
		~ 120	R-O-G	–	–	XVM G1RAGS	0.449
		~ 230	R-O-G	–	–	XVM M1RAGS	0.449
		≈ 24	O-G	–	R	XVM B1R6AGS	0.463
		~ 120	O-G	–	R	XVM G1R6AGS	0.463
		~ 230	O-G	–	R	XVM M1R6AGS	0.463
	LED	≈ 24	R-O-G	–	–	XVM B2RAGS	0.453
			R-O-G	–	–	XVM G2RAGS	0.453
			R-O-G	–	–	XVM M2RAGS	0.453
			O-G	–	R	XVM B2R6AGS	0.466
			O-G	–	R	XVM G2R6AGS	0.466
			O-G	–	R	XVM M2R6AGS	0.466
		≈ 24	R-G	O	–	XVM B2R5AGS	0.453
			R-G	O	–	XVM G2R5AGS	0.453
			R-G	O	–	XVM M2R5AGS	0.453
			G	R-O	–	XVM B2R5A5GS	0.453
			G	R-O	–	XVM G2R5A5GS	0.453
			G	R-O	–	XVM M2R5A5GS	0.453
≈ 24	G	O	R	XVM B2R6A5GS	0.466		
	G	O	R	XVM G2R6A5GS	0.466		
	G	O	R	XVM M2R6A5GS	0.466		



With 4 illuminated units

Without buzzer	Incandescent bulb, 5 W	≈ 24	R-O-G-B	–	–	XVM B1RAGB	0.486		
		~ 120	R-O-G-B	–	–	XVM G1RAGB	0.486		
		~ 230	R-O-G-B	–	–	XVM M1RAGB	0.486		
		LED	≈ 24	R-O-G-B	–	–	XVM B2RAGB	0.491	
			~ 120	R-O-G-B	–	–	XVM G2RAGB	0.491	
			~ 230	R-O-G-B	–	–	XVM M2RAGB	0.491	
	With buzzer integrated in base unit		Incandescent bulb, 5 W	≈ 24	R-O-G-B	–	–	XVM B1RAGBS	0.496
				~ 120	R-O-G-B	–	–	XVM G1RAGBS	0.496
				~ 230	R-O-G-B	–	–	XVM M1RAGBS	0.496
		LED		≈ 24	R-O-G-B	–	–	XVM B2RAGBS	0.501
				~ 120	R-O-G-B	–	–	XVM G2RAGBS	0.501
				~ 230	R-O-G-B	–	–	XVM M2RAGBS	0.501



(1) Signalling colour: R: red; G: green; O: orange; B: blue.

(2) The colours are listed in same order in the references as the mounting order of the illuminated units (from top to bottom).

Beacons and indicator banks

Indicator banks Ø 45 mm Optimum,

Harmony type XVM

Customer assembled indicator banks, accessories



XVM C30



XVM C21



XVM C29



XVM Z02



XVM Z02T



DL1 ED



DL2 E



DL6 B

Customer assembled indicator banks

Description	Characteristics	Voltage (V)	Colour	Reference	Weight kg
Illuminated units					
Lens units only for BA 15d base fitting bulb	Bulb not included, 5 W max.	Up to ≈ 230	Green	XVM C33	0.040
			Red	XVM C34	0.040
			Orange	XVM C35	0.040
			Blue	XVM C36	0.040
			Clear	XVM C37	0.040
Base mounting units					
Base unit and cover	Base unit without buzzer	–	White	XVM C21	0.055
			White	XVM C29B	0.065
			White	XVM C29G	0.065
			White	XVM C29M	0.065
Base unit and cover + 250 mm support tube with fixing bracket	Base unit without buzzer	–	White	XVM C213T	0.298
			White	XVM C29B3T	0.308
			White	XVM C29G3T	0.308
			White	XVM C29M3T	0.308

Support tubes and fixing bases

Description	Length (mm)	Height under base unit (mm)	Colour	Reference	Weight kg
Ø 20 mm aluminium support tube with plastic fixing plate	100	78	White	XVM Z02	0.060
	250	228	White	XVM Z03	0.108
	400	378	White	XVM Z04	0.155
Ø 20 mm aluminium support tube with metal fixing bracket	100	113	–	XVM Z02T	0.198
	250	263	–	XVM Z03T	0.242
	400	413	–	XVM Z04T	0.287

Light sources for lens units (1)

Description	Signalling	Power	Sold in lots of	Voltage (V)	Colour	Unit reference	Weight kg				
Incandescent bulbs	Steady light	5 W	10	≈ 24	–	DL1 EDBS	0.007				
				≈ 120	–	DL1 EDGS	0.007				
				≈ 230	–	DL1 EDMS	0.007				
LEDs	Steady light: replace the ● by D in the references shown on the right. Flashing light: replace the ● by K in the references shown on the right.	–	1	≈ 24	White	DL2 E●B1	0.009				
					Green	DL2 E●B3	0.009				
					Red	DL2 E●B4	0.009				
					Blue	DL2 E●B6	0.009				
					Orange	DL2 E●B8	0.009				
					≈ 120	White	DL2 E●G1	0.009			
						Green	DL2 E●G3	0.009			
						Red	DL2 E●G4	0.009			
				Blue		DL2 E●G6	0.009				
				≈ 230	White	DL2 E●M1	0.009				
					Green	DL2 E●M3	0.009				
					Red	DL2 E●M4	0.009				
				Discharge tubes	"Flash"	0.8 Joule	1	≈ 24	–	DL6 BB	0.022
									–	DL6 BG	0.022
									–	DL6 BM	0.022
–											

(1) All light sources are push-and-turn (15°) mounting in a BA 15d base within the illuminated units.

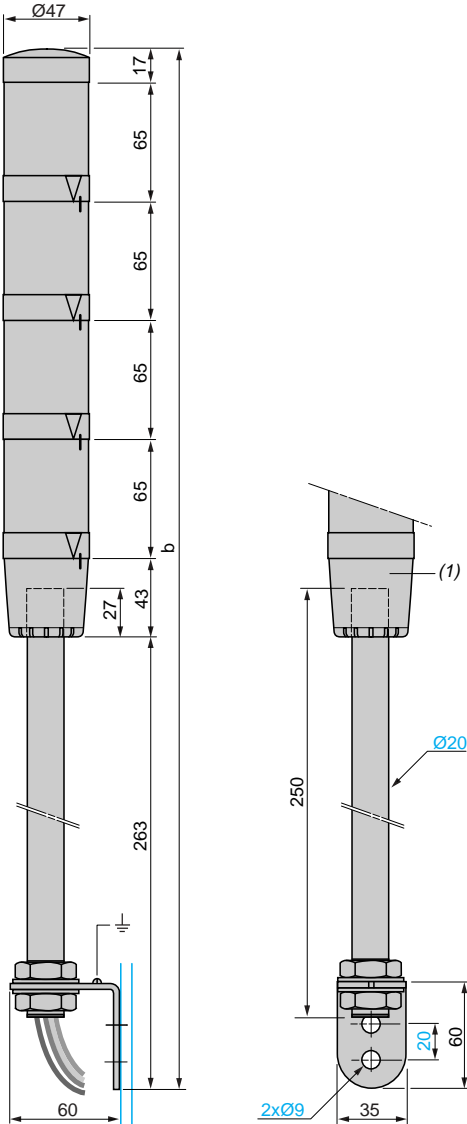
Accessories for pre-cabled and customer assembled indicator banks

Description	Characteristics	Reference	Weight kg
Cover only	White	XVM Z081	–
Mounting tool	Mounting and removal of incandescent bulbs type DL1	ZBZ X13	–

Beacons and indicator banks

Indicator banks Ø 45 mm Optimum,
Harmony type XVM
Pre-cabled indicator banks

Pre-cabled indicator banks



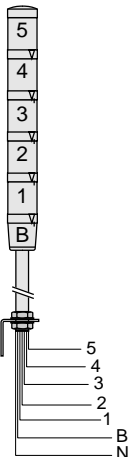
Height of pre-cabled indicator bank

Number of illuminated units	b
1 unit	392
2 units	457
3 units	522
4 units	587

4

(1) Base unit with or without buzzer.

Connection scheme



**Indicator bank with buzzer
(4 illuminated units max.)**

- 4: 4th unit (yellow wire)
- 3: 3rd unit (green wire)
- 2: 2nd unit (white wire)
- 1: 1st unit (blue wire)
- N: common (black wire)
- B: Buzzer (grey wire)

Indicator bank without buzzer

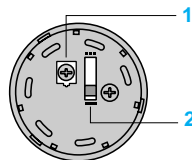
- 5: 5th unit (red wire)
- 4: 4th unit (yellow wire)
- 3: 3rd unit (green wire)
- 2: 2nd unit (white wire)
- 1: 1st unit (blue wire)
- N: common (black wire)

Maximum capacity for wiring through support tube:

- 6 wires x 1 mm²,
- 5 wires x 1.5 mm²

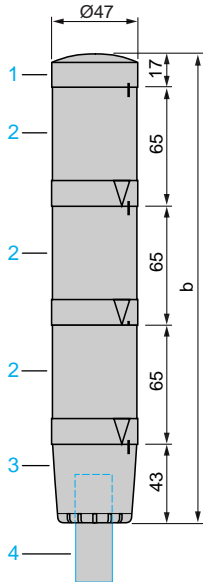
Adjustment of audible signal on buzzer type unit

Base unit with integral buzzer (viewed from above)



- 1 Volume adjustment potentiometer: 0 to 80 dB. Use either a cross headed or flat tipped screwdriver.
- 2 2-position selector for type of audible signal:
 - continuous tone
 - - - intermittent tone

Customer assembled indicator banks



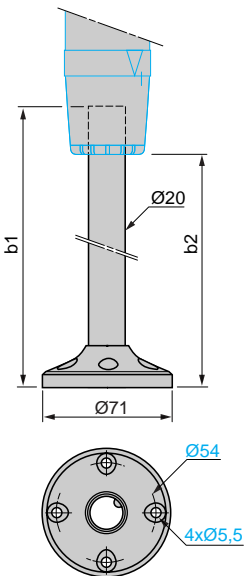
- 1 Cover
- 2 Illuminated unit
- 3 Base unit (with or without buzzer)
- 4 Fixing base (see below)

Height of customer assembled indicator bank

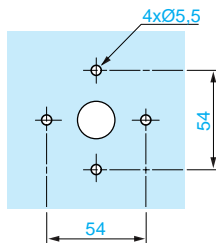
Number of illuminated units (ref. 2)	b
1 unit	125
2 units	190
3 units	255
4 units	320
5 units	385

Fixing bases

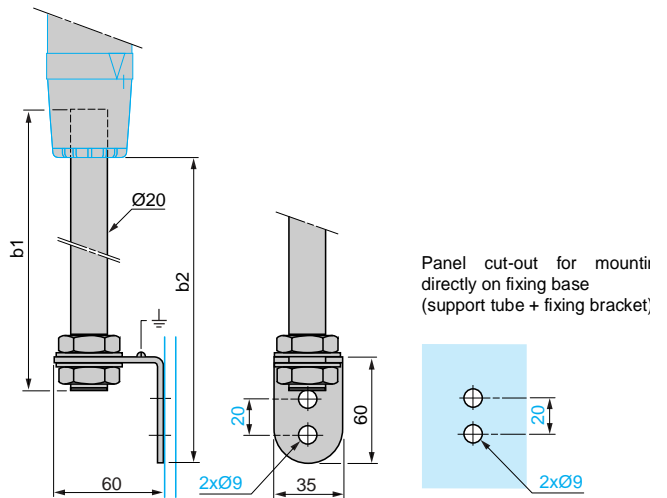
XVM Z0●



Panel cut-out for mounting directly on fixing base (support tube + fixing plate)



XVM Z0●T



Panel cut-out for mounting directly on fixing base (support tube + fixing bracket)

Support tube length	b1 (tube + plate)	b2 (height under base unit)
100	105	78
250	255	228
400	405	378

Support tube length	b1 (tube + bracket)	b2 (height under base unit)
100	140	113
250	290	263
400	440	413

Connection scheme

See page 4/12

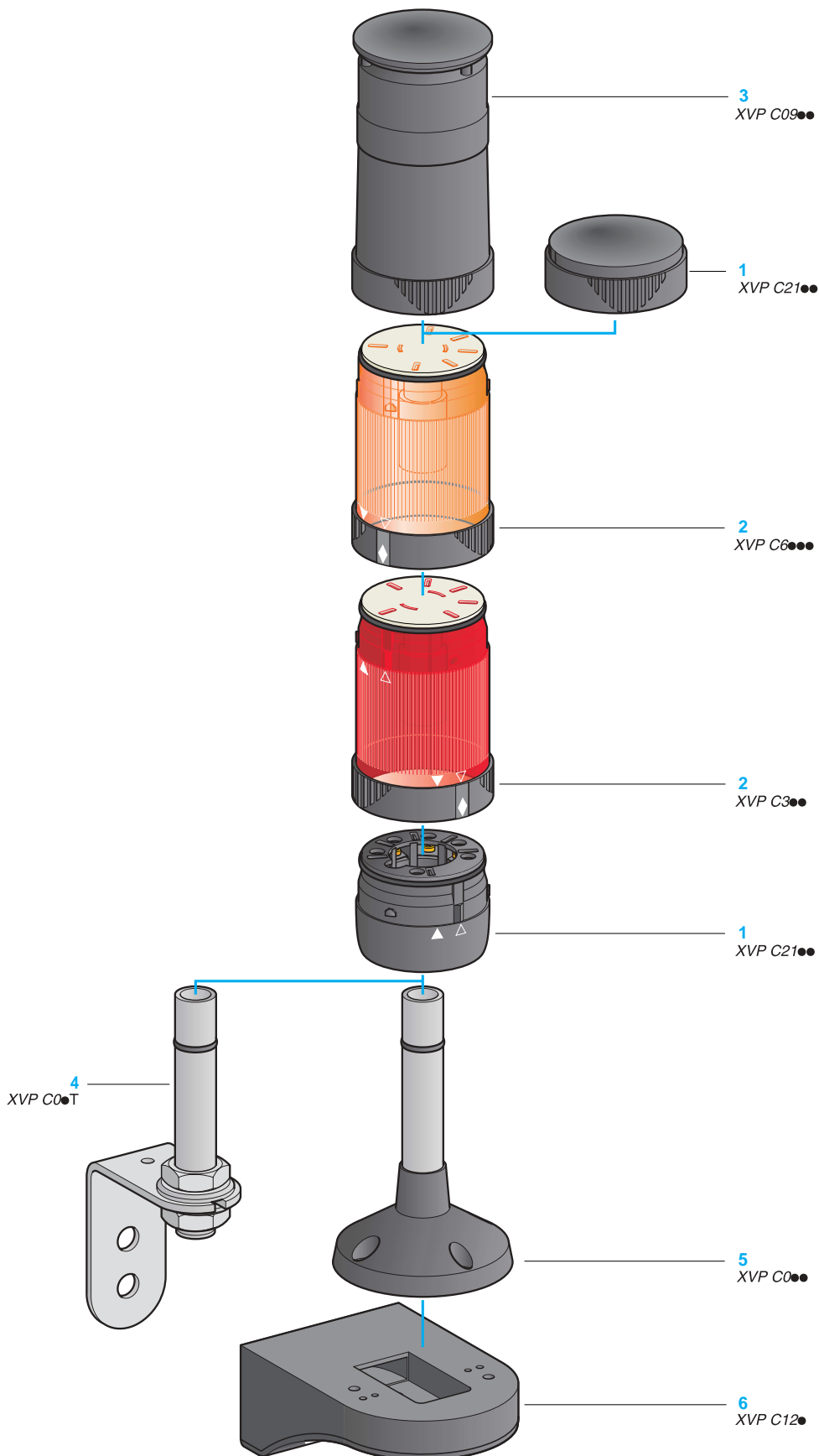
Adjustment of audible signal on buzzer type unit

See page 4/12

Beacons and indicator banks

Indicator banks Ø 50 mm Universal,
Harmony type XVP C

4



Beacons and indicator banks

Indicator banks Ø 50 mm Universal,
Harmony type XVP C

Indicator banks XVP C are visual or audible signalling units for indicating, throughout 360° and at a distance, the various states or operation sequences of a machine or installation.

Their reduced diameter (50 mm) makes them particularly suitable for use on small equipment.

In addition, the availability of two versions (aesthetic black or cream), makes them ideal for use in all sectors of activity: light industry, electronic, tertiary sector, food/drink processing.

The indicator bank

Customer assembled product

Variable composition assembly of illuminated and audible units which are supplied as separate items (assembly by user).

The bank comprises:

- 1 a base unit with bottom cable entry, a cover for the top unit,
- 2 1 to 5 illuminated units with steady, flashing or "flash" light signalling (colours: green, red, orange, blue, clear or yellow).
- 3 or 1 audible unit (always mounted at the top of the bank) + 4 illuminated units.

■ The illuminated or audible units stack vertically and are easily locked and unlocked using an integral clamping ring. Electrical connections between each unit are made automatically.

■ For indicator banks XVP C, several illuminated "flash" units can be mounted.

■ The flashing illuminated units are only available in the LED version and incorporate BA 15d base mounted flashing LEDs.

Accessories

- 4 Threaded aluminium support tube with fixing bracket, for heights beneath the base unit of 77, 227 or 377 mm.
- 5 Aluminium support tube with integral black or cream fixing base, for heights beneath the base unit of 89, 237 or 387 mm, for direct mounting on the machine or on a vertical support 6.

Installation

Mounting

- Base unit fixed directly onto panel, or
- using support tube with integral fixing base, or
- using threaded support tube with metal fixing bracket, or
- using support tube with integral fixing base, mounted on a fixing plate for use on a vertical support.

Cabling

By means of terminal block incorporated in base unit. The screw and captive cable clamp terminals are protected to prevent any accidental contact with live parts.

Cream coloured base units are available for use with eyelet tags.

Environment characteristics

Product certifications	Standard version		CSA, C€ marking
Conformity to standards			IEC/EN 60947-5-1
Protective treatment	Standard version		"TC"
Ambient air temperature	For storage	°C	- 40...+ 70
	For operation	Illuminated units with steady light signalling	°C - 25...+ 50 with 7 W incandescent bulb - 25...+ 50 with LED
		Illuminated "flash" units (discharge tube) Audible units	°C
Electric shock protection conforming to IEC 536	Mounted on support tube		Class I
	Mounted on base unit		Class II
Degree of protection	Conforming to IEC 60529 and NF C 20-010		- IP 65 for illuminated units - IP 43 for audible units
Material	Illuminated units		Polycarbonate and Polyamide
	Base unit and cover		Acrylic Butadiene-Styrene + Polycarbonate and Polyamide
	Support tube + fixing plate		Aluminium and Acrylic Butadiene-Styrene + Polycarbonate

Electrical characteristics

Rated insulation voltage (Ui)	Conforming to IEC 60947-1	V	250
Voltage limits	Conforming to IEC 60947-5-1	V	0.85 to 1.10 Un (Un: nominal voltage)
Consumption	LED unit	Steady light signalling	mA \approx 24 V: < 80 \sim 120...230 V: < 30
			Flashing light signalling
	Illuminated "flash" unit (discharge tube)	On power-up	mA \approx 24 V: \leq 40
			mA \sim 120 V: \leq 20
			mA \sim 230 V: \leq 11
	Audible units		mA \approx 24 V: \leq 15
mA \sim 120 V: \leq 15			
mA \sim 230 V: \leq 12			
Rated impulse withstand voltage	Conforming to IEC 60947-1	kV	U imp = 4
Light source	Illuminated units with steady or flashing light signalling		LEDs: degree of pollution 2 Incandescent bulbs with BA 15d base fitting, maximum power 7 W
Illuminating power	Illuminated units with steady light signalling	cds	2.4 with clear lens unit (7 W incandescent bulb)
	Illuminated "flash" units (discharge tube)	cds	1.2 (24 V) with clear lens unit (0.3 J tube), 5 (120...230 V) with clear lens unit (0.6 J tube)
Audible unit	Continuous or intermittent tone	dB	Adjustable: 85 \pm 3 max., 55 \pm 3 min. at 1 m
	Fundamental frequency	kHz	10 adjustable levels
Terminal referencing	Common to all 5 units		1 terminal referenced -/C
	Depending on number of units		1 or 5 terminals referenced +/1 to +/5
Connection	Maximum clamping capacity on protected, ready-to-tighten, screw and captive cable clamp terminals	mm²	1 x 1.5 with cable end
Frequency of illuminated units	Illuminated "flash" units (discharge tube)	Hz	0.6...2
	Flashing illuminated units	Hz	1
Service life in rapidly ageing environment	Illuminated "flash" units (discharge tube) Audible units	H	> 1000, continuous (climatic cycle - 25 °C...+ 50 °C)

4

Beacons and indicator banks

Indicator banks Ø 50 mm Universal,
Harmony type XVP C (for customer assembly, up to 5 units)
Illuminated units



XVP C3



XVP C3W

Illuminated units with steady or flashing light signalling for BA 15d bulb or LED

Description	Light source, to be ordered separately	Colour	Reference	Weight kg
With black clamping ring	Incandescent bulb 7 W max. 250 V max. or LED	Green	XVP C33	0.100
		Red	XVP C34	0.100
		Orange	XVP C35	0.100
		Blue	XVP C36	0.100
		Clear	XVP C37	0.100
		Yellow	XVP C38	0.100
With cream clamping ring	Incandescent bulb 7 W max. 250 V max. or LED	Green	XVP C33W	0.100
		Red	XVP C34W	0.100
		Orange	XVP C35W	0.100
		Blue	XVP C36W	0.100
		Clear	XVP C37W	0.100
		Yellow	XVP C38W	0.100

BA 15d bulbs and LEDs

Description	Characteristics	Sold in lots of	Unit reference	Weight kg			
Incandescent bulbs BA 15d base fitting	24 V 4 W	10	DL1 BEBS	0.090			
	120 V 5 W	10	DL1 BEGS	0.090			
	230 V 5 W	10	DL1 BEMS	0.090			
	12 V 7 W	10	DL1 BEJ	0.090			
	24 V 6.5 W	10	DL1 BEB	0.090			
	48 V 6 W	10	DL1 BEE	0.090			
	120 V 7 W	10	DL1 BEG	0.090			
	230 V 7 W	10	DL1 BEM	0.090			
LEDs BA 15d base fitting	≈ 24 V	White	1	DL1 BDB1	0.015		
		Green	1	DL1 BDB3	0.015		
		Red	1	DL1 BDB4	0.015		
		Orange	1	DL1 BDB5	0.015		
		Blue	1	DL1 BDB6	0.015		
		Yellow	1	DL1 BDB8	0.015		
		~ 120 V	White	1	DL1 BDG1	0.015	
			Green	1	DL1 BDG3	0.015	
	Red		1	DL1 BDG4	0.015		
	Orange		1	DL1 BDG5	0.015		
	Blue		1	DL1 BDG6	0.015		
	Yellow		1	DL1 BDG8	0.015		
	~ 230 V		White	1	DL1 BDM1	0.015	
			Green	1	DL1 BDM3	0.015	
		Red	1	DL1 BDM4	0.015		
		Orange	1	DL1 BDM5	0.015		
		Blue	1	DL1 BDM6	0.015		
		Yellow	1	DL1 BDM8	0.015		
		Flashing LEDs BA 15d base fitting	≈ 24 V	White	1	DL1 BKB1	0.015
				Green	1	DL1 BKB3	0.015
	Red			1	DL1 BKB4	0.015	
	Orange			1	DL1 BKB5	0.015	
	Blue			1	DL1 BKB6	0.015	
	Yellow			1	DL1 BKB8	0.015	
~ 120 V	White			1	DL1 BKG1	0.015	
	Green			1	DL1 BKG3	0.015	
	Red		1	DL1 BKG4	0.015		
	Orange		1	DL1 BKG5	0.015		
	Blue		1	DL1 BKG6	0.015		
	Yellow		1	DL1 BKG8	0.015		
	~ 230 V		White	1	DL1 BKM1	0.015	
			Green	1	DL1 BKM3	0.015	
Red			1	DL1 BKM4	0.015		
Orange			1	DL1 BKM5	0.015		
Blue			1	DL1 BKM6	0.015		
Yellow			1	DL1 BKM8	0.015		

Protected
LED

Protected
LED

Beacons and indicator banks

Indicator banks Ø 50 mm Universal,
Harmony type XVP C (for customer assembly, up to 5 units)
Illuminated and audible units



XVP C6●●



XVP C6●●W

Illuminated "flash" units with discharge tube

Description	Voltage	Colour	Reference	Weight kg	
With black clamping ring	"Flash" discharge tube (0.3 Joules) --- 24 V	Green	XVP C6B3	0.120	
		Red	XVP C6B4	0.120	
		Orange	XVP C6B5	0.120	
		Blue	XVP C6B6	0.120	
		Clear	XVP C6B7	0.120	
		Yellow	XVP C6B8	0.120	
		"Flash" discharge tube (0.6 Joules) ~ 120 V	Green	XVP C6G3	0.115
			Red	XVP C6G4	0.115
			Orange	XVP C6G5	0.115
			Blue	XVP C6G6	0.115
Clear	XVP C6G7		0.115		
Yellow	XVP C6G8		0.115		
"Flash" discharge tube (0.6 Joules) ~ 230 V	Green	XVP C6M3	0.115		
	Red	XVP C6M4	0.115		
	Orange	XVP C6M5	0.115		
	Blue	XVP C6M6	0.115		
	Clear	XVP C6M7	0.115		
	Yellow	XVP C6M8	0.115		
With cream clamping ring	"Flash" discharge tube (0.3 Joules) --- 24 V	Green	XVP C6B3W	0.120	
		Red	XVP C6B4W	0.120	
		Orange	XVP C6B5W	0.120	
		Blue	XVP C6B6W	0.120	
		Clear	XVP C6B7W	0.120	
		Yellow	XVP C6B8W	0.120	
		"Flash" discharge tube (0.6 Joules) ~ 120 V	Green	XVP C6G3W	0.115
			Red	XVP C6G4W	0.115
			Orange	XVP C6G5W	0.115
			Blue	XVP C6G6W	0.115
Clear	XVP C6G7W		0.115		
Yellow	XVP C6G8W		0.115		
"Flash" discharge tube (0.6 Joules) ~ 230 V	Green	XVP C6M3W	0.115		
	Red	XVP C6M4W	0.115		
	Orange	XVP C6M5W	0.115		
	Blue	XVP C6M6W	0.115		
	Clear	XVP C6M7W	0.115		
	Yellow	XVP C6M8W	0.115		



XVP C09●●



XVP C09●●W

Audible units

Description	Voltage	Colour	Reference	Weight kg	
Buzzer, adjustable 55...85 dB at 1 m	--- 24 V	Black	XVP C09B	0.153	
		Black	XVP C09G	0.153	
		Black	XVP C09M	0.153	
	~ 120 V	--- 24 V	Cream	XVP C09BW	0.153
			Cream	XVP C09GW	0.153
			Cream	XVP C09MW	0.153

Beacons and indicator banks

Indicator banks Ø 50 mm Universal,
Harmony type XVP C
Base units, covers and accessories



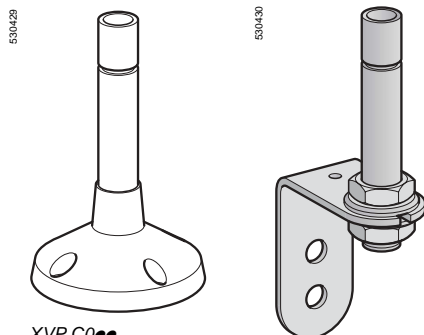
XVP C21

XVP C21W●

Base units

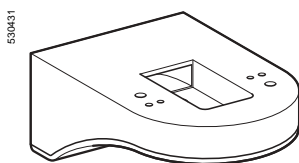
Base units for direct or tube fixing

Description	Colour	Reference	Weight kg
Base unit + cover for bared wires or wires with cable end	Black	XVP C21	0.125
	Cream	XVP C21W	0.125
Base unit + cover for eyelet tags	Cream	XVP C21WR	0.125



XVP C0●●

XVP C0●T



XVP C12●

Accessories

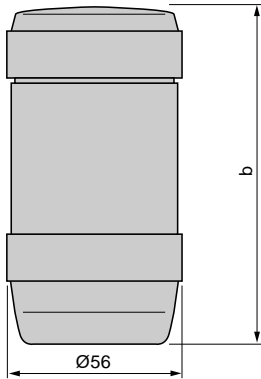
Description	Characteristics	Reference	Weight kg
Aluminium support tube with integral black fixing base	112 mm	XVP C02	0.112
	260 mm	XVP C03	0.173
	410 mm	XVP C04	0.253
Aluminium support tube with integral cream fixing base	112 mm	XVP C02W	0.112
	260 mm	XVP C03W	0.173
	410 mm	XVP C04W	0.253
Threaded aluminium support tube + stainless steel fixing bracket	100 mm	XVP C02T	0.245
	250 mm	XVP C03T	0.306
	400 mm	XVP C04T	0.386
Fixing plate for use on vertical support, black	For mounting XVP C0●● support tubes with integral fixing base	XVP C12	0.083
Fixing plate for use on vertical support, cream	For mounting XVP C0●● support tubes with integral fixing base	XVP C12W	0.083
Bulb mounting and removal tool	-	XVP CX13	0.015

Beacons and indicator banks

Indicator banks Ø 50 mm Universal,
Harmony type XVP C

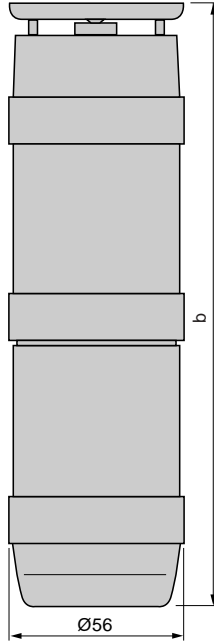
Indicator banks XVP C●●●

Without audible unit



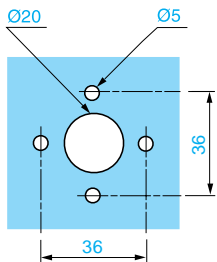
Number of illuminated units	b
1	108
2	170
3	232
4	294
5	356

With audible unit



Number of units:	b
Illuminated	+ Audible
0	+ 1 129
1	+ 1 194
2	+ 1 256
3	+ 1 318
4	+ 1 380

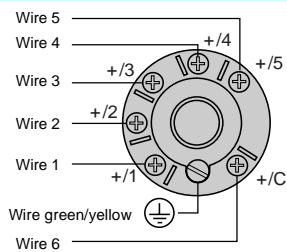
Panel cut-out for direct fixing (on base unit XVP C21●●)



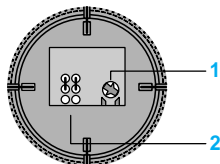
4

Installation

Connections



Adjustment of audible signal for buzzers type XVP C09●



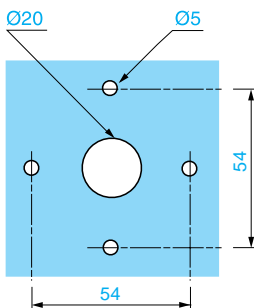
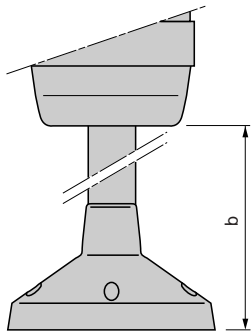
- 1 Volume adjustment potentiometer: 55...85 dB. Use either a cross headed or flat tipped screwdriver.
- 2 Adjustment of type of audible signal according to position of 2 links. Use flat-nose pliers.
- 3 10 configurations are possible, see table below. Factory set on position 5: continuous tone.

3	Position of links	Type of audible signal	Position of links	Type of audible signal
1	5 ○ 6 1 ○ 2		6	
2	5 ○ 6 1 ○ 2		7	
3	5 ○ 6 1 ○ 2		8	
4	5 ○ 6 1 ○ 2		9	
5	5 ○ 6 1 ○ 2		10	

Beacons and indicator banks

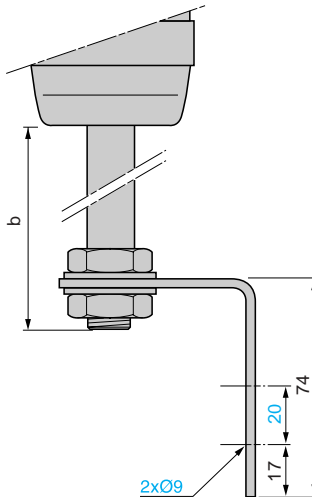
Indicator banks Ø 50 mm Universal,
Harmony type XVP C

Support tube XVP C0●● with integral fixing base



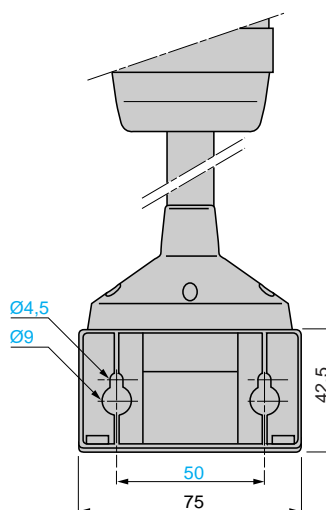
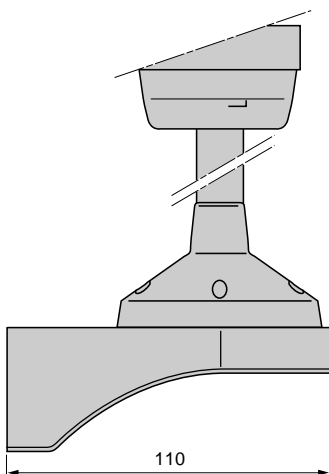
Height under base unit	b
XVP C02●	89
XVP C03●	237
XVP C04●	387

Threaded support tube XVP C0●T with metal fixing bracket



Height under base unit	b
XVP C02T	77
XVP C03T	227
XVP C04T	377

Mounting using fixing plate XVP C12● for use on a vertical support

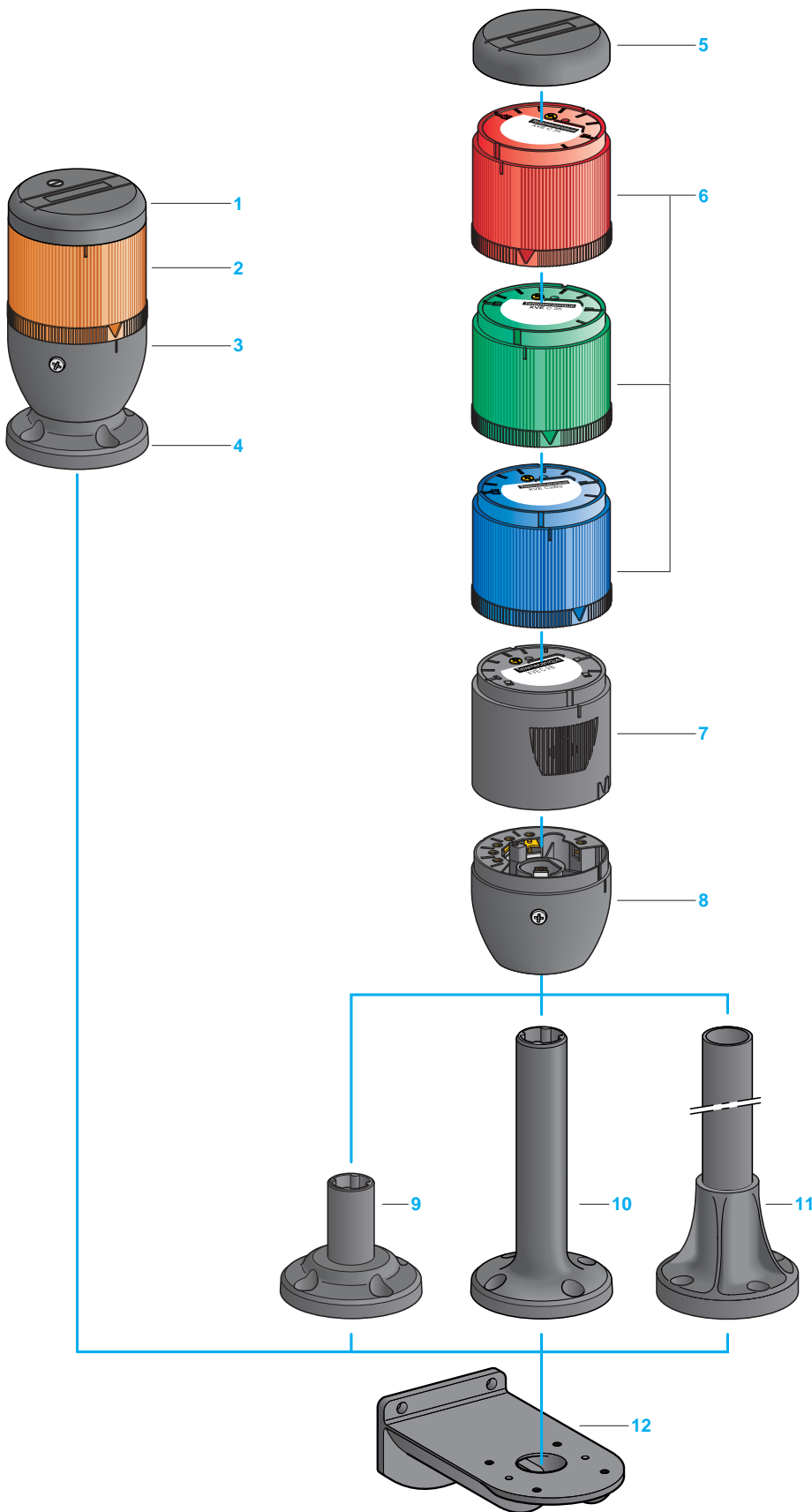


Note: support tube XVP C0●● with integral fixing base must be used.

Beacons and indicator banks

Beacons and indicator banks Ø 70 mm Optimum, Harmony type XVE

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Description

Illuminated beacon

The illuminated beacon is a complete product comprising:

- 1 A screw fixing cover.
- 2 One coloured illuminated unit (green, red, orange, blue or clear).
- 3 A base unit with terminal block and bottom cable entry.
- 4 A monobloc fixing base for mounting on machine.

Indicator bank

The indicator bank is a customer assembled product using:

- 5 A cover.
- 6 1 to 5 coloured illuminated units (green, red, orange, blue or clear) with a choice of 3 types of signalling (steady, flashing or "flash").
- 7 1 audible unit.
- 8 A base unit (IP 42 or IP 54) with terminal block and bottom cable entry.
- 9 A plastic fixing base, 20 mm high.
- 10 A plastic fixing base, 100 mm high.
- 11 An aluminium support tube glued into a plastic fixing plate, for heights beneath the base unit of 80, 380 or 780 mm.

To be ordered separately:

- 12 Fixing plate for mounting on vertical support.

Beacons and indicator banks

Beacons and indicator banks Ø 70 mm Optimum, Harmony type XVE

Presentation

The beacons and indicator banks of the XVE range are designed for remote signalling of the status of a machine, equipment or specific application, either visually using illuminated units which are visible throughout 360° or audibly using an 85 dB buzzer.

The XVE Optimum range provides efficient signalling (5 colours available), at medium range distances (30 m), in both indoor and outdoor environments.

The standard configuration of the beacons and indicator banks is an IP 42 degree of protection, which is sufficient for the majority of indoor applications.

Both the IP 42 pre-configured beacons and indicator banks can be upgraded to IP 54 by using a sealing kit (1).

Depending on the indicator bank base unit selected, it is possible to achieve an IP 54 degree of protection for outdoor usage (1).

Composition

■ The beacons are supplied complete and incorporate a single steady or "flash" light illuminated unit and a short fixing base. They are ready to use.

■ The indicator banks must be assembled by the user and comprise signalling units, mounted on a base unit, and a fixing base. These various items are to be selected from the catalogue.

□ For an indicator bank, a maximum of 5 illuminated units or 4 illuminated units + 1 audible unit can be assembled.

□ The illuminated or audible units stack vertically and are easily fitted together. A screw secures their mounting. Electrical connections between each unit are made automatically as the units are mechanically assembled.

□ All the signalling units are identical in size and their positioning is unrestricted.

Signalling functions

Steady light signalling

Two types of light source are available for steady light signalling:

□ The incandescent BA 15d base fitting bulb, 5 W max. power, is recommended for infrequent usage and where no vibration or mechanical shock exists. The bulb is not included with the lens unit and must be fitted separately.

□ LEDs are recommended for continuous usage: 100,000 operating hours without maintenance and low consumption. They have a good resistance to vibration. Using an LED of a colour best suited to the colour of the lens unit provides optimal luminosity.

Flashing light signalling

Flashing light signalling is also obtained using the LED. It meets requirements regarding reliability, continuous usage and electronic simplicity.

A flashing function can also be obtained from a steady light LED illuminated unit by using a PLC output signal.

"Flash" light signalling

The light source is a 1 Joule discharge tube which delivers a powerful warning signal. It is available for the 5 colours.

Audible signalling

Audible signalling is provided by a continuous tone buzzer with a power rating of 85 dB at 1 m.

Installation

Mounting

Fixed onto support panel using plastic monobloc fixing base or fixing base comprising an aluminium support tube glued into a plastic fixing plate.

Cabling

By means of terminal block incorporated in base unit. The terminals are protected and of the screw and captive cable clamp type.

(1) See page 4/27.

Beacons and indicator banks

Beacons and indicator banks Ø 70 mm Optimum, Harmony type XVE

Environment characteristics

Degree of protection	Conforming to IEC 60529		<ul style="list-style-type: none"> ■ IP 42 in vertical position, IP 40 for other positions ■ IP 54 for reinforced protection version: <ul style="list-style-type: none"> □ for all mounting positions using fixing base XVE Z13, □ only in vertical position for other heights of fixing base
Product certifications			UL, CSA, CCC
Approval			CE
Conformity to standards			IEC/EN 60947-1, IEC/EN 60947-5-1
Ambient air temperature	For storage	°C	- 40...+ 70
	For operation	°C	- 25...+ 55
Electric shock protection Conforming to IEC 61140	Mounted on plastic support tube		Class I
	Mounted on aluminium support tube		Class I
Protective treatment			Standard version: "TC"
Electronic components protection (LED and flash)	By integral fuse in series on the common	A	0.63 (\approx 24 V)
		A	0.16 (\sim 120...240 V)

Electrical characteristics

Illuminated units			With bulb, not included (lens unit only)	With integral LED, steady light signalling	With integral LED, flashing light signalling	With "flash" discharge tube, 1 Joule
Rated insulation voltage (Ui)	Conforming to IEC 60947-1	V	250	250	250	250
Voltage limits	Conforming to IEC 60947-5-1	V	0.85...1.10 Un (Un: nominal voltage)			
Light source			BA 15d base fitting bulb, maximum power 5 W (240 V max.)	LED	LED	"Flash" discharge tube, 1 Joule
Consumption	On \approx 24 V	mA	Depending on bulb used	< 25	< 30	< 145 on \sim 24 V < 85 on \approx 24 V
	On \sim 120 V	mA	Depending on bulb used	< 25	< 25	< 35
	On \sim 230/240 V	mA	Depending on bulb used	< 25	< 25	< 25
Rated impulse withstand voltage	Conforming to IEC 60947-1	kV	U imp = 4			
Illuminating power	Average value for all colours	cds/m ²	640	800	800	–
Flashing frequency	Nominal value	Hz	–	–	1	1
Audible units						
Consumption	On \approx 24 V	mA	< 15			
	On \sim 120 V	mA	< 25			
	On \sim 230/240 V	mA	< 25			
Power	Continuous tone	dB	85 at 1 m			
	Fundamental frequency	kHz	2.6 for continuous tone			
Connection of illuminated and audible units						
Terminal referencing			1 terminal referenced "C" common to all 5 units 5 terminals referenced 1 to 5			
Connection	Maximum clamping capacity on protected, ready-to-tighten, screw and captive cable clamp terminals	mm ²	1 x 1.5 with cable end			

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Beacons and indicator banks

Beacons and indicator banks Ø 70 mm Optimum,
Harmony type XVE
Illuminated beacons



XVE L3



XVE L2



XVE L6

Illuminated beacons with steady light signalling

Description	Light source	Supply voltage	Colour of lens unit	Reference	Weight kg		
Complete unit comprising: - 1 screw fixing cover, - 1 illuminated unit, - 1 base unit, - 1 short fixing base	Bulb, not included, 5 W max.	≈ 240 V max.	Green	XVE L33	0.245		
			Red	XVE L34	0.245		
			Orange	XVE L35	0.245		
			Blue	XVE L36	0.245		
			Clear	XVE L37	0.245		
			Illuminated unit with integral LED	≈ 24 V	Green	XVE L2B3	0.250
					Red	XVE L2B4	0.250
Orange	XVE L2B5	0.250					
Blue	XVE L2B6	0.250					
Clear	XVE L2B7	0.250					
≈ 120 V	Green	XVE L2G3			0.250		
	Red	XVE L2G4			0.250		
	Orange	XVE L2G5	0.250				
	Blue	XVE L2G6	0.250				
	Clear	XVE L2G7	0.250				
	≈ 230 V/240 V	Green	XVE L2M3	0.250			
		Red	XVE L2M4	0.250			
Orange		XVE L2M5	0.250				
Blue		XVE L2M6	0.250				
Clear		XVE L2M7	0.250				

Illuminated beacons with "flash" light signalling

Description	Light source	Supply voltage	Colour of lens unit	Reference	Weight kg	
Complete unit comprising: - 1 screw fixing cover, - 1 illuminated unit, - 1 base unit, - 1 short fixing base	Illuminated unit with 1 Joule "flash" discharge tube	≈ 24 V	Green	XVE L6B3	0.270	
			Red	XVE L6B4	0.270	
			Orange	XVE L6B5	0.270	
			Blue	XVE L6B6	0.270	
			Clear	XVE L6B7	0.270	
			≈ 120 V	Green	XVE L6G3	0.270
				Red	XVE L6G4	0.270
Orange	XVE L6G5	0.270				
Blue	XVE L6G6	0.270				
Clear	XVE L6G7	0.270				
≈ 230 V/240 V	Green	XVE L6M3		0.270		
	Red	XVE L6M4		0.270		
	Orange	XVE L6M5	0.270			
	Blue	XVE L6M6	0.270			
	Clear	XVE L6M7	0.270			

Beacons and indicator banks

Beacons and indicator banks Ø 70 mm Optimum,
Harmony type XVE
Indicator banks for customer assembly

Illuminated units with steady light signalling

Description	Light source	Supply voltage	Colour of lens unit	Reference	Weight kg	
Lens units only for BA 15d base fitting bulb	Bulb, not included, 5 W max.	≈ 240 V max.	Green	XVE C33	0.072	
			Red	XVE C34	0.072	
			Orange	XVE C35	0.072	
			Blue	XVE C36	0.072	
			Clear	XVE C37	0.072	
Illuminated units	Integral LED	≈ 24 V	Green	XVE C2B3	0.077	
			Red	XVE C2B4	0.077	
			Orange	XVE C2B5	0.077	
			Blue	XVE C2B6	0.077	
			Clear	XVE C2B7	0.077	
			~ 120 V	Green	XVE C2G3	0.077
				Red	XVE C2G4	0.077
		Orange		XVE C2G5	0.077	
		Blue		XVE C2G6	0.077	
		Clear		XVE C2G7	0.077	
		~ 230 V/240 V		Green	XVE C2M3	0.077
				Red	XVE C2M4	0.077
			Orange	XVE C2M5	0.077	
			Blue	XVE C2M6	0.077	
Clear	XVE C2M7		0.077			



XVE C3●



XVE C2●●●

Illuminated units with flashing light signalling

Illuminated units	Integral LED	≈ 24 V	Green	XVE C5B3	0.077	
			Red	XVE C5B4	0.077	
			Orange	XVE C5B5	0.077	
			Blue	XVE C5B6	0.077	
			Clear	XVE C5B7	0.077	
			~ 120 V	Green	XVE C5G3	0.077
				Red	XVE C5G4	0.077
		Orange		XVE C5G5	0.077	
		Blue		XVE C5G6	0.077	
		Clear		XVE C5G7	0.077	
		~ 230 V/240 V		Green	XVE C5M3	0.077
				Red	XVE C5M4	0.077
			Orange	XVE C5M5	0.077	
			Blue	XVE C5M6	0.077	
			Clear	XVE C5M7	0.077	



XVE C5●●●

Illuminated units with "flash" light signalling

Illuminated units	"Flash" discharge tube, 1 Joule	≈ 24 V	Green	XVE C6B3	0.094	
			Red	XVE C6B4	0.094	
			Orange	XVE C6B5	0.094	
			Blue	XVE C6B6	0.094	
			Clear	XVE C6B7	0.094	
			~ 120 V	Green	XVE C6G3	0.094
				Red	XVE C6G4	0.094
		Orange		XVE C6G5	0.094	
		Blue		XVE C6G6	0.094	
		Clear		XVE C6G7	0.094	
		~ 230 V/240 V		Green	XVE C6M3	0.094
				Red	XVE C6M4	0.094
			Orange	XVE C6M5	0.094	
			Blue	XVE C6M6	0.094	
			Clear	XVE C6M7	0.094	



XVE C6●●●

Audible units

Description	Power	Supply voltage	Reference	Weight kg
Buzzer, single tone	85 dB at 1 metre	≈ 24 V	XVE C9B	0.090
		~ 120 V	XVE C9G	0.090
		~ 230 V/240 V	XVE C9M	0.090



XVE C9●

Beacons and indicator banks

Beacons and indicator banks Ø 70 mm Optimum, Harmony type XVE

Indicator banks for customer assembly (continued)

Separate components for beacons and indicator banks



XVE C21



XVE C21P



XVB Z13

XVD C02



XVB Z02

XVB Z03/Z04



XVB Z01

XVB C12



XVE Z081



XVE Z082



XVE Z083



DL1 BE•S

Base units and covers

Indicator bank usage	Composition	Reference	Weight kg
Indoors (IP 42)	Base unit and cover	XVE C21	0.110
Outdoors (IP 54)	Base unit with seal + screw fixing cover + kit comprising 5 seals for lens units and buzzer + 1 seal for fixing base XVE Z13	XVE C21P	0.120

Fixing components

Description	Height under base unit mm	Colour	Reference	Weight kg
Plastic fixing bases	20	Black	XVE Z13	0.040
	100	Black	XVD C02	0.056
Fixing bases comprising: Ø 25 mm aluminium support tube glued into black plastic fixing plate	80	Black aluminium	XVB Z02	0.110
		Aluminium	XVB Z02A	0.110
	380	Black aluminium	XVB Z03	0.200
		Aluminium	XVB Z03A	0.200
	780	Black aluminium	XVB Z04	0.325
		Aluminium	XVB Z04A	0.325

Description	For	Material	Reference	Weight kg
Fixing plate	Ø 25 mm aluminium support tube (to be glued into fixing plate)	Plastic	XVB Z01	0.050
Fixing plate for use on vertical support	Mounting beacons and indicator banks (requires a fixing base)	Zamak	XVB C12	0.380

Separate components for beacons and indicator banks

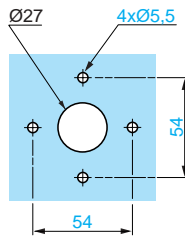
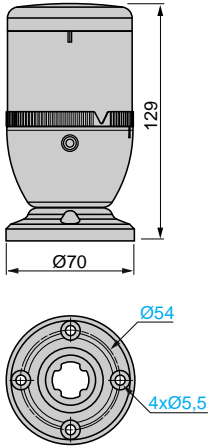
Description	For use with	Composition	Reference	Weight kg
Cover	Beacons and indicator banks	–	XVE Z081	0.010
IP 54 sealing kit	Indicator banks	5 toric seals for lens units + base unit seal + 1 fixing plate seal + 1 seal for fixing base XVE Z13 + screw fixing cover	XVE Z082	0.015
	Beacons	1 lens unit seal + 1 base unit seal + 2 fixing base seals	XVE Z083	0.005
Description	Electrical characteristics	Sold in lots of	Reference	Weight kg
Incandescent bulbs with BA 15d base fitting for lens units type XVE L3● and XVE C3●	5 W ≈ 24 V	10	DL1 BEBS	0.100
	5 W ≈ 120 V	10	DL1 BEGS	0.100
	5 W ≈ 230 V	10	DL1 BEMS	0.100

Beacons and indicator banks

Beacons and indicator banks Ø 70 mm Optimum,
Harmony type XVE
Illuminated beacons

Illuminated beacons XVE L●●●

Panel cut-out for mounting directly on fixing base

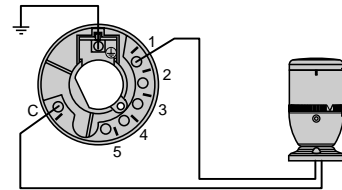
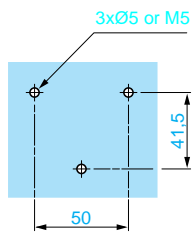
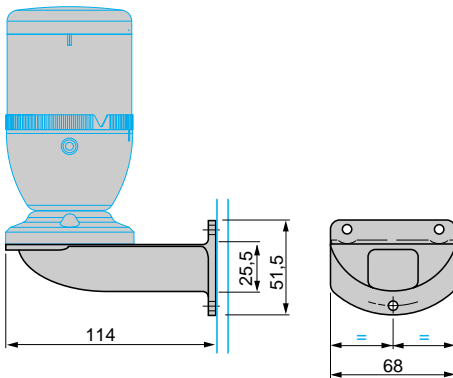


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Mounting on fixing plate XVB C12

Vertical support panel drillings for mounting fixing plate XVB C12

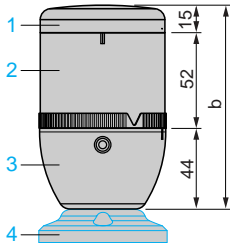
Wiring scheme



Beacons and indicator banks

Beacons and indicator banks, Ø 70 mm Optimum,
Harmony type XVE
Indicator banks

Indicator banks XVE C●●●



- 1 Cover XVE Z081 or cover XVE C21/C21P (with base unit),
- 2 Illuminated units XVE C●● and/or audible unit XVE C9●,
- 3 Base unit XVE C21/C21P,
- 4 Fixing bases (see below).

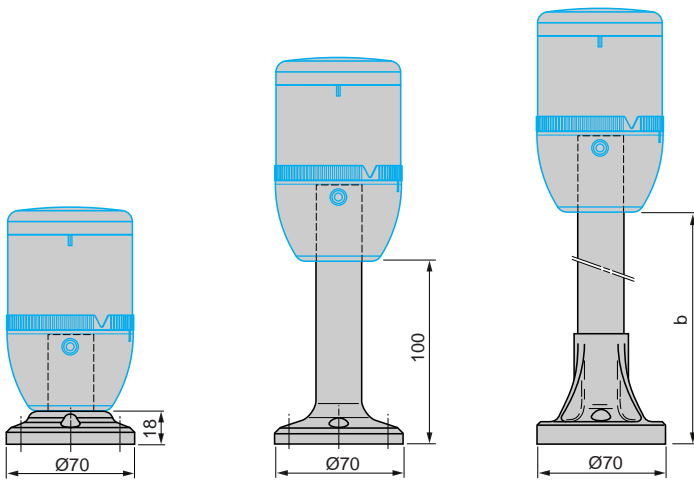
Height of indicator bank	
Number of units (ref. 2)	b
1 unit	111
2 units	163
3 units	215
4 units	267
5 units	319

Fixing bases (height under base unit)

XVE Z13

XVD C02

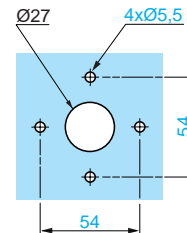
XVB Z0●●



Height under base unit

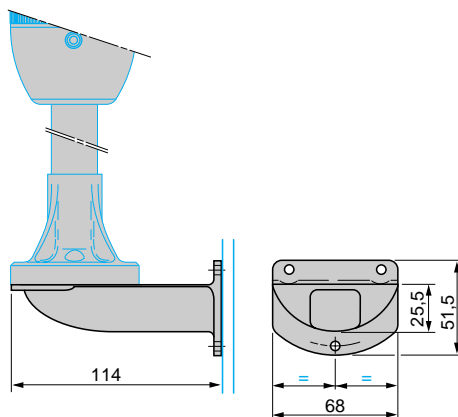
Fixing base	b
XVB Z02/Z02A	80
XVB Z03/Z03A	380
XVB Z04/Z04A	780

Panel cut-out for mounting directly on fixing base

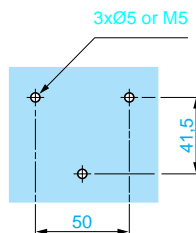


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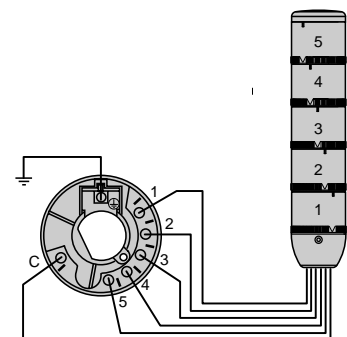
Mounting on fixing plate XVB C12



Vertical support panel drillings for mounting fixing plate XVB C12



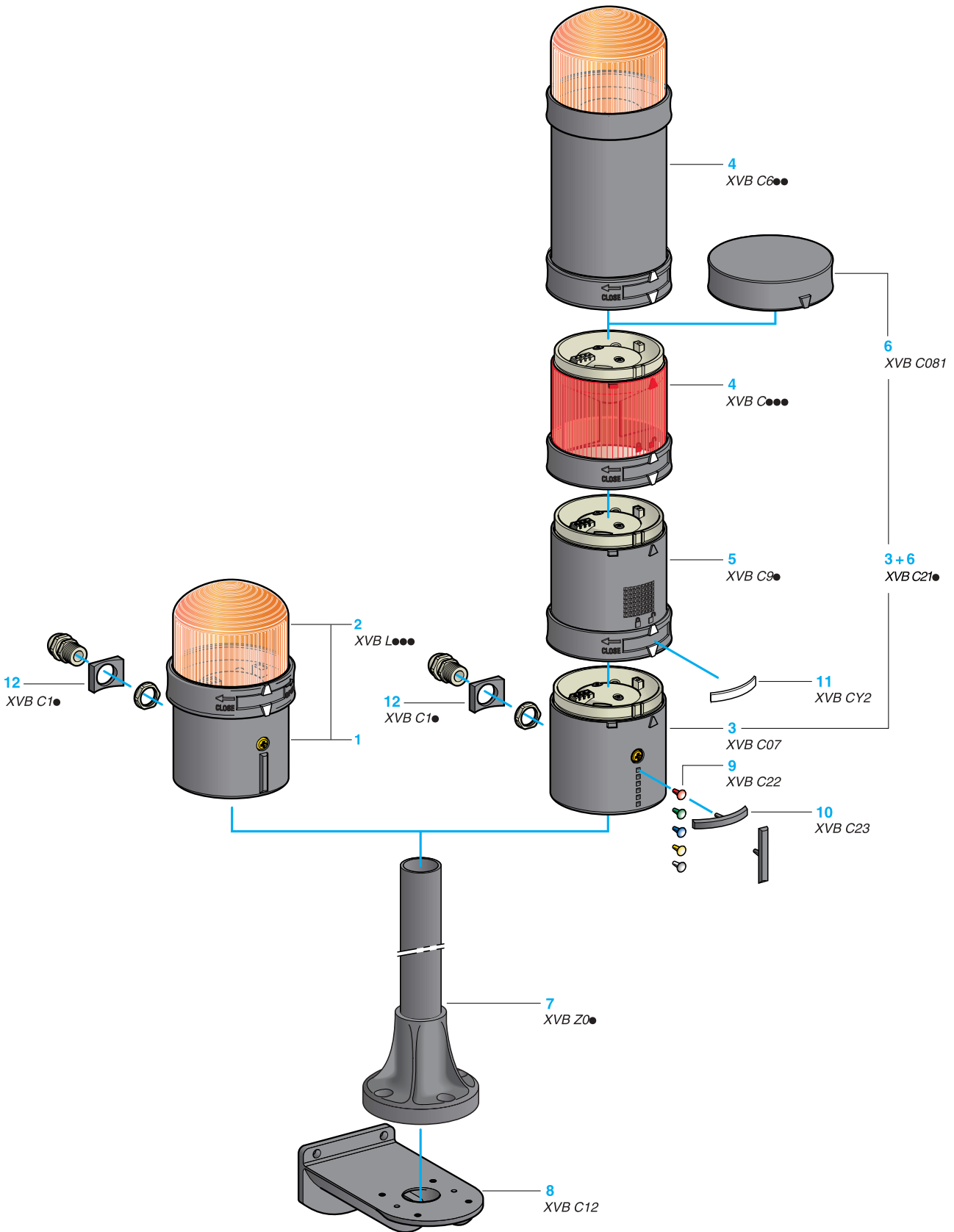
Wiring scheme



Beacons and indicator banks

Beacons and indicator banks Ø 70 mm Universal, Harmony type XVB

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Beacons and indicator banks XVB are visual or audible signalling units and are mainly used for indicating, throughout 360° and at a distance, the various states or operation sequences of a machine or installation.

Examples: start, stop machine, no material, call technical staff, fault signalling, etc.

Illuminated beacon**Complete product**

Ready assembled with a single illuminated signalling unit:

- steady light (with incandescent bulb or LED),
- flashing light (with incandescent bulb or LED), or
- "flash" (with discharge tube).

The beacon comprises:

- 1 A base unit with a removable terminal block and bottom or side cable entry.
- 2 One coloured illuminated unit (green, red, orange, blue, clear or yellow).

Indicator bank**Customer assembled product**

Variable composition assembly of 1 to 5 illuminated or audible units which are supplied as separate items (assembly by user).

The bank comprises:

- 3 A base unit with a removable terminal block and bottom or side cable entry.
- 4 1 to 5 coloured illuminated units (green, red, orange, blue, clear or yellow).
Maximum configuration: 5 units or 4 units + 1 "flash".
- 5 Or 1 or 2 audible units.
- 6 A top cover (except when using a "flash" discharge tube).

- The illuminated or audible units stack vertically and are easily locked and unlocked using an integral clamping ring. Electrical connections between each unit are made automatically.

- Only one "flash" discharge tube unit can be fitted on each indicator bank and it is always mounted on top.

- Connection on the AS-Interface cabling system is possible by ordering a dedicated base unit. Please refer to our "AS-Interface cabling system" catalogue.

Accessories**For beacons and indicator banks**

- 7 Fixing base comprising a support tube glued into a plastic fixing plate, for heights beneath the base unit of 80, 380 or 780 mm.
- 8 Fixing plate for mounting on vertical support.
- 9 Coloured markers (1).
- 10 Legend holder with legend (1).
- 11 Legends that attach to locking ring of each signalling unit for identification.
- 12 Adaptor and 13P cable gland.

(1) These enable the position of the various units (illuminated or audible) to be identified in the event of dismantling the bank.

Installation**Mounting**

- Base unit fixed directly onto panel using 2 screws.
- Fixed using a fixing base comprising an aluminium support tube glued into a plastic fixing plate.

Cabling

By means of removable terminal block incorporated in base unit (simplified wiring). The screw and captive cable clamp terminals are protected to prevent any accidental contact with live parts.

Beacons and indicator banks

Beacons and indicator banks Ø 70 mm Universal, Harmony type XVB

Environment characteristics			
Product certifications	Standard version		CSA, UL, CCC
Conformity to standards			IEC/EN 60947-5-1
Protective treatment	Standard version		"TC"
Ambient air temperature	For storage	°C	- 40...+ 70
	For operation (1)	°C	Illuminated units with steady light signalling: - 25...+ 70, with 7 W incandescent bulb - 25...+ 50, with LED
		°C	Illuminated units with flashing light signalling: - 25...+ 50, with 7 W incandescent bulb - 25...+ 50, with LED
		°C	Illuminated units with "flash" discharge tube: - 25...+ 50
		°C	Audible units: - 25...+ 50, with buzzer
Electric shock protection Conforming to IEC 536	Mounted on support tube		Class I
	Mounted on base unit		Class II
Degree of protection	Conforming to IEC 60529 and NF C 20-010		IP 65 (mounted on fixing base XVB Z0●) IP 66 (mounted directly on base unit)
	Conforming to UL 508		Type 4X NEMA "Indoor"
Material	Illuminated units		Polycarbonate
	Base unit and cover		Glass-reinforced polyamide and polycarbonate
	Support tube		Painted aluminium
	Fixing plate		Zamak

(1) Warning: illuminated units with incandescent bulbs must not be combined with LED illuminated units, due to the risk of overheating.
Also, when different units (e.g. steady, flashing...) are combined, the maximum temperature is limited to that of the weaker unit.

Beacons and indicator banks

Beacons and indicator banks Ø 70 mm Universal, Harmony type XVB

Electrical characteristics			
Rated insulation voltage (Ui)	Conforming to IEC 60947-1	V	250
Voltage limits	Conforming to IEC 60947-5-1	V	0.85 to 1.10 Un (Un: nominal voltage)
Consumption	LED units	mA	Steady light signalling: \approx 24 V: < 30 \sim 120...230 V: < 30
		mA	Flashing light signalling: \approx 24 V: < 40 \sim 120...230 V: < 15
	Units with discharge tube (1)	mA	Flashing light signalling: \approx 24 V: 5 J unit: < 430; 10 J unit: < 850 \sim 120 V: 5 J unit: < 130; 10 J unit: < 260 \sim 230 V: 5 J unit: < 105; 10 J unit: < 210
	Audible units	mA	\approx 12...48 V: < 20 V \sim 120...230 V: < 50
Rated impulse withstand voltage	Conforming to IEC 60947-1	kV	U imp = 4
Light source	Illuminated units with steady or flashing light signalling		LEDs: degree of pollution 2 Bulbs with BA 15d base fitting, maximum power 7 W
Illuminating power	Units with discharge tube	cds	13 (integral high intensity tube) with clear lens unit: 5 J tube 26 (integral high intensity tube) with clear lens unit: 10 J tube
Audible unit	Continuous or intermittent tone	dB	90 at 1 m
	Fundamental frequency	kHz	2.8
Terminal referencing			1 terminal referenced "C" common to all 5 units
			1 or 5 terminals referenced 1 to 5, depending on number of units
Connection	Maximum clamping capacity on protected, ready-to-tighten, screw and captive cable clamp terminals	mm ²	1 x 1.5 with cable end
Frequency of illuminated units	Illuminated units with flashing light signalling	Hz	1
	Illuminated units with discharge tube	Hz	1

(1) **Warning:** illuminated units with a flash discharge tube are not suitable for steady light signalling due to the heat generated.

Beacons and indicator banks

Illuminated beacons Ø 70 mm Universal,
Harmony type XVB L

For incandescent bulbs or LEDs (BA 15d base fitting)



XVB L3●



XVB L4B●

4

Illuminated beacons with steady light signalling

Description	Light source, to be ordered separately (1)	Colour	Reference	Weight kg
Complete unit comprising: - 1 illuminated unit - 1 base unit (direct or tube fixing)	Incandescent bulb 7 W max. 250 V max.	Green	XVB L33	0.260
		Red	XVB L34	0.260
		Orange	XVB L35	0.260
		Blue	XVB L36	0.260
		Clear	XVB L37	0.260
		Yellow	XVB L38	0.260

Illuminated beacons with integral flashing light signalling

Description	Light source, to be ordered separately (1)	Colour	Reference	Weight kg	
Complete unit comprising: - 1 illuminated unit - 1 base unit (direct or tube fixing)	Incandescent bulb 7 W max. ~ 24 V --- 24...48 V	Green	XVB L4B3	0.280	
		Red	XVB L4B4	0.280	
		Orange	XVB L4B5	0.280	
		Blue	XVB L4B6	0.280	
		Clear	XVB L4B7	0.280	
		Yellow	XVB L4B8	0.280	
		Incandescent bulb 7 W max. ~ 48...230 V	Green	XVB L4M3	0.280
			Red	XVB L4M4	0.280
Orange	XVB L4M5		0.280		
Blue	XVB L4M6		0.280		
Clear	XVB L4M7		0.280		
Yellow	XVB L4M8		0.280		

(1) Incandescent bulbs and LEDs, see page 4/41.

Beacons and indicator banks

Illuminated beacons Ø 70 mm Universal,
Harmony type XVB L
With LED light source



XVB L0B●

Illuminated beacons with steady light signalling

Description	Light source	Colour	Reference	Weight kg	
Complete unit comprising: - 1 cover - 1 illuminated unit - 1 base unit (direct or tube fixing)	LED, included ≈ 24 V	Green	XVB L0B3	0.270	
		Red	XVB L0B4	0.270	
		Orange	XVB L0B5	0.270	
		Blue	XVB L0B6	0.270	
		Clear	XVB L0B7	0.270	
		Yellow	XVB L0B8	0.270	
		LED, included ~ 120 V	Green	XVB L0G3	0.270
			Red	XVB L0G4	0.270
Orange	XVB L0G5		0.270		
Blue	XVB L0G6		0.270		
Clear	XVB L0G7		0.270		
Yellow	XVB L0G8		0.270		
LED, included ~ 230 V	Green		XVB L0M3	0.270	
	Red		XVB L0M4	0.270	
	Orange	XVB L0M5	0.270		
	Blue	XVB L0M6	0.270		
	Clear	XVB L0M7	0.270		
	Yellow	XVB L0M8	0.270		



XVB L1B●

Illuminated beacons with integral flashing light signalling

Description	Light source	Colour	Reference	Weight kg	
Complete unit comprising: - 1 cover - 1 illuminated unit - 1 base unit (direct or tube fixing)	LED, included ≈ 24 V	Green	XVB L1B3	0.280	
		Red	XVB L1B4	0.280	
		Orange	XVB L1B5	0.280	
		Blue	XVB L1B6	0.280	
		Clear	XVB L1B7	0.280	
		Yellow	XVB L1B8	0.280	
		LED, included ~ 120 V	Green	XVB L1G3	0.280
			Red	XVB L1G4	0.280
Orange	XVB L1G5		0.280		
Blue	XVB L1G6		0.280		
Clear	XVB L1G7		0.280		
Yellow	XVB L1G8		0.280		
LED, included ~ 230 V	Green		XVB L1M3	0.280	
	Red		XVB L1M4	0.280	
	Orange	XVB L1M5	0.280		
	Blue	XVB L1M6	0.280		
	Clear	XVB L1M7	0.280		
	Yellow	XVB L1M8	0.280		

Beacons and indicator banks

Illuminated beacons Ø 70 mm Universal,
Harmony type XVB L
With "flash" discharge tube



XVB L6B●

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XVB L8B●

Illuminated beacons with 5 Joule "flash" discharge tube

Description	Light source	Colour	Reference	Weight kg
Complete unit comprising: - 1 cover - 1 illuminated unit - 1 base unit (direct or tube fixing)	Integral "flash" discharge tube ~ 24 V	Green	XVB L6B3	0.440
		Red	XVB L6B4	0.440
		Orange	XVB L6B5	0.440
		Blue	XVB L6B6	0.440
		Clear	XVB L6B7	0.440
	Integral "flash" discharge tube ~ 120 V	Green	XVB L6G3	0.425
		Red	XVB L6G4	0.425
		Orange	XVB L6G5	0.425
		Blue	XVB L6G6	0.425
		Clear	XVB L6G7	0.425
Integral "flash" discharge tube ~ 230 V	Green	XVB L6M3	0.435	
	Red	XVB L6M4	0.435	
	Orange	XVB L6M5	0.435	
	Blue	XVB L6M6	0.435	
	Clear	XVB L6M7	0.435	
Yellow	XVB L6M8	0.435		

Illuminated beacons with 10 Joule "flash" discharge tube

Description	Light source	Colour	Reference	Weight kg
Complete unit comprising: - 1 cover - 1 illuminated unit - 1 base unit (direct or tube fixing)	Integral "flash" discharge tube ~ 24 V	Green	XVB L8B3	0.450
		Red	XVB L8B4	0.450
		Orange	XVB L8B5	0.450
		Blue	XVB L8B6	0.450
		Clear	XVB L8B7	0.450
	Integral "flash" discharge tube ~ 120 V	Green	XVB L8G3	0.460
		Red	XVB L8G4	0.460
		Orange	XVB L8G5	0.460
		Blue	XVB L8G6	0.460
		Clear	XVB L8G7	0.460
Integral "flash" discharge tube ~ 230 V	Green	XVB L8M3	0.460	
	Red	XVB L8M4	0.460	
	Orange	XVB L8M5	0.460	
	Blue	XVB L8M6	0.460	
	Clear	XVB L8M7	0.460	
Yellow	XVB L8M8	0.460		

Beacons and indicator banks

Indicator banks Ø 70 mm Universal,
Harmony type XVB C (for customer assembly, up to 5 units)
Illuminated units for incandescent bulbs or LEDs
(BA 15d base fitting)



XVB C3●



XVB C4●●

Illuminated units with steady light signalling

Description	Light source, to be ordered separately (1)	Colour	Reference	Weight kg
Illuminated units	Incandescent bulb 7 W max. 250 V max. or LED	Green	XVB C33	0.140
		Red	XVB C34	0.140
		Orange	XVB C35	0.140
		Blue	XVB C36	0.140
		Clear	XVB C37	0.140
		Yellow	XVB C38	0.140

Illuminated units with integral flashing light signalling

Description	Light source, to be ordered separately (1)	Colour	Reference	Weight kg	
Illuminated units	Incandescent bulb 7 W max. ~ 24 V = 24...48 V or LED	Green	XVB C4B3	0.160	
		Red	XVB C4B4	0.160	
		Orange	XVB C4B5	0.160	
		Blue	XVB C4B6	0.160	
		Clear	XVB C4B7	0.160	
		Yellow	XVB C4B8	0.160	
		Incandescent bulb 7 W max. ~ 48...230 V or LED	Green	XVB C4M3	0.160
			Red	XVB C4M4	0.160
	Orange		XVB C4M5	0.160	
	Blue		XVB C4M6	0.160	
	Clear		XVB C4M7	0.160	
	Yellow		XVB C4M8	0.160	

(1) Incandescent bulbs and LEDs, see page 4/41.

Beacons and indicator banks

Indicator banks Ø 70 mm Universal,
Harmony type XVB C (for customer assembly, up to 5 units)
Illuminated units with integral LED

For use with base unit XVB C●●: see page 4/40



XVB C2●●

4



XVB C5●●

Illuminated units with steady light signalling

Description	Voltage	Colour	Reference	Weight kg
Illuminated units with integral LED	≈ 24 V	Green	XVB C2B3	0.150
		Red	XVB C2B4	0.150
		Orange	XVB C2B5	0.150
		Blue	XVB C2B6	0.150
		Clear	XVB C2B7	0.150
	~ 120 V	Green	XVB C2G3	0.150
		Red	XVB C2G4	0.150
		Orange	XVB C2G5	0.150
		Blue	XVB C2G6	0.150
		Clear	XVB C2G7	0.150
~ 230 V	Green	XVB C2M3	0.150	
	Red	XVB C2M4	0.150	
	Orange	XVB C2M5	0.150	
	Blue	XVB C2M6	0.150	
	Clear	XVB C2M7	0.150	
Yellow	XVB C2M8	0.150		

Illuminated units with integral flashing light signalling

Description	Voltage	Colour	Reference	Weight kg
Illuminated units with integral LED	≈ 24 V	Green	XVB C5B3	0.170
		Red	XVB C5B4	0.170
		Orange	XVB C5B5	0.170
		Blue	XVB C5B6	0.170
		Clear	XVB C5B7	0.170
	~ 120 V	Green	XVB C5G3	0.170
		Red	XVB C5G4	0.170
		Orange	XVB C5G5	0.170
		Blue	XVB C5G6	0.170
		Clear	XVB C5G7	0.170
~ 230 V	Green	XVB C5M3	0.170	
	Red	XVB C5M4	0.170	
	Orange	XVB C5M5	0.170	
	Blue	XVB C5M6	0.170	
	Clear	XVB C5M7	0.170	
Yellow	XVB C5M8	0.170		

Beacons and indicator banks

Indicator banks Ø 70 mm Universal,
Harmony type XVB C (for customer assembly, up to 5 units)
Illuminated units with integral "flash" discharge tube

For use with base unit XVB C●●: see page 4/40



XVB C6●●



XVB C8●●

Illuminated units with 5 Joule "flash" discharge tube

Description	Light source	Colour	Reference	Weight kg
Illuminated units	Integral "flash" discharge tube ≈ 24 V	Green	XVB C6B3	0.295
		Red	XVB C6B4	0.295
		Orange	XVB C6B5	0.295
		Blue	XVB C6B6	0.295
		Clear	XVB C6B7	0.295
		Yellow	XVB C6B8	0.295
	Integral "flash" discharge tube ~ 120 V	Green	XVB C6G3	0.280
		Red	XVB C6G4	0.280
		Orange	XVB C6G5	0.280
		Blue	XVB C6G6	0.280
		Clear	XVB C6G7	0.280
		Yellow	XVB C6G8	0.280
Integral "flash" discharge tube ~ 230 V	Green	XVB C6M3	0.290	
	Red	XVB C6M4	0.290	
	Orange	XVB C6M5	0.290	
	Blue	XVB C6M6	0.290	
	Clear	XVB C6M7	0.290	
	Yellow	XVB C6M8	0.290	

Illuminated units with 10 Joule "flash" discharge tube

Description	Light source	Colour	Reference	Weight kg
Illuminated units	Integral "flash" discharge tube ≈ 24 V	Green	XVB C8B3	0.305
		Red	XVB C8B4	0.305
		Orange	XVB C8B5	0.305
		Blue	XVB C8B6	0.305
		Clear	XVB C8B7	0.305
		Yellow	XVB C8B8	0.305
	Integral "flash" discharge tube ~ 120 V	Green	XVB C8G3	0.315
		Red	XVB C8G4	0.315
		Orange	XVB C8G5	0.315
		Blue	XVB C8G6	0.315
		Clear	XVB C8G7	0.315
		Yellow	XVB C8G8	0.315
Integral "flash" discharge tube ~ 230 V	Green	XVB C8M3	0.315	
	Red	XVB C8M4	0.315	
	Orange	XVB C8M5	0.315	
	Blue	XVB C8M6	0.315	
	Clear	XVB C8M7	0.315	
	Yellow	XVB C8M8	0.315	

Beacons and indicator banks

Indicator banks Ø 70 mm Universal,
Harmony type XVB C (for customer assembly, up to 5 units)
Audible units, base units, cover, accessories

Audible units				
Description	Characteristics	Reference	Weight kg	
Buzzer, 90 dB at 1 m Adjustable: - 70 or 90 dB - continuous or intermittent tone using microswitch	≈ 12...48 V	XVB C9B	0.170	
	≈ 120...230 V	XVB C9M	0.180	

Base units (for direct or tube fixing)				
Description	For use with	Type	Reference	Weight kg
Base unit + cover with bottom or side cable entry	Banks without "flash" discharge tube unit	Standard	XVB C21	0.190
Base unit only with bottom or side cable entry	Banks with "flash" discharge tube unit	Standard	XVB C07	0.160
Base unit + cover with side cable entry	All types of bank	AS-Interface (1)	XVB C21A	–
Base unit + cover with bottom entry, pre-cabled (length 1 metre) and fitted with M12 end connector	All types of bank	AS-Interface (1)	XVB C21B	–

(1) For further information on AS-Interface connections, refer to our "AS-Interface cabling system" catalogue.

Accessories common to beacons and indicator banks				
Description	Height under base unit mm	Colour	Reference	Weight kg
Fixing bases comprising: Ø 25 mm aluminium support tube glued into black plastic fixing plate	80	Black aluminium	XVB Z02	0.110
		Aluminium	XVB Z02A	0.110
	380	Black aluminium	XVB Z03	0.200
		Aluminium	XVB Z03A	0.200
	780	Black aluminium	XVB Z04	0.325
		Aluminium	XVB Z04A	0.325
Description	For use with	Material	Reference	Weight kg
Fixing plate for use on horizontal support	Ø 25 mm aluminium support tube (to be glued into plastic fixing plate)	Plastic	XVB Z01	0.050
Fixing plate for use on vertical support	Base unit (direct mounting), fixing plate XVB Z01 or fixing bases XVB Z0●	Zamak	XVB C12	0.380

Beacons and indicator banks

Beacons and indicator banks Ø 70 mm

Universal, Harmony type XVB

Accessories

Accessories common to beacons and indicator banks (continued)

Description	Characteristics		Sold in lots of	Unit reference	Weight kg	
Incandescent bulbs BA 15d base fitting	12 V	7 W	10	DL1 BEJ	0.090	
	24 V	6.5 W	10	DL1 BEB	0.090	
	48 V	6 W	10	DL1 BEE	0.090	
	120 V	7 W	10	DL1 BEG	0.090	
	230 V	7 W	10	DL1 BEM	0.090	
LEDs BA 15d base fitting Protected LED	24 V	White	1	DL1 BDB1	0.015	
		Green	1	DL1 BDB3	0.015	
		Red	1	DL1 BDB4	0.015	
		Orange	1	DL1 BDB5	0.015	
		Blue	1	DL1 BDB6	0.015	
	120 V	White	1	DL1 BDB8	0.015	
		Green	1	DL1 BDG1	0.015	
		Green	1	DL1 BDG3	0.015	
		Red	1	DL1 BDG4	0.015	
		Orange	1	DL1 BDG5	0.015	
	230 V	Blue	1	DL1 BDG6	0.015	
		Yellow	1	DL1 BDG8	0.015	
		White	1	DL1 BDM1	0.015	
		Green	1	DL1 BDM3	0.015	
		Red	1	DL1 BDM4	0.015	
		Orange	1	DL1 BDM5	0.015	
		Blue	1	DL1 BDM6	0.015	
		Yellow	1	DL1 BDM8	0.015	
	Flashing LEDs BA 15d base fitting Protected LED	24 V	White	1	DL1 BKB1	0.015
			Green	1	DL1 BKB3	0.015
Red			1	DL1 BKB4	0.015	
Orange			1	DL1 BKB5	0.015	
Blue			1	DL1 BKB6	0.015	
120 V		Yellow	1	DL1 BKB8	0.015	
		White	1	DL1 BKG1	0.015	
		Green	1	DL1 BKG3	0.015	
		Red	1	DL1 BKG4	0.015	
		Orange	1	DL1 BKG5	0.015	
230 V		Blue	1	DL1 BKG6	0.015	
		Yellow	1	DL1 BKG8	0.015	
		White	1	DL1 BKM1	0.015	
		Green	1	DL1 BKM3	0.015	
		Red	1	DL1 BKM4	0.015	
		Orange	1	DL1 BKM5	0.015	
		Blue	1	DL1 BKM6	0.015	
		Yellow	1	DL1 BKM8	0.015	

Accessories specific to indicator banks

Description	Characteristics	Sold in lots of	Unit reference	Weight kg
Cover only	–	–	XVB C081	0.030
Set of coloured markers	6 colours	–	XVB C22	0.001
Set of 5 legend holders	Identification of stacked units on base unit	–	XVB C23	0.002
Sheet of 85 legends for base unit legend holder (XVB C23)	Identification of stacked units on base unit	–	XVB CY1	0.005
Sheet of 52 legends	Identification of stacked units on locking ring	–	XVB CY2	0.005
Adaptor for side entry through base unit	With 13P cable gland	1	XVB C14	0.015
SIS labelling software creation of legends	For English, French, German, Italian and Spanish	–	XBY 2U	0.100

Beacons and indicator banks

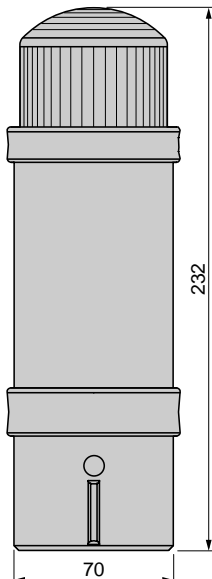
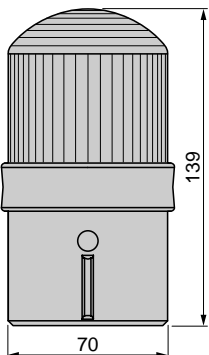
Beacons and indicator banks Ø 70 mm
Universal, Harmony type XVB

Dimensions

Illuminated beacons XVB L●●●

For BA 15d bulb or LED

With "flash" discharge tube unit

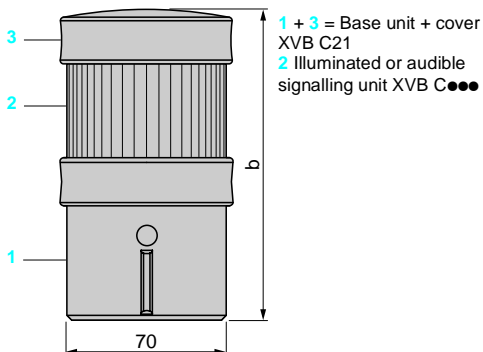


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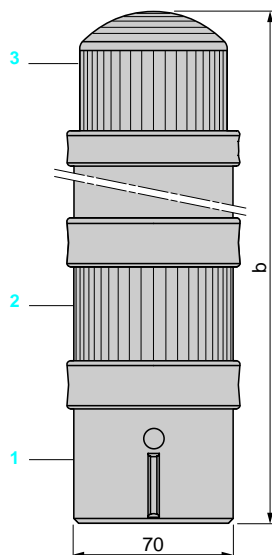
Indicator banks XVB C●●●

Without "flash" discharge tube unit

With "flash" discharge tube unit



1 + 3 = Base unit + cover
XVB C21
2 Illuminated or audible
signalling unit XVB C●●●



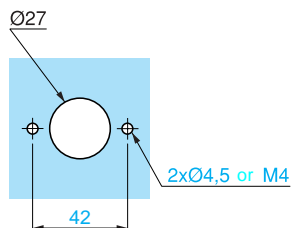
1 Base unit XVB C07
2 Illuminated or audible signalling unit
XVB C●●●
3 "Flash" unit XVB C●●●

Number of illuminated or audible signalling units (no "flash")	b
1	138
2	201
3	264
4	327
5	390

Number of illuminated or audible signalling units other than "flash" tube	b
1	295
2	358
3	421
4	484

Panel cut-out for direct fixing

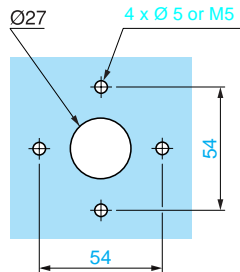
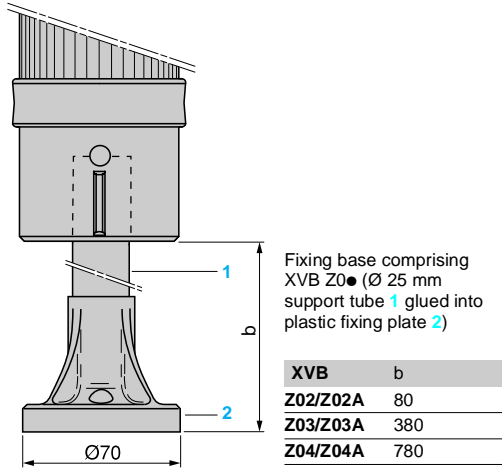
On base unit XVB C21, XVB C07, XVB C21A or XVB C21B



Dimensions

With fixing bases comprising XVB Z0● (aluminium support tube glued into black plastic fixing plate)

Horizontal support panel cut-out for mounting on fixing plate

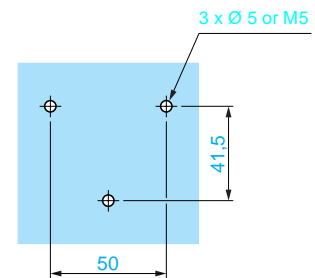
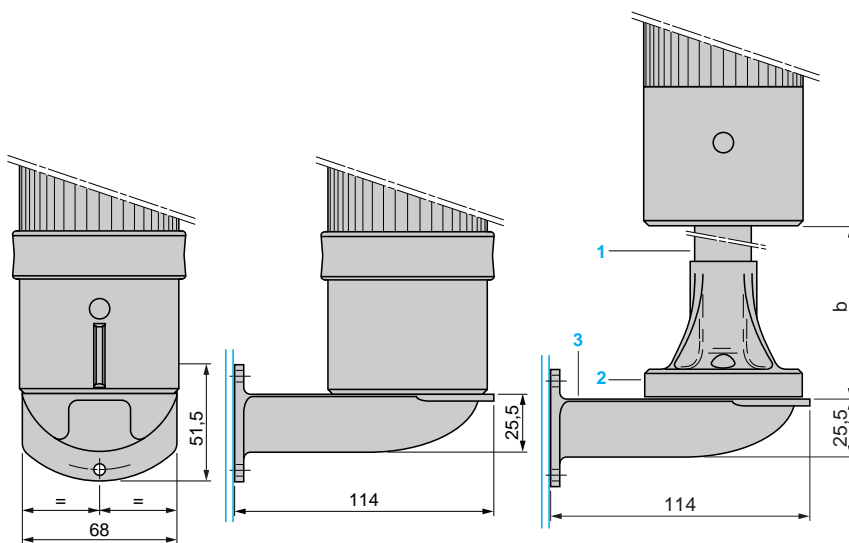


With fixing plate XVB C12 for use on vertical support

Direct mounting on base unit

Mounting using fixing base XVB Z0● (aluminium support tube glued into black plastic fixing plate)

Vertical support panel drillings for mounting fixing plate XVB C12



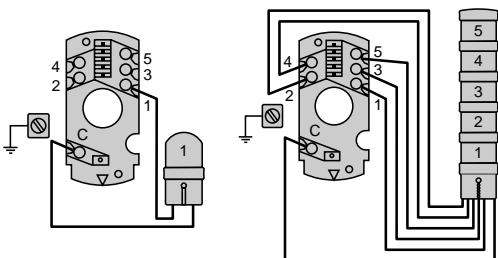
Fixing base comprising XVB Z0● (Ø 25 mm support tube 1 glued into plastic fixing plate 2) mounted on fixing plate XVB C12 for vertical support 3

Installation

Connections

XVB L

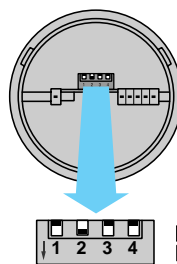
XVB C



Adjustment of audible signal for buzzers type XVB C9●

By means of 4 microswitches located in the base of the buzzer:

- 2 switches marked 1 and 2 for selecting continuous or intermittent mode (Hz).
- 2 switches marked 3 and 4 for selecting the power (dB) of the audible signal.



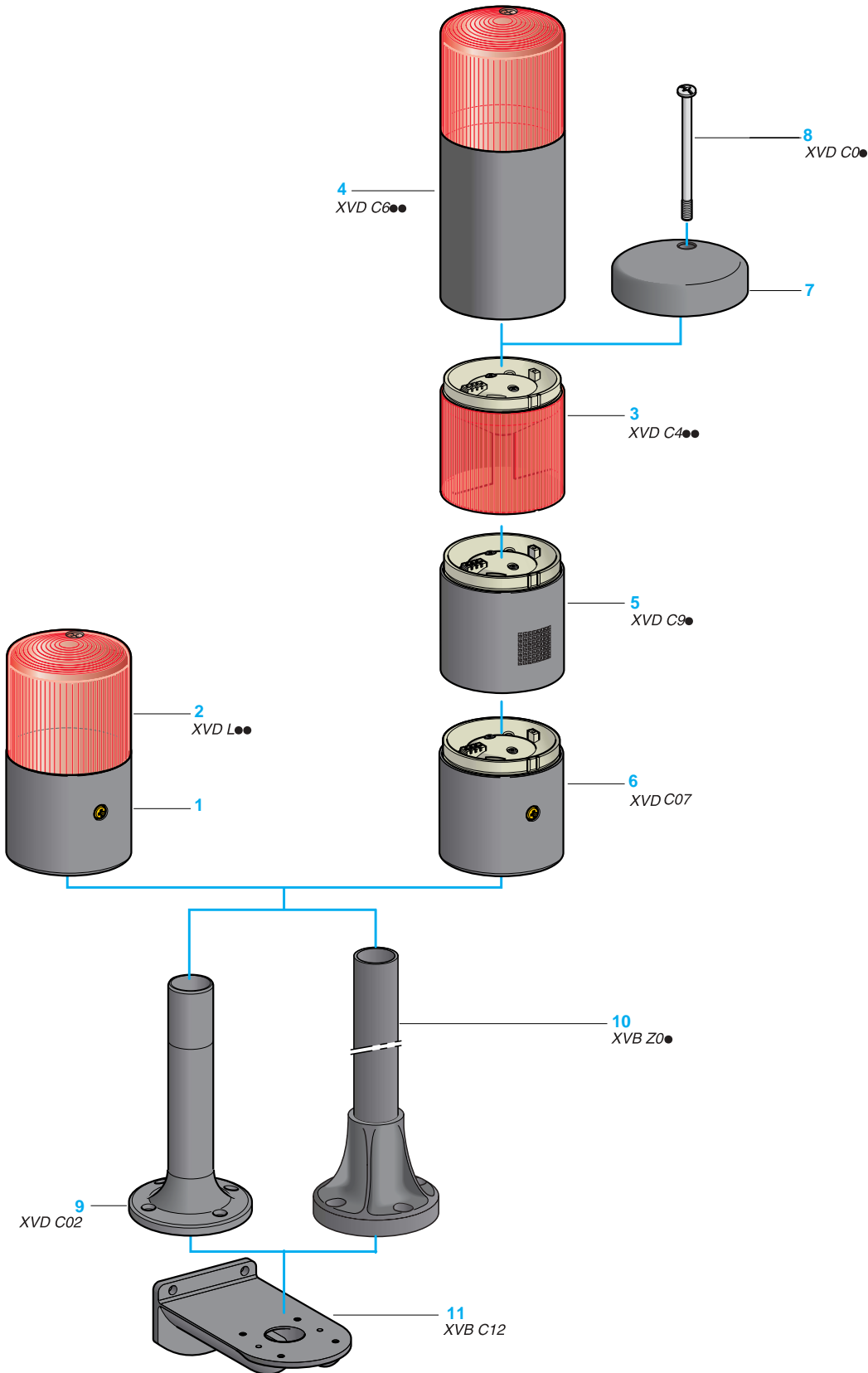
Position of microswitches		Setting
1	2	Mode
1	1	— 2.8 kHz
1	0	— 2.8 kHz
0	1	⎓ 5 Hz (1)
0	0	⎓ 1 Hz
3	4	Power
1	1	90 dB (1)
0	1	85 dB
1	0	80 dB
0	0	70 dB

(1) Factory setting.

Beacons and indicator banks

Beacons and indicator banks Ø 70 mm Application, Harmony type XVD

4



Beacons and indicator banks

Beacons and indicator banks Ø 70 mm Application, Harmony type XVD

Beacons and indicator banks XVD are visual or audible signalling units and are mainly used for indicating, throughout 360° and at a distance, the various states or operation sequences of a machine or installation.
Examples: start, stop machine, no material, call technical staff, fault signalling, etc.

Illuminated beacon

Complete product

Ready assembled with a single illuminated signalling unit:

- Steady light (with incandescent bulb or LED).
- Flashing light (with incandescent bulb or LED).
- Or "flash" (with discharge tube).

The beacon comprises:

- 1 A base unit with a removable terminal block and bottom cable entry.
- 2 One coloured illuminated unit (green, red, orange, blue, clear or yellow).

Indicator bank

Customer assembled product

Variable composition assembly of 1 to 5 illuminated or audible units which are supplied as separate items (assembly by user).

The bank comprises:

- 3 1 to 5 coloured illuminated units (green, red, orange, blue, clear or yellow).
- 4 An illuminated unit with "flash" discharge tube (only 1 per bank), which is always mounted at the top of the bank.
- 5 Or 1 audible unit (buzzer).
- 6 A base unit with a removable terminal block and bottom cable entry.
- 7 A top cover (except when using a "flash" discharge tube).
- 8 An assembly screw that passes through the whole bank.

- The illuminated or audible units stack vertically and are easily fitted together using a single screw.
- Electrical connections between each unit are made automatically.

Accessories

For beacons and indicator banks

- 9 Integral support tube and fixing plate, height 100 mm (clamping device on base unit).
- 10 Fixing base comprising a support tube glued into a plastic fixing plate, for heights beneath the base unit of 80, 380 or 780 mm.
- 11 Fixing plate for mounting on vertical support.

Installation

Mounting

- Base unit fixed directly onto panel using 2 screws.
- Fixed using a fixing base comprising an aluminium support tube glued into a black plastic fixing plate.

Cabling

By means of removable terminal block incorporated in base unit (simplified wiring). The screw and captive cable clamp terminals are protected to prevent any accidental contact with live parts.

Beacons and indicator banks

Beacons and indicator banks Ø 70 mm Application, Harmony type XVD

Environment characteristics			
Conformity to standards			IEC/EN 60947-5-1
Protective treatment	Standard version		"TC"
Ambient air temperature	For storage	°C	- 40...+ 70
	For operation (1)	°C	Illuminated units with steady light signalling: - 25...+ 70, with 7 W max. incandescent bulb - 25...+ 50, with LED
		°C	Illuminated units with flashing light signalling: - 25...+ 50, with 7 W max. incandescent bulb - 25...+ 50, with LED
		°C	Illuminated units with "flash" discharge tube: - 25...+ 50
Electric shock protection Conforming to IEC 536	Mounted on support tube		Class I
	Mounted on base unit		Class II
Degree of protection	Conforming to IEC 529 and NF C 20-010		IP 40
	Conforming to UL 508		NEMA 1
Material	Illuminated units		Polycarbonate
	Base unit and cover		Glass-reinforced polyamide and polycarbonate
	Support tube		Painted aluminium
	Fixing plate		Zamak

(1) Warning: illuminated units with incandescent bulbs must not be combined with LED illuminated units, due to the risk of overheating.
Also, when different units (e.g. steady, flashing...) are combined, the maximum temperature is limited to that of the weaker unit.

4

Electrical characteristics

Rated insulation voltage (Ui)	Conforming to IEC 947-1	V	250
Voltage limits	Conforming to IEC 947-5-1	V	0.85 to 1.10 Un (Un: nominal voltage)
Consumption	LED unit	mA	Steady light signalling: ≈ 24 V: < 75 ~ 120: < 25
		mA	Flashing light signalling: ≈ 24 V: < 80 ~ 120...230 V: < 30
	Discharge tube unit (on energisation)	mA	≈ 24 V: 5 J unit: < 430
		mA	~ 120 V: 5 J unit: < 130
		mA	~ 230 V: 5 J unit: < 105
	Audible units	mA	≈ 12...48 V: < 20
mA		~ 120...230 V: < 50	
Rated impulse withstand voltage	Conforming to IEC 947-1	kV	U imp = 4
Light source	Illuminated units with steady or flashing light signalling		Incandescent bulbs with BA 15d base fitting, maximum power 7 W LEDs with BA 15d base fitting
Illuminating power	Illuminated units with discharge circuit (flash lamp with integral tube)	cds	13 (integral high intensity tube) with clear lens unit: 5 J tube
Audible unit	Continuous or intermittent tone	dB	90 at 1 m (adjustable: 70...90 dB)
	Fundamental frequency	kHz	2.8
Terminal referencing	Common to all 5 units		1 terminal referenced "C"
	Depending on number of units		1 or 5 terminals referenced 1 to 5
Connection	Maximum clamping capacity on protected, ready-to-tighten, screw and captive cable clamp terminals	mm²	1 x 1.5 with cable end
Frequency of illuminated units	Illuminated units with flashing light signalling	Hz	1
	Illuminated units with discharge tube	Hz	1

Beacons and indicator banks

Illuminated beacons Ø 70 mm Application, Harmony type XVD, for customer assembly



XVD L3●

Illuminated beacons with steady light signalling

Description	Light source, to be ordered separately (1)	Colour	Reference	Weight kg
Complete unit comprising: - 1 illuminated unit - 1 base unit	Incandescent bulb 7 W max. 250 V max.	Green	XVD L33	0.255
		Red	XVD L34	0.255
		Orange	XVD L35	0.255
		Blue	XVD L36	0.255
		Clear	XVD L37	0.255
		Yellow	XVD L38	0.255

Illuminated beacons with integral flashing light signalling

Description	Light source, to be ordered separately	Colour	Reference	Weight kg	
Complete unit comprising: - 1 illuminated unit - 1 base unit	Incandescent bulb 7 W max. ~ 24 V --- 24...48 V	Green	XVD L4B3	0.275	
		Red	XVD L4B4	0.275	
		Orange	XVD L4B5	0.275	
		Blue	XVD L4B6	0.275	
		Clear	XVD L4B7	0.275	
		Yellow	XVD L4B8	0.275	
		Incandescent bulb 7 W max. ~ 48...230 V	Green	XVD L4M3	0.275
			Red	XVD L4M4	0.275
	Orange		XVD L4M5	0.275	
	Blue		XVD L4M6	0.275	
	Clear		XVD L4M7	0.275	
	Yellow		XVD L4M8	0.275	



XVD L4B●

Illuminated beacons with 5 Joule "flash" discharge tube

Description	Light source	Colour	Reference	Weight kg	
Complete unit comprising: - 1 illuminated unit - 1 base unit	Integral "flash" discharge tube ~ 24 V	Green	XVD L6B3	0.480	
		Red	XVD L6B4	0.480	
		Orange	XVD L6B5	0.480	
		Blue	XVD L6B6	0.480	
		Clear	XVD L6B7	0.480	
		Yellow	XVD L6B8	0.480	
		Integral "flash" discharge tube ~ 230 V	Green	XVD L6M3	0.475
			Red	XVD L6M4	0.475
	Orange		XVD L6M5	0.475	
	Blue		XVD L6M6	0.475	
	Clear		XVD L6M7	0.475	
	Yellow		XVD L6M8	0.475	



XVD L6B●●

(1) Incandescent bulbs and LEDs, see page 4/51.

Beacons and indicator banks

Indicator banks Ø 70 mm Application,
Harmony type XVD (variable composition of up to 5 units),
for customer assembly
Illuminated units

For use with base unit XVD C●●: see page 4/50

Illuminated units with steady light signalling

Description	Light source, to be ordered separately	Colour	Reference	Weight kg
Illuminated units	Incandescent bulb 7 W max. 250 V max.	Green	XVD C33	0.115
		Red	XVD C34	0.115
		Orange	XVD C35	0.115
		Blue	XVD C36	0.115
		Clear	XVD C37	0.115
		Yellow	XVD C38	0.115

Illuminated units with integral flashing light signalling

Description	Light source, to be ordered separately	Colour	Reference	Weight kg	
Illuminated units	Incandescent bulb 7 W max. ~ 24 V --- 24...48 V	Green	XVD C4B3	0.135	
		Red	XVD C4B4	0.135	
		Orange	XVD C4B5	0.135	
		Blue	XVD C4B6	0.135	
		Clear	XVD C4B7	0.135	
		Yellow	XVD C4B8	0.135	
		Incandescent bulb 7 W max. ~ 48...230 V	Green	XVD C4M3	0.135
			Red	XVD C4M4	0.135
	Orange		XVD C4M5	0.135	
	Blue		XVD C4M6	0.135	
	Clear		XVD C4M7	0.135	
	Yellow		XVD C4M8	0.135	



XVD C4●●

4

Illuminated units with 5 Joule "flash" discharge tube

Description	Light source	Colour	Reference	Weight kg	
Illuminated units	Integral "flash" discharge tube ~ 24 V	Green	XVD C6B3	0.310	
		Red	XVD C6B4	0.310	
		Orange	XVD C6B5	0.310	
		Blue	XVD C6B6	0.310	
		Clear	XVD C6B7	0.310	
		Yellow	XVD C6B8	0.310	
		Integral "flash" discharge tube ~ 230 V	Green	XVD C6M3	0.310
			Red	XVD C6M4	0.310
	Orange		XVD C6M5	0.310	
	Blue		XVD C6M6	0.310	
	Clear		XVD C6M7	0.310	
	Yellow		XVD C6M8	0.310	



XVD C6●●

Beacons and indicator banks

Illuminated beacons Ø 70 mm Application,
Harmony type XVD, for customer assembly
Audible units, base units and accessories



XVD C9●



XVD C07

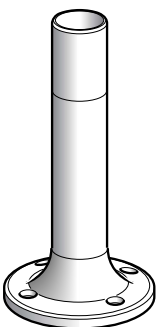
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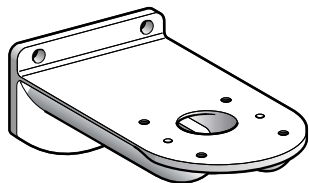
XVB Z02



XVB Z03/Z04



XVD C02



XVB C12

Audible units

Description	Characteristics	Reference	Weight kg
Buzzer, 90 dB at 1 m	≈ 12...48 V	XVD C9B	0.150
Adjustable, 70 or 90 dB, continuous or intermittent tone, using microswitch	≈ 120...230 V	XVD C9M	0.150

Base units (for direct or tube fixing)

Description	For use with	Type	Reference	Weight kg
Base unit + cover with bottom cable entry	Banks without "flash" discharge tube unit	Standard	XVD C21	0.180
Base unit only with bottom cable entry	Banks with "flash" discharge tube unit	Standard	XVD C07	0.160
Screw for assembling signalling units on base unit	Banks without "flash" discharge tube unit	1 unit	XVD C03	0.015
		2 units	XVD C04	0.022
		3 units	XVD C05	0.030
		4 units	XVD C06	0.038
		5 units	XVD C08	0.045
	Banks with "flash" discharge tube unit	1 unit	XVD C09	0.036
		2 units	XVD C10	0.044
		3 units	XVD C11	0.050
		4 units	XVD C12	0.059

Accessories common to beacons and indicator banks

Description	Height under base unit (mm)	Colour	Reference	Weight kg
Fixing bases comprising: Ø 25 mm aluminium support tube glued into black plastic fixing plate	80	Black aluminium	XVB Z02	0.110
		Aluminium	XVB Z02A	0.110
	380	Black aluminium	XVB Z03	0.200
		Aluminium	XVB Z03A	0.200
	780	Black aluminium	XVB Z04	0.325
		Aluminium	XVB Z04A	0.325

Description	Characteristics	Reference	Weight kg
Integral support tube and plastic fixing plate, colour black	100 mm	XVD C02	0.070
Zamak fixing plate for use on vertical support	Direct mounting on base unit or with integral support tube and fixing plate XVD C02 or with fixing bases XVB Z0●	XVB C12	0.380
Cover only	–	XVD C081	0.020

Beacons and indicator banks

Beacons and indicator banks Ø 70 mm

Application, Harmony type XVD

Accessories

Accessories common to beacons and indicator banks (continued)

Description	Characteristics	Sold in lots of	Unit reference	Weight kg	
Incandescent bulbs BA 15d base fitting	12 V	7 W	10	DL1 BEJ	0.090
	24 V	6.5 W	10	DL1 BEB	0.090
	48 V	6 W	10	DL1 BEE	0.090
	120 V	7 W	10	DL1 BEG	0.090
	230 V	7 W	10	DL1 BEM	0.090
LEDs BA 15d base fitting	24 V	White	1	DL1 BDB1	0.015
		Green	1	DL1 BDB3	0.015
		Red	1	DL1 BDB4	0.015
		Orange	1	DL1 BDB5	0.015
		Blue	1	DL1 BDB6	0.015
		Yellow	1	DL1 BDB8	0.015
	120 V	White	1	DL1 BDG1	0.015
		Green	1	DL1 BDG3	0.015
		Red	1	DL1 BDG4	0.015
		Orange	1	DL1 BDG5	0.015
		Blue	1	DL1 BDG6	0.015
		Yellow	1	DL1 BDG8	0.015
	230 V	White	1	DL1 BDM1	0.015
		Green	1	DL1 BDM3	0.015
		Red	1	DL1 BDM4	0.015
Orange		1	DL1 BDM5	0.015	
Blue		1	DL1 BDM6	0.015	
Yellow		1	DL1 BDM8	0.015	
Flashing LEDs BA 15d base fitting	24 V	White	1	DL1 BKB1	0.015
		Green	1	DL1 BKB3	0.015
		Red	1	DL1 BKB4	0.015
		Orange	1	DL1 BKB5	0.015
		Blue	1	DL1 BKB6	0.015
		Yellow	1	DL1 BKB8	0.015
	120 V	White	1	DL1 BKG1	0.015
		Green	1	DL1 BKG3	0.015
		Red	1	DL1 BKG4	0.015
		Orange	1	DL1 BKG5	0.015
		Blue	1	DL1 BKG6	0.015
		Yellow	1	DL1 BKG8	0.015
	230 V	White	1	DL1 BKM1	0.015
		Green	1	DL1 BKM3	0.015
		Red	1	DL1 BKM4	0.015
Orange		1	DL1 BKM5	0.015	
Blue		1	DL1 BKM6	0.015	
Yellow		1	DL1 BKM8	0.015	

Protected
LED

Protected
LED

Beacons and indicator banks

Beacons and indicator banks Ø 70 mm

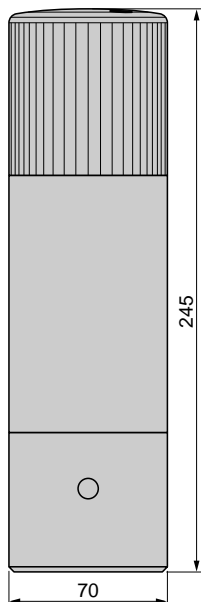
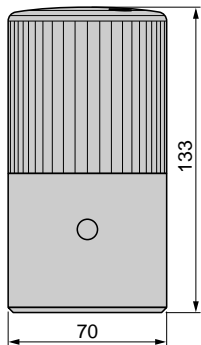
Application, Harmony type XVD

Dimensions

Illuminated beacons XVD L●●●

For BA 15d bulb or LED

With "flash" discharge tube unit

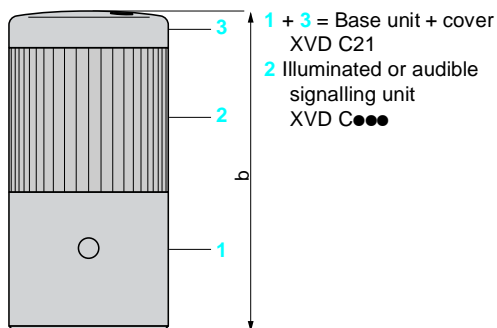


4

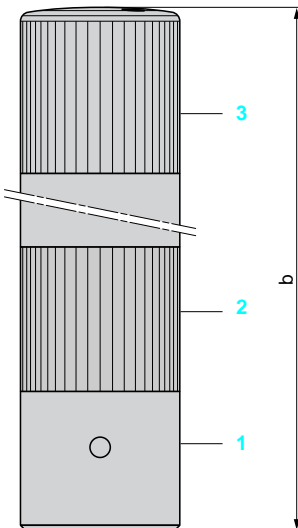
Indicator banks XVD C●●

Without "flash" discharge tube unit

With "flash" discharge tube unit



1 + 3 = Base unit + cover XVD C21
2 Illuminated or audible signalling unit XVD C●●●



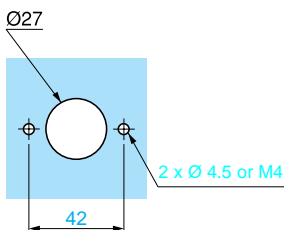
1 Base unit XVD C07
2 Illuminated or audible signalling unit XVD C●●●
3 "Flash" unit XVD C●●●

Number of illuminated or audible signalling units (no "flash")	b
1	140
2	203
3	266
4	329
5	392

Number of illuminated or audible signalling units other than "flash" tube	b
1	308
2	371
3	434
4	497

Panel cut-out for direct fixing

On base unit XVD C21 or XVD C07

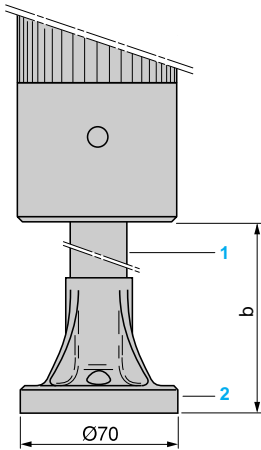


Dimensions

With fixing bases comprising XVB Z0● (aluminium support tube glued into black plastic fixing plate)

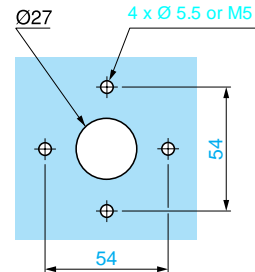
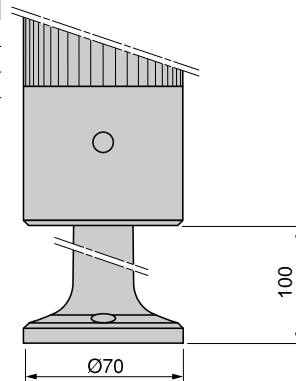
With integral support tube and fixing plate XVD C02

Horizontal support panel cut-out for mounting on fixing plate



Fixing base comprising XVB Z0● (Ø 25 mm support tube 1 glued into plastic fixing plate 2)

XVB	b
Z02/Z02A	80
Z03/Z03A	380
Z04/Z04A	780

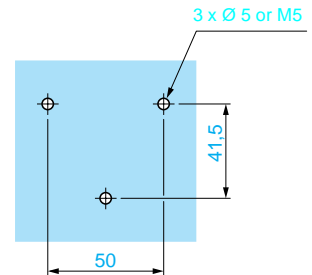
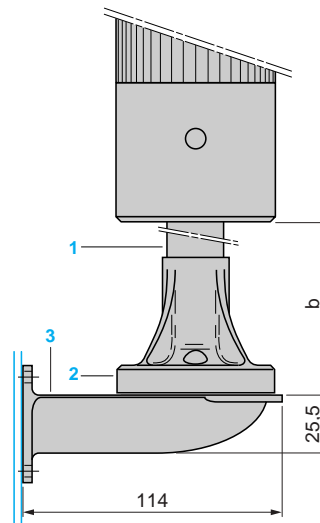
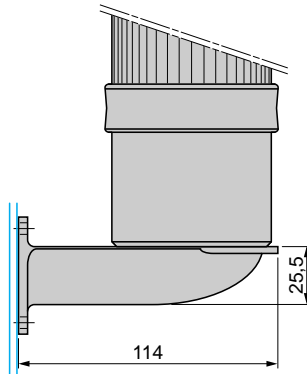
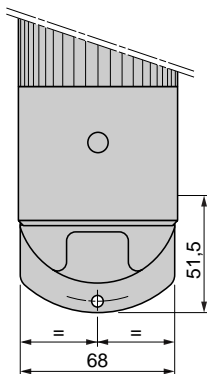


With fixing plate XVB C12 for use on vertical support

Direct mounting on base unit

Mounting using fixing base XVB Z0● (aluminium support tube glued into black plastic fixing plate)

Vertical support panel drillings for mounting fixing plate XVB C12



Fixing base comprising XVB Z0● (Ø 25 mm support tube 1 glued into plastic fixing plate 2) mounted on fixing plate XVB C12 for vertical support 3

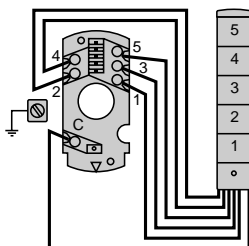
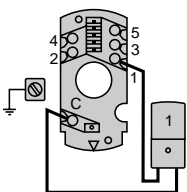
XVB	b
Z02/Z02A	80
Z03/Z03A	380
Z04/Z04A	780

Installation

Connections

XVD L

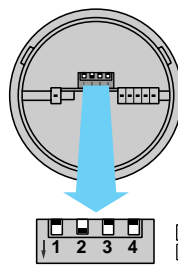
XVD C



Adjustment of audible signal for buzzers type XVD C9●

By means of 4 microswitches located in the base of the buzzer:

- 2 switches marked 1 and 2 for selecting continuous or intermittent **mode** (Hz).
- 2 switches marked 3 and 4 for selecting the **power** (dB) of the audible signal.



Position of microswitches		Setting
1	2	Mode
1	1	— 2.8 kHz
1	0	— 2.8 kHz
0	1	⌋ 5 Hz (1)
0	0	⌋ 1 Hz
3	4	Power
1	1	90 dB (1)
0	1	85 dB
1	0	80 dB
0	0	70 dB

(1) Factory setting.

General

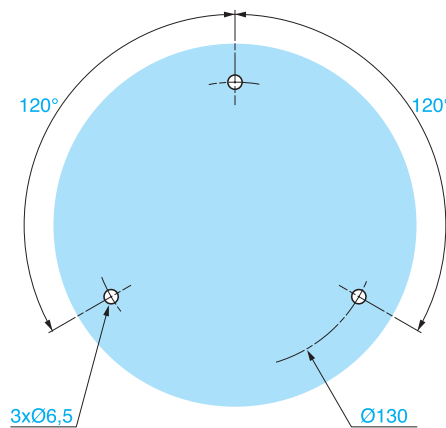
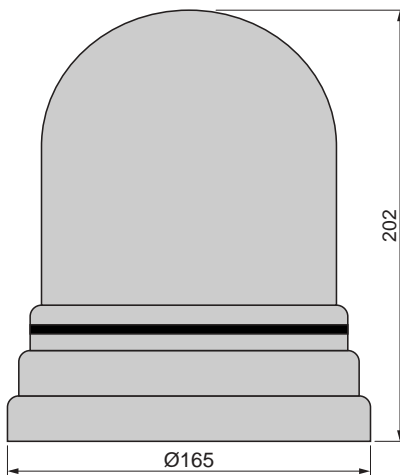
These rotating beacons are designed for long distance signalling applications.

Characteristics

Conformity to standards			IEC 60947-1, IEC/EN 60947-5-1, UL 508, CSA C22-2-14
Protective treatment	Standard version		"TC"
Ambient air temperature	For storage	°C	- 40...+ 70
	For operation	°C	- 20...+ 50
Electric shock protection	Conforming to IEC 60536 and NF C 20-030		Class I
Degree of protection	Conforming to IEC 60529 and NF C 20-010		IP 65
	Conforming to UL 508 and CSA 22		Type 4X Nema "INDOOR"
Material	Base unit		Glass-reinforced polyamide 6
	Domed lens unit		Polycarbonate
Rated insulation voltage (Ui)	Conforming to IEC 60947-1	V	250
Consumption	Halogen bulbs	mA	≈ 24 V: < 3100
	Incandescent bulbs	mA	≈ 24 V: < 1050
			≈ 230 V: < 110
Rated impulse withstand voltage	Conforming to IEC 60947-1	kV	U imp = 4
Light source	Halogen bulbs		Bulbs with H1 base fitting: maximum power 70 W
	Incandescent bulbs		Bulbs with BA 15d base fitting: maximum power 25 W
Service life of motor		H	> 2000
Mounting position			Horizontal
Flash frequency		Hz	3
Connection	Maximum clamping capacity	mm ²	1 x 1.5 mm ²
Cable entry			For ISO M20 x 1.5 cable gland (included)

Dimensions

Panel cut-out



M20 x 1.5 cable gland included

Beacons and indicator banks

Rotating mirror beacons, type XVR



XVR 1●●●

Rotating mirror beacons

Light source	Supply voltage	Colour	Reference	Weight kg
Halogen bulb included 70 W	≈ 24 V	Green	XVR 1B93	1.165
		Red	XVR 1B94	1.165
		Orange	XVR 1B95	1.165
		Blue	XVR 1B96	1.165
		Yellow	XVR 1B98	1.165
Incandescent bulb included 25 W	≈ 24 V	Green	XVR 1B03	1.165
		Red	XVR 1B04	1.165
		Orange	XVR 1B05	1.165
		Blue	XVR 1B06	1.165
		Yellow	XVR 1B08	1.165
	≈ 120 V	Green	XVR 1G03	1.235
		Red	XVR 1G04	1.235
		Orange	XVR 1G05	1.235
		Blue	XVR 1G06	1.235
		Yellow	XVR 1G08	1.235
	≈ 230 V	Green	XVR 1M03	1.235
		Red	XVR 1M04	1.235
		Orange	XVR 1M05	1.235
		Blue	XVR 1M06	1.235
		Yellow	XVR 1M08	1.235

Accessories and spare parts

Description	Characteristics	Unit reference	Weight kg
Domed lens unit	Green	XVR 0153	0.335
	Red	XVR 0154	0.335
	Orange	XVR 0155	0.335
	Blue	XVR 0156	0.335
	Yellow	XVR 0158	0.335
Protective grill for domed lens unit	–	XVR 016 (1)	–
Fixing plate for use on vertical support	–	XVR 012	–
Fixing plate for support tube (1/2 NPT)	–	XVR 013	–
Halogen bulbs H1 base fitting, 70 W	24 V	DL1 BRBH	–
Incandescent bulbs BA 15d base fitting, 25 W (sold in lots of 10)	24 V	DL1 BRB	0.100
	120 V	DL1 BRG	0.100
	230 V	DL1 BRM	0.100

(1) This protective grill is only suitable for use with the XVR 1●●● rotating mirror beacon, without cable gland fitted.

General

These sirens are designed for long distance signalling applications.

Characteristics

Conformity to standards			IEC 60947-1, IEC/EN 60947-5-1
Protective treatment	Standard version		"TC"
Ambient air temperature	For storage	°C	- 40...+ 70
	For operation	°C	- 40...+ 50
Electric shock protection	Conforming to IEC 60536 and NF C 20-030	kV	~ 120 V and ~ 230 V: class II
		kV	~ 24 V: class III
Degree of protection	Conforming to IEC 60529 and NF C 20-010		IP 40
Material	Body		Glass-reinforced polyamide 6
	Cone		Butadiene-styrene acrylic
Rated insulation voltage (Ui)	Conforming to IEC 60947-1	V	250
Consumption		mA	~ 24: 440
		mA	~ 120: 110
		mA	~ 230: 55
Frequency	1-tone	Hz	1000 ± 10%
	2-tone	Hz	700 and 800 ± 15%
Rated impulse withstand voltage	Conforming to IEC 60947-1	kV	~ 120 V and ~ 230 V: U imp = 4
		kV	~ 24 V: U imp = 1.5
Mounting position			All positions
Connection	Maximum clamping capacity	mm ²	1 x 1.5 with cable end

References

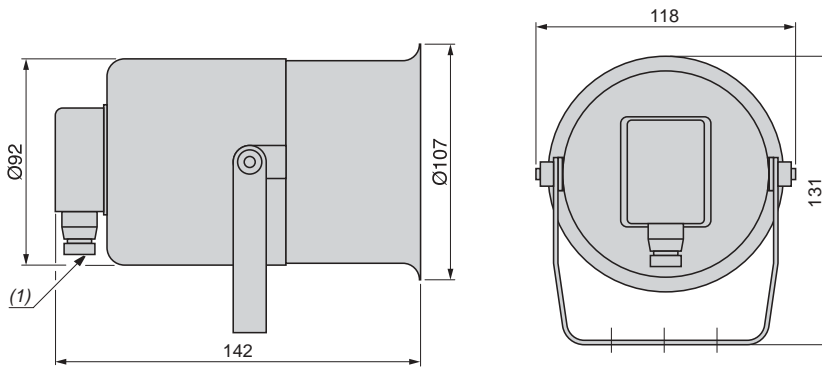


XVS B●

Sirens

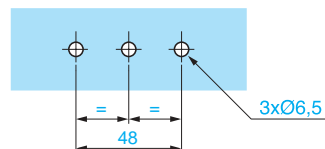
Description	Supply voltage	Number of tones	Reference	Weight kg
Sirens 106 db	≈ 24 V	1	XVS B1	0.860
		2	XVS B2	0.860
	~ 120 V	1	XVS G1	0.860
		2	XVS G2	0.860
	~ 230 V	1	XVS M1	0.860
		2	XVS M2	0.860

Dimensions



(1) Cable gland n° 7 (DIN Pg 7), included.

Panel cut-out



5 - Control and signalling units for safety applications

Metal foot switches, Harmony types XPE M/R

- Single and double pedal foot switches with protective cover page 5/7
- Foot switches without protective cover page 5/8
- Accessories page 5/8

Plastic foot switches, Harmony types XPE A/B/G/Y

- Single pedal foot switches with protective cover page 5/11
- Foot switches without protective cover page 5/11
- Accessories page 5/11

Emergency stop trip wire switches, type XY2 C

- Latching emergency stops page 5/17
- Complete units, pre-assembled page 5/18
- Separate components page 5/20
- Mounting kits page 5/21
- Spare parts page 5/22

Control and signalling units for safety applications

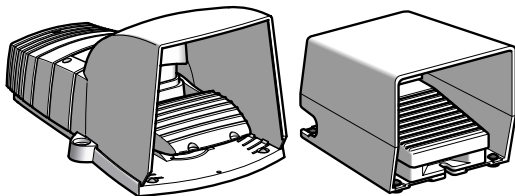
Foot switches, Harmony type XPE

With positive opening operation on release

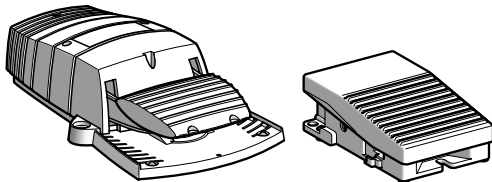
Presentation

Foot switches type XPE are an ideal solution for providing start and stop instructions for many types of industrial machines, running in various operating modes: normal (pulsed) start, inching, hold to run.

The range comprises metal case foot switches (heavy duty, high risk) complying to very strict regulations, and plastic case foot switches (light duty, low risk).



Fitted with a protective cover, the foot switches are for applications where, for each issuing of the start instruction, a high level of danger exists (**high risk**).



Foot switches **without a protective cover** are suitable for applications where the issuing of the start instruction presents a **reduced level of danger**.

Contact

Switches incorporate snap action contacts with positive opening operation

The foot switches can incorporate **one or two N/C + N/O contact blocks**.

Positive opening operation on release of pedal: the hold down or return to the rest position of the pedal (machine stop) is positive acting.

Terminology

Positive opening operation

A switch meets this requirement when all its N/C contacts can be switched to the open position with certainty, i.e. there are no flexible links between the moving contacts and the actuator to which the operating force is applied.

All pedal operated foot switches incorporate a snap action N/C + N/O contact block with positive opening operation, and conform fully to standard IEC 60947-5-1 Section 3.

Snap action contact (quick break)

The displacement speed of the moving contacts is not related to the speed at which the contact actuator is operated. This feature gives consistent electrical performance, even when the contact actuator device is operated at low speeds.

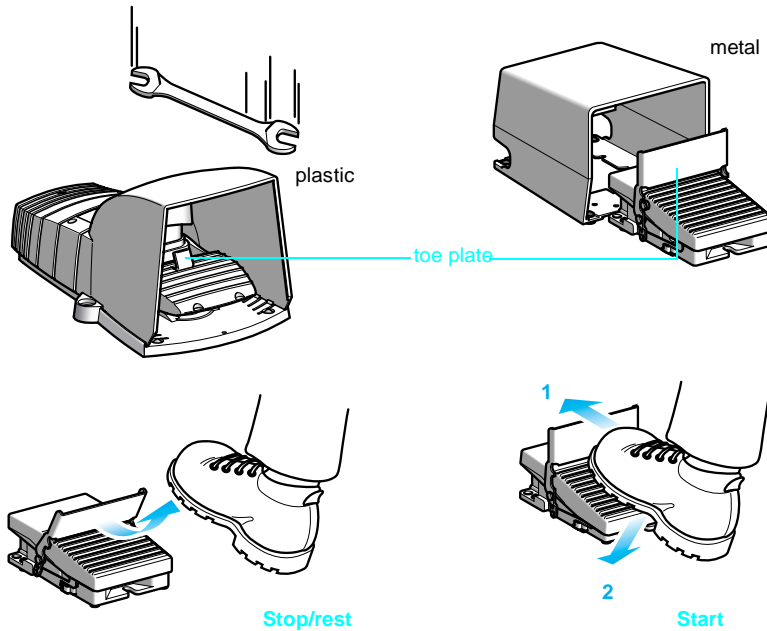
Control and signalling units for safety applications

Foot switches, Harmony type XPE

With positive opening operation on release

Start instructions

Foot switches XPE with protective cover are ideally suited for issuing a safety "Start" instruction for potentially dangerous machines.



The protective cover over the operating pedal avoids the risk of accidental operation, either by human action or by falling objects, which could result in unintentional starting of the machine.

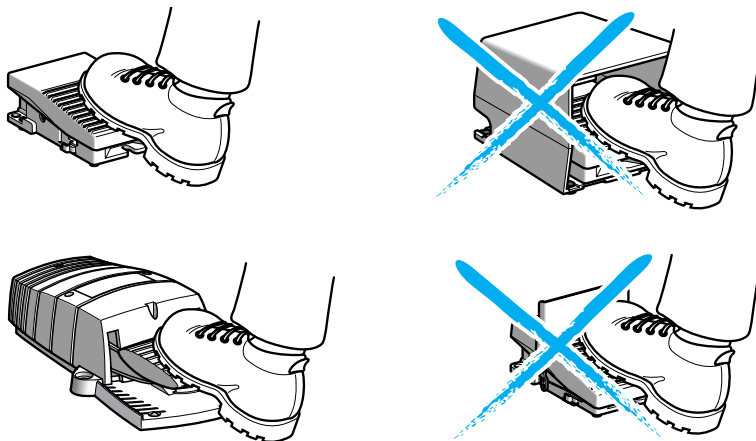
A trigger mechanism (**toe plate**) enables locking of the pedal in the rest (released) position.

Positive action is required on the toe plate **1** before the pedal **2** can be depressed to start the machine.

On releasing the pedal to stop the machine, the trigger mechanism re-engages and locks the pedal in the rest position.

Normal stop instructions

All foot switches of the XPE range can be used for issuing a normal stop instruction to a machine.



Never use the protective cover nor the trigger mechanism for this type of application. Access to the stop control must be as unrestricted as possible and without any constraints.

For machine stop instructions, use the N/C contact(s).

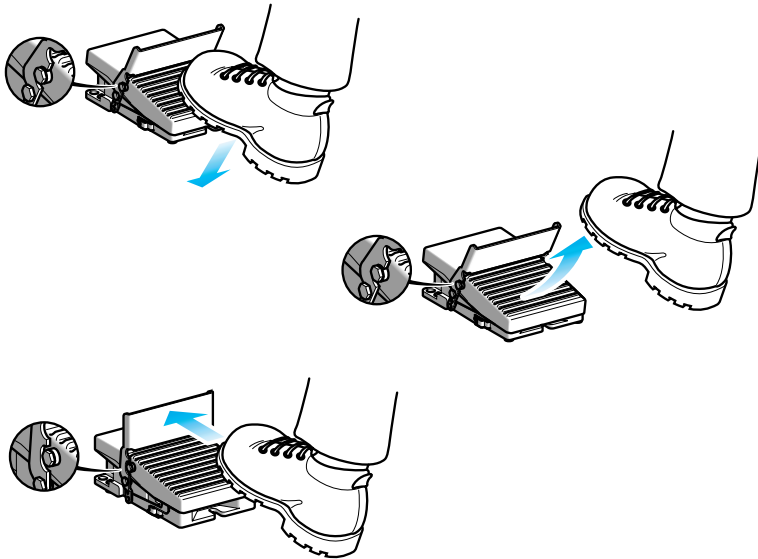
Control and signalling units for safety applications

Foot switches, Harmony type XPE

With positive opening operation on release

Pedal latching device when depressed

Foot switches with pedal latching device are particularly suited for the control of "hold to run" machines and also, for adjustment operations.



Pressing the pedal issues the machine start instruction and, when the pedal reaches its stop, it latches in the operated position.

Removing the foot from the pedal will not stop the "machine" cycle (**hold to run**), the pedal remains latched.

For issuing a normal stop instruction, the foot is replaced on the pedal and the toe plate operated: this returns the pedal to the rest position.

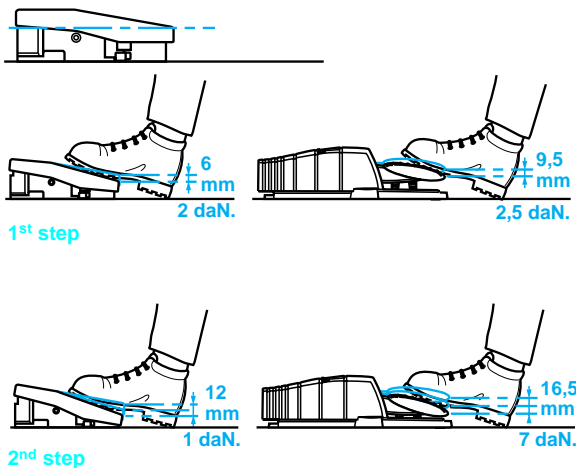
5

Switches with 2 step contact operation

Foot switches featuring 2 step contact operation are ideal for applications involving 2-speed machines.

Examples:

- First speed: low (used for setting-up, adjustment or tool maintenance).
- Second speed: fast (normal machine operating speed).



The first step, at 6 mm pedal travel and light foot pressure (2 daN), actuates a N/C + N/O contact block.

The second step, at maximum pedal travel (12 mm) and required foot pressure (9 daN), actuates a second N/C + N/O contact block.

Applications

Many types of machines are fitted with foot switches

- Bending machine
- Dosing machine
- Assembly station
- Packaging machines
- Cutting presses, stamping presses
- Machine tools (numerical control, lathes, milling machines, grinders, machining centres)
- Guillotines, cutters, folders, saws
- Forging machines, rolling machines, cold metal forming machines

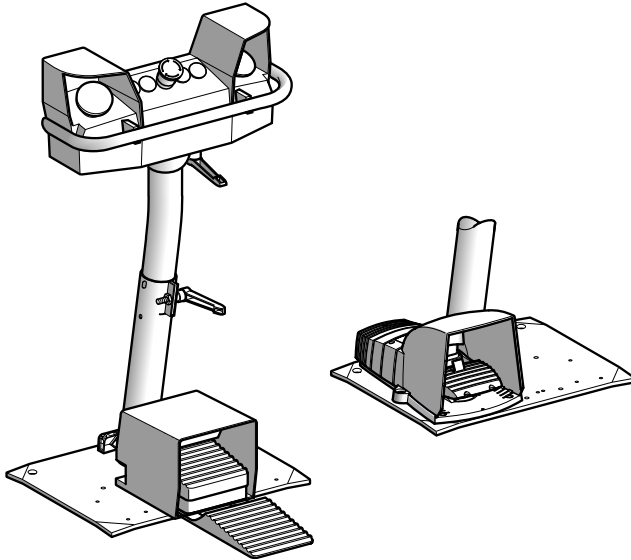
Control and signalling units for safety applications

Foot switches, Harmony type XPE

With positive opening operation on release

Foot switches used in conjunction with two-hand control stations

Foot switches XPE can be mounted directly on the baseplate (without drilling additional fixing holes) of the pedestal XY2 SB90 for two-hand control stations XY2 SB7●.

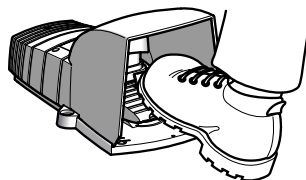


The baseplate of the two-hand control station pedestal XY2 SB90 is pre-drilled with fixing holes to suit the mounting of either:

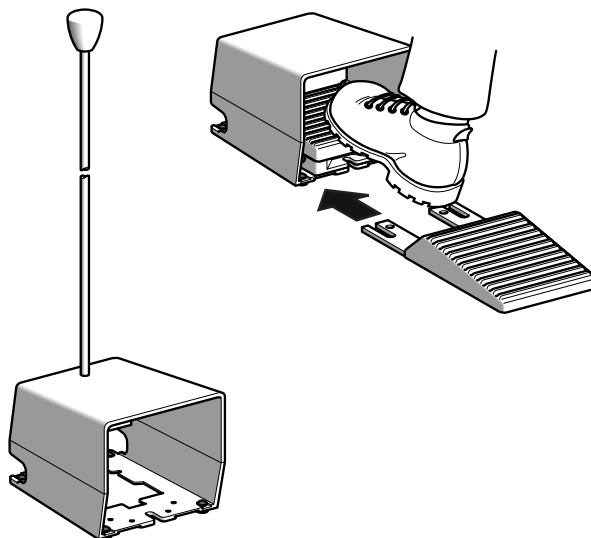
- One XPE foot switch, with or without protective cover.
- Two XPE R foot switches, each with its own protective cover or fitted with a common (double) cover.

Ergonomic

The protective cover is very strong and is sufficiently dimensioned to accommodate all types of footwear (large size, safety boots, etc.).



The foot switch is designed such that the operating pedal is close to the ground and at a comfortable angle.



Various accessories improve the working comfort for machine operators and help to avoid discomfort in the base of the spine due to unbalanced positioning of the pelvis:

- Heel rest (metal XPE).
- Hand grip for mounting on protective cover.

Control and signalling units for safety applications

Metal foot switches, Universal, Harmony types XPE M/R

With positive opening operation on release

Environment

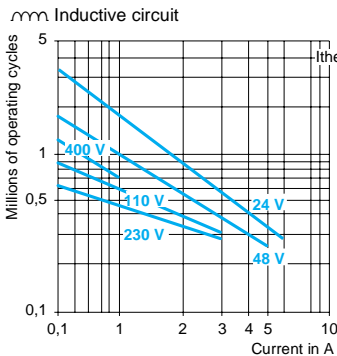
Conformity to standards	Without protective cover		IEC/EN60947-5-1, VDE 0660-200, CSA C22 2 n° 14
	With protective cover		NF E 09-031
Product certifications	Standard version		FI, CSA A300 - Q300 with tapped entries for cable gland
	Special version		CSA A300 - Q300 with 1/2" NPT adaptor
Protective treatment	Standard version		"TC"
	Special version		"TH"
Ambient air temperature	For operation	°C	- 25...+ 70
	For storage	°C	- 40...+ 70
Vibration resistance			15 gn (10...500 Hz) conforming to IEC 60068-2-6
Shock resistance			20 gn conforming to IEC 60068-2-27 (150 gn conforming to NF E 09-031)
Electric shock protection			Class I conforming to IEC 60536 and NF C 20-030
Mechanical life			5 million operating cycles
Degree of protection			IP 66 conforming to IEC 60529 and IP 669 conforming to NF C 20-010 (with protective cover)
Cable entries			See dimensions, page 5/9

Contact block characteristics

Rated operational voltage	~ AC-15		A300 or Ue = 240 V, Ie = 3 A
	--- DC-13		Q300 or Ue = 250 V, Ie = 0.27 A conforming to IEC/EN 60947-5-1 Appendix A
Rated insulation voltage		V	Ui = 500, degree of pollution 3 conforming to IEC/EN 60947-1, group C conforming to NF C 20-040 and VDE 0110
			Ui = 300 conforming to UL 508, CSA C22 -2 n° 14
Rated impulse withstand voltage		kV	U imp = 6 conforming to IEC/EN 60947-1, IEC 60664
Positive operation			N/C contact with positive opening operation conforming to IEC/EN 60947-5-1 Appendix K
Resistance across terminals		mΩ	≤ 25 conforming to NF C 93-050 method A or IEC 60255-7 category 3
Short-circuit protection			10 A cartridge fuse type gG (gl) conforming to IEC/EN 60947-5-1, VDE 0660-200
Foot switches with snap action contacts	Operational power		Conforming to IEC/EN 60947-5-1 Appendix C
	Utilisation categories		AC-15 and DC-13
	Operating rate		3600 operating cycles/hour. Load factor: 0.5

5

a.c. supply ~ 50-60 Hz



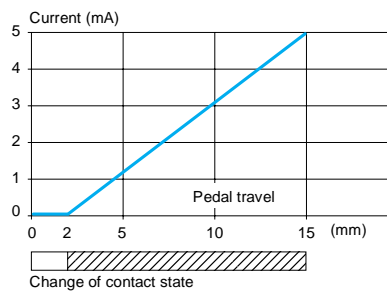
d.c. supply ---

Power broken in W for 5 million operating cycles

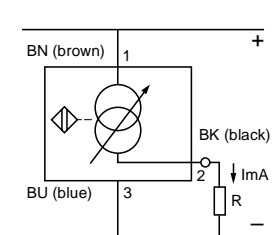
Voltage	V	24	48	120
Power	W	10	7	4

Foot switches with analogue output	Nominal supply voltage	V	--- 24...48
	Voltage limits	V	--- 19...58
	Current consumption, no-load	mA	4
	Output current drift (IS) in relation to temperature		0...+ 50 °C: + 2...- 6% - 25...+ 70 °C: + 2...- 12%

Output current curve



Wiring scheme



Connection	Screw clamp terminals	Maximum clamping capacity: 1 x 2.5 mm ² or 2 x 1.5 mm ² with or without cable end
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General: pages 5/2 to 5/5

References: pages 5/7 and 5/8

Dimensions: page 5/9

Control and signalling units for safety applications

Metal foot switches, Universal,
Harmony types XPE M/R

With positive opening operation on release



XPE M510



XPE R5100D



XPE M310



XPE R3100D

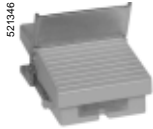
Single and double pedal foot switches with protective cover

Description	Pedal	Contact operation		Housing colour	Reference	Weight kg
Metal With trigger mechanism requiring positive action to allow pedal operation	Single	1 step	1 N/C + N/O	Blue	XPE M510	2.570
	Double	1 step	2 x 1 N/C + N/O	Blue	XPE M5100D	6.070
	Single	1 step	1 N/C + N/O	Orange	XPE R510	2.570
	Double	1 step	2 x 1 N/C + N/O	Orange	XPE R5100D	6.070
	Single	1 step	2 N/C + N/O	Blue	XPE M511	2.590
	Double	1 step	2 x 2 N/C + N/O	Blue	XPE M5110D	6.090
	Single	1 step	2 N/C + N/O	Orange	XPE R511	2.590
	Double	1 step	2 x 2 N/C + N/O	Orange	XPE R5110D	6.090
	Single	2 step	2 N/C + N/O	Blue	XPE M711	2.590
				Orange	XPE R711	2.590
Metal Without trigger mechanism	Single	1 step with analogue output	2 N/C + N/O	Blue	XPE M529	2.600
				Orange	XPE R529	2.600
	Single	1 step	1 N/C + N/O	Blue	XPE M310	2.400
	Double	1 step	2 x 1 N/C + N/O	Blue	XPE M3100D	5.900
	Single	1 step	1 N/C + N/O	Orange	XPE R310	2.400
	Double	1 step	2 x 1 N/C + N/O	Orange	XPE R3100D	5.900
	Single	1 step	2 N/C + N/O	Blue	XPE M311	2.420
	Double	1 step	2 x 2 N/C + N/O	Blue	XPE M3110D	5.920
	Single	1 step	2 N/C + N/O	Orange	XPE R311	2.420
	Double	1 step	2 x 2 N/C + N/O	Orange	XPE R3110D	5.920
	Single	1 step latching	1 N/C + N/O	Blue	XPE M410	2.400
				Orange	XPE R410	2.420
	Single	2 step	2 N/C + N/O	Blue	XPE M611	2.420
				Orange	XPE R611	2.420
	Single	1 step with analogue output	2 N/C + N/O	Blue	XPE M329	2.420

Control and signalling units for safety applications

Metal foot switches, Universal,
Harmony types XPE M/R

With positive opening operation on release



XPE R810



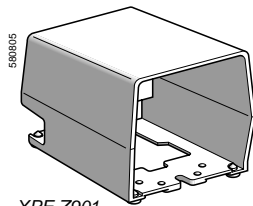
XPE M110

Foot switches without protective cover

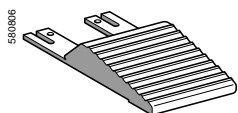
Description	Contact operation	Housing colour	Reference	Weight kg	
Metal With trigger mechanism requiring positive action to allow pedal operation	1 step	1 N/C + N/O	Orange	XPE R810	1.200
	2 step	2 N/C + N/O	Orange	XPE R911	1.200
	Analogue output	2 N/C + N/O	Orange	XPE R929	1.200
Metal Without trigger mechanism	1 step	1 N/C + N/O	Blue	XPE M110	1.200
			Orange	XPE R110	1.200
	2 step	2 N/C + N/O	Blue	XPE M111	1.200
			Orange	XPE R111	1.200
	Analogue output	2 N/C + N/O	Blue	XPE M211	1.200
			Orange	XPE R211	1.200
Analogue output	2 N/C + N/O	Orange	XPE R229	1.200	

Accessories

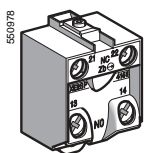
Description	For use with	Unit reference	Weight kg
Single protective cover	XPE M	XPE Z901	1.200
	XPE R	XPE Z911	1.200
Double protective cover	XPE M	XPE Z931	1.200
	XPE R	XPE Z921	1.200
Hand grip for protective cover	XPE Z901 or XPE Z911	XPE Z913	0.450
Heel rest	XPE M	XPE Z902	0.240
	XPE R	XPE Z912	0.240
Trigger mechanism	XPE M or XPE R	XPE Z903	0.170
Latching device (replacement for foot switches with this feature)	XPE M or XPE R	XPE Z904	0.170
Cable clamp	XPE M or XPE R	XPE Z905	0.010
Contact blocks Snap action	1 step switches: 1 st or 2 nd N/C + N/O	XE2S P4151	0.020
	2 step switches: 1 st N/C + N/O		
	2 step switches: 2 nd N/C + N/O	XE2S P4151B	0.020
ISO M20 adaptor (Sold in lots of 5)	XPE M or XPE R	DE9 RA1620	0.050



XPE Z901



XPE Z902



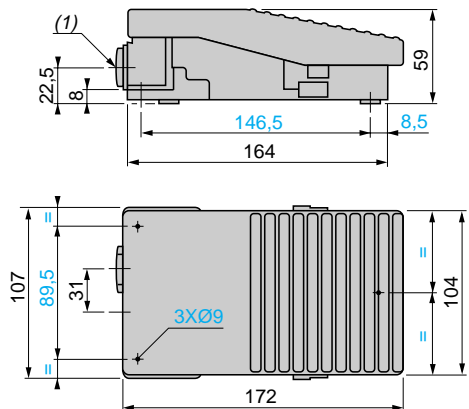
XE2S P4151

Control and signalling units for safety applications

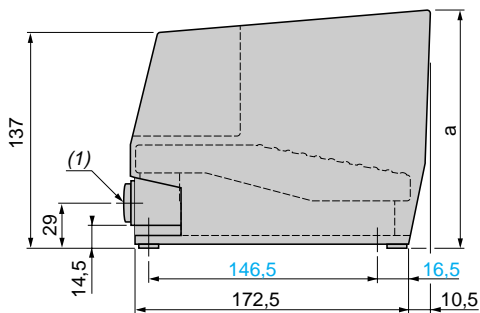
Metal foot switches, Universal, Harmony types XPE M/R

With positive opening operation on release

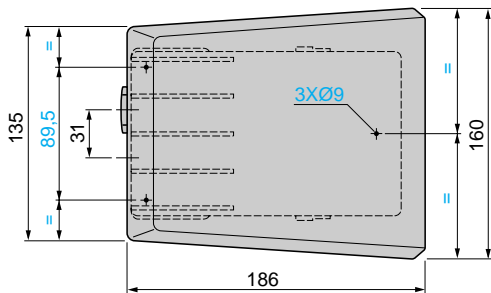
XPE M, XPE R without protective cover



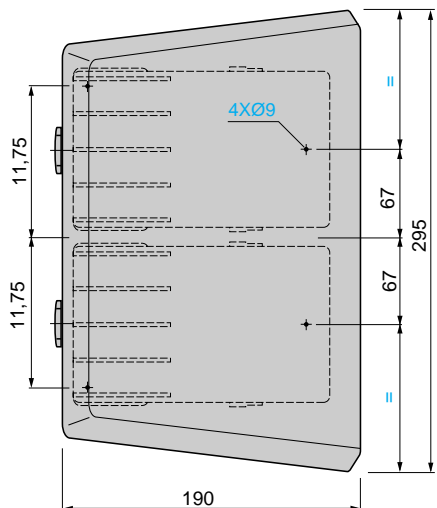
XPE M, XPE R with protective cover



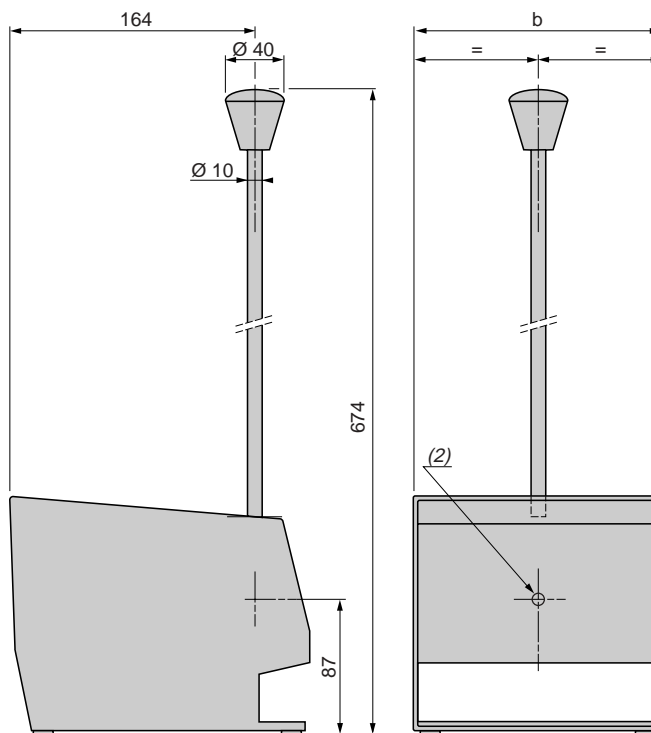
Single



Double



XPE Z913



	a	b
Single pedal	152	160
Double pedal	155	295

(1) 2 tapped entries for n° 16 (Pg 16) cable gland. For ISO M20, use adaptor DE9 RA1620.
 (2) 1 Ø 6 plain hole.

5

Control and signalling units for safety applications

Plastic foot switches,
Harmony types XPE A/B/G/Y
With positive opening operation on release

Environment	
Conformity to standards	XPE A, XPE B, XPE G, XPE Y without protective cover: IEC/EN 60947-5-1, VDE 0660200 XPE B, XPE G, UL 508, CSA C22 2 n° 14 XPE B, XPE G with protective cover: NF E 09-031
Product certifications	Standard version XPE B, XPE G: UL, CSA A300 - Q300 with knock-out entries for ISO M20 cable gland
Protective treatment	Standard version "TH"
Ambient air temperature	For operation °C XPE B, XPE G: - 25...+ 70 XPE A, XPE Y: - 25...+ 55 For storage °C - 40...+ 70
Vibration resistance	Conforming to IEC 60068-2-6 5 gn (10...500 Hz)
Shock resistance	Conforming to IEC 60068-2-27 XPE A: 25 gn, XPE B, XPE G, XPE Y: 20 gn
Electric shock protection	Conforming to IEC 60536 and NF C 20-030 Class II
Mechanical life	XPE A, XPE Y: 2 million operating cycles XPE B, XPE G: 5 million operating cycles
Degree of protection	XPE A: IP 43 conforming to IEC 60529 XPE Y: IP 55 conforming to IEC 60529 XPE B, XPE G: IP 66 conforming to IEC 60529
Cable entries	See dimensions, pages 5/13 and 5/14
Contact block characteristics	
Rated operational voltage	~ AC-15; A 300 or Ue = 240 V, Ie = 3 A = DC-13; Q 300 or Ue = 250 V, Ie = 0.27 A conforming to IEC/EN 60947-5-1 Appendix A
Rated insulation voltage	Ui = 500 V degree of pollution 3 conforming to IEC/EN 60947-1, group C conforming to NF C 20-040 and VDE 0110 Ui = 300 V conforming to UL 508, CSA C22 -2 n° 14
Rated impulse withstand voltage	U imp = 4 kV conforming to IEC/EN 60947-1, IEC 60664
Positive operation	N/C contact with positive opening operation conforming to IEC/EN 60947-5-1 Appendix K
Resistance across terminals	≤ 25 mΩ conforming to NF C 93-050 method A or IEC 60255-7 category 3
Short-circuit protection	10 A cartridge fuse type gG (gl) conforming to IEC/EN 60947-5-1, VDE 0660-200
Operational power conforming to IEC/EN 60947-5-1 Appendix C	Foot switches with snap action contacts Utilisation categories AC-15 and DC-13 Operating rate: 3600 operating cycles/hour Load factor: 0.5 a.c. supply ~ 50-60 Hz Inductive circuit
	d.c. supply = Power broken in W for 5 million operating cycles Voltage V 24 48 120 W 10 7 4
Connection	Screw clamp terminals Maximum clamping capacity: 1 x 2.5 mm ² or 2 x 1.5 mm ² with or without cable end

5

Control and signalling units for safety applications

Plastic foot switches,
Harmony types XPE A/B/G/Y

With positive opening operation on release



XPE 510



XPE 310



XPE G810



XPE 110



XPE A110



XE2S P4151

Single pedal foot switches with protective cover

Description	Contact operation	Housing colour	Reference	Weight kg	
With trigger mechanism requiring positive action to allow pedal operation	1 step	1 N/C + N/O	Yellow	XPE Y510 (1)	0.700
			Blue	XPE B510	0.700
			Grey	XPE G510	0.700
	2 step	2 N/C + N/O	Yellow	XPE Y511 (1) ▲	0.700
			Blue	XPE B511	0.700
			Grey	XPE G511	0.700
Without trigger mechanism	1 step	1 N/C + N/O	Yellow	XPE Y310 (1)	0.690
			Blue	XPE B310	0.690
			Grey	XPE G310	0.690
	2 step	2 N/C + N/O	Yellow	XPE Y311 (1) ▲	0.690
			Blue	XPE B311	0.690
			Grey	XPE G311	0.690
	2 step	2 N/C + N/O	Yellow	XPE Y611 (1) ▲	0.690
			Blue	XPE B611	0.690
			Grey	XPE G611	0.690

Foot switches without protective cover

Description	Contact operation	Housing colour	Reference	Weight kg	
With trigger mechanism requiring positive action to allow pedal operation	1 step	1 N/C + N/O	Grey	XPE G810	0.580
	2 step	2 N/C + N/O	Grey	XPE G911	0.580
Without trigger mechanism	1 step	1 N/C + N/O	Yellow	XPE Y110 (1)	0.570
			Blue	XPE B110	0.570
			Grey	XPE G110	0.570
	2 N/C + N/O	2 N/C + N/O	Black	XPE A110	0.275
			Blue	XPE B111	0.570
			Grey	XPE G111	0.570
	2 step	2 N/C + N/O	Black	XPE A111	0.295
			Yellow	XPE Y211 (1) ▲	0.570
			Blue	XPE B211	0.570
		Grey	XPE G211	0.570	

Accessories for foot switches with or without protective cover

Description	For use with	Sold in lots of	Unit reference	Weight kg
M20 x 1.5 cable gland	Cable Ø 6...12 mm	5	DE9RA200612	0.014
	Cable Ø 10...14 mm	5	DE9RA201014	0.014
Contact blocks, snap action	1 step switches: 1 st or 2 nd N/C + N/O 2 step switches: 1 st N/C + N/O	1	XE2S P4151	0.020

(1) IP 55, not UL, CSA approved.

▲ Available 1st quarter 2005

General:
pages 5/2 to 5/5

Characteristics:
page 5/10

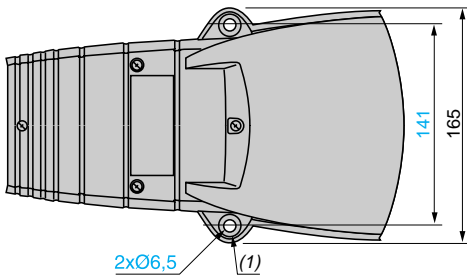
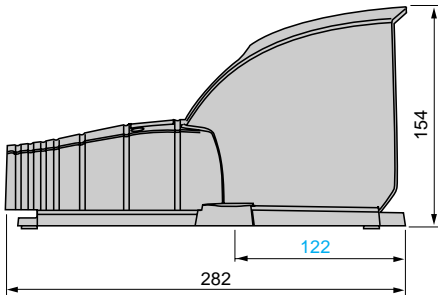
Dimensions:
pages 5/13 and 5/14

Control and signalling units for safety applications

Plastic foot switches,
Harmony types XPE A/B/G/Y
With positive opening operation on release

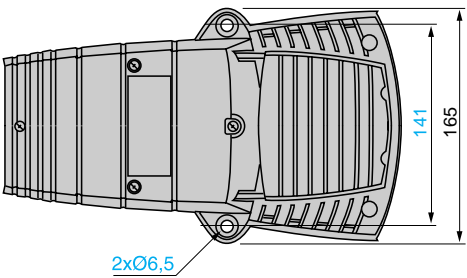
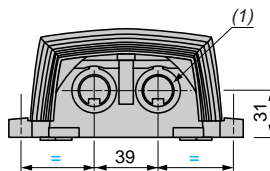
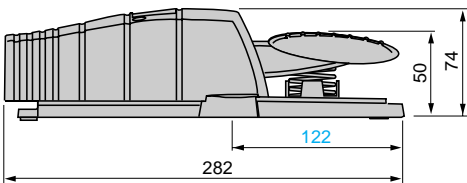
XPE B, XPE G, XPE Y

With protective cover



(1) Ø 16 x 4 counterbored hole.

Without protective cover

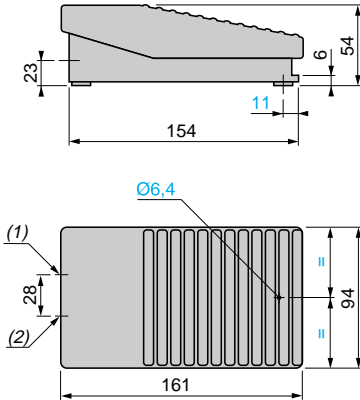


(1) 2 plain holes for ISO M20 or n° 13 (Pg 13.5) cable gland.

Control and signalling units for safety applications

Plastic foot switches,
Harmony types XPE A/B/G/Y
With positive opening operation on release

XPE A



- (1) 1 plain hole for ISO M20 or n° 13 (Pg 13.5) cable gland.
- (2) 1 plain hole for ISO M16 or n° 9 (Pg 11) cable gland.

Control and signalling units for safety applications

Emergency stop trip wire switches, type XY2 C

Presentation

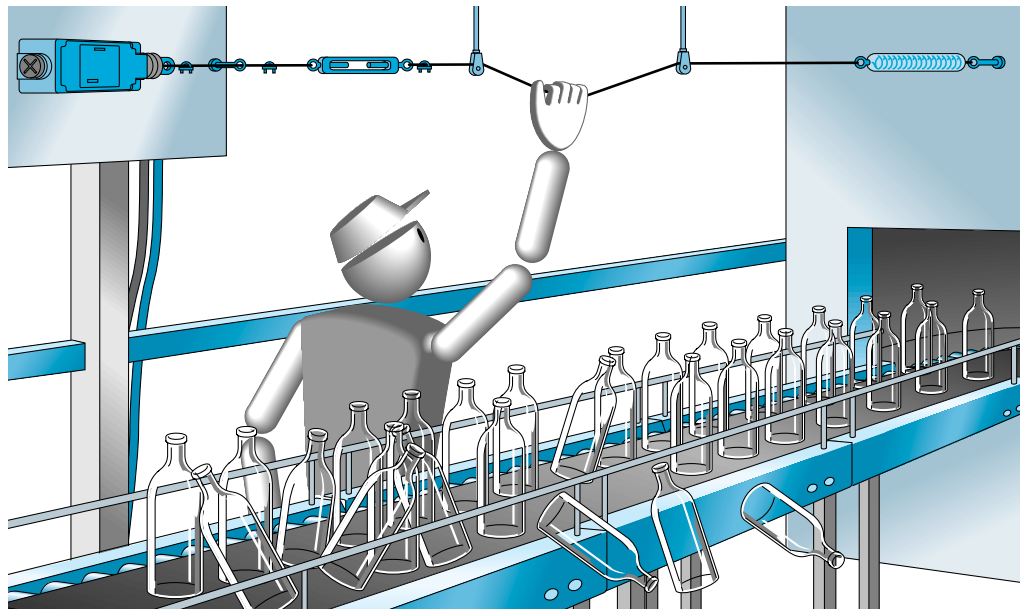
Emergency stop trip wire switches

Emergency stop trip wire switches are designed to:

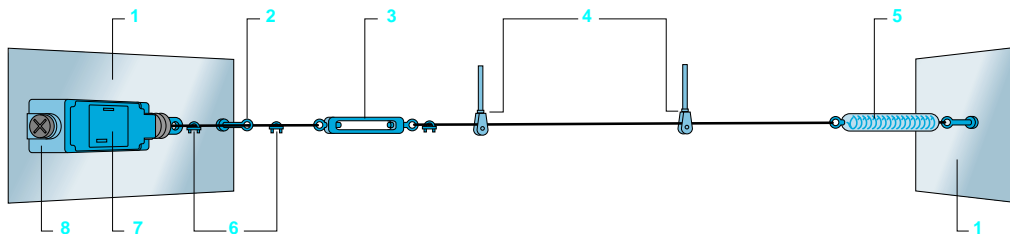
- Avert hazards (dangerous phenomena) at the earliest possible moment, or to reduce risks which could cause injury to persons or damage either to machines or work in progress.
- Be tripped by a single human action when a normal Emergency stop function is not available.
- Trip in the event of the trip wire breaking.

Emergency stop trip wire switches are essential in premises and on machines that are potentially dangerous when in operation. The operator must be able to trigger the stop instruction at any point within their working area.

Application examples: woodworking machines, shears, conveyor systems, transfer machines, printing machines, textile machines, rolling mills, test laboratories, paint shops, surface treatment works.



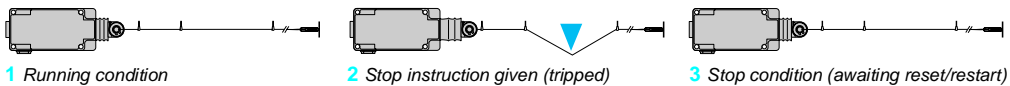
Typical installation



- | | | |
|-----------------------|-------------------------------|---------------------|
| 1 Fixing support | 4 Pulley supports and pulleys | 7 Switch adjustment |
| 2 First cable support | 5 End spring | 8 Emergency stop |
| 3 Turnbuckle | 6 Cable grips | |

Notes: All XY2 CH/CE/CB trip wire switches can be fitted with a pilot light to indicate that the switch has been tripped. It is essential that pulleys be used with trip wires that deviate from a straight run, i.e. angled to form a protected zone. Important: The total sum of the angles through which the trip wire bends must be less than 180°.

Main features



Positive operation

1 The switches incorporate positive opening operation contacts, the tripping of the switch being made with positive action.

Latching

2 The switch latches in the tripped position (N/C safety contact(s) open). The function of the N/O contact is purely for signalling.

Resetting

3 The switches incorporate a reset button, which re-closes the safety contact(s). Restarting of the machine must only be achieved by manual operation of a control device within the machine start circuit, remote to the trip wire switch.

5

Installation and setting-up

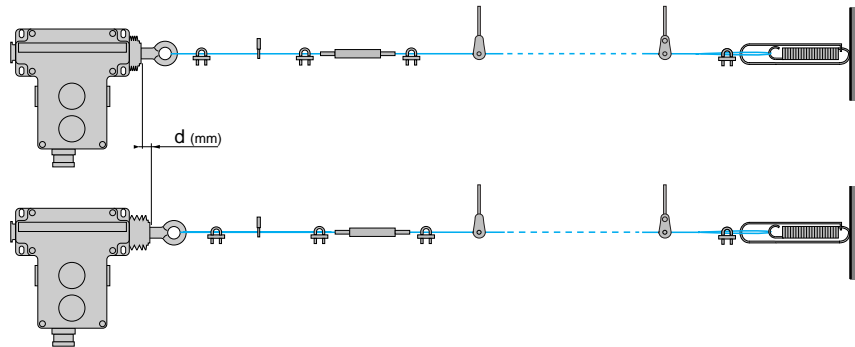
Control and signalling units for safety applications

Emergency stop trip wire switches, type XY2 C

Trip wire expansion and contraction: d

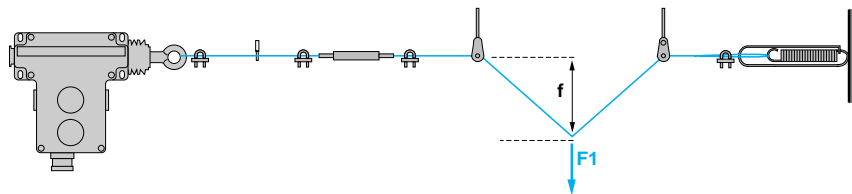
Temperature variations likely to be encountered in the protected zone will obviously cause the trip wire to expand or contract.

To enable instant verification that the trip wire is at its correct tension (and for making any necessary adjustments), trip wire switches XY2 CH and XY2 CE incorporate a trip wire tension indicator.



Tripping force: F1 Tripping deflection: f

The tripping force **F1** is the force necessary on the trip wire to cause the switch to trip. The tripping deflection **f** is the distance that the trip wire has to be deflected from its taut position to the point at which the switch trips.



Adjustment values (with end spring)

For Emergency stop trip wire switches type XY2 CE: the adjustment values depend on the positions of the cam located inside the switch.

Adjustment is made by rotating the cam after the switch has been installed.

Each notched position of the cam is referenced by the letters A to F, and the selected letter is visible through a viewing port.

Temperature range: < 25 °C.

Type	Position of cam	Maximum length of cable	End spring	Average tripping deflection values f and tripping forces F1 for distance between cable supports of 5 m and cable							
				Force F1 (daN)				Deflection f for (mm)			
				Standard		Light		Standard force		Light force	
		Cable Ø 3.2 mm	Cable Ø 5 mm	Cable Ø 3.2 mm	Cable Ø 5 mm	Cable Ø 3.2 mm	Cable Ø 5 mm	Cable Ø 3.2 mm	Cable Ø 5 mm		
XY2 CH	–	15 m	XY2 CZ703	2.4	3	–	–	190	230	–	–
XY2 CE	A	50 m	XY2 CZ702	7	7	4	4.4	270	260	240	250
	B			8.6	8.4	4.4	4.8	300	280	250	270
	C			10.1	9.6	4.8	5.1	320	300	270	270
	D			11	10.2	4.6	5.3	330	320	280	280
	E			12.5	12.3	5.8	6	360	340	310	290
	F			14.4	13.3	6.4	6.6	390	360	330	320
XY2 CB	–	100 m	XY2 CZ707	6.8	–	–	–	350	–	–	–

Standards

Trip wire switches XY2 CH and CE meet all the requirements of the harmonised European standard **EN 418**, relating to Emergency stop devices.

All the trip wire switches are **CE** marked and supplied with an EC declaration of conformity.

Control and signalling units for safety applications

Emergency stop trip wire switches,
type XY2

Environment																		
Conformity to standards	Products	XY2 CB: IEC/EN 60947-5-1, CSA C 22-2 n° 14 (if specified) XY2 CE, CH: IEC/EN 60947-5-1, EN 418, CSA C 22-2 n° 14 (if specified)																
	Machine assemblies	XY2 CE, CH, CB: EN 60204-1, EN 292, Machinery directive: 98/37/EC and 91/368/EEC, Health and Safety directive: 89/655/EEC																
Product certifications	Special version	XY2 CB: CSA ~ 600 V heavy duty. XY2 CE: UL-CSA A 300-Q 300. XY2 CH: UL-CSA																
Protective treatment	Standard version	"TC"																
	Special version	"TH"																
Ambient air temperature	For operation	- 25...+ 70 °C																
	For storage	- 40...+ 70 °C																
Vibration resistance		XY2 CE: 10 gn (10...300 Hz) conforming to IEC/EN 60068-2-6 XY2 CH: 10 gn (10...150 Hz)																
Shock resistance		XY2 CE, CH: 50 gn (duration 11 ms) conforming to IEC/EN 60068-2-27																
Electric shock protection		Class I conforming to IEC/EN 60536 and NF C 20-030																
Degree of protection		XY2 CB: enclosure IP 22, contact housing IP 65, conforming to IEC/EN 60529 and NF C 20-010 XY2 CE, CH: IP 65																
Mechanical life		XY2 CE, CH (Emergency stop): 10,000 operating cycles																
Length of protected zone (trip wire)		XY2 CH: ≤ 15 metres, XY2 CE: ≤ 50 metres, XY2 CB: 100 metres and 200 metres																
Cable entries		See dimensions, page 5/23.																
Contact block characteristics																		
Rated operational characteristics		AC-15: A300 or Ue = 240 V, Ie = 3 A DC-13: Q300 or Ue = 250 V, Ie = 0.27 A conforming to IEC/EN 60947-5-1 Appendix A																
Nominal thermal current		10 A																
Rated insulation voltage		XY2 CE, CH: Ui = 500 V degree of pollution 3 conforming to IEC/EN 60947-1, Ui = 300 V conforming to UL 508, CSA C22-2 n° 14 XY2 CB: Ui = 500 V degree of pollution 3 conforming to IEC/EN 60947-1, Ui = 600 V conforming to CSA C22-2 n° 14																
Rated impulse withstand voltage		XY2 CE, CH: U imp = 6 kV conforming to IEC/EN 60947-1, IEC/EN 60664																
Positive operation		N/C contact with positive opening operation conforming to IEC/EN 60947-5-1 Section 3																
Contact operation		XY2 CB, CE, CH (Emergency stop): N/C + N/C or N/C + N/O slow break																
Resistance across terminals		≤ 25 mΩ conforming to NF C 93-050 method A or IEC/EN 60255-7 category 3																
Terminal referencing		Conforming to CENELEC EN 50013																
Operational voltage		~ 24...380 V																
Short-circuit protection		XY2 CB, CE, CH: 10 A cartridge fuse type gG (gl) conforming to IEC/EN 60269																
Rated operational power (Electrical durability)	XY2 CB Conforming to IEC/EN 60947-5-1 Appendix C Utilisation categories AC-15 and DC-13 a.c. supply ~ 50...60 Hz Power broken in VA (1) Inductive circuit	XY2 CE, CH Conforming to IEC/EN 60947-5-1 Appendix C Utilisation categories AC-15 and DC-13 a.c. supply ~ 50...60 Hz																
Operating rate: 3600 operating cycles/hour Load factor: 0.5																		
	<table border="1"> <thead> <tr> <th>Voltage V</th> <th>24</th> <th>48</th> <th>127</th> <th>220</th> </tr> </thead> <tbody> <tr> <td>VA</td> <td>250</td> <td>250</td> <td>500</td> <td>500</td> </tr> </tbody> </table>	Voltage V	24	48	127	220	VA	250	250	500	500	<p>Inductive circuit</p>						
Voltage V	24	48	127	220														
VA	250	250	500	500														
	<p>d.c. supply ---</p> <p>Power broken in W (1)</p> <p>Inductive circuit</p> <table border="1"> <thead> <tr> <th>Voltage V</th> <th>24</th> <th>48</th> <th>120</th> </tr> </thead> <tbody> <tr> <td>W</td> <td>50</td> <td>100</td> <td>100</td> </tr> </tbody> </table>	Voltage V	24	48	120	W	50	100	100	<p>Inductive circuit</p> <table border="1"> <thead> <tr> <th>Voltage V</th> <th>24</th> <th>48</th> <th>120</th> </tr> </thead> <tbody> <tr> <td>W</td> <td>15</td> <td>23</td> <td>30</td> </tr> </tbody> </table>	Voltage V	24	48	120	W	15	23	30
Voltage V	24	48	120															
W	50	100	100															
Voltage V	24	48	120															
W	15	23	30															
(1) For 1 million operating cycles.																		
Connection		Screw clamp terminals Clamping capacity: min. 1 x 0.5 mm ² , max. 1 x 2.5 mm ² or 2 x 1.5 mm ²																

5

Control and signalling units for safety applications

Emergency stop trip wire switches, type XY2 C

Latching Emergency stops (cable not included)

Without pilot light (1)

Length of cable	Distance between cable supports	Reset	Type of contact	Cable anchor point	Reference	Weight kg	
≤ 15 m	5 m	By booting pushbutton	1 1	N/C + N/O slow break	RH side or LH side	XY2 CH13250 (3)	0.865
		By key release pushbutton (key n° 421) (2)	1 1		RH side or LH side	XY2 CH13450 (3)	0.910
		By booting pushbutton	2 -	N/C + N/C slow break	RH side or LH side	XY2 CH13270 (3)	0.865
		By key release pushbutton (key n° 421) (2)	2 -		RH side or LH side	XY2 CH13470 (3)	0.910
≤ 50 m	5 m	By booting pushbutton	1 1	N/C + N/O slow break	RH side	XY2 CE1A250	1.450
			1 1		LH side	XY2 CE2A250	1.450
		By key release pushbutton (key n° 421) (2)	2 -	N/C + N/C slow break	RH side	XY2 CE1A270	1.450
			2 -		LH side	XY2 CE2A270	1.450
		By key release pushbutton (key n° 421) (2)	1 1	N/C + N/O slow break	RH side	XY2 CE1A450	1.465
			1 1		LH side	XY2 CE2A450	1.465
			2 -	N/C + N/C slow break	RH side	XY2 CE1A470	1.470
			2 -		LH side	XY2 CE2A470	1.470
≤ 100 m	5 m	From inside enclosure	1 1	N/C + N/O slow break	LH side	XY2 CB10 (4)	15.000
			1 1		RH side	XY2 CB20 (4)	15.000
2 x 100 m	5 m	From inside enclosure	1 1	N/C + N/O slow break	RH and LH sides	XY2 CB30 (4)	25.000

With pilot light (5)

Length of cable	Distance between cable supports	Reset	Supply (direct) Bulb included	Type of contact	Cable anchor point	Reference	Weight kg		
≤ 50 m	5 m	By booting pushbutton	230 V	2 2	N/C + N/O slow break	RH side	XY2 CE1A297	1.470	
				2 2		LH side	XY2 CE2A297	1.470	
≤ 100 m	5 m	From inside enclosure	24 V/6 V	1 1	N/C + N/O slow break	LH side	XY2 CB11 (4)	15.600	
				1 1		RH side	XY2 CB21 (4)	15.600	
				1 1		LH side	XY2 CB13 (4)	15.600	
				1 1		RH side	XY2 CB23 (4)	15.600	
			127 V/6 V	1 1		LH side	XY2 CB14 (4)	15.600	
				1 1		RH side	XY2 CB24 (4)	15.600	
				220 V/6 V	1 1		LH side	XY2 CB31 (4)	25.600
					1 1		RH and LH sides	XY2 CB33 (4)	25.600
1 1		RH and LH sides	XY2 CB34 (4)		25.600				

(1) These Emergency stops are also available fitted with a pilot light, see ordering forms for XY2 CH and XY2 CE trip wire switches on pages 5/18 and 5/19.

(2) Ø 30 mushroom head key release pushbutton. Locking and key withdrawal in the rest (unactuated) position.

(3) For ISO M20 threaded cable entry version, add the suffix H29 to the reference selected. Example: XY2 CH13250 becomes XY2 CH13250H29.

(4) End spring included for XY2 CB.

(5) Factory pre-wiring of the N/O contact available in series with the pilot light.

(6) BA 7s - 6 V bulb included.

Other version

See order forms on pages 5/18 and 5/19.

XY2 CE with reset by Ø 40 mm mushroom head pushbutton or with integral cable tensioner and support.

Please consult your Regional Sales Office.



XY2 CH13250



XY2 CE1A250



XY2 CB30

Control and signalling units for safety applications

Emergency stop trip wire switches,
type XY2 C

Complete units, pre-assembled

Customer			Schneider Electric Industries SA	
Company	Order N°	Delivery date	Sales office - Subsidiary Co.	Order N°

How to use this form:

- indicate the number of Emergency stop switches required,
- complete the basic reference.

Reference

Number of identical Emergency stops XY2 CH

Model

Emergency stop (latching) 1

Degree of protection

IP 65 (standard bellows) without tensioner 1
 IP 65 (silicone bellows) without tensioner 2
 IP 65 (standard bellows) with integral tensioner 3
 IP 65 (silicone bellows) with integral tensioner 4

Type of reset

Emergency stop (1) Flush 1
 Reset by spring return pushbutton Booted 2
 Mushroom head, Ø 30 3
 Key release mushroom head, Ø 30 (key n° 421) 4
 Key release mushroom head, Ø 30 (key n° 455) 5
 Pull knob 6
 Key release mushroom head, Ø 30 (2) 9

Contact block for Emergency stop function (3)

Slow break 1 N/C + N/O (N/O staggered) 5
 1 N/C + N/C 7

Pilot light

Without pilot light 0
 With 24 V direct supply pilot light 3
 With 48 V direct supply pilot light 4
 With 130 V direct supply pilot light 5
 With 230 V direct supply pilot light 7

ISO M20 tapped cable entries H29

Increased protective treatment against corrosion TK

(1) Opening of a circuit + mechanical latching in the open position.

(2) Other key numbers:

458A	520E	1242A	1243E	1344A	1422A	1431E
2123E	2132E	3112E	3113A	3122A	3123A	3233A
3423A	3432A	4241A				

(3) Emergency stop trip wire switches can only be fitted with slow break contact blocks.

Control and signalling units for safety applications

Emergency stop trip wire switches,
type XY2 C

Complete units, pre-assembled

Customer			Schneider Electric Industries SA	
Company	Order N°	Delivery date	Sales office - Subsidiary Co.	Order N°

How to use this form:

- indicate the number of Emergency stop switches required,
- complete the basic reference.

Reference

Number of identical Emergency stops

XY2 CE

Model

Emergency stop (latching)	Anchor point on RH side, standard force	1					
	Anchor point on LH side, standard force	2					
	Anchor point on RH side, light force	5					
	Anchor point on LH side, light force	6					

Degree of protection and "cable under tension" window

IP 65 (standard bellows) without "cable under tension" window	A						
IP 65 (silicone bellows) without "cable under tension" window	C						
IP 65 (standard bellows) with "cable under tension" window	D						
IP 65 (silicone bellows) with "cable under tension" window	E						

Type of reset

Emergency stop (1)	Flush	1					
Reset by spring return pushbutton	Booted	2					
	Mushroom head, Ø 30	3					
	Key release mushroom head, Ø 30 (key n° 421)	4					
	Key release mushroom head, Ø 30 (key n° 455)	5					
	Pull knob	6					
	Key release mushroom head, Ø 30 (2)	9					

Contact block for Emergency stop function (3)

Slow break	1 N/C + N/O	5					
	1 N/C + N/C	7					
	2 N/C + N/O (compulsory with pilot light) (4)	9					

Pilot light

Without pilot light	0						
With 24-48-130 V direct supply pilot light. Bulb not included (provide for 2 contact blocks)	6						
With 230 V direct supply, via integral resistor, pilot light. Bulb included (provide for 2 contact blocks)	7						
Increased protective treatment against corrosion	TK						

(1) Opening of N/C contact + mechanical latching in the open position.

(2) Other key numbers:

458A	520E	1242A	1243E	1344A	1422A	1431E
2123E	2132E	3112E	3113A	3122A	3123A	3233A
3423A	3432A	4241A				

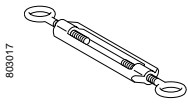
(3) Emergency stop trip wire switches can only be fitted with slow break contact blocks.

(4) The use of a pilot light means selecting a switch fitted with 2 N/C + N/O contacts: XY2 CE●●●9

5

Control and signalling units for safety applications

Emergency stop trip wire switches, type XY2 C



810017

XY2 CZ402



810060

XY2 CZ503



803019

XY2 CZ524



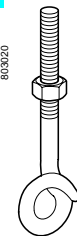
810061

XY2 CZ601



803018

XY2 CZ602



803020

XY2 CZ705



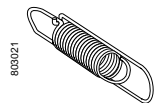
803016

XY2 CZ708



810062

XY2 CZ701



803021

XY2 CZ702

Separate components

Description	For use with	Diameter mm	Length m	Reference	Weight kg
Galvanised cables with red sheath	XY2 CH	3.2	10.5	XY2 CZ301	0.280
			15.5	XY2 CZ3015	0.410
			25.5	XY2 CZ302	0.690
			50.5	XY2 CZ305	1.360
			100.5	XY2 CZ310	2.700
XY2 CH, XY2 CE and XY2 CB	5	15.5	15.5	XY2 CZ1015	0.850
			25.5	XY2 CZ102	1.400
			50.5	XY2 CZ105	2.750
			100.5	XY2 CZ110	5.500

Description	Type	For use with	Sold in lots of	Unit reference	Weight kg
Turnbuckles	M6 x 60 + locknut	All models except XY2 CH (1)	1	XY2 CZ402	0.060
	M8 x 70 + locknut	All models except XY2 CH (1)	1	XY2 CZ404	0.100
Cable grips	Single	Cable Ø 3 to 5 mm	10	XY2 CZ503	0.007
	Double	Cable Ø 3 to 5 mm	10	XY2 CZ513	0.016
	Clamp	Cable Ø 3.2 mm	10	XY2 CZ523	0.050
Cable Ø 5 mm		10	XY2 CZ524	0.080	
Cable supports	Fixed	All models	10	XY2 CZ601	0.030
	Swivelling	All models	1	XY2 CZ602	0.130
	Pulley support	All models	1	XY2 CZ705	0.060
Pulley	Cable Ø 5 mm max.	All models	1	XY2 CZ708	0.002
Cable end protectors		Cable Ø 3.2 mm	10	XY2 CZ701	0.002
		Cable Ø 5 mm	10	XY2 CZ704	0.010
End springs		XY2 CE	1	XY2 CZ702	0.080
		XY2 CH	1	XY2 CZ703	0.035
		XY2 CB	1	XY2 CZ707	0.080

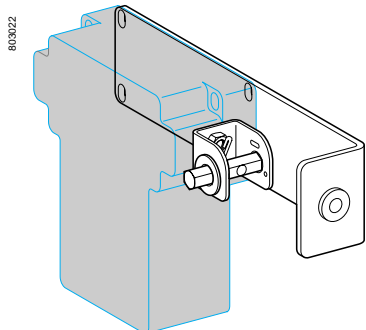
Documentation

Description	For use with	Reference	Weight kg
Installation manual	All XY2 C trip wire switches	XCOM2512	0.200

(1) Emergency stop trip wire switches XY2 CH incorporate a cable tensioner as standard.

Control and signalling units for safety applications

Emergency stop trip wire switches, type XY2 C



XY2 CZ917

Mounting kits

Contents	For use with	Diameter mm	Length of cable m	Reference	Weight kg
Tensioner + bracket	XY2 CE	–	–	XY2 CZ917	0.612
Kit comprising: - 1 galvanised cable, Ø 3.2 mm, length according to that selected,	XY2 CH	3.2	10	XY2 CZ9310	0.415
- 1 cable grip XY2 CZ523 ,	XY2 CH	3.2	15	XY2 CZ9315	0.535
- 1 end spring XY2 CZ703					
Kit comprising: - 1 galvanised cable, Ø 3.2 mm, length according to that selected,	XY2 CE	3.2	25	XY2 CZ9325	1.250
- 4 cable grips XY2 CZ523 ,	XY2 CE/CB	3.2	50	XY2 CZ9350	1.980
- 1 turnbuckle XY2 CZ404 ,					
- 1 cable support XY2 CZ601 ,					
- 3 cable end protectors XY2 CZ701 ,					
- 1 end spring XY2 CZ702					
Kit comprising: - 1 galvanised cable, Ø 5 mm, length according to that selected,	XY2 CE	5	25	XY2 CZ9525	1.905
- 4 cable grips XY2 CZ524 ,	XY2 CE/CB	5	25	XY2 CZ9550	3.280
- 1 turnbuckle XY2 CZ404 ,					
- 1 cable support XY2 CZ601 ,					
- 3 cable end protectors XY2 CZ704 ,					
- 1 end spring XY2 CZ702					

Other version

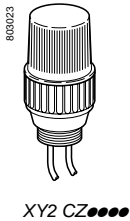
Padlocking kit (for up to 3 padlocks), for reset pushbutton.
Please consult your Regional Sales Office.

Control and signalling units for safety applications

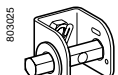
Emergency stop trip wire switches, type XY2 C

Spare parts

Description	Type	Reference	Weight kg		
Reset pushbutton (blue), spring return for XY2 CE and XY2 CH	Flush with "R" marked on push	ZA2 BA639	0.030		
	Booted	ZA2 BP6	0.025		
	Mushroom head, Ø 30	ZA2 BC64	0.045		
	Key release mushroom head, Ø 30 (key n° 421)	ZA2 BS06212	0.090		
Key for latching mushroom head reset pushbutton	N° 421	Q99900911	0.006		
Pilot light head assembly	Yellow, for XY2 CE and XY2 CH	ZA2 BV05	0.015		
Pilot light lens	Yellow, for XY2 CE and XY2 CH	ZB2 BV015	0.003		
Pilot lights	Yellow, for XY2 CH	24 V	XY2 CZ0024 0.035		
		48 V	XY2 CZ0048 0.035		
		130 V	XY2 CZ0130 0.035		
		230 V	XY2 CZ0230 0.035		
Description	Type	Sold in lots of	Unit reference	Weight kg	
Incandescent bulbs	BA 9s base fitting Maximum Ø 11 mm Length 28 mm for XY2 CE	24 V - 2.6 W	10	DL1 CE024	0.002
		48 V - 2.6 W	10	DL1 CE048	0.002
		130 V - 2.6 W	10	DL1 CE130	0.002
	Screw base fitting Maximum Ø 17 mm Length 34 mm for XY2 CH	24 V - 6 W	10	DL1 AA024	0.004
		48 V - 6 W	10	DL1 AA048	0.004
		130 V - 6 W	10	DL1 AA127	0.004
		230 V - 6 W	10	DL1 AA220	0.004
	BA 7s base fitting for XY2 CB	6 V - 200 mA	1	DL1 GA006	0.002
	Dust and damp protecting bellows	For XY2 CE	Polychloroprene	1	XY2 CZ901
Silicone			1	XY2 CZ904	0.005
For XY2 CH		Polychloroprene	1	XY2 CZ902	0.017
		Silicone	1	XY2 CZ903	0.005
Tensioner	For XY2 CE	-	1	XY2 CZ203	0.095
Adaptor	For XY2 CB	ISO M20	5	DE9 RP13520	0.050



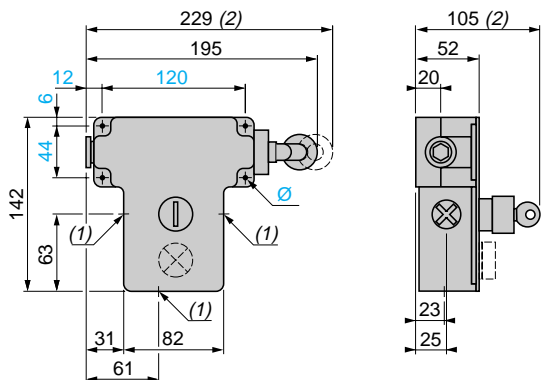
5



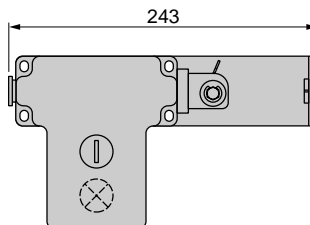
Control and signalling units for safety applications

Emergency stop trip wire switches, type XY2 C

XY2 CE●A●●●

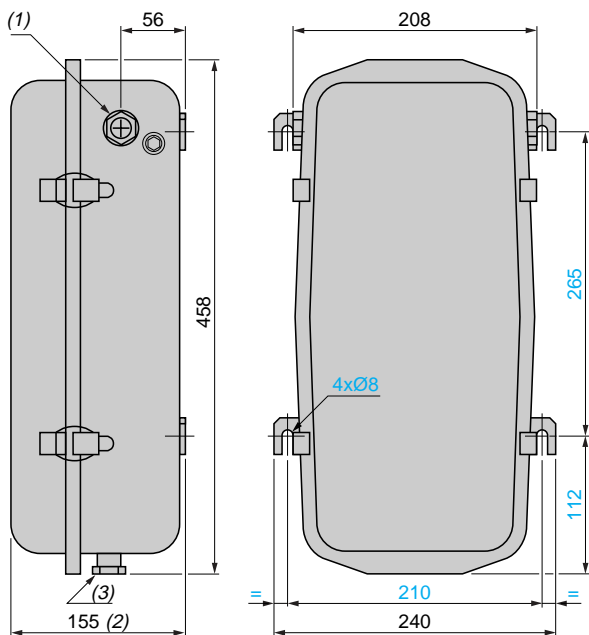


XY2 CE●A●●● + XY2 CZ917



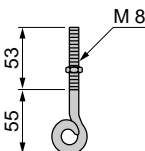
(1) 3 plain holes for n° 13 (Pg 13.5) or ISO M20 cable gland.
 (2) Maximum extension.
 Ø: 4 elongated holes Ø 6 mm.

XY2 CB●●



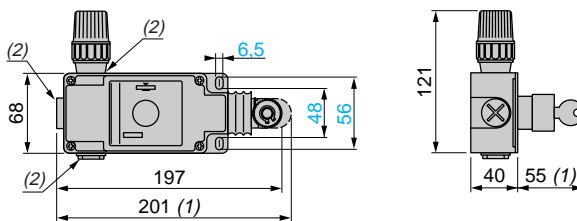
(1) 2 access points for operating cable.
 (2) + 125 for opening cover.
 (3) 1 tapped entry for n° 13 (Pg 13.5) cable gland.
 For ISO M20 use adaptor DE9 RP13520.

XY2 CZ705

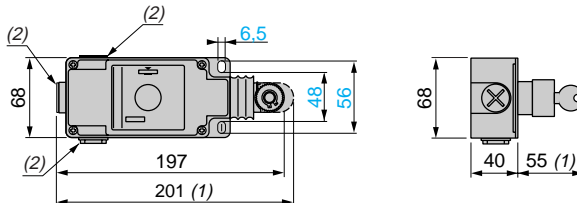


XY2 CH

With pilot light

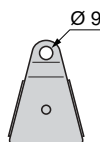


Without pilot light



(1) Maximum extension.
 (2) Tapped entries for n° 13 (Pg 13.5) cable gland.
 For ISO M20 the reference becomes XY2 CH●●●●●H29.

XY2 CZ708



5

6 - Pendant control stations and controllers

Pendant control stations with intuitive operation

Selection guidepage 6/2

- Double insulated, for control circuits
 - Complete stations “ready for use”, “Pistol grip”, type **XAC A** page 6/5
 - Complete stations “ready for use”, type **XAC D** page 6/9
- Double insulated, for power circuits (direct switching)
 - Complete stations “ready for use”, type **XAC D** page 6/11
- Double insulated, for control or power circuits
 - Empty enclosures, type **XAC D** page 6/12
 - Separate components and spare parts page 6/12
 - Variable composition stations, factory assembled page 6/17

Pendant control stations

Selection guidepage 6/2

- Double insulated, type **XAC A**, for control circuits
 - Complete stations “ready for use” page 6/19
 - Empty enclosures page 6/23
 - Separate components and spare parts page 6/24
 - Variable composition stations, factory assembled page 6/33
- Double insulated, type **XAC B** or metal, type **XAC M** (1)
 - Complete stations “ready for use”, type **XAC B**, for control circuits . . . page 6/35
 - Complete stations “ready for use”, type **XAC B**, for power circuits . . . page 6/37
 - Empty enclosures, type **XAC B**, for control or power circuits page 6/39
 - Empty enclosures, type **XAC B** or **XAC M**, for control circuits page 6/41
 - Separate components and spare parts page 6/42
 - Variable composition stations, factory assembled page 6/59
- Double insulated, type **XAC F**, for control circuits (1)
 - Empty enclosures page 6/61
 - Variable composition stations, factory assembled page 6/65

(1) XAC M and XAC F: products for maintenance purposes only.

Controllers










Selection guide 6/66

- Controllers for “light hoisting” applications, type **XKB**
 - Controllers **XKB A** with predefined, non modifiable schemes, factory assembled page 6/73
 - Controllers **XKB E** with variable and modifiable schemes, factory assembled page 6/74
 - Separate components page 6/76
- Controllers for “medium hoisting” applications, type **XKD**
 - Controllers with variable composition schemes, factory assembled page 6/81
 - Separate components page 6/84
- Controllers for “heavy hoisting” applications, type **XKM**
 - Controllers **XKM A** and **XKM B** with variable composition schemes, factory assembled page 6/89
 - Controllers **XKM C** with variable composition schemes, factory assembled page 6/95
 - Separate components page 6/98
- Potentiometers for controllers
 - For standard applications, type **XKZ A** page 6/104
 - For applications requiring an extended “neutral zone”, types **XKB Z** and **XKD Z** page 6/105

Pendant control stations

Complete stations “ready for use” and variable composition stations

Complete stations “ready for use”

Applications	Control circuits					
	Simple hoisting: 1 movement			Handling-hoisting: 2 movements		
Motor control  Single-speed  2-speed  Emergency stop	  			  		
Number of operators	2	1 (2-directional)	2	2	4	4
Enclosure material	Polypropylene	Polypropylene	Polypropylene	Polyester	Polypropylene	Polyester
Pendant station type reference	XAC A	XAC D	XAC A	XAC B	XAC A	XAC B
Page(s)	6/5	6/9	6/19	6/35	6/20	6/35

6

Variable composition stations

Applications	Control circuits		
	1 or 2	2, 3, 4, 5, 6, 8 or 12	2, 3, 4, 6, 8 or 12 in 1 row or 2 rows of 6
Number of cut-outs			
Equipment	<ul style="list-style-type: none"> Emergency stop (front mounted) Contact blocks for 1 or 2 speeds 	<ul style="list-style-type: none"> Pushbuttons Selector/key switches Pilot lights Emergency stop (front or base mounted) Wobblesticks Contact blocks for 1 or 2 speeds 	<ul style="list-style-type: none"> Pushbuttons Selector/key switches Pilot lights Emergency stop (front or base mounted) Wobblesticks Contact blocks for 1 or 2 speeds
Enclosure material	Polypropylene	Polypropylene	Polyester
Pendant station type reference	XAC D	XAC A	XAC B
Page(s)	6/12 and 6/13	6/23 to 6/29	6/39 to 6/54

Handling-hoisting: 3 movements

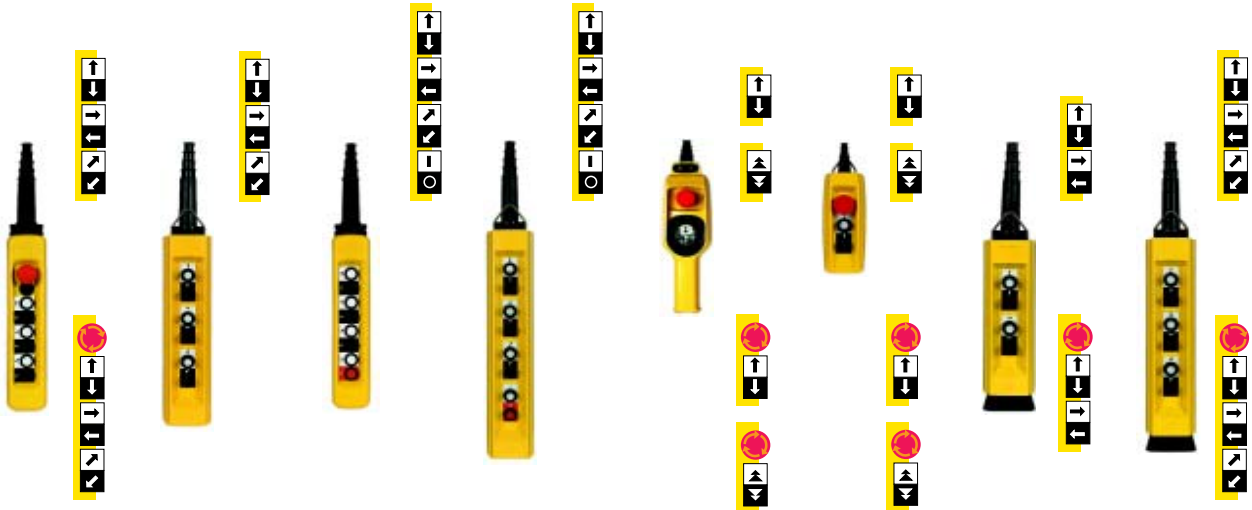
Power circuits

Simple hoisting: 1 movement

Handling-hoisting:

2 movements

3 movements



6	6	8	8	1 (2-directional)	2	4	6
Polypropylene	Polyester	Polypropylene	Polyester	Polypropylene	Polyester	Polyester	Polyester
XAC A	XAC B	XAC A	XAC B	XAC D	XAC B	XAC B	XAC B
6/20	6/35	6/20	6/35	6/11	6/37	6/37	6/38

6

4 or 8

Up to 30

Power circuits

1 or 2

2, 3, 4, 6, 8 or 12 in 2 rows of 6

Products for maintenance purposes only Products for maintenance purposes only



- Pushbuttons
- Selector/key switches
- Pilot lights
- Emergency stop (front or base mounted)
- Wobblesticks
- Contact blocks for 1 or 2 speeds

- Pushbuttons
- Selector/key switches
- Pilot lights
- Emergency stop (front or base mounted)
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- Emergency stop (front mounted)
- Contact blocks for 1 or 2 speeds

- Pushbuttons
- Selector/key switches
- Pilot lights
- Emergency stop (front or base mounted)
- Wobblesticks
- Contact blocks for 1 or 2 speeds

Aluminium

XAC M

6/41

Polyester

XAC F

6/61

Polypropylene

XAC D

6/12 and 6/13

Polyester

XAC B

6/39 to 6/54

Pendant control stations

Double insulated with intuitive operation,
type XAC A “Pistol grip”
For control circuits

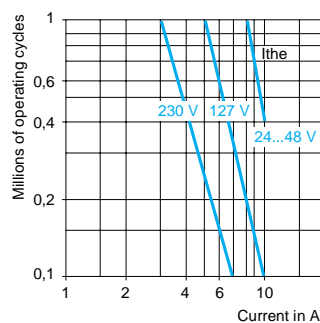
Environment			
Conformity to standards			IEC 947-5-1, EN 60947-5-1 For versions with Emergency stop: EN 60204-1, EN 60204-32, EN 292-2, EN 418
Product certifications			UL type 4X A600-Q600, CSA type 4 A600-Q600
Protective treatment	Standard version		“TH”
Ambient air temperature	For operation	°C	- 25...+ 70
	For storage	°C	- 40...+ 70
Vibration resistance			15 gn (10...500 Hz) conforming to IEC 68-2-6
Shock resistance			100 gn conforming to IEC 68-2-27
Electric shock protection			Class II conforming to IEC 536 and NF C 20-030
Degree of protection			IP 65 conforming to IEC 529; IK 08 conforming to EN 50102
Mechanical durability (in millions of operating cycles)			1
Enclosure			Double insulated polypropylene, coloured yellow throughout
Cable entry			Rubber sleeve with stepped entry diameter for cable Ø 7...Ø 15 mm

Contact block characteristics			
Rated operational characteristics			\sim AC-15: A600 or $U_e = 600$ V, $I_e = 1.2$ A or $U_e = 240$ V, $I_e = 3$ A --- DC-13: Q600 or $U_e = 600$ V, $I_e = 0.1$ A or $U_e = 250$ V, $I_e = 0.27$ A conforming to IEC 947-5-1 Appendix A
Thermal current (I _{the})	A		10
Rated insulation voltage (U _i)	V		600, degree of pollution 3, conforming to IEC 947-1
Rated impulse withstand voltage (U _{imp})	kV		6, conforming to IEC 947-1
Positive operation			Mushroom head pushbutton: N/C contact with positive opening operation conforming to IEC 947-5-1 Section 3
Contact operation			Slow break
Resistance across terminals	MΩ		≤ 25
Operating force	N		13 to 15
Terminal referencing			By numbers conforming to CENELEC EN 50013
Short-circuit protection			10 A cartridge fuse type gG (gl)
Connection	mm ²		Screw and captive cable clamp terminals. Clamping capacity: 1 x 2.5 or 2 x 1.5 with or without cable end
Rated operational power			Conforming to IEC 947-5-1 Appendix C. Utilisation categories AC-15 and DC-13. Operating rate: 3600 operating cycles/hour. Load factor: 0.5.

6

a.c. supply \sim 50/60 Hz
 --- Inductive circuit

d.c. supply ---
 Power broken in W for 1 million operating cycles



Voltage V	24	48	120
--- W	65	48	40

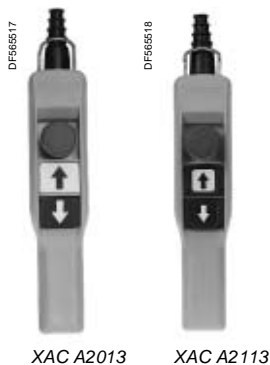
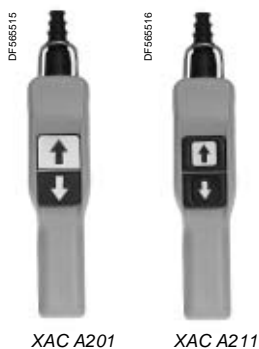
Pendant control stations








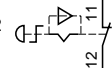

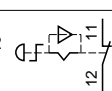

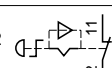

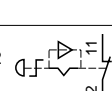
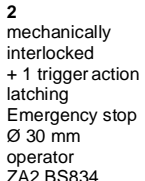

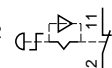

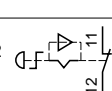

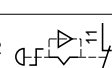

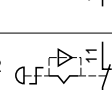
Double insulated with intuitive operation, type XAC A "Pistol grip"

For control circuits

Complete stations "ready for use"

For control of single-speed hoist motors



Functions	Number of operators	Type of operators	Contact block(s) and scheme		Reference	Weight kg		
			Per direction	For Emergency stop				
	2 mechanically interlocked	Standard	1 N/O ZB2 BE101		-	XAC A201	0.270	
			1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101		-	XAC A205	0.300	
			1 N/O ZB2 BE101		-	XAC A211	0.290	
			1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101		-	XAC A215	0.320	
	2 mechanically interlocked + 1 latching Emergency stop Ø 30 mm operator ZA2 BS44	Standard	1 N/O ZB2 BE101		1 N/C ZB2 BE102		XAC A2013	0.310
			1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101		1 N/C ZB2 BE102		XAC A2053	0.340
			1 N/O ZB2 BE101		1 N/C ZB2 BE102		XAC A2113	0.310
			1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101		1 N/C ZB2 BE102		XAC A2153	0.340
	2 mechanically interlocked + 1 trigger action latching Emergency stop Ø 30 mm operator ZA2 BS834	Standard	1 N/O ZB2 BE101		1 N/C ZB2 BE102		XAC A2014	0.310
			1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101		1 N/C ZB2 BE102		XAC A2054	0.340
			1 N/O ZB2 BE101		1 N/C ZB2 BE102		XAC A2114	0.310
			1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101		1 N/C ZB2 BE102		XAC A2154	0.340

Pendant control stations

Double insulated with intuitive operation, type XAC A "Pistol grip"

For control circuits

Complete stations "ready for use"

For control of 2-speed hoist motors

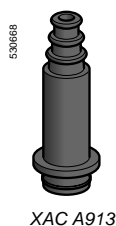
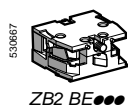
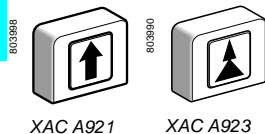


Functions	Number of operators	Type of operators	Contact block(s) and scheme		Reference	Weight kg
			Per direction	For Emergency stop		
	2 mechanically interlocked	Standard	2 step 1 N/O + 1 N/O staggered ZB2 BE101 + ZB2 BE201		-	XAC A207 0.320
		Booted	2 step 1 N/O + 1 N/O staggered ZB2 BE101 + ZB2 BE201		-	XAC A217 0.320
	2 mechanically interlocked + 1 latching Emergency stop Ø 30 mm operator ZA2 BS44	Standard	2 step 1 N/O + 1 N/O staggered ZB2 BE101 + ZB2 BE201		1 N/C ZB2 BE102	XAC A2073 0.360
		Booted	2 step 1 N/O + 1 N/O staggered ZB2 BE101 + ZB2 BE201		1 N/C ZB2 BE102	XAC A2173 0.360
	2 mechanically interlocked + 1 trigger action latching Emergency stop Ø 30 mm operator ZA2 BS834	Standard	2 step 1 N/O + 1 N/O staggered ZB2 BE101 + ZB2 BE201		1 N/C ZB2 BE102	XAC A2074 0.360
		Booted	2 step 1 N/O + 1 N/O staggered ZB2 BE101 + ZB2 BE201		1 N/C ZB2 BE102	XAC A2174 0.360

Separate components and spare parts

Description	For use with	Marking/Function	Scheme	Reference	Weight kg
	XAC A211● XAC A215● (single-speed)	↑	-	XAC A921	0.010
		↓	-	XAC A922	0.010
	XAC A217● (2-speed)	▲	-	XAC A923	0.010
		▼	-	XAC A924	0.010
Contact blocks spring return, slow break	XAC A all models	N/O		ZB2 BE101	0.015
		N/C		ZB2 BE102	0.015
		N/O staggered		ZB2 BE201	0.015
Protective cable sleeve + suspension ring + cable clamp	Cable Ø 7 to Ø 13 mm	-	-	XAC A913	0.070

6



Pendant control stations

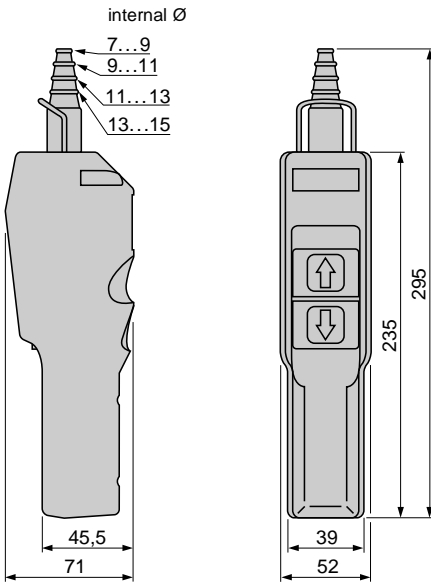
Double insulated with intuitive operation,
type XAC A "Pistol grip"

For control circuits

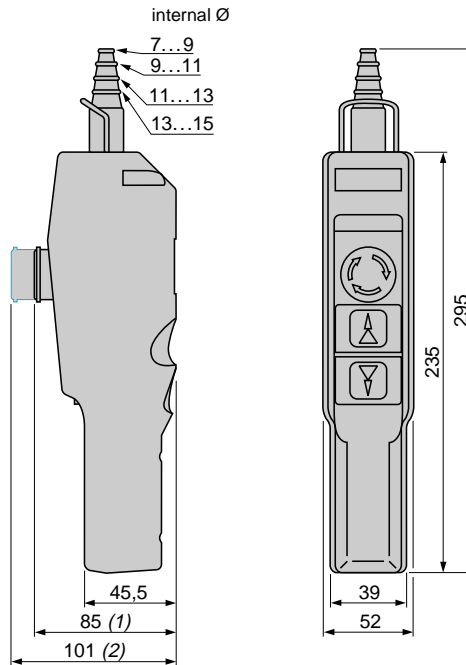
Complete stations "ready for use"

Dimensions

XAC A2●●



XAC A2●●●

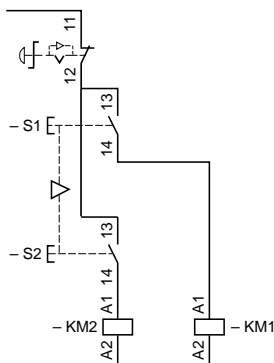


(1) With standard latching Ø 30 mm Emergency stop ZA2 BS44.
(2) With trigger action latching Ø 30 mm Emergency stop ZA2 BS834.

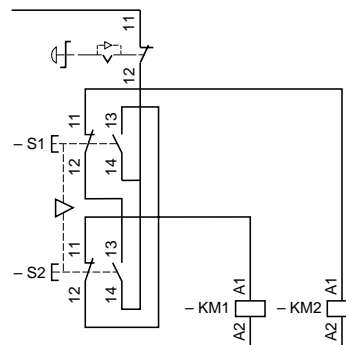
Application schemes (typical examples)

For control of single-speed reversing motor

XAC A2●1●

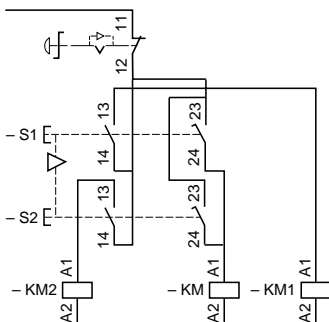


XAC A2●5●



For control of 2-speed reversing motor

XAC A2●7●



Pendant control stations

Double insulated with intuitive operation,
type XAC D
For control circuits

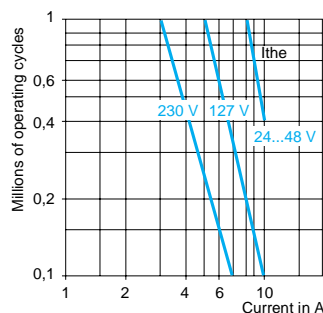
Environment	
Conformity to standards	IEC 947-5-1, EN 60947-5-1 For versions with Emergency stop: EN 60204-1, EN 60204-32, EN 292-2, EN 418, 89/655 EEC
Protective treatment	Standard version "TH"
Ambient air temperature	For operation °C - 25...+ 70 For storage °C - 40...+ 70
Vibration resistance	15 gn (10...500 Hz) conforming to IEC 68-2-6
Shock resistance	70 gn conforming to IEC 68-2-27
Electric shock protection	Class II conforming to IEC 536 and NF C 20-030
Degree of protection	IP 65 conforming to IEC 529; IK 08 conforming to EN 50102
Mechanical durability (in millions of operating cycles)	3
Enclosure	Double insulated polypropylene, coloured yellow throughout
Cable entry	Rubber sleeve with stepped entry diameter for cable Ø 7...Ø 18 mm

Contact block characteristics							
Rated operational characteristics	\sim AC-15: A600 or $U_e = 600$ V, $I_e = 1.2$ A or $U_e = 240$ V, $I_e = 3$ A --- DC-13: Q600 or $U_e = 600$ V, $I_e = 0.1$ A or $U_e = 250$ V, $I_e = 0.27$ A conforming to IEC 947-5-1 Appendix A						
Thermal current (I _{the})	<table border="0"> <tr> <td>XAC D2●A010●</td> <td>A</td> <td>10</td> </tr> <tr> <td>XAC D2●A12●1</td> <td>A</td> <td>16</td> </tr> </table>	XAC D2●A010●	A	10	XAC D2●A12●1	A	16
XAC D2●A010●	A	10					
XAC D2●A12●1	A	16					
Rated insulation voltage (U _i)	V 600, degree of pollution 3, conforming to IEC 947-1						
Rated impulse withstand voltage (U _{imp})	kV 6, conforming to IEC 947-1						
Positive operation	Mushroom head pushbutton on XAC D22A●●●●: N/C contact with positive opening operation conforming to IEC 947-5-1 Section 3						
Contact operation	Single-speed contact blocks: slow break 2-speed contact blocks: snap action						
Resistance across terminals	MΩ ≤ 25						
Operating force	<table border="0"> <tr> <td>XAC D2●A010●,</td> <td>N</td> <td>16</td> </tr> <tr> <td>XAC D2●A12●1</td> <td></td> <td></td> </tr> </table>	XAC D2●A010●,	N	16	XAC D2●A12●1		
XAC D2●A010●,	N	16					
XAC D2●A12●1							
Terminal referencing	By numbers conforming to CENELEC EN 50013						
Short-circuit protection	10 A cartridge fuse type gG (gl)						
Connection	mm ² Screw and captive cable clamp terminals Clamping capacity: 1 x 2.5 or 2 x 1.5 with or without cable end						
Rated operational power	Conforming to IEC 947-5-1 Appendix C. Utilisation categories AC-15 and DC-13. Operating rate: 3600 operating cycles/hour. Load factor: 0.5.						

6

a.c. supply \sim 50/60 Hz
 --- Inductive circuit

d.c. supply ---
 Power broken in W for 1 million operating cycles



Voltage V	24	48	120
--- W	65	48	40


Pendant control stations

Double insulated with intuitive operation,
type XAC D

For control circuits

Complete stations "ready for use"

For control of single-speed hoist motors

Functions	Number of operators	Contact block(s) and scheme		Reference	Weight kg
		Per direction	For Emergency stop		
 Reversing, mechanically interlocked	1 2-directional operator	1 N/O ZB2 BE101	-	XAC D21A0101	0.340
		1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101	-	XAC D21A0105	0.365
	1 2-directional operator + 1 latching Emergency stop Ø 30 mm operator ZA2 BS44	1 N/O ZB2 BE101	1 N/C ZB2 BE102	XAC D22A0101	0.395
		1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101	1 N/C ZB2 BE102	XAC D22A0105	0.425
	1 2-directional operator + 1 trigger action latching Emergency stop Ø 30 mm operator ZA2 BS834	1 N/O ZB2 BE101	1 N/C ZB2 BE102	XAC D24A0101	0.395
		1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101	1 N/C ZB2 BE102	XAC D24A0105	0.425



XAC D21A0101



XAC D22A0105




XAC D21A1231



XAC D22A1241

For control of 2-speed hoist motors

Functions	Number of operators	Contact block(s) and scheme		Reference	Weight kg
		For the 2 directions	For Emergency stop		
 Reversing, mechanically interlocked	1 2-directional operator	1 N/O + N/O staggered XED S1231 (1)	-	XAC D21A1231	0.365
		1 N/C + N/O + N/O staggered XED S1241 (1)	-	XAC D21A1241	0.405
	1 2-directional operator + 1 latching Emergency stop Ø 30 mm operator ZA2 BS44	1 N/O + N/O staggered XED S1231 (1)	1 N/C ZB2 BE102	XAC D22A1231	0.420
		1 N/C + N/O + N/O staggered XED S1241 (1)	1 N/C ZB2 BE102	XAC D22A1241	0.420
	1 2-directional operator + 1 trigger action latching Emergency stop Ø 30 mm operator ZA2 BS834	1 N/O + N/O staggered XED S1231 (1)	1 N/C ZB2 BE102	XAC D24A1231	0.420
		1 N/C + N/O + N/O staggered XED S1241 (1)	1 N/C ZB2 BE102	XAC D24A1241	0.420

(1) Reference of double contact block for reversing operation.

Pendant control stations

Double insulated with intuitive operation,
type XAC D

For power circuits (direct switching)

Environment			
Conformity to standards			IEC 947-3, EN 60947-3, NF C 63-130, VDE 0660-107
Protective treatment	Standard version		"TH"
Ambient air temperature	For operation	°C	- 25...+ 70
	For storage	°C	- 40...+ 70
Vibration resistance			15 gn (10...500 Hz) conforming to IEC 68-2-6
Shock resistance			100 gn conforming to IEC 68-2-27 except XAC D 2-speed: 70 gn
Electric shock protection			Class II conforming to IEC 536 and NF C 20-030
Degree of protection			IP 65 conforming to IEC 529; IK 08 conforming to EN 50102
Mechanical durability (in millions of operating cycles)			3
Enclosure			Double insulated polypropylene, coloured yellow throughout
Cable entry			Rubber sleeve with stepped entry diameter for cable Ø 7...Ø 18 mm
Contact block characteristics			
Thermal current (I _{the})	XEN T●●●●	A	10
	XED S●●●●	A	16
Rated insulation voltage (U _i)		V	500, degree of pollution 3, conforming to IEC 947-1 400, degree of pollution 3, for Emergency stop contact on stations XAC D22P●●●●
Rated impulse withstand voltage (U _{imp})		kV	6, conforming to IEC 947-1 4 for Emergency stop contact on stations XAC D22P●●●●
Contact operation			Snap action
Operating force		N	Single-speed: 28; 2-speed: 31
Terminal referencing			By numbers conforming to CENELEC EN 50005
Short-circuit protection			6 A maximum cartridge fuse type aM
Connection		mm ²	Screw clamp terminals Clamping capacity: 1 x 2.5 or 2 x 1.5 with or without cable end
Rated operational power			Utilisation categories AC-3 and AC-4 conforming to IEC 947-3 Appendix A 3 phases, 2 poles XED S2●●●: 1.1 kW-400 V XED S3●●●: 2.2 kW-400 V Brake contact: 100 V d.c. supply, 0.7 A, L/R = 100 ms
			Utilisation category AC-23B, mushroom head Emergency stop 3 phases, 3 poles, isolating block: XEN T●●●●: 3 kW-400 V
Electrical durability (in millions of operating cycles)			Utilisation categories AC-3 and AC-4 conforming to IEC 947-3 Appendix A Duty cycle comprising 75% AC-3, 25% AC-4 Operating rate: 600 per hour, load factor: 0.4 3 phases, 2 poles XED S2●●●: 1.1 kW-400 V = 1 million XED S3●●●: 2.2 kW-400 V = 1 million

Pendant control stations

Double insulated with intuitive operation,
type XAC D

For power circuits (direct switching)
Complete stations "ready for use"

DF56500



XAC D21P2111

DF56501



XAC D22P2121

DF56504





XAC D21P2231

DF56502





XAC D22P2241

For control of single-speed hoist motors

Functions	Number of operators	Contact blocks		Maximum operational power/400 V	Reference	Weight kg
		Per direction	For Emergency stop			
 Reversing, mechanically interlocked	1 2-directional operator	2-pole XED S2111 (1)	–	1.1 kW	XAC D21P2111	0.355
		2-pole XED S3111 (1)	–	2.2 kW	XAC D21P3111	0.355
		2-pole + 1 N/O (brake) XED S2121 (1)	–	1.1 kW	XAC D21P2121	0.355
		2-pole + 1 N/O (brake) XED S3121 (1)	–	2.2 kW	XAC D21P3121	0.355
 Reversing, mechanically interlocked	1 2-directional operator + 1 latching Emergency stop Ø 30 mm operator ZA2 BS44 (2)	2-pole XED S2111 (1)	1 N/C + N/C + N/C XEN T1991	1.1 kW	XAC D22P2111 (2)	0.410
		2-pole XED S3111 (1)	1 N/C + N/C + N/C XEN T1991	2.2 kW	XAC D22P3111 (2)	0.410
		2-pole + 1 N/O (brake) XED S2121 (1)	1 N/C + N/C + N/C XEN T1991	1.1 kW	XAC D22P2121 (2)	0.410
		2-pole + 1 N/O (brake) XED S3121 (1)	1 N/C + N/C + N/C XEN T1991	2.2 kW	XAC D22P3121 (2)	0.410

For control of 2-speed hoist motors

Functions	Number of operators	Contact blocks		Maximum operational power/400 V	Reference	Weight kg
		Per direction	For Emergency stop			
 Reversing, mechanically interlocked	1 2-directional operator	2-pole XED S2231 (1)	–	1.1 kW	XAC D21P2231	0.355
		2-pole XED S3231 (1)	–	2.2 kW	XAC D21P3231	0.355
		2-pole + 1 N/O (brake) XED S2241 (1)	–	1.1 kW	XAC D21P2241	0.355
		2-pole + 1 N/O (brake) XED S3241 (1)	–	2.2 kW	XAC D21P3241	0.355
 Reversing, mechanically interlocked	1 2-directional operator + 1 latching Emergency stop Ø 30 mm operator ZA2 BS44 (2)	2-pole XED S2231 (1)	1 N/C + N/C + N/C XEN T1991	1.1 kW	XAC D22P2231 (2)	0.420
		2-pole XED S3231 (1)	1 N/C + N/C + N/C XEN T1991	2.2 kW	XAC D22P3231 (2)	0.420
		2-pole + 1 N/O (brake) XED S2241 (1)	1 N/C + N/C + N/C XEN T1991	1.1 kW	XAC D22P2241 (2)	0.420
		2-pole + 1 N/O (brake) XED S3241 (1)	1 N/C + N/C + N/C XEN T1991	2.2 kW	XAC D22P3241 (2)	0.420

(1) Reference of double contact block for reversing operation.

(2) To order a station with a trigger action latching Emergency stop Ø 30 mm operator (ZA2 BS834), replace **D22** in the reference selected by **D24**. Example: XAC D22P2111 becomes XAC D24P2111.

Pendant control stations

Double insulated with intuitive operation,
type XAC D

For control or power circuits

Empty enclosures, separate components and spare parts

Empty enclosures

Description	Enclosure cut-outs	Reference	Weight kg
Empty enclosure comprising: - the enclosure, - protective cable sleeve for Ø 7 to 18 mm cable, - internal cable clamp, - cable tie (for tightening sleeve onto cable), - the directional operator, - legends.	For directional operator	XAC D021	0.345
	For directional operator + operating head (Ø 22.5 mm cut-out)	XAC D022	0.345

Variable composition stations, factory assembled

Use the order form on page 6/17 to define the required configuration.

Equipment: contact blocks and operating heads

See separate components, pages 6/12 and 6/13

Contact blocks

Description	Application	Function (1)	Scheme (1)	Max. power/ 400 V	Reference	Weight kg
For control circuits						
Single block spring return, slow break	Single-speed	N/O		–	ZB2 BE101	0.015
		N/C		–	ZB2 BE102	0.015
Double block spring return, snap action	2-speed	N/O + N/O staggered		–	XED S1231	0.015
		N/C + N/O + N/O staggered		–	XED S1241	0.015
For power circuits						
Double block spring return, snap action	Single-speed	2-pole	(2)	1.1 kW	XED S2111	0.080
		2-pole + 1 N/O (brake)	(2)	2.2 kW	XED S3111	0.090
	2-speed	2-pole	(2)	1.1 kW	XED S2231	0.110
		2-pole + 1 N/O (brake)	(2)	2.2 kW	XED S3231	0.110
		2-pole	(2)	1.1 kW	XED S2241	0.120
		2-pole + 1 N/O (brake)	(2)	2.2 kW	XED S3241	0.120
For Emergency stop operating head (Ø 22.5 mm cut-out)						
Single block spring return, slow break		N/C		–	ZB2 BE102	0.015
		N/C + N/C + N/C		–	XEN T1991	0.040

(1) Function or scheme per direction for double contact blocks.

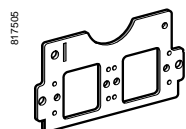
(2) See application schemes, page 6/15.

Pendant control stations

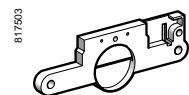
Double insulated with intuitive operation,
type XAC D

For control or power circuits

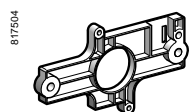
Separate components and spare parts



XAC D913



XAC D911



XAC D912



ZA2 BS44



ZA2 BS834



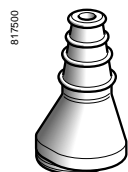
ZA2 BS74



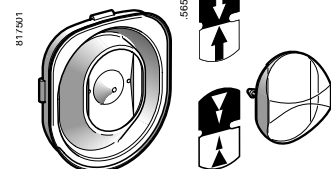
ZA2 BD2



ZA2 BG2

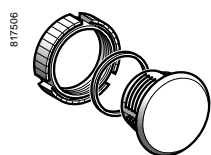


XAC D901



XAC D902

XAC D905



ZB2 SZ3

Contact block support plates

For use with	Reference	Weight kg
2 movement contact blocks ZB2 BE10● (control circuit stations)	XAC D913	0.010
1 contact block ZB2 BE102 for operating head	XAC D911	0.005
1 contact block XEN T1991 for operating head	XAC D912	0.010

Operating heads for Ø 22.5 mm cut-out

Description	Colour	Reference	Weight kg
Mushroom head Ø 30 mm, latching Turn to release (Emergency stop function)	Red	ZA2 BS44	0.040
Mushroom head Ø 30 mm, trigger action, latching Turn to release (Emergency stop function)	Red	ZA2 BS834	0.040
Mushroom head Ø 30 mm, latching Key release, n° 455 (1) Key withdrawal in rest (unactuated) position (Emergency stop function)	Red	ZA2 BS74	0.060
Selector switch, standard handle 2 position, stay put	Black	ZA2 BD2	0.018
Key switch (key n° 455) (1) 2 position, stay put Key withdrawal in left-hand position	–	ZA2 BG2	0.020

Complementary accessories

Description	Reference	Weight kg
Protective cable sleeve for cable Ø 7 to 18 mm	XAC D901	0.030
Diaphragm for directional operator , black polychloroprene	XAC D902	0.015
Directional operator with set of legends (single-speed and 2-speed)	XAC D905	0.005
Blanking plug for Ø 22.5 mm cut-out, black, with seal and fixing nut	ZB2 SZ3	0.010

Printed labels, pendant station characteristics

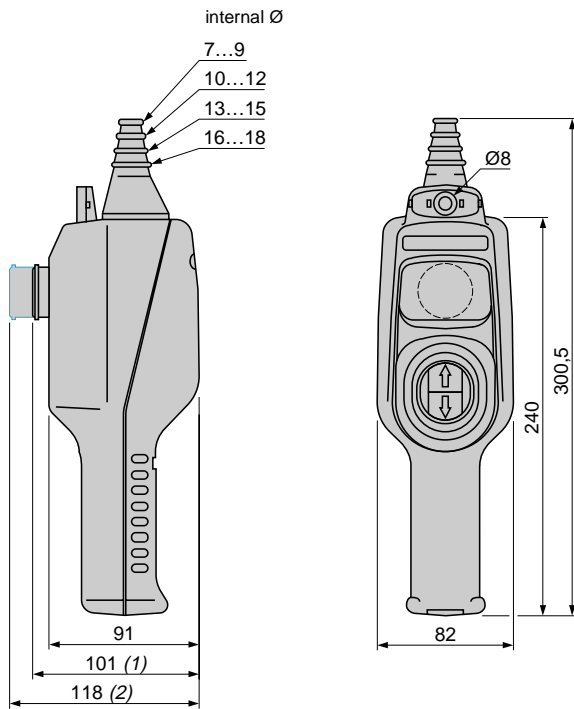
Description	Pendant station circuit function	Sold in lots of	Unit reference	Weight kg
Self-adhesive labels product identification	Control	50	XAC D950	0.001
	Power, 1.1 kW	50	XAC D951	0.001
	Power, 2.2 kW	50	XAC D952	0.001

(1) Other key numbers available on request, please consult your Regional Sales office.

Pendant control stations

Double insulated with intuitive operation,
type XAC D
For control or power circuits

XAC D●●●



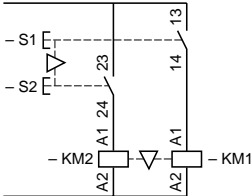
- (1) With standard latching Ø 30 mm Emergency stop ZA2 BS44.
(2) With trigger action latching Ø 30 mm Emergency stop ZA2 BS834.

Pendant control stations

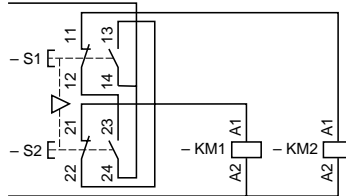
Double insulated with intuitive operation,
type XAC D
For control or power circuits

Control circuits

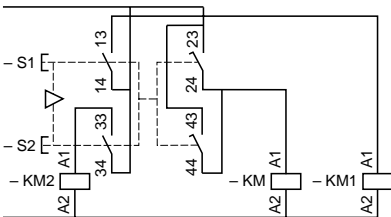
XAC D21A0101



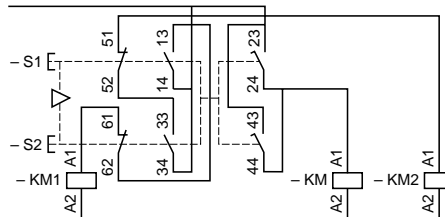
XAC D21A0105



XAC D21A1231



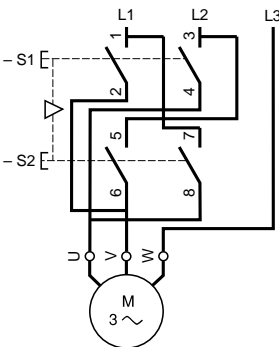
XAC D21A1241



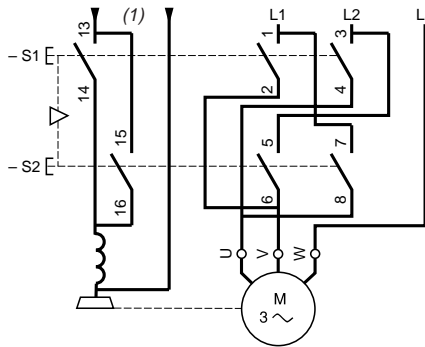
Power circuits

For control of single-speed reversing motor
2-phase switching

XAC D21P2111, XAC D21P3111



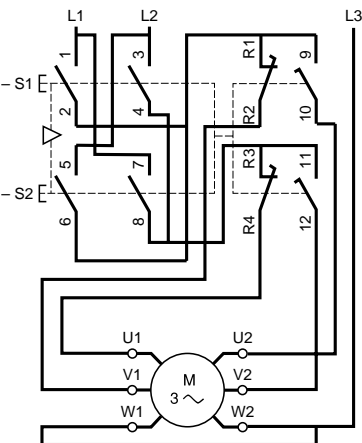
XAC D21P2121, XAC D21P3121



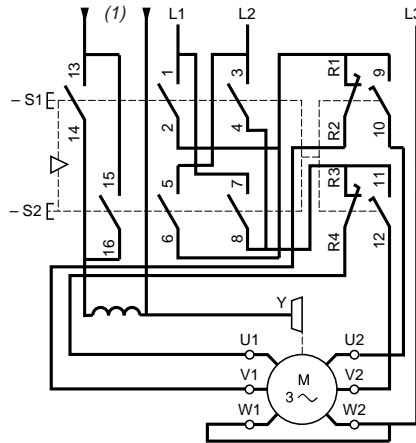
(1) Brake supply.

For control of 2-speed reversing motor (motors with separate windings only)
2-phase switching

XAC D21P2231, XAC D21P3231

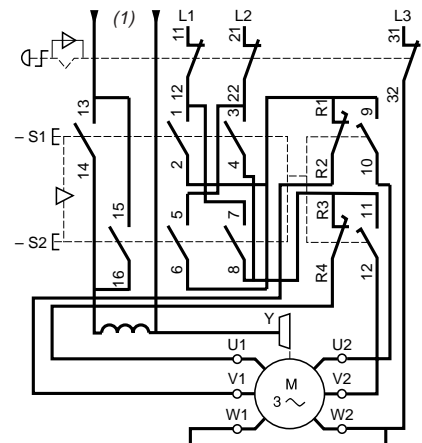


XAC D21P2241, XAC D21P3241



(1) Brake supply.

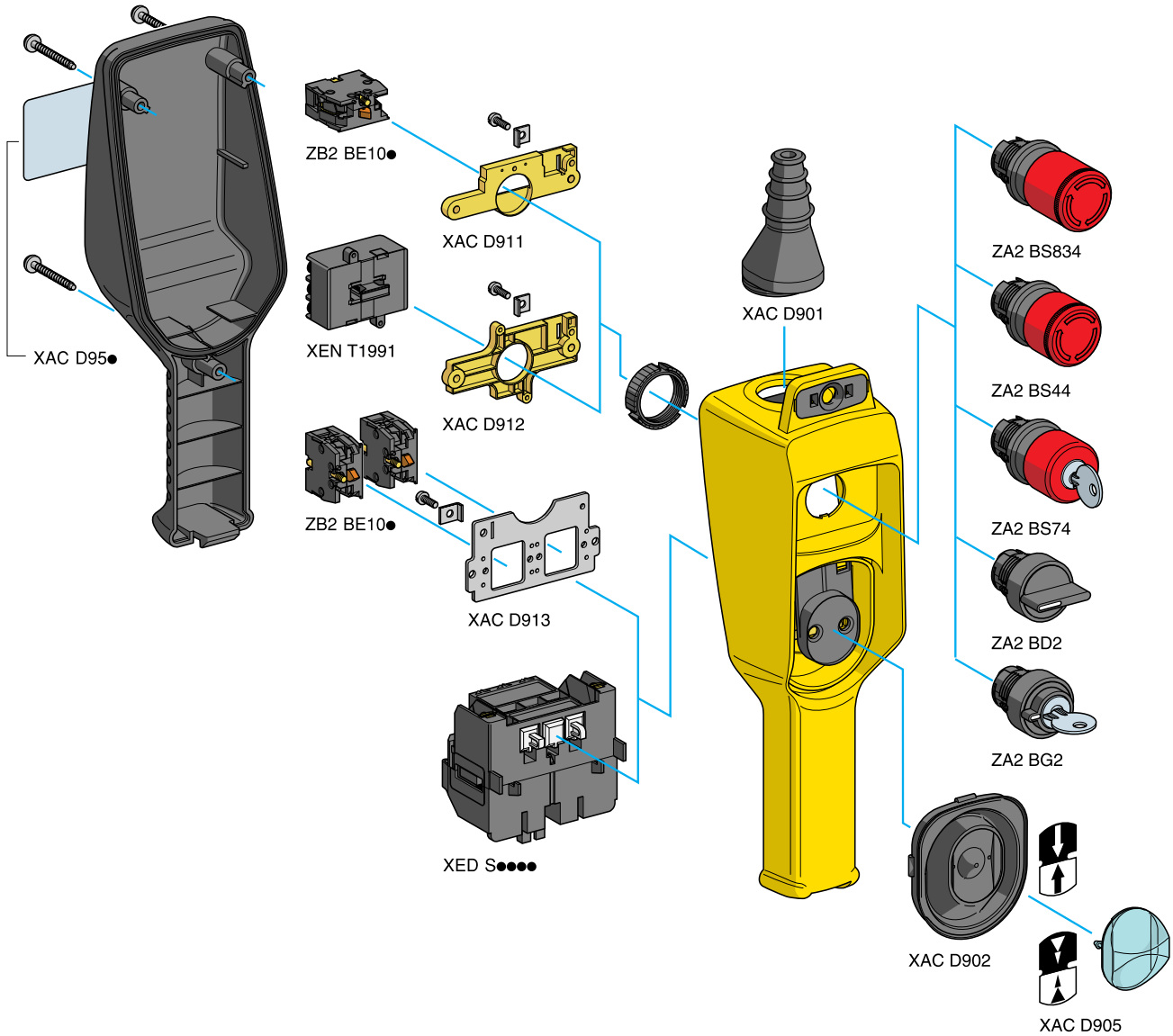
XAC D22P2241



(1) Brake supply.

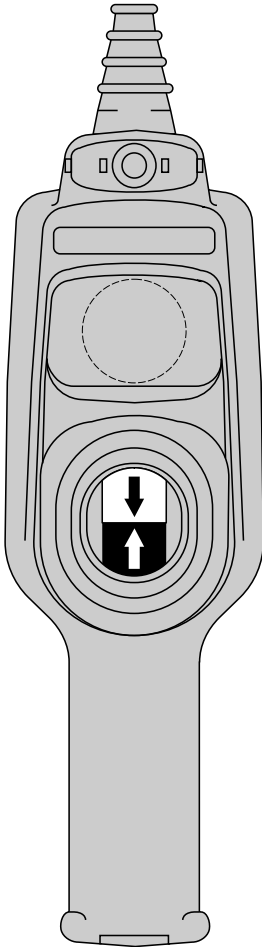
Pendant control stations

Double insulated with intuitive operation,
type XAC D
For control or power circuits



Pendant control stations

Double insulated with intuitive operation,
type XAC D
For control or power circuits
Variable composition stations, factory assembled



Customer			Schneider Electric Industries	
Company	Order N°	Delivery date	Sales office - Subsidiary Co.	Order N°

Enter the order with XAC D09 reference

Unit reference of empty enclosure , see page 6/12	Number of identical stations	Enclosure price (1)
XAC <input type="text" value="D"/> <input type="text" value="0"/> <input type="text" value="2"/> <input type="text"/>		

The reference of the empty enclosure above comprises:

- the enclosure,
- internal cable clamp,
- cable tie (for tightening sleeve onto cable),
- the directional operator with set of legends, **XAC D905**,
- protective cable sleeve for Ø 7 to 18 mm cable, **XAC D901**,
- diaphragm for directional operator, **XAC D902**.

Operating head see page 6/13		Contact blocks see page 6/12		Support plate see page 6/13		Total price
Reference	Unit price	Reference	Unit price	Reference	Unit price	

Contact blocks see page 6/12			Support plate (for ZB2 BE●●● only) see page 6/13			Total price
Reference	Qty.	Unit price	Reference	Qty.	Unit price	

Factory assembled:
Add an additional cost for assembly **XAC 9VA**

Total price of assembled pendant station

(1) Obtain the empty enclosure price.

Pendant control stations

Double insulated, type XAC A
For control circuits

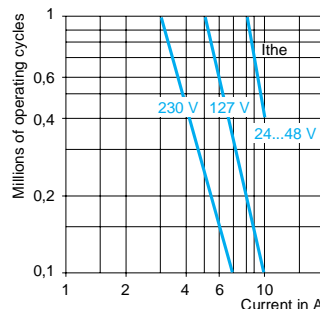
Environment			
Conformity to standards			IEC 947-5-1, EN 60947-5-1
Product certifications			NEMKO. Special version: UL Listed A600-Q600, CSA A600-Q600
Protective treatment	Standard version		"TH"
Ambient air temperature	For operation	°C	- 25...+ 70
	For storage	°C	- 40...+ 70
Vibration resistance			15 gn (10...500 Hz) conforming to IEC 68-2-6
Shock resistance			100 gn conforming to IEC 68-2-27
Electric shock protection			Class II conforming to IEC 536 and NF C 20-030
Degree of protection			IP 65 conforming to IEC 529; IK 08 conforming to EN 50102
Mechanical durability (in millions of operating cycles)			1
Enclosure			Double insulated polypropylene, coloured yellow throughout
Cable entry			Rubber sleeve with stepped entry diameter for cable Ø 8...Ø 26 mm

Contact block characteristics			
Rated operational characteristics	ZB2 BE●●●, XEN G●●●●, XAC S●●●● XEN T●●●●		~ AC-15: A600 or Ue = 600 V, Ie = 1.2 A or Ue = 240 V, Ie = 3 A --- DC-13: Q600 or Ue = 600 V, Ie = 0.1 A or Ue = 250 V, Ie = 0.27 A ~ AC-15: A300 or Ue = 240 V, Ie = 3 A --- DC-13: Q300 or Ue = 250 V, Ie = 0.27 A conforming to IEC 947-5-1 Appendix A
Thermal current (Ithe)		A	10
Rated insulation voltage (Ui)	ZB2 BE●●●, XEN G●●●●, XAC S●●●●	V	600, degree of pollution 3
	XEN T●●●●		400, degree of pollution 3, conforming to IEC 947-1
Rated impulse withstand voltage (U imp)		kV	6, conforming to IEC 947-1
Positive operation			Mushroom head pushbutton: N/C contact with positive opening operation conforming to IEC 947-5-1 Section 3
Contact operation			N/C or N/O slow break
Resistance across terminals		MΩ	≤ 25
Operating force		N	Operators - with 1 N/O contact: 10 - with 1 N/C contact: 8 - with additional N/O contact: + 5 - with additional N/C contact: + 3
Terminal referencing			Conforming to CENELEC EN 50013
Short-circuit protection			10 A cartridge fuse type gG (gl)
Connection		mm ²	Screw and captive cable clamp terminals. Clamping capacity: min. 1 x 0.5 mm ² , max., with or without cable end: 2 x 1.5 mm ² or 1 x 2.5 mm ² . 6.3 mm clips (on request), please consult your Regional Sales office.

Rated operational power Conforming to IEC 947-5-1 Appendix C. Utilisation categories AC-15 and DC-13. Operating rate: 3600 operating cycles/hour. Load factor: 0.5.

a.c. supply ~ 50/60 Hz
 Inductive circuit

d.c. supply ---
 Power broken in W for 1 million operating cycles



Voltage V	24	48	120
W	65	48	40




Pendant control stations

Double insulated, type XAC A

For control circuits

Complete stations "ready for use"

For control of single-speed motors

Functions	Number of operators	Contact block(s) and scheme		Reference	Weight kg
		Per direction	For Emergency stop		
	2 mechanically interlocked	1 N/O ZB2 BE101	-	XAC A271	0.475
		1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101	-	XAC A281	0.500
	2 mechanically interlocked + 1 latching Emergency stop Ø 30 mm operator ZA2 BS44 (1)	1 N/O ZB2 BE101	1 N/C ZB2 BE102	XAC A2713 (1)	0.575
		1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101	1 N/C ZB2 BE102	XAC A2813 (1)	0.600
	2 mechanically interlocked + 1 latching Emergency stop Ø 30 mm operator ZA2 BS44 (1)	1 N/O ZB2 BE101	1 N/C + N/C + N/C XEN T1192	XAC A27131 (1)	0.615
		1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101	1 N/C + N/C + N/C XEN T1192	XAC A28131 (1)	0.635

(1) To order a station with a trigger action latching Emergency stop Ø 30 mm operator (ZA2 BS834), replace the number 3 in the reference selected by the number 4.

Examples: **XAC A2713** becomes **XAC A2714** and **XAC A27131** becomes **XAC A27141**.

Pendant control stations

Double insulated, type XAC A

For control circuits

Complete stations "ready for use"

For control of single-speed motors (continued)

Functions	Number of operators	Contact block(s) and scheme		Reference	Weight kg
		Per direction	For Emergency stop		
	4 mechanically interlocked between pairs	1 N/O ZB2 BE101	-	XAC A471	0.625
		1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101	-		
	4 mechanically interlocked between pairs + 1 latching Emergency stop Ø 40 mm operator ZA2 BS54 (1)	1 N/O ZB2 BE101	1 N/C ZB2 BE102	XAC A4713 (1)	0.800
		1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101	1 N/C ZB2 BE102		
	4 mechanically interlocked between pairs + 1 latching Emergency stop Ø 40 mm operator ZA2 BS54 (1)	1 N/O ZB2 BE101	1 N/C + N/C + N/C XEN T1192	XAC A47131 (1)	0.835
		1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101	1 N/C + N/C + N/C XEN T1192		
	6 mechanically interlocked between pairs + 1 latching Emergency stop Ø 40 mm operator ZA2 BS54 (1)	1 N/O ZB2 BE101	-	XAC A671	0.860
		1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101	-		
	6 mechanically interlocked between pairs + 1 latching Emergency stop Ø 40 mm operator ZA2 BS54 (1)	1 N/O ZB2 BE101	1 N/C ZB2 BE102	XAC A6713 (1)	0.845
		1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101	1 N/C ZB2 BE102		

(1) To order a station with a trigger action latching Emergency stop Ø 40 mm operator (ZA2 BS844), replace the number 3 in the reference selected by the number 4.

Examples: XAC A4713 becomes XAC A4714 and XAC A47131 becomes XAC A47141.

DF506525



XAC A471
XAC A481

530226



XAC A4713
XAC A4813
XAC A47131
XAC A48131

6

530223



XAC A671
XAC A681

530224



XAC A6713
XAC A6813

Pendant control stations

Double insulated, type XAC A

For control circuits

Complete stations "ready for use"

DF56526



XAC A67131
XAC A68131

DF56527



XAC A871
XAC A881

530229



XAC A291

530230



XAC A2913
XAC A29131

For control of single-speed motors (continued)

Functions	Number of operators	Contact block(s) and scheme		Reference	Weight kg
		Per direction	For Emergency stop		
	6 mechanically interlocked between pairs + 1 latching Emergency stop Ø 40 mm operator ZA2 BS54 (1)	1 N/O ZB2 BE101	1 N/C + N/C + N/C XEN T1192	XAC A67131 (1)	0.880
	8 mechanically interlocked between pairs	1 N/O + 1 N/O ZB2 BE102 + ZB2 BE101	1 N/C + N/C + N/C XEN T1192	XAC A68131 (1)	0.970
	8 mechanically interlocked between pairs	1 N/O on 7 operators ZB2 BE101 and 1 N/C on the 8 th operator ZB2 BE102	-	XAC A871	0.940
			-		
	8 mechanically interlocked between pairs	1 N/C + 1 N/O ZB2 BE102 + ZB2 BE101	-	XAC A881	1.045
			-		

For control of 2-speed motors

Functions	Number of operators	Contact block(s) and scheme		Reference	Weight kg
		Per direction	For Emergency stop		
	2 mechanically interlocked between pairs	1 N/C + N/O + N/O staggered XEN G1191	-	XAC A291	0.525
			-		
	2 mechanically interlocked between pairs + 1 latching Emergency stop Ø 30 mm operator ZA2 BS44 (1)	1 N/C + N/O + N/O staggered XEN G1191	1 N/C ZB2 BE102	XAC A2913 (1)	0.570
	2 mechanically interlocked between pairs + 1 latching Emergency stop Ø 30 mm operator ZA2 BS44 (1)	1 N/C + N/O + N/O staggered XEN G1191	1 N/C + N/C + N/C XEN T1192	XAC A29131 (1)	0.605

(1) To order a station with a trigger action latching Emergency stop Ø 30 mm operator (ZA2 BS834) or Ø 40 mm operator (ZA2 BS844), replace the number 3 in the reference selected by the number 4.
Examples: XAC A67131 becomes XAC A67141 and XAC A2913 becomes XAC A2914.

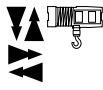
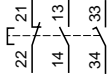
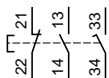
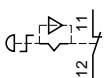
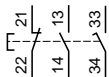
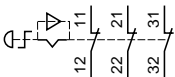


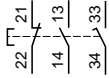

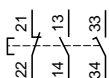
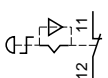

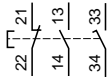
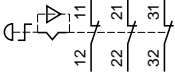

Pendant control stations

Double insulated, type XAC A

For control circuits

Complete stations "ready for use"

For control of 2-speed motors (continued)

Functions	Number of operators	Contact block(s) and scheme		Reference	Weight kg
		Per direction	For Emergency stop		
	4 mechanically interlocked between pairs	1 N/C + N/O + N/O staggered XEN G1191	–	XAC A491	0.625
					
	4 mechanically interlocked between pairs + 1 latching Emergency stop Ø 40 mm operator ZA2 BS54 (1)	1 N/C + N/O + N/O staggered XEN G1191	1 N/C ZB2 BE102	XAC A4913 (1)	0.675
					
		1 N/C + N/O + N/O staggered XEN G1191	1 N/C + N/C + N/C XEN T1192	XAC A49131 (1)	0.700
					
(a)  (b) 	4 mechanically interlocked between pairs	1 N/C + N/O + N/O staggered (a) XEN G1191	–	XAC A492	0.675
					
		1 N/O (b) ZB2 BE101			
	4 mechanically interlocked between pairs + 1 latching Emergency stop Ø 40 mm operator ZA2 BS54 (1)	1 N/C + N/O + N/O staggered (a) XEN G1191	1 N/C ZB2 BE102	XAC A4923 (1)	0.700
					
		1 N/O (b) ZB2 BE101			
		1 N/C + N/O + N/O staggered (a) XEN G1191	1 N/C + N/C + N/C XEN T1192	XAC A49231 (1)	0.735
					
		1 N/O (b) ZB2 BE101			

(1) To order a station with a trigger action latching Emergency stop Ø 40 mm operator (ZA2 BS844), replace the number 3 in the reference selected by the number 4.

Examples: XAC A4913 becomes XAC A4914 and XAC A49131 becomes XAC A49141.

XAC A4923
XAC A49231

Characteristics:
page 6/18

Dimensions:
page 6/30

Application schemes:
page 6/31

Presentation:
page 6/32

Pendant control stations

Double insulated, type XAC A

For control circuits

Empty enclosures

530233



XAC A02

530234



XAC A03

530234



XAC A12

Empty enclosures

Description	Number of cut-outs	Reference	Weight kg
Enclosure comprising: - the enclosure, - internal mounting plate, - protective cable sleeve, - internal cable clamp, - suspension ring, - cable tie (for tightening sleeve onto cable).	2	XAC A02	0.440
	3	XAC A03 (1)	0.440
	4	XAC A04	0.540
	5	XAC A05 (1)	0.625
	6	XAC A06	0.665
	8	XAC A08	0.770
	12	XAC A12	1.000

Variable composition stations, factory assembled

Use the order form on page 6/33 to define the required configuration.

Equipment: contact blocks, operating heads (control and signalling), complementary accessories

See separate components, pages 6/24 to 6/29

(1) Enclosures with 3 cut-outs XAC A03 and 5 cut-outs XAC A05 cannot be fitted with a mounting adaptor for base mounted units.

Pendant control stations

Double insulated, type XAC A

For control circuits

Separate components and spare parts

530229



ZB2 BE101
ZB2 BE102

530237



XEN G1191
XEN G1491

530226



XEN G3781
XEN G3791

530228



XEN T1192

Contact blocks for front mounting

Description	Application	Function	Scheme	Reference	Weight kg
Single block, spring return slow break	Single-speed	N/O		ZB2 BE101	0.015
		N/C		ZB2 BE102	0.015
	2-speed	N/C + N/O + N/O simultaneous (1)		XEN G1491	0.040
		N/C + N/O + N/O staggered (1)		XEN G1191	0.040
Double block, latching slow break (2)	Single-speed	N/O		XEN G3781	0.060
		N/O			
		N/O		XEN G3791	0.060
		N/C			

Isolating switch, slow break, for front mounting

For mounting in enclosures	Application	Function	Scheme	Reference	Weight kg
XAC A03 (frontal cut-out) XAC A05, A06, A08 (frontal or base cut-out)	Emergency stop	N/C + N/C + N/C with positive opening operation		XEN T1192	0.050

(1) Only for use with XAC A9... operators.

(2) Not suitable for use with the following operating heads: ZA2 BB, ZA2 BD, ZA2 BG and ZA2 BS.

Pendant control stations

Double insulated, type XAC A

For control circuits

Separate components and spare parts

530240



XAC S10

Contact blocks for base mounting

Description	Function	Scheme	Reference	Weight kg
Spring return slow break (1)	N/O		XAC S101	0.030
	N/C		XAC S102	0.030
	N/O + N/O		XAC S103	0.045
	N/C + N/C		XAC S104	0.045
	N/C + N/O		XAC S105	0.045

530241



ZB2 BV006

Pilot light bodies for front mounting

Description	Supply voltage	Scheme	Reference	Weight kg
Direct supply Bulb not included (2)	≤ 400 V		ZB2 BV006	0.015
Direct supply, through resistor Incandescent BA 9s base fitting 130 V bulb included	230 V		ZB2 BV007	0.020

530242



ZB2 BV007

(1) Not suitable for use with 3-position operating heads ZA2 BD and ZA2 BG or for mounting in enclosures XAC A039 and XAC A03.

(2) Bulb type for use with direct supply units: BA 9s base fitting incandescent bulb $U \leq 130$ V or neon bulb 110 V $\leq U \leq 400$ V. Maximum power: 2.6 W, maximum \varnothing : 11 mm, maximum length: 28 mm. See page 6/25.

Pendant control stations

Double insulated, type XAC A

For control circuits

Separate components and spare parts

530243



XAC A94●●

Operating heads for front mounting

Description	Colour	Sold in lots of	Unit reference	Weight kg
Booted operators	White	10	XAC A9411	0.010
	Black	10	XAC A9412	0.010
	Green	10	XAC A9413	0.010
	Red	10	XAC A9414	0.010
	Yellow	10	XAC A9415	0.010
	Blue	10	XAC A9416	0.010
	Brown	10	XAC A9419	0.010

530248



ZA2 BS54

530249



ZA2 BS834

Operating heads for front or base mounting

Description	Colour	Type	Reference	Weight kg
Mushroom head, latching Turn to release (Emergency stop function)	Red	Ø 30 mm	ZA2 BS44	0.040
		Ø 40 mm	ZA2 BS54	0.050
Mushroom head, trigger action, latching Turn to release (Emergency stop function)	Red	Ø 30 mm	ZA2 BS834	0.040
		Ø 40 mm	ZA2 BS844	0.050
Mushroom head, latching Key release (n° 455) Key withdrawal in rest (unactuated) position (Emergency stop function)	Red	Ø 30 mm	ZA2 BS74	0.060
		Ø 40 mm	ZA2 BS14	0.065
Selector switches, standard handle (Not to be used with XEN G●●●● contact blocks)	Black	2 position, stay put	ZA2 BD2	0.018
		3 position, stay put (1)	ZA2 BD3	0.018
Key switches (key n° 455) Key withdrawal in left and right-hand positions	–	2 position, stay put	ZA2 BG4	0.042
		3 position, stay put (1)	ZA2 BG5	0.042
Wobblesticks (2) Operates in all directions for fast stop	Black	–	ZA2 BB2	0.060
	Red	–	ZA2 BB4	0.060

(1) Only suitable for front mounting.
(2) Base mounting recommended.

Other versions

Key release mushroom head pushbuttons with other key numbers.
Selector switches with other mechanical functions.
Key switches with other mechanical functions and with other key numbers.
Please consult your Regional Sales Office.

6

530246



ZA2 BG●

DF59529



ZA2 BB●

Pendant control stations

Double insulated, type XAC A

For control circuits

Separate components and spare parts



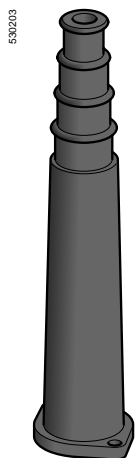
ZA2 BV0



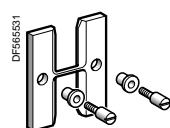
DL1 C



DL1 CF



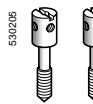
XAC A960



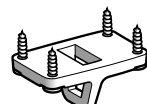
XAC A009



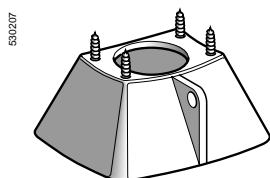
ZB2 SZ3



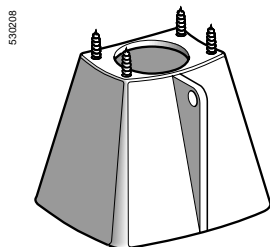
XAC B961



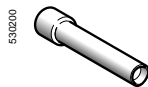
XAC A971



XAC A982



XAC A983



XBF X13

Pilot light heads

Description	Colour	Reference	Weight kg
For use with incandescent bulbs			
Lens cap with fixing bezel	White	ZA2 BV01	0.015
	Green	ZA2 BV03	0.015
	Red	ZA2 BV04	0.015
	Yellow	ZA2 BV05	0.015
	Blue	ZA2 BV06	0.015
	Clear	ZA2 BV07	0.015

For use with neon bulbs

Lens cap with fixing bezel	Green	ZA2 BV033	0.015
	Red	ZA2 BV043	0.015
	Yellow	ZA2 BV053	0.015
	Clear	ZA2 BV073	0.015

Bulbs

Description	Voltage	Sold in lots of	Unit reference	Weight kg
Incandescent BA 9s base fitting Maximum power: 2.6 W Maximum Ø: 11 mm Maximum length: 28 mm	6 V	10	DL1 CB006	0.002
	12 V	10	DL1 CE012	0.002
	24 V	10	DL1 CE024	0.002
	48 V	10	DL1 CE048	0.002
	130 V	10	DL1 CE130	0.002
Neon BA 9s base fitting Maximum power: 2.6 W Maximum Ø: 11 mm Maximum length: 28 mm	110 V	10	DL1 CF110	0.002
	230 V	10	DL1 CF220	0.002
	400 V	10	DL1 CF380	0.002

Complementary accessories, tools

Description	Reference	Weight kg
Protective cable sleeve	For cable Ø 8 to 22 mm	XAC A950 0.070
	For cable Ø 8 to 26 mm	XAC A960 0.090
Mechanical interlock for 2 operators	With fixing screws	XAC A009 0.003
Blanking plug	With seal and fixing nut	ZB2 SZ3 0.005
Adaptor for self-supporting cable type BBAP	Mounted with protective sleeve for cable Ø 8 to 26 mm	XAC B961 0.025
Lower support ring	–	XAC A971 0.010
Protective guards for base mounted units	For selector switch (standard handle) or mushroom head pushbutton	XAC A982 0.025
	For key switch or key release latching mushroom head pushbutton	XAC A983 0.045
Bulb extractor	For BA 9s base fitting bulbs	XBF X13 0.025

Pendant control stations

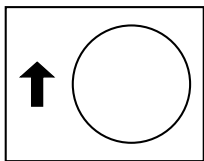
Double insulated, type XAC A

For control circuits

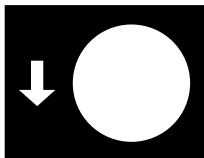
Legends 30 x 40 mm with symbols conforming to

NF E 52-124

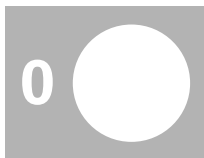
530209



White background, black symbol



Black background, white symbol



Red background, white symbol

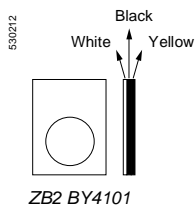
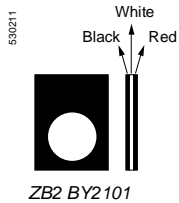
Function Symbol	Reference	Weight kg	Function Symbol	Reference	Weight kg
Raise, slow 	ZB2 BY4901	0.001	Lower, slow 	ZB2 BY2904	0.001
Raise, fast 	ZB2 BY4902	0.001	Lower, fast 	ZB2 BY2905	0.001
Raise, slow-fast 	ZB2 BY4903	0.001	Lower, slow-fast 	ZB2 BY2906	0.001
Right, slow 	ZB2 BY4907	0.001	Left, slow 	ZB2 BY2910	0.001
Right, fast 	ZB2 BY4908	0.001	Left, fast 	ZB2 BY2911	0.001
Right, slow-fast 	ZB2 BY4909	0.001	Left, slow-fast 	ZB2 BY2912	0.001
Forward, slow 	ZB2 BY4913	0.001	Reverse, slow 	ZB2 BY2916	0.001
Forward, fast 	ZB2 BY4914	0.001	Reverse, fast 	ZB2 BY2917	0.001
Forward, slow-fast 	ZB2 BY4915	0.001	Reverse, slow-fast 	ZB2 BY2918	0.001
Slew right, slow 	ZB2 BY4919	0.001	Slew left, slow 	ZB2 BY2922	0.001
Slew right, fast 	ZB2 BY4920	0.001	Slew left, fast 	ZB2 BY2923	0.001
Slew right, slow-fast 	ZB2 BY4921	0.001	Slew left, slow-fast 	ZB2 BY2924	0.001
Slow 	ZB2 BY4933	0.001	Fast 	ZB2 BY4934	0.001
Klaxon 	ZB2 BY4932	0.001	Start-Klaxon 	ZB2 BY4935	0.001
Start 	ZB2 BY4930	0.001	Stop 	ZB2 BY2931	0.001

Pendant control stations

Double insulated, type XAC A

For control circuits

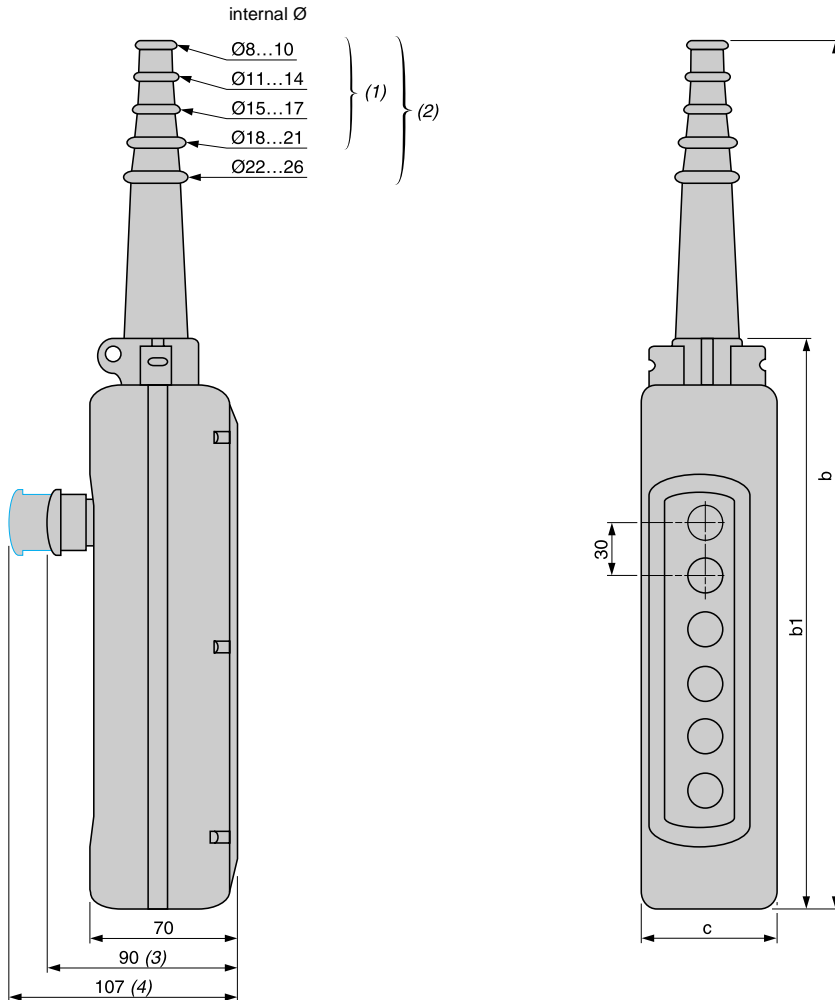
Legends 30 x 40 mm



Text	Reference	Weight kg	Text	Reference	Weight kg
<ul style="list-style-type: none"> ■ Start functions: white characters on black background ■ Stop functions: white characters on red background 					
Blank					
Black or red background	ZB2 BY2101	0.001	White or yellow background	ZB2 BY4101	0.001
With French text			With English text		
For pushbuttons			For pushbuttons		
Marche	ZB2 BY2103	0.001	Start	ZB2 BY2303	0.001
Arrêt	ZB2 BY2104	0.001	Stop	ZB2 BY2304	0.001
Avant	ZB2 BY2105	0.001	Forward	ZB2 BY2305	0.001
Arrière	ZB2 BY2106	0.001	Reverse	ZB2 BY2306	0.001
Montée	ZB2 BY2107	0.001	Up	ZB2 BY2307	0.001
Descente	ZB2 BY2108	0.001	Down	ZB2 BY2308	0.001
Droite	ZB2 BY2109	0.001	Right	ZB2 BY2309	0.001
Gauche	ZB2 BY2110	0.001	Left	ZB2 BY2310	0.001
En service	ZB2 BY2111	0.001	On	ZB2 BY2311	0.001
Hors service	ZB2 BY2112	0.001	Off	ZB2 BY2312	0.001
Sous tension	ZB2 BY2126	0.001	Power on	ZB2 BY2326	0.001
Lent	ZB2 BY2127	0.001	Slow	ZB2 BY2327	0.001
Vite	ZB2 BY2128	0.001	Fast	ZB2 BY2328	0.001
Klaxon	ZB2 BY2125	0.001	–	–	–
For selector switches			For selector switches		
Arrêt-Marche	ZB2 BY2166	0.001	–	–	–
Hors-En	ZB2 BY2167	0.001	Off-On	ZB2 BY2367	0.001
With special texts					
<ul style="list-style-type: none"> ■ Specify text when ordering, ■ 2 lines maximum, 11 characters per line. 					
White characters on black background	ZB2 BY2002	0.001	Black characters on white background	ZB2 BY4001	0.001
White characters on red background	ZB2 BY2004	0.001	Black characters on yellow background	ZB2 BY4005	0.001
Other versions	Legends with texts in other languages. Please consult your Regional Sales Office.				

Dimensions

XAC A pendant stations for control circuits



6

Number of operators	2	3	4	5	6	8	12
b	314	314	440	440	500	560	680
b1	190	190	250	250	310	370	490
c	80	80	80	80	80	80	92

(1) For 2 and 3-way XAC A stations.

(2) For 4 and 8-way XAC A stations.

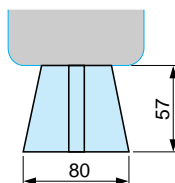
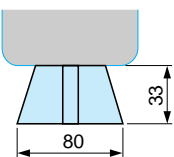
(3) With mushroom head operator.

(4) With trigger action mushroom head operator.

Protective guards

XAC A982

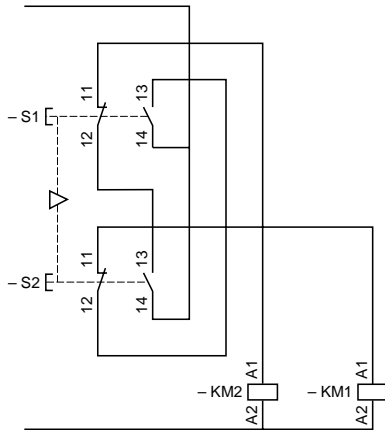
XAC A983



Application schemes (typical examples)

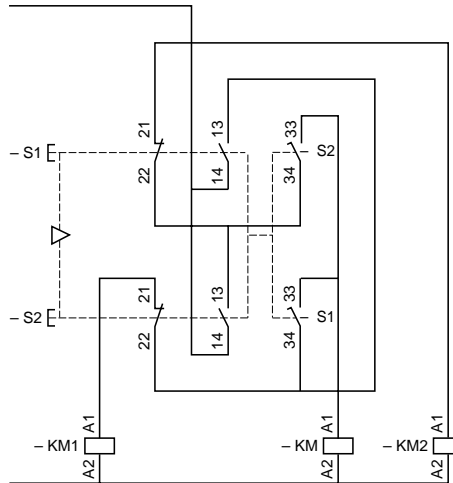
For control of single-speed reversing motor

Contact blocks ZB2 BE101 + ZB2 BE102



For control of 2-speed reversing motor

2 contact blocks XEN G1191

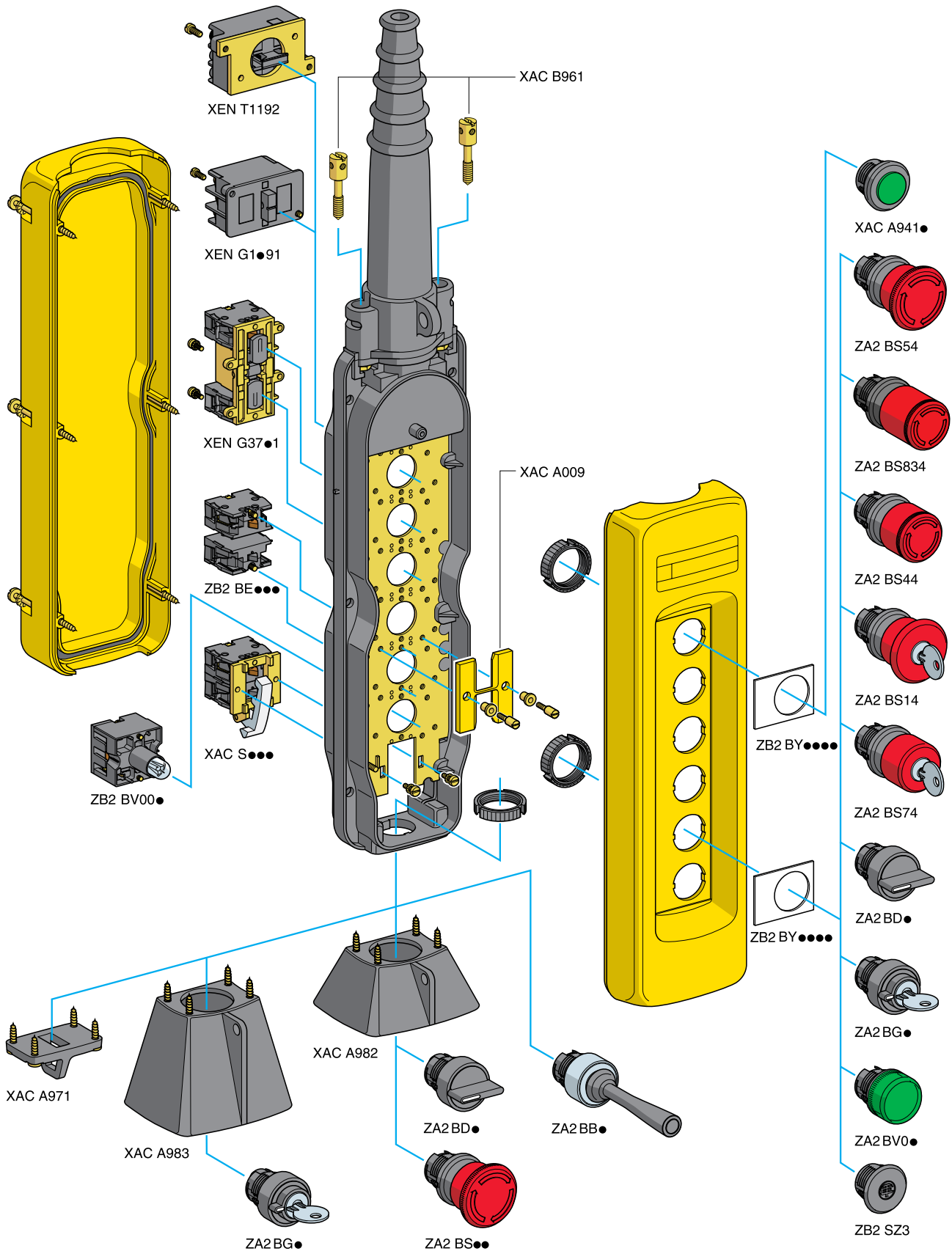


KM: high speed contactor

Pendant control stations

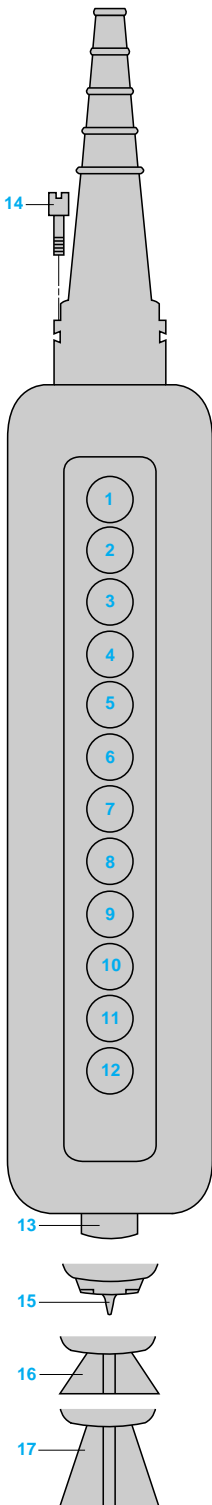
Double insulated, type XAC A
For control circuits

6



Pendant control stations

Double insulated, type XAC A
For control circuits
Variable composition stations, pre-assembled



Customer			Schneider Electric Industries	
Company	Order N°	Delivery date	Sales office - Subsidiary Co.	Order N°

Enter the order with XAC A09 reference

Unit reference of empty enclosure, see page 30075/7	Number of identical stations	Enclosure price (1)			
XAC <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>A</td><td> </td><td> </td></tr></table>	A				
A					

Legends see pages 6/28 and 6/29		Contact blocks or pilot light bodies see pages 6/24 and 6/25		Operating heads or pilot light heads or blanking plug see pages 6/26 and 6/27		Total price
Reference	Unit price	Reference	Unit price	Reference	Unit price	
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Unit mounted in base of enclosure (if required) (Except when using XAC A03 and XAC A05)

13						
----	--	--	--	--	--	--

Complementary accessories, see page 6/27 (cross the appropriate box or boxes)

Description	<input type="checkbox"/>	Reference	Unit price
14 Adaptor for self-supporting cable type BBAP for use with cable entry sleeve Ø 8 to 26 mm	<input type="checkbox"/>	XAC B961	
15 Lower support ring	<input type="checkbox"/>	XAC A971	
16 Protective guard for selector switch (std. handle) or mushroom head pushbutton, mounted in base	<input type="checkbox"/>	XAC A982	
17 Protective guard for key switch or key release mushroom head pushbutton, mounted in base	<input type="checkbox"/>	XAC A983	

Mechanical interlocking (2)

Reference	Quantity	Unit price
XAC A009		
Pre-assembled:	Number of heads or blanking plugs to be fitted	Additional cost XAC 9VA for fitting of 1 head or 1 blanking plug
	<input type="text"/> X	<input type="text"/>

Total price of assembled pendant station

(1) Obtain the empty enclosure price.
 (2) Connect with a line the 2 ways which require mechanical interlocking.
 Examples: combinations possible Combinations not possible

Pendant control stations

Double insulated, type XAC B

Metal, type XAC M

For control circuits

Environment		
Conformity to standards		IEC 947-5-1, EN 60947-5-1
Product certifications	XAC B	Standard version: NEMKO, CSA 300 V type 4
	XAC M	Standard version: CSA 300 V type 4
Protective treatment	XAC B	Standard version: "TH"
	XAC M	Standard version: "TC", ("TH" on request)
Ambient air temperature	For storage	°C - 40...+ 70
	For operation	°C - 25...+ 70
Vibration resistance		15 gn (10...500 Hz) conforming to IEC 68-2-6
Shock resistance		100 gn conforming to IEC 68-2-27
Electric shock protection	XAC B	Class II
	XAC M	Class I conforming to IEC 536 and NF C 20-030
Degree of protection		IP 65 conforming to IEC 529; IK 08 conforming to EN 50102
Mechanical durability (in millions of operating cycles)		1
Enclosure	XAC B	Double insulated glass-reinforced polyester (colour: yellow)
	XAC M	Aluminium enclosure. Painted yellow
Cable entry		Rubber sleeve with stepped entry diameter for cable Ø 7...13 mm, Ø 10...22 mm or Ø 22...35 mm

Contact block characteristics			
Rated operational characteristics		~ AC-15: A300 or Ue = 240 V, Ie = 3 A ≡ DC-13: Q300 or Ue = 250 V, Ie = 0.27 A conforming to IEC 947-5-1 Appendix A	
Thermal current (Ithe)	A	10	
Rated insulation voltage (Ui)	XEN C●●●●, XEN D3●●●, XEN D4●●●, XES B2011, XAC S4, XES D1181, XES D1281	V	500, degree of pollution 3, conforming to IEC 947-1
	XEN B●●●●, XEN D1●●●, XEN D2●●●		400, degree of pollution 3, conforming to IEC 947-1
Rated impulse withstand voltage (U imp)	kV	6, conforming to IEC 947-1	
Positive operation		Mushroom head pushbutton: N/C contact with positive opening operation conforming to IEC 947-5-1 Section 3	
Contact operation		Slow break or snap action	
Resistance across terminals	MΩ	≤ 25	
Operating force	With booted operator	N	XAC S4●●●: 10 (N/O), 8 (N/C); XEN C●●●●: 6 (N/O), 4 (N/C); XEN B●●●●, XEN D1●●●, XEN D2●●●: Single-speed: 9; 2-speed: 20 (1 st speed), 30 (2 nd speed); XEN D3●●●, XEN D4●●●: 25; XES B2011: 7; XES D1181, XES D128: 15 (1 st speed), 25 (2 nd speed)
	With spring return mushroom head operator	N	10
	With latching mushroom head operator	N	40
Terminal referencing		By numbers conforming to CENELEC EN 50013	
Short-circuit protection		10 A cartridge fuse type gG (gl)	
Connection	mm ²	Screw and captive cable clamp terminals. Clamping capacity: 1 x 2.5 or 2 x 1.5 with or without cable end	

Rated operational power
conforming to IEC 947-5-1 Appendix C
Utilisation categories AC-15 and DC-13
For 1 million operating cycles
Operating rate: 3600 operating cycles/hour
Load factor: 0.5
mm Inductive circuit

Contact blocks XEN C●●●●, XEN D3●●●, XEN D4●●●, XAC S4●●●										
a.c. supply ~ 50/60 Hz					d.c. supply ≡					
Voltage	V	24	48	127	230	Voltage	V	24	48	120
mm	VA	140	385	525	455	mm	W	60	45	42

Contact blocks XEN B●●●●, XEN D1●●●, XEN D2●●●										
a.c. supply ~ 50/60 Hz					d.c. supply ≡					
Voltage	V	24	48	127	230	Voltage	V	24	48	120
mm	VA	140	210	640	680	mm	W	48	31	35









Contact blocks XES B2011, XES D1181, XES D1281										
a.c. supply ~ 50/60 Hz					d.c. supply ≡					
Voltage	V	24	48	127	230	Voltage	V	24	48	120
mm	VA	50	100	450	750	mm	W	140	140	95

Pendant control stations

Double insulated, type XAC B

For control circuits

Complete stations "ready for use" (with snap action contact blocks)

		For control of single-speed motors			
Functions	Number of operators	Contact blocks and scheme Per direction	Reference	Weight kg	
 <p>DF56564</p> <p>XAC B281</p>	2 without mechanical interlocking	1 C/O snap action XES B2011 	XAC B281	0.850	
 <p>DF56565</p> <p>XAC B481</p>	4 without mechanical interlocking	1 C/O snap action XES B2011 	XAC B481	1.100	
 <p>DF56566</p> <p>XAC B681</p>	6 without mechanical interlocking	1 C/O snap action XES B2011 	XAC B681	1.300	
 <p>DF56567</p> <p>XAC B881</p>	8 without mechanical interlocking	1 C/O snap action XES B2011 	XAC B881	1.550	

Pendant control stations

Double insulated, type XAC B
For power circuits (direct switching)

Environment			
Conformity to standards			IEC 947-3, EN 60947-3, NF C 63-130, VDE 0660-107
Product certifications	Standard version		CSA type 4
Protective treatment	Standard version		"TH"
Ambient air temperature	For storage	°C	- 40...+ 70
	For operation	°C	- 25...+ 70
Vibration resistance			15 gn (10...500 Hz) conforming to IEC 68-2-6
Shock resistance			100 gn conforming to IEC 68-2-27
Electric shock protection			Class II conforming to IEC 536 and NF C 20-030
Degree of protection			IP 65 conforming to IEC 529; IK 08 conforming to EN 50102
Mechanical durability (in millions of operating cycles)			1
Enclosure			Double insulated glass-reinforced polyester (colour: yellow)
Cable entry			Rubber sleeve with stepped entry diameter for cable Ø 10...Ø 22 mm






Contact block characteristics			
Thermal current (I _{the})	XES D1191, XES D1291	A	12
	XES D2201, XES D2241, XES D2251	A	20
Rated insulation voltage (U _i)	XES D●●●●	V	500, degree of pollution 3, conforming to IEC 947-1
	XAC S●99	V	400, degree of pollution 3, conforming to IEC 947-1
	XES D1●●●	V	600, conforming to CSA
	XES D2●●●	V	300, conforming to CSA
Rated impulse withstand voltage (U _{imp})		kV	6, conforming to IEC 947-1
Contact operation			Snap action
Operating force	XES D1●●●	N	17
	XES D2●●●	N	32
Terminal referencing			By numbers conforming to CENELEC EN 50005
Short-circuit protection	XES D1●●●		10 A maximum cartridge fuse type aM
	XES D2●●●		12 A maximum cartridge fuse type aM
Connection		mm ²	Captive screw clamp terminals Clamping capacity: 1 x 2.5 or 2 x 1.5 with or without cable end
	Rated operational power		Utilisation categories AC-3 and AC-4 conforming to IEC 947-3 Appendix A
	3 phases, 2 poles XES D1●●●		2.2 kW-240 V 2.2 kW-400 V
	3 phases, 3 poles XES D2●●●		3 kW-240 V 3 kW-400 V
	3 phases, 3 poles, isolating block XAC S●99		Utilisation category AC-23B 3 kW-400 V
	3 phases, 2 poles XES D1●●●		CSA certification 2 hp-240 V 5 hp-400 V 3 hp-600 V
	3 phases, 3 poles XES D2●●●		3 hp-240 V
Mechanical durability (in millions of operating cycles) Utilisation categories AC-3 and AC-4 conforming to IEC 947-3 Appendix A Duty cycle comprising 75% AC-3, 25% AC-4 Operating rate: 600 operating cycles per hour Load factor: 0.4	3 phases, 2 poles XES D1●●●		1.5 kW-240 V = 0.5 2.2 kW-240 V = 0.3 1.5 kW-400 V = 0.8 2.2 kW-400 V = 0.3
	3 phases, 3 poles XES D2●●●		3 kW-240 V = 0.7 3 kW-400 V = 1

Pendant control stations

Double insulated, type XAC B

For power circuits (direct switching)

Complete stations "ready for use"

		For control of single-speed motors					
Functions	Number of operators	Contact blocks		Maximum operational power/400 V	Reference	Weight	
		Per direction	For Emergency stop				
	2 mechanically interlocked	2-pole XES D1191(1)	–	2.2 kW	XAC B219	0.355	
		3-pole XES D2201(1)	–	3 kW	XAC B220	0.355	
	2 mechanically interlocked + 1 latching Emergency stop Ø 40 mm operator ZA2 BS54	2-pole XES D1191(1)	1 N/C + N/C + N/C XAC S499	2.2 kW	XAC B3191	0.940	
		3-pole XES D2201(1)	1 N/C + N/C + N/C XAC S499	3 kW	XAC B3201	1.000	
	4 mechanically interlocked between pairs	2-pole XES D1191(1)	–	2.2 kW	XAC B491	1.200	
		3-pole XES D2201(1)	–	3 kW	XAC B493	1.330	
	4 mechanically interlocked between pairs + 1 latching Emergency stop Ø 40 mm operator ZA2 BS54	2-pole XES D1191(1)	1 N/C + N/C + N/C XAC S499	2.2 kW	XAC B4913	1.260	
		3-pole XES D2201(1)	1 N/C + N/C + N/C XAC S499	3 kW	XAC B4933	1.390	
	4 mechanically interlocked between pairs + 1 latching Emergency stop Ø 40 mm operator ZA2 BS54 mounted in base	2-pole XES D1191(1)	1 N/C + N/C + N/C XAC S3991	2.2 kW	XAC B4911	1.350	
		3-pole XES D2201(1)	1 N/C + N/C + N/C XAC S3991	3 kW	XAC B4931	1.480	

(1) Reference of double contact block for reversing operation.

Pendant control stations

Double insulated, type XAC B
For power circuits (direct switching)
Complete stations "ready for use"

DF565573



XAC B691
XAC B693

DF565574



XAC B6913
XAC B6933

DF565575



XAC B6911
XAC B6931

DF565576




XAC B229

DF565577




XAC B3291

For control of single-speed motors (continued)

Functions	Number of operators	Contact blocks		Maximum operational power/400 V	Reference	Weight kg
		Per direction	For Emergency stop			
 6 mechanically interlocked between pairs		2-pole XES D1191(1)	–	2.2 kW	XAC B691	1.350
		3-pole XES D2201(1)	–	3 kW	XAC B693	1.550
6 mechanically interlocked between pairs + 1 latching Emergency stop Ø 40 mm operator ZA2 BS54		2-pole XES D1191(1)	1 N/C + N/C + N/C XAC S499	2.2 kW	XAC B6913	1.410
		3-pole XES D2201(1)	1 N/C + N/C + N/C XAC S499	3 kW	XAC B6933	1.610
6 mechanically interlocked between pairs + 1 latching Emergency stop Ø 40 mm operator ZA2 BS54 mounted in base		2-pole XES D1191(1)	1 N/C + N/C + N/C XAC S3991	2.2 kW	XAC B6911	1.500
		3-pole XES D2201(1)	1 N/C + N/C + N/C XAC S3991	3 kW	XAC B6931	1.700

For control of 2-speed motors

Functions	Number of operators	Contact blocks		Maximum operational power/400 V	Reference	Weight kg
		Per direction	For Emergency stop			
 2 mechanically interlocked		2-pole XES D1291(1)	–	2.2 kW	XAC B229	0.405
2 mechanically interlocked + 1 latching Emergency stop Ø 40 mm operator ZA2 BS54		2-pole XES D1291(1)	1 N/C + N/C + N/C XAC S499	2.2 kW	XAC B3291	0.990

(1) Reference of double contact block for reversing operation.








6

Pendant control stations

Double insulated, type XAC B

For control or power circuits

Empty enclosures

		Empty enclosures for control circuits or power circuits (1)					
		Description	Protective cable sleeve	Number of cut-outs	Cut-out in base of enclosure	Reference	Weight kg
DF56578		Empty enclosures (1) Double insulated for "Small hoist" applications Operator cut-out centres: 40 mm	For cable Ø 7...13 mm	2	Without	XAC B020	0.760
				3	Without	XAC B030	0.760
DF56579							
DF56580		Empty enclosures (1) Double insulated for "General purpose" applications Operator cut-out centres: 40 mm	For cable Ø 10...22 mm	2	Without	XAC B02	0.760
					With	XAC B021	0.760
DF56581				4	Without	XAC B04	1.000
					With	XAC B041	1.000
DF56582				6	Without	XAC B06	1.160
					With	XAC B061	1.160
DF56583				8	Without	XAC B08	1.330
					With	XAC B081	1.330
DF56584				12 in 2 rows of 6	Without	XAC B12	1.460
					With	XAC B121	1.460

(1) Enclosure comprising:

- the enclosure,
- protective cable sleeve,
- cable tie (for tightening sleeve onto cable),
- internal cable clamp,
- suspension ring,
- bezel tightening key.

Pendant control stations

Double insulated, type XAC B
For control or power circuits
Empty enclosures

Empty enclosures for control circuits or power circuits (1) (continued)

Description	Protective cable sleeve	Number of cut-outs	Cut-out in base of enclosure	Reference	Weight kg
Empty enclosures (1) Double insulated for "General purpose" applications Operator cut-out centres: 40 mm	For cable Ø 22...35 mm	2	Without	XAC B025	0.960
			With	XAC B0215	0.960
XAC B02●●	XAC B04●●	4	Without	XAC B045	1.200
			With	XAC B0415	1.200
XAC B06●●	XAC B08●●	6	Without	XAC B065	1.360
			With	XAC B0615	1.360
XAC B12●●	XAC B12●●	12 in 2 rows of 6	Without	XAC B125	1.660
			With	XAC B1215	1.660

(1) Enclosure comprising:
- the enclosure,
- protective cable sleeve,
- cable tie (for tightening sleeve onto cable),
- internal cable clamp,
- suspension ring,
- bezel tightening key.

Pendant control stations

Double insulated, type XAC B

Metal, type XAC M

For control circuits

Empty enclosures (XAC M: products for maintenance purposes only)

DF 96586



XAC B120

Empty enclosures for control circuits (1)

Description	Protective cable sleeve	Number of cut-outs	Cut-out in base of enclosure	Reference	Weight kg
Empty enclosures (1) Double insulated for "General purpose" applications Operator cut-out centres: 30 mm	For cable Ø 10...22 mm	12 in 1 row	Without	XAC B120	1.330
			With	XAC B1201	1.330
	For cable Ø 22...35 mm	12 in 1 row	Without	XAC B1205	1.530
			With	XAC B12015	1.530
Empty enclosures (1) Metal for "General purpose" applications Operator cut-out centres: 40 mm	For cable Ø 10...22 mm	4	Without	XAC M04	1.540
			With	XAC M041	1.540
		8	Without	XAC M08	2.210
			With	XAC M081	2.210
	For cable Ø 22...35 mm	4	Without	XAC M045	1.740
			With	XAC M0415	1.740
		8	Without	XAC M085	2.410
			With	XAC M0815	2.410

DF 96586



XAC M04

DF 96587



XAC M08

Variable composition stations, factory assembled

Use the order form on page 6/59 to define the required configuration

Equipment: contact blocks, operating heads (control and signalling), complementary accessories

See separate components, pages 6/42 to 6/54

(1) Enclosure comprising:

- the enclosure,
- protective cable sleeve for cable Ø 10...22 mm or Ø 22...35 mm,
- cable tie (for tightening sleeve onto cable),
- internal cable clamp,
- suspension ring,
- bezel tightening key.

Pendant control stations







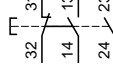


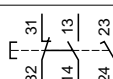





Double insulated, type XAC B

Metal, type XAC M

For control circuits

Separate components and spare parts

Contact blocks for front mounting, slow break

Description	Application Function	Scheme	Operator centres mm	Reference	Weight kg
Spring return					
 <p>XEN C1111</p>	Single-speed N/O 1 spring return operator		30 or 40	XEN C1111	0.020
		N/C		30 or 40	XEN C1121
	N/O + N/O		30 or 40	XEN C1131	0.020
	N/C + N/C		30 or 40	XEN C1141	0.020
	N/C + N/O		30 or 40	XEN C1151	0.020
	C/O + N/O		30 or 40	XEN B1491	0.050
 <p>XEN B1181</p>	2-speed 2 step N/O + N/O staggered		30 or 40	XEN B1181	0.050
			30 or 40	XEN B1191	0.050
			30	XEN D1611	0.110
 <p>XEN D2611</p>	Single-speed N/O + N/O simultaneous mechanically interlocked		40 (1)	XEN D2611	0.110
			30	XEN D1621	0.110
	2-speed 2 step N/O + N/O staggered		40 (1)	XEN D2621	0.110

(1) These contact blocks cannot be mounted in enclosures XAC B120 (12 operators in 1 row).

Pendant control stations

Double insulated, type XAC B

Metal, type XAC M

For control circuits

Separate components and spare parts

Contact blocks for front mounting, slow break (continued)

Description	Application Function	Scheme	Operator centres mm	Reference	Weight kg
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Spring return (continued)



XEN D2641

Double block 2 spring return operators mechanically interlocked	Single-speed C/O + N/O		30	XEN D1631	0.110
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			40 (1)	XEN D2631	0.110
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	2-speed	2 step C/O + N/O staggered		30	XEN D1641	0.110
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				40 (1)	XEN D2641	0.110
--	--	--	--	--------	------------------	-------



XEN D3801

Latching

Double block 1 latching operator released by 1 spring return operator	Single-speed N/C + N/O		30	XEN D3801	0.170
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			40 (1)	XEN D4801	0.170
--	--	--	--------	------------------	-------

Double block 2 latching operators	Single-speed N/C + N/O		30	XEN D3811	0.170
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			40 (1)	XEN D4811	0.170
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XES B2011

Contact blocks for front mounting, snap action

Description	Application Function	Scheme	Operator centres mm	Reference	Weight kg
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Spring return

Single block 1 spring return operator (2)	Single-speed C/O		40 (1)	XES B2011	0.030
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Double block 2 spring return operators mechanically interlocked	Single-speed C/O		40 (1)	XES D1181	0.140
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	2-speed	C/O + N/O staggered		40 (1)	XES D1281	0.190
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(1) These contact blocks cannot be mounted in enclosures XAC B120● (12 operators in 1 row).

(2) Only for mounting with operators XAC B91●●.

Pendant control stations

Double insulated, type XAC B

Metal, type XAC M

For control circuits

Separate components and spare parts

530240



XAC S41

Contact blocks for front mounting (1)

Description	Function	Scheme	Reference	Weight kg
Spring return Slow break Operator centres 30 or 40 mm	N/O		XAC S411	0.070
	N/C		XAC S412	0.070
	N/O + N/O		XAC S413	0.070
	N/C + N/C		XAC S414	0.070
	N/C + N/O		XAC S415	0.070

530240



XAC S411

Contact blocks for base mounting (1)

Description	Function	Scheme	Reference	Weight kg
Spring return Slow break	N/O		XAC S4111	0.100
	N/C		XAC S4121	0.100
	N/O + N/O		XAC S4131	0.100
	N/C + N/C		XAC S4141	0.100
	N/C + N/O		XAC S4151	0.100

Pilot light bodies for front mounting

Description	Supply voltage	Scheme	Reference	Weight kg
Direct supply Bulb not included (2)	≤ 400 V		XAC V06	0.050
Direct supply, through resistor Incandescent BA 9s base fitting 130 V bulb included	230 V		XAC V07	0.055

DPS6595



XAC V06

(1) Mounting with operating heads ZA2 B●●● (see page 6/47).

(2) Bulb type for use with direct supply units: BA 9s base fitting incandescent bulb $U \leq 130$ V or neon bulb 110 V $\leq U \leq 400$ V. Maximum power: 2.6 W, maximum \varnothing : 11 mm, maximum length: 26 mm. See page 6/50.

Pendant control stations

Double insulated, type XAC B

For power circuits (direct switching)

Separate components and spare parts

DF566594



XES D1191

530386



XES D2201

530389



XAC S399

530391



XAC S499

530366



XAC S3991

Contact blocks, snap action

Description	Application Function	Max. power/ Scheme 400 V	Reference	Weight kg
Double block 2-pole 2 spring return operators mechanically interlocked (operator centres: 40 mm)	Single- speed	N/O + N/O 2.2 kW	XES D1191	0.140
	2-speed	N/O + N/O + 1 C/O staggered auxiliary contact (1)	XES D1291	0.190
Double block 3-pole 2 spring return operators mechanically interlocked (operator centres: 40 mm)	Single- speed	N/O + N/O + N/O 3 kW	XES D2201	0.200
		N/O + N/O + N/O + 1 N/O simultaneous auxiliary contact (1)	XES D2241	0.210
		N/O + N/O + N/O + 1 N/O staggered auxiliary contact (1)	XEN D2251	0.210

Isolating block, slow break

In the interests of safety, it is imperative that these isolating blocks only be used with a stay put or latching type operating head to ensure complete isolation when the pendant station is not in use.

Mounting position	Application Function	Max. power/ Scheme 400 V	Reference	Weight kg
On front 40 mm centres (2)	Emergency stop	N/C + N/C + N/C with positive opening operation	XAC S399	0.100
On front 30 mm centres (2)	Emergency stop	N/C + N/C + N/C with positive opening operation	XAC S499	0.100
In base (3)	Emergency stop	N/C + N/C + N/C with positive opening operation	XAC S3991	0.110

(1) Auxiliary contacts are slow break.

(2) Mounting with operating heads ZA2 B●●●, except ZA2 BD● and ZA2 BG● (see page 6/47).

(3) Mounting with operating head ZA2 BS14 (see page 6/47).

Pendant control stations

Double insulated, type XAC B

Metal, type XAC M

For control or power circuits

Separate components and spare parts

DF65696

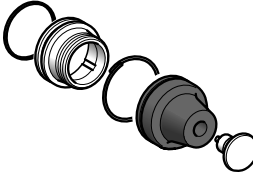


XAC B911●

Booted operators

For use with contact block	Travel	Operating temperature	Colour of insert	Sold in lots of	Unit reference	Weight kg	
XEN B●●●●	4 mm	- 25...+ 70 °C (1)	White	10	XAC B9111	0.005	
XEN C●●●●			Black	10	XAC B9112	0.005	
XEN D●●●●			Green	10	XAC B9113	0.005	
XES B2011			Red	10	XAC B9114	0.005	
XES D2201			Yellow	10	XAC B9115	0.005	
XES D2241			Blue	10	XAC B9116	0.005	
XES D2251		Brown	10	XAC B9119	0.005		
		- 40...+ 70 °C (2)	White	10	XAC B9121	0.005	
			Black	10	XAC B9122	0.005	
			Green	10	XAC B9123	0.005	
			Red	10	XAC B9124	0.005	
			Yellow	10	XAC B9125	0.005	
			Blue	10	XAC B9126	0.005	
	Brown		10	XAC B9129	0.005		
XES D1181	16 mm		- 25...+ 70 °C (1)	White	10	XAC B9211	0.005
XES D1191				Black	10	XAC B9212	0.005
XES D1281				Green	10	XAC B9213	0.005
XES D1291				Red	10	XAC B9214	0.005
				Yellow	10	XAC B9215	0.005
		Blue		10	XAC B9216	0.005	
		Brown	10	XAC B9219	0.005		
		- 40...+ 70 °C (2)	White	10	XAC B9221	0.005	
			Black	10	XAC B9222	0.005	
			Green	10	XAC B9223	0.005	
			Red	10	XAC B9224	0.005	
			Yellow	10	XAC B9225	0.005	
	Blue		10	XAC B9226	0.005		
	Brown	10	XAC B9229	0.005			

DF65697



XAC B921●

6

DF65698



ZA2 BP●

Booted operators (silicone boot)

For use with contact block	Operating temperature	Colour of boot	Reference	Weight kg
XAC S41●	- 25...+ 70 °C	Black	ZA2 BP2	0.015
		Green	ZA2 BP3	0.015
		Red	ZA2 BP4	0.015
		Yellow	ZA2 BP5	0.015
		Blue	ZA2 BP6	0.015

(1) Polychloroprene boots.

(2) Silicone boots.

Characteristics:
pages 6/34 and 6/36Dimensions:
page 6/55Application schemes:
pages 6/56 and 6/57Presentation:
page 6/58


Pendant control stations

Double insulated, type XAC B

Metal, type XAC M

For control or power circuits

Separate components and spare parts

		Operating heads for front or base mounting (1)				
		Description	Colour	Type	Reference	Weight kg
530385  ZA2 BS54		Mushroom head, latching Turn to release (Emergency stop function)	Red	Ø 30 mm	ZA2 BS44	0.028
				Ø 40 mm	ZA2 BS54	0.033
530384  ZA2 BS14		Mushroom head, latching Key release (n° 455) Key withdrawal in rest (unactuated) position (Emergency stop function)	Red	Ø 30 mm	ZA2 BS74	0.060
				Ø 40 mm	ZA2 BS14	0.065
530382  ZA2 BD●		Selector switches, standard handle	Black	2 position, stay put	ZA2 BD2	0.018
				3 position, stay put (2)	ZA2 BD3	0.018
				Key switches (key n° 455) Key withdrawal in left and right-hand positions	2 position, stay put	ZA2 BG4
530383  ZA2 BG●		Key switches (key n° 455) Key withdrawal in left and right-hand positions	–	3 position, stay put (1)	ZA2 BG5	0.042
				Wobblesticks Operates in all directions for fast stop	Black	–
530383  ZA2 BB●		Wobblesticks Operates in all directions for fast stop	Red	–	ZA2 BB4	0.060
			Operating head for isolating block			
		Description	Colour	Type	Reference	Weight kg
		Mushroom head, latching Key release (n° 455) Key withdrawal in rest (unactuated) position (Emergency stop function)	Red	Ø 40 mm	ZA2 BS14	0.065
		Pilot light heads				
		Description	Colour	Reference	Weight kg	
		For use with incandescent bulbs				
530381  ZA2 BV●		Lens cap with fixing bezel	White	ZA2 BV01	0.015	
			Green	ZA2 BV03	0.015	
			Red	ZA2 BV04	0.015	
			Yellow	ZA2 BV05	0.015	
			Blue	ZA2 BV06	0.015	
			Clear	ZA2 BV07	0.015	
			For use with neon bulbs			
530380  ZA2 BV0●		Lens cap with fixing bezel	Green	ZA2 BV033	0.015	
			Red	ZA2 BV043	0.015	
			Yellow	ZA2 BV053	0.015	
			Clear	ZA2 BV073	0.015	

(1) The technical characteristics of pendant control stations XAC B and M can only be guaranteed by using the operating heads ZA2 B●● listed above.

(2) Only suitable for front mounting.

Other versions
Key release mushroom head pushbuttons with other key numbers.
Selector switches with other mechanical functions.
Key switches with other mechanical functions and with other key numbers.
Please consult your Regional Sales Office.

Pendant control stations

Double insulated, type XAC B

Metal, type XAC M

For control circuits

Separate components: pushbuttons with analogue output (1)

Environment

Conformity to standards			IEC 947-5-1, EN 60947-5-1
Ambient air temperature	For storage	°C	- 40...+ 70
	For operation	°C	- 25...+ 70
Degree of protection			IP 65 conforming to IEC 529
Pushbutton operator travel		mm	11
Operating force		N	4 (start of travel) 9 (end of travel)
Mechanical durability (in millions of operating cycles)			1
Connection		mm ²	Terminal connectors, maximum clamping capacity: 2 x 1.5 mm ² or 1 x 2.5 mm ²

Contact block characteristics

Thermal current (I _{the})	A	6
Rated insulation voltage (U _i)	V	250, degree of pollution 3, conforming to IEC 947-1
Rated operational characteristics conforming to 947-5-1 Appendix C Utilisation categories AC-15 and DC-13 mm Inductive circuit	a.c. supply ~ 50/60 Hz Power broken in VA for 1 million operating cycles	
	Voltage V	48 110 230
	mm VA	30 30 30
	d.c. supply --- Power broken in W for 1 million operating cycles	
	Voltage V	48 110
	mm W	48 12

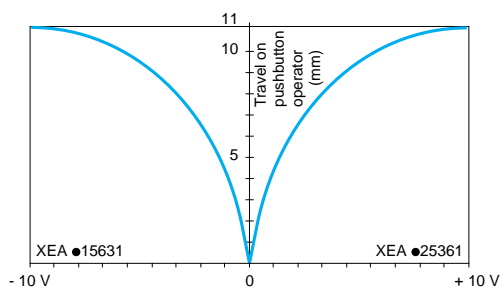
Analogue circuit characteristics

Type of current		d.c.
Rated supply voltage	V	15
Voltage limits	V	14...18
Current consumption	mA	< 15

Analogue signal output curves and schemes

Analogue signal output curves

with 15 V supply voltage

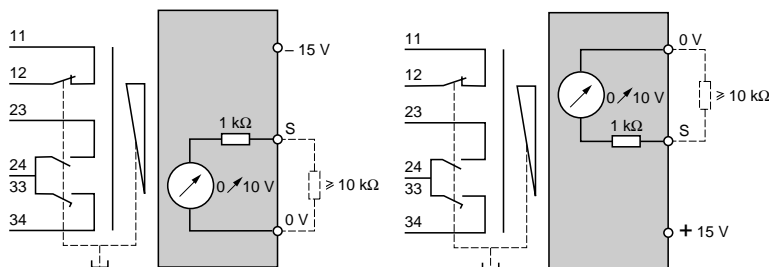


Note: supply voltage = 15 V, output voltage = 10 V
(if supply voltage < 15 V, output voltage < 10 V)

Equivalent output schemes

XEA ●15361

XEA ●25361



Contact state



(1) Pushbuttons providing an analogue output signal proportional to the distance travelled by the pushbutton operator.

Pendant control stations

Double insulated, type XAC B

Metal, type XAC M

For control circuits

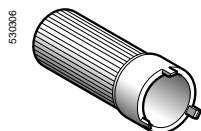
Separate components: pushbuttons with analogue output (1)



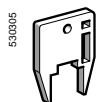
XEA C5361



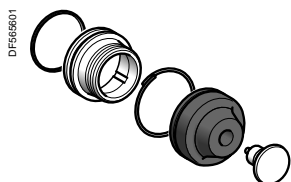
XEA B5361



ZA2 BZ905



XAC X1



XAC B9112

References

Complete pushbuttons (body + operating head), non booted (2)

Supply voltage	Contact block	Reference	Weight kg
0...- 15 V	N/C + N/O at start of travel N/O at end of travel	XEA C15361	0.065
0...+ 15 V	N/C + N/O at start of travel N/O at end of travel	XEA C25361	0.065

Complete pushbuttons (body + operating head), booted (2)

Supply voltage	Contact block	Reference	Weight kg
0...- 15 V	N/C + N/O at start of travel N/O at end of travel	XEA B15361	0.065
0...+ 15 V	N/C + N/O at start of travel N/O at end of travel	XEA B25361	0.065

Mounting accessories

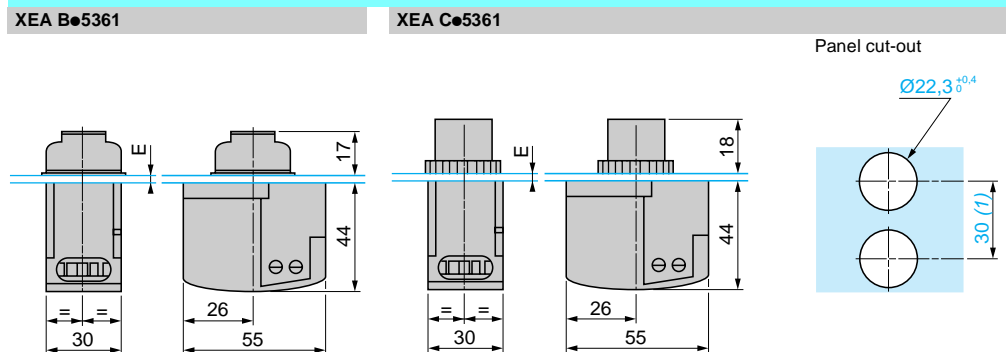
Description	For use with	Reference	Weight kg
Tightening key for fixing nut	XEA C5361	ZA2 BZ905	0.060
	XEA B5361	XAC X1	0.010

Separate components and spare parts

Description	Colour of insert	Unit reference	Weight kg
Booted operator (Sold in lots of 10)	White	XAC B9111	0.005
	Black	XAC B9112	0.005

(1) Pushbuttons providing an analogue output signal proportional to the distance travelled by the pushbutton operator.
(2) Pushbutton supplied with 1 white insert and 1 black insert.

Dimensions



E = support panel thickness, 1 to 3.5 mm.
(1) Minimum fixing centres between 2 operators.

Pendant control stations

Double insulated, type XAC B

Metal, type XAC M

For control or power circuits

Separate components and spare parts

Bulbs

Description	Voltage	Sold in lots of	Unit reference	Weight kg
Incandescent BA 9s base fitting Maximum power: 2.6 W Maximum Ø: 11 mm Maximum length: 28 mm	6 V	10	DL1 CB006	0.002
	12 V	10	DL1 CE012	0.002
	24 V	10	DL1 CE024	0.002
	48 V	10	DL1 CE048	0.002
	130 V	10	DL1 CE130	0.002
Neon BA 9s base fitting Maximum power: 2.6 W Maximum Ø: 11 mm Maximum length: 28 mm	120 V	10	DL1 CF110	0.002
	230 V	10	DL1 CF220	0.002
	400 V	10	DL1 CF380	0.002

Accessories for booted operators

Description	Travel	Material/ Colour	Operating temperature	Sold in lots of	Unit reference	Weight kg
Boots with circlip, without coloured insert	4 mm	Polychloroprene	- 25...+ 70° C	10	XAC B911	0.002
		Silicone	- 40...+ 70° C	10	XAC B912	0.002
	16 mm	Polychloroprene	- 25...+ 70° C	10	XAC B921	0.002
		Silicone	- 40...+ 70° C	10	XAC B922	0.002
Coloured inserts for booted operators (4 and 16 mm travel)	White	–	–	10	XAC B901	0.001
	Black	–	–	10	XAC B902	0.001
	Green	–	–	10	XAC B903	0.001
	Red	–	–	10	XAC B904	0.001
	Yellow	–	–	10	XAC B905	0.001
	Blue	–	–	10	XAC B906	0.001
	Brown	–	–	10	XAC B909	0.001

530307



DL1 C●●●●

530308



DL1 CF●●●

530311



XAC B91●

530310



XAC B92●

530309



XAC B90●

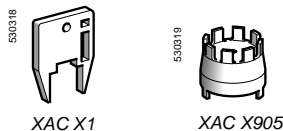
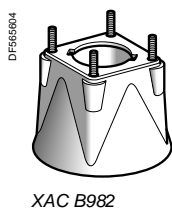
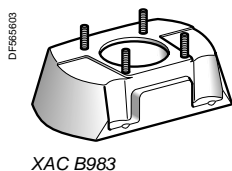
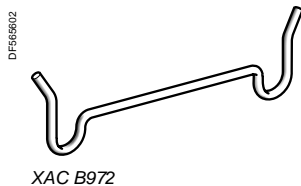
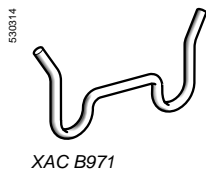
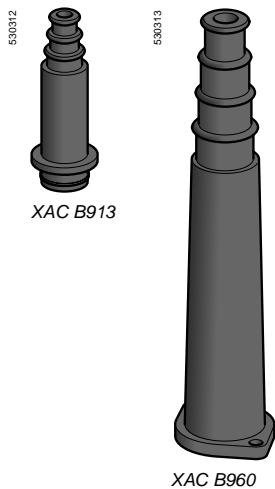
Pendant control stations

Double insulated, type XAC B

Metal, type XAC M

For control or power circuits

Separate components and spare parts



Complementary accessories

Description	For use with	Reference	Weight kg
Protective cable sleeve with cable tie (for tightening sleeve onto cable)	Enclosures XAC B219 and XAC B220 (2 operators)	For cable Ø 7...13 mm XAC B913	0.065
	Enclosures XAC B●●● with 4 to 12 operators and XAC M●●● with 4 and 8 operators	For cable Ø 10...22 mm XAC B960	0.110
		For cable Ø 22...35 mm XAC B965	0.160
Blanking plug with seal and fixing nut	–	ZB2 SZ3	0.005
Adaptor for use with protective cable sleeve for cable Ø 10...22 mm	Self-supporting cable type BBAP	XAC B961	0.025
Lower support ring	Single row enclosures XAC B and XAC M	XAC B971	0.015
	2 row enclosures XAC B	XAC B972	0.020
Protective guards for base mounted units	Mushroom head pushbutton	XAC B983	0.050
	Key release latching mushroom head pushbutton	XAC B982	0.050

Tools

Description	For use with	Reference	Weight kg
Tightening key	Bezels	XAC X1	0.010
	Units mounted in base of enclosure	XAC X905	0.015
Bulb extractor	BA 9s base fitting bulbs	XBF X13	0.003

Pendant control stations

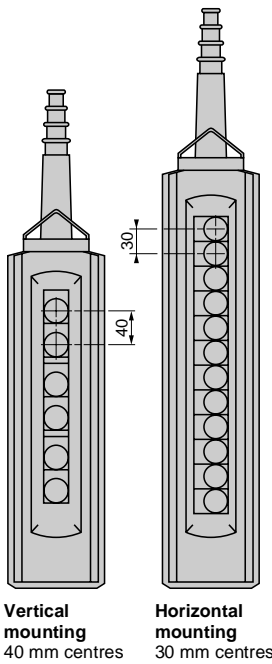
Double insulated, type XAC B

Metal, type XAC M

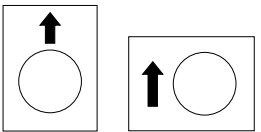
For control or power circuits

Legends 30 x 40 mm (with symbols conforming to NF E 52-124)

DF565866

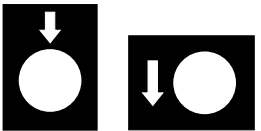


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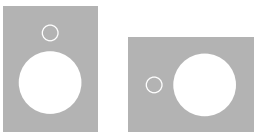


White background, black symbol

6



Black background, white symbol



Red background, white symbol

Symbol Reference	Symbol Reference	Weight	Symbol Reference	Symbol Reference	Weight
Vertical mounting 40 mm centres	Horizontal mounting 30 mm centres	kg	Vertical mounting 40 mm centres	Horizontal mounting 30 mm centres	kg
Raise, slow			Lower, slow		
ZB2 BY4951	ZB2 BY4901	0.001	ZB2 BY2954	ZB2 BY2904	0.001
Raise, fast			Lower, fast		
ZB2 BY4952	ZB2 BY4902	0.001	ZB2 BY2955	ZB2 BY2905	0.001
Raise, slow-fast			Lower, slow-fast		
ZB2 BY4953	ZB2 BY4903	0.001	ZB2 BY2956	ZB2 BY2906	0.001
Right, slow			Left, slow		
ZB2 BY4901	ZB2 BY4907	0.001	ZB2 BY2904	ZB2 BY2910	0.001
Right, fast			Left, fast		
ZB2 BY4902	ZB2 BY4908	0.001	ZB2 BY2905	ZB2 BY2911	0.001
Right, slow-fast			Left, slow-fast		
ZB2 BY4903	ZB2 BY4909	0.001	ZB2 BY2906	ZB2 BY2912	0.001
Forward, slow			Reverse, slow		
ZB2 BY4963	ZB2 BY4913	0.001	ZB2 BY2966	ZB2 BY2916	0.001
Forward, fast			Reverse, fast		
ZB2 BY4964	ZB2 BY4914	0.001	ZB2 BY2967	ZB2 BY2917	0.001
Forward, slow-fast			Reverse, slow-fast		
ZB2 BY4965	ZB2 BY4915	0.001	ZB2 BY2968	ZB2 BY2918	0.001
Slew right, slow			Slew left, slow		
ZB2 BY4919	ZB2 BY4919	0.001	ZB2 BY2922	ZB2 BY2922	0.001
Slew right, fast			Slew left, fast		
ZB2 BY4920	ZB2 BY4920	0.001	ZB2 BY2923	ZB2 BY2923	0.001
Slew right, slow-fast			Slew left, slow-fast		
ZB2 BY4921	ZB2 BY4921	0.001	ZB2 BY2924	ZB2 BY2924	0.001
Slow			Fast		
ZB2 BY4933	ZB2 BY4933	0.001	ZB2 BY4934	ZB2 BY4934	0.001
Klaxon			Start-Klaxon		
ZB2 BY4982	ZB2 BY4932	0.001	ZB2 BY4985	ZB2 BY4935	0.001
Start			Stop		
ZB2 BY4980	ZB2 BY4930	0.001	ZB2 BY2931	ZB2 BY2931	0.001

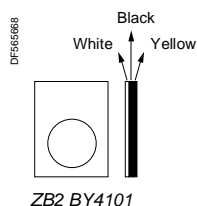
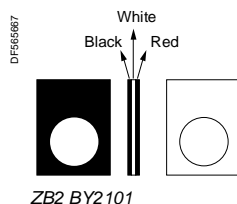
Pendant control stations

Double insulated, type XAC B

Metal, type XAC M

For control or power circuits

Legends 30 x 40 mm



Text	Reference	Weight kg	Text	Reference	Weight kg
<ul style="list-style-type: none"> Start functions: white characters on black background Stop functions: white characters on red background 					
Blank					
Black or red background	ZB2 BY2101	0.001	White or yellow background	ZB2 BY4101	0.001
With French text			With English text		
For pushbuttons			For pushbuttons		
Marche	ZB2 BY2103	0.001	Start	ZB2 BY2303	0.001
Arrêt	ZB2 BY2104	0.001	Stop	ZB2 BY2304	0.001
Avant	ZB2 BY2105	0.001	Forward	ZB2 BY2305	0.001
Arrière	ZB2 BY2106	0.001	Reverse	ZB2 BY2306	0.001
Montée	ZB2 BY2107	0.001	Up	ZB2 BY2307	0.001
Descente	ZB2 BY2108	0.001	Down	ZB2 BY2308	0.001
Droite	ZB2 BY2109	0.001	Right	ZB2 BY2309	0.001
Gauche	ZB2 BY2110	0.001	Left	ZB2 BY2310	0.001
En service	ZB2 BY2111	0.001	On	ZB2 BY2311	0.001
Hors service	ZB2 BY2112	0.001	Off	ZB2 BY2312	0.001
Sous tension	ZB2 BY2126	0.001	Power on	ZB2 BY2326	0.001
Lent	ZB2 BY2127	0.001	Slow	ZB2 BY2327	0.001
Vite	ZB2 BY2128	0.001	Fast	ZB2 BY2328	0.001
Klaxon	ZB2 BY2125	0.001	-	-	-
For selector switches			For selector switches		
Arrêt-Marche	ZB2 BY2166	0.001	-	-	-
Hors-En	ZB2 BY2167	0.001	Off-On	ZB2 BY2367	0.001
With special texts					
<ul style="list-style-type: none"> Specify text when ordering, 2 lines maximum, 11 characters per line. 					
White characters on black background	ZB2 BY2002	0.001	Black characters on white background	ZB2 BY4001	0.001
White characters on red background	ZB2 BY2004	0.001	Black characters on yellow background	ZB2 BY4005	0.001
Other versions	Legends with texts in other languages. Please consult your Regional Sales Office.				

Pendant control stations

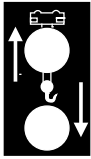
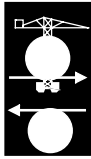

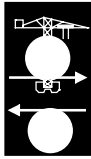
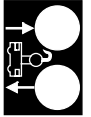
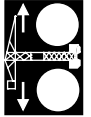
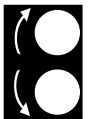
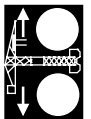
Double insulated, type XAC B

Metal, type XAC M

For control or power circuits

Twin legends for tower cranes

Legends with white symbols on black background

Function	Symbol	Reference	Weight kg	Function	Symbol	Reference	Weight kg
40 mm operator centres (for enclosures with 2 to 8 operators and 12 operators in 2 rows)							
Hoist Raise Lower		XAC Y4970	0.002	Long travel Forward Reverse		XAC Y4972	0.002
Slew Right Left		XAC Y4971	0.002	Trolley Forward Reverse		XAC Y4973	0.002
30 mm operator centres (for enclosures with 12 operators in 1 row)							
Hoist Raise Lower		XAC Y3970	0.002	Long travel Forward Reverse		XAC Y3972	0.002
Slew Right Left		XAC Y3971	0.002	Trolley Forward Reverse		XAC Y3973	0.002

Pendant control stations

Double insulated, type XAC B

Metal, type XAC M

For control or power circuits

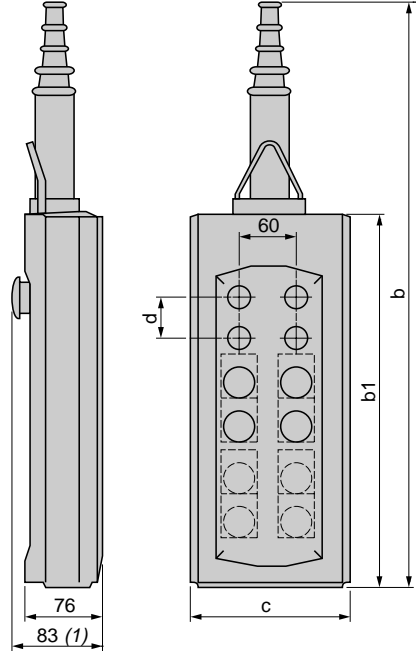
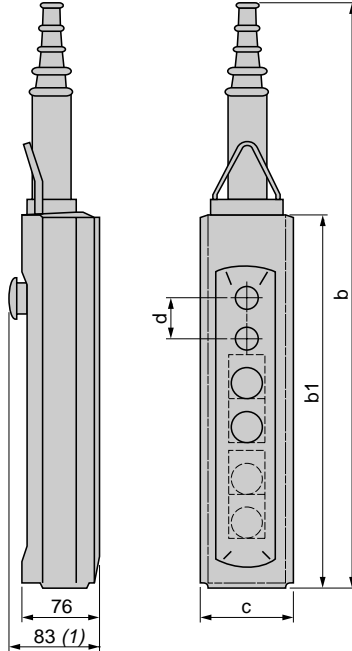
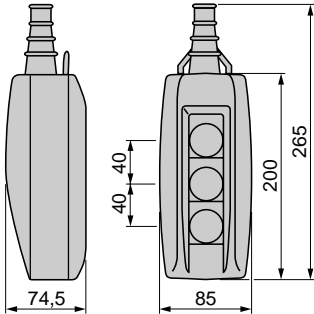
(XAC M: products for maintenance purposes only)

Pendant control stations

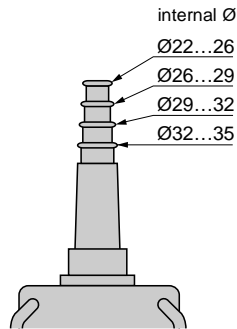
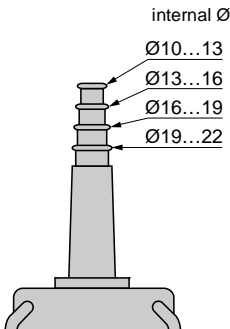
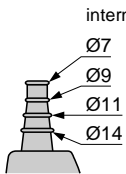
XAC B●●● (2 and 3-way)

XAC B●●● (2 to 12-way, 1 row)
XAC M●●● (4 to 8-way, 1 row)

XAC B●●● (12-way, 2 rows)



Protective cable sleeves

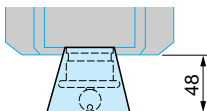


(1) With mushroom head operator.

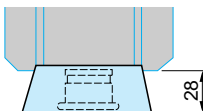
Number of operators	2	4	6	8	12 (1 row)	12 (2 rows)
b	409	499	589	679	679	593
b1	220	310	400	490	490	404
c	98	98	98	98	98	158
d	40	40	40	40	30	40

Protective guards

XAC B982

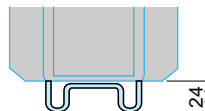


XAC B983



Lower support rings

XAC B971, B972



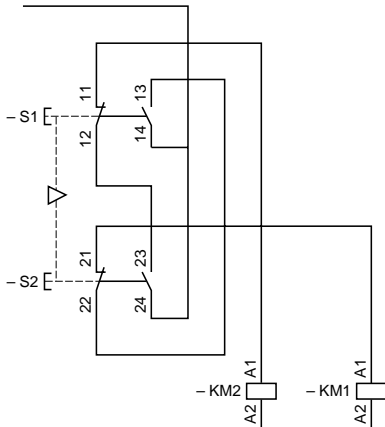
Pendant control stations

Double insulated, type XAC B
Metal, type XAC M
For control or power circuits

Control circuits

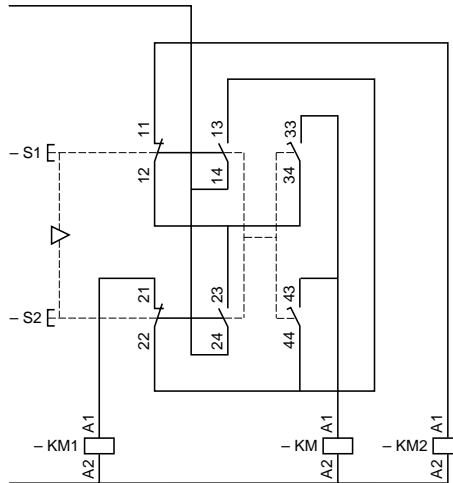
For control of single-speed reversing motor

Contact block XES D1181



For control of 2-speed reversing motor

Contact block XES D1281



KM: high speed contactor

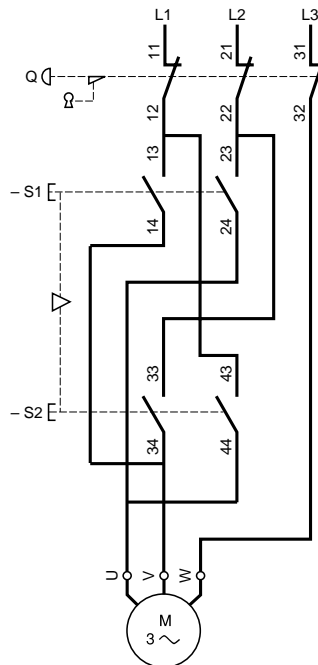
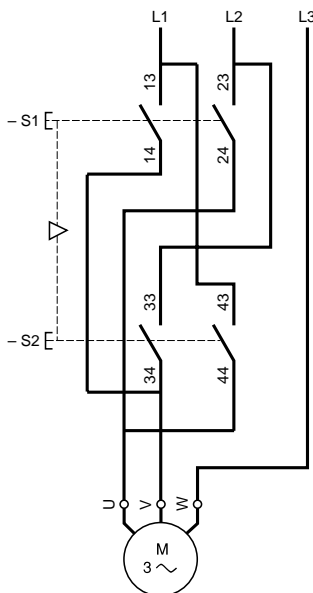
Power circuits

For control of single-speed reversing motor. 2-phase switching

Contact block XES D1191

Application example:

Combined with 3-pole isolating block XAC S399 or XAC S3991, shown in the unoperated position (pendant station "supplied"), fitted with key release mushroom head operator (ZA2 BS14).



Pendant control stations

Double insulated, type XAC B
Metal, type XAC M
For control or power circuits

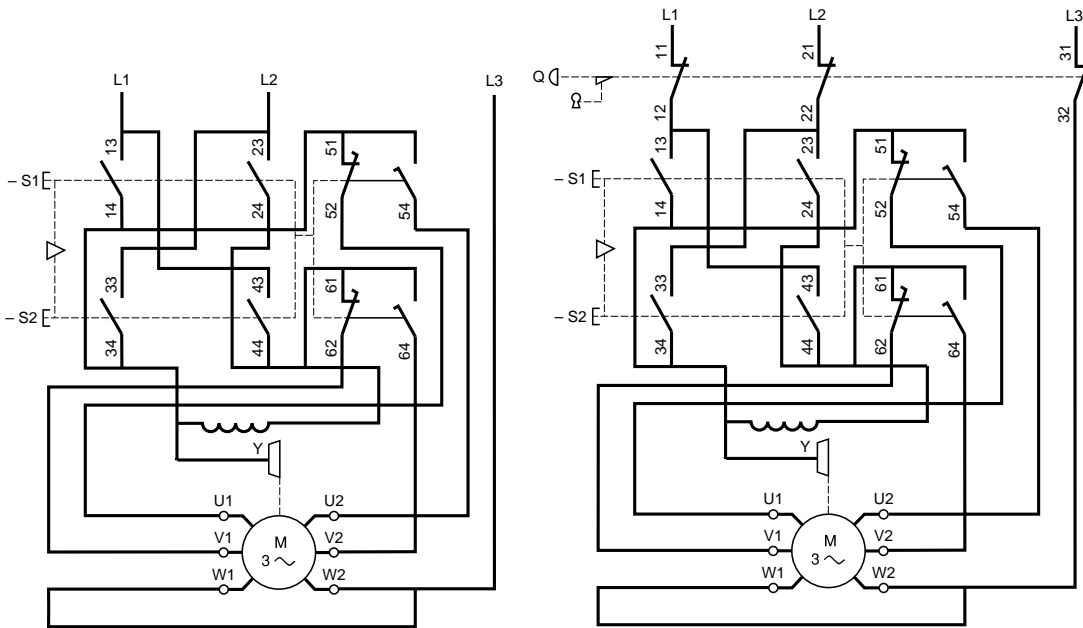
Power circuits (continued)

For control of 2-speed reversing motor (motors with separate windings only). 2-phase switching

Contact block XES D1291

Application example:

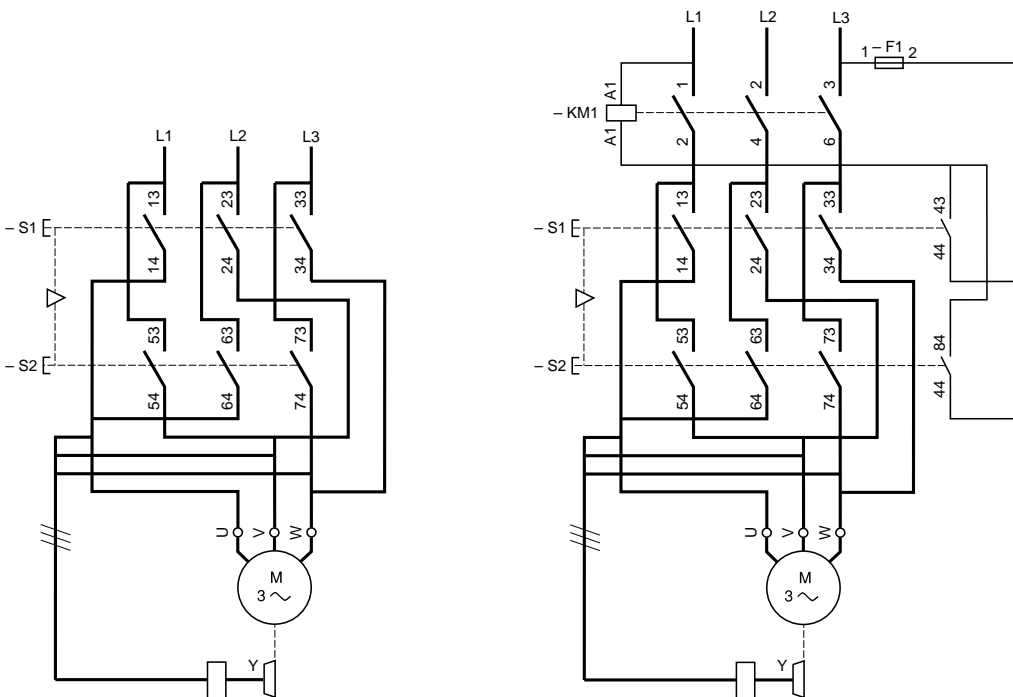
Combined with 3-pole isolating block XAC S399 or XAC S3991, shown in the unoperated position (pendant station "supplied"), fitted with key release mushroom head operator (ZA2 BS14).



For control of single-speed reversing motor. 3-phase switching, reversing by 2-phase inversion

Contact block XES D2201

Contact block XES D2241 with line contactor



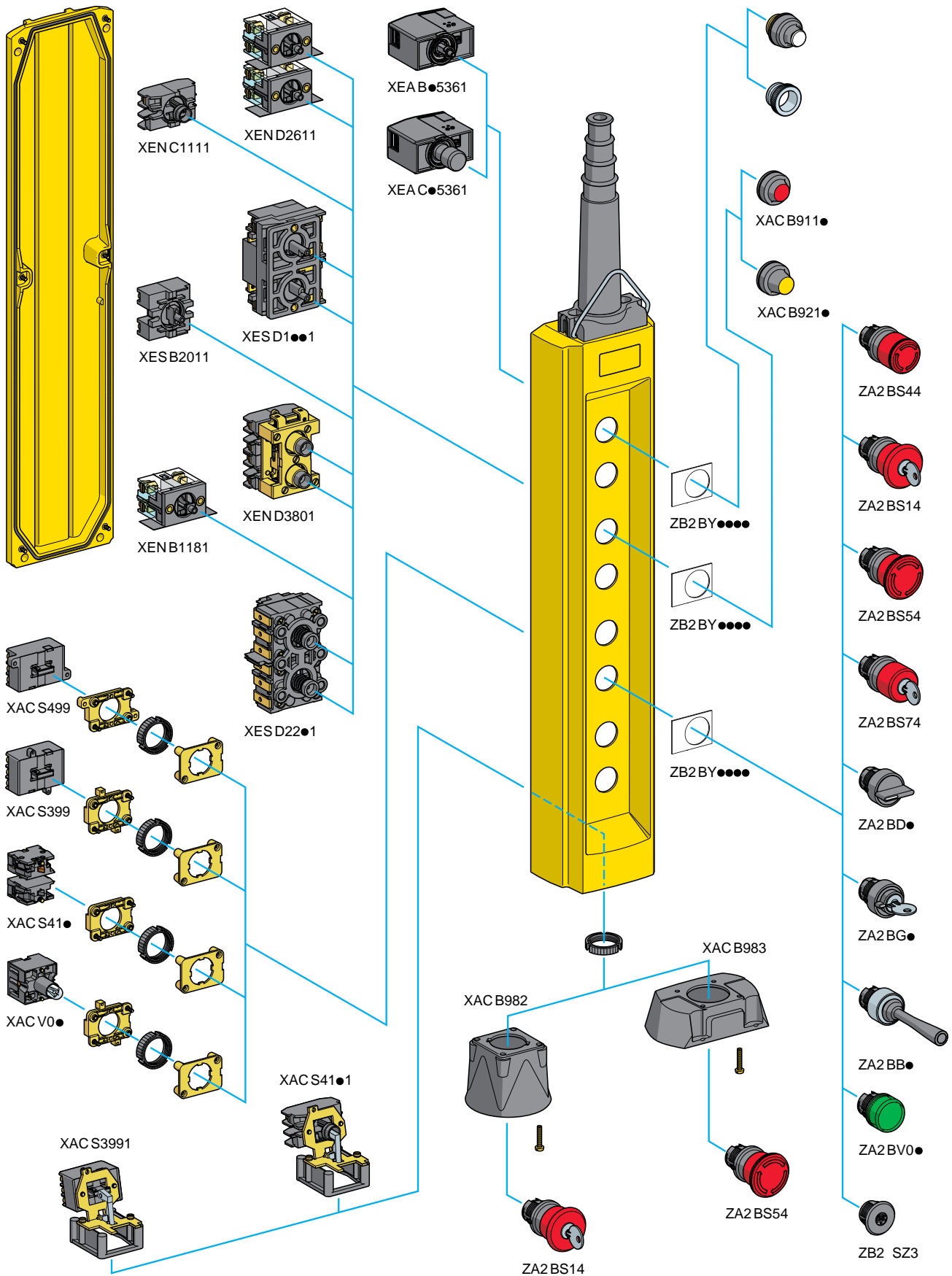
Pendant control stations

Double insulated, type XAC B

Metal, type XAC M

For control or power circuits

6



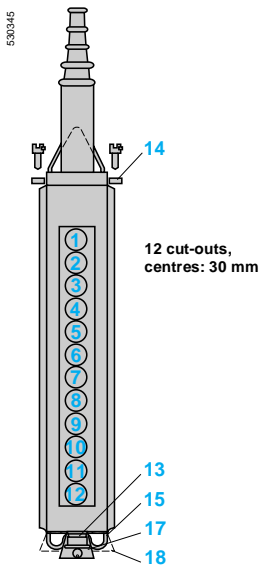
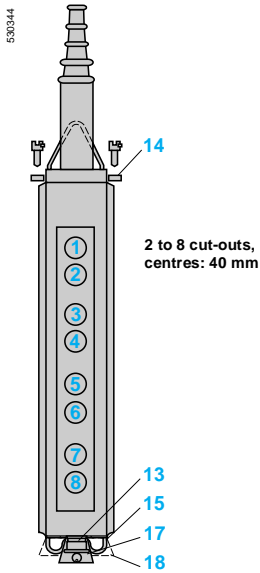
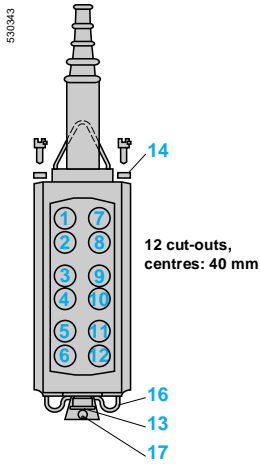
Pendant control stations

Double insulated, type XAC B

Metal, type XAC M (XAC M: products for maintenance purposes only)

For control or power circuits

Variable composition stations, factory assembled



Customer			Schneider Electric Industries	
Company	Order N°	Delivery date	Sales office - Subsidiary Co.	Order N°

Enter the order with XAC B09 reference (for enclosures XAC B) or XAC M09 reference (for enclosures XAC M)

Unit reference of empty enclosure, see pages 6/39 to 6/41	Number of identical stations	Enclosure price (1)
XAC <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>		

Legends see pages 6/52 to 6/54		Contact blocks or pilot light bodies see pages 6/42 to 6/45		Operating heads or pilot light heads or blanking plug see pages 6/46 and 6/51		Total price
Reference	Unit price	Reference	Unit price	Reference	Unit price	
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Unit mounted in base of enclosure (if required)						
13						

Factory assembled:	Number of heads or blanking plugs to be fitted	X	Additional cost XAC 9VA for fitting of 1 head or 1 blanking plug	
	<input type="text"/>		<input type="text"/>	<input type="text"/>

Complementary accessories, see page 6/51 (cross the appropriate box or boxes)			
Description	<input checked="" type="checkbox"/>	Reference	Unit price
14 Adaptor for self-supporting cable type BBAP for use with cable entry sleeve Ø 10 to 22 mm		XAC B961	
15 Lower support ring for single row enclosures		XAC B971	
15 Lower support ring for 2 row enclosures		XAC B972	
16 Protective guard for key release latching mushroom head pushbutton, mounted in base		XAC B982	
17 Protective guard for mushroom head pushbutton, mounted in base		XAC B983	

Total price of assembled pendant station	<input type="text"/>
---	----------------------

(1) Obtain the empty enclosure price.

Pendant control stations

Double insulated, type XAC F
For control circuits

(XAC F: Products for maintenance purposes only)

Environment			
Conformity to standards			IEC 947-5-1, EN 60947-5-1
Protective treatment	Standard version		"TH"
Ambient air temperature	For storage	°C	- 40...+ 70
	For operation	°C	- 25...+ 70
Vibration resistance			15 gn (10...500 Hz) conforming to IEC 68-2-6
Shock resistance			100 gn conforming to IEC 68-2-27
Electric shock protection			Class II conforming to IEC 536 and NF C 20-030
Degree of protection			IP 65 conforming to IEC 529; IK 08 conforming to EN 50102
Mechanical durability (in millions of operating cycles)			1
Enclosure			Double insulated glass-reinforced polyester (yellow)
Cable entry			Rubber sleeve with stepped entry diameter for cable Ø 10...22 mm or Ø 22...35 mm

Contact block characteristics			
Rated operational characteristics			~ AC-15: A300 or Ue = 240 V, Ie = 3 A --- DC-13: Q300 or Ue = 250 V, Ie = 0.27 A conforming to IEC 947-5-1 Appendix A
Thermal current (Ithe)		A	10
Rated insulation voltage (Ui)	XEN C●●●●, XEN D3●●●, XEN D4●●●, XES B2011, XAC S4, XES D1181, XES D1281	V	500, degree of pollution 3
	XEN B●●●●, XEN D1●●●, XEN D2●●●	V	400, degree of pollution 3, conforming to IEC 947-1
Rated impulse withstand voltage (U imp)		kV	6, conforming to IEC 947-1
Positive operation			Mushroom head pushbutton: N/C contact with positive opening operation conforming to IEC 947-5-1 Section 3
Contact operation			Slow break or snap action
Resistance across terminals		MΩ	≤ 25
Operating force	With booted operator	N	XAC S4●●●: 10 (N/O), 8 (N/C); XEN C●●●●: 6 (N/O), 4 (N/C); XEN B●●●●, XEN D1●●●, XEN D2●●●: Single-speed: 9; 2-speed: 20 (1 st speed), 30 (2 nd speed); XEN D3●●●, XEN D4●●●: 25; XES B2011: 7; XES D1181, XES D128: 15 (1 st speed), 25 (2 nd speed)
	With spring return mushroom head operator	N	10
	With latching mushroom head operator	N	40
Terminal referencing			By numbers conforming to CENELEC EN 50013
Short-circuit protection			10 A cartridge fuse type gG (gl)
Connection		mm ²	Screw and captive cable clamp terminals. Clamping capacity: 1 x 2.5 or 2 x 1.5 with or without cable end

6

Rated operational power
Conforming to IEC 947-5-1 Appendix C
Utilisation categories AC-15 and DC-13
For 1 million operating cycles
Operating rate: 3600 operating cycles/hour
Load factor: 0.5
~ Inductive circuit

Contact blocks XEN C●●●●, XEN D3●●●, XEN D4●●●, XAC S4●●●										
a.c. supply ~ 50/60 Hz					d.c. supply ---					
Voltage	V	24	48	127	230	Voltage	V	24	48	120
mm	VA	140	385	525	455	mm	W	60	45	42

Contact blocks XEN B●●●●, XEN D1●●●, XEN D2●●●										
a.c. supply ~ 50/60 Hz					d.c. supply ---					
Voltage	V	24	48	127	230	Voltage	V	24	48	120
mm	VA	140	210	640	680	mm	W	48	31	35

Contact blocks XES B2011, XES D1181, XES D1281										
a.c. supply ~ 50/60 Hz					d.c. supply ---					
Voltage	V	24	48	127	230	Voltage	V	24	48	120
mm	VA	50	100	450	750	mm	W	140	140	95

Pendant control stations

Double insulated, type XAC F

For control circuits

Empty enclosures

(XAC F: Products for maintenance purposes only)

DF66680



XAC F0000

Empty enclosures (1)

Description		Protective cable sleeve	Reference	Weight kg
Enclosures without cut-outs	Without guard rails	Ø 10...22 mm	XAC F0010	2.100
		Ø 22...35 mm	XAC F0050	2.300
	With guard rails	Ø 10...22 mm	XAC F0011	2.300
		Ø 22...35 mm	XAC F0051	2.500
Enclosures with cut-outs in positions requested on the order form, see page 6/65	Without guard rails	Ø 10...22 mm	XAC F3210	2.100
		Ø 22...35 mm	XAC F3250	2.300
	With guard rails	Ø 10...22 mm	XAC F3211	2.300
		Ø 22...35 mm	XAC F3251	2.500

DF66681



XAC F0001

Variable composition stations, factory assembled

Use the order form on page 6/65 to define the required configuration

Equipment: separate components as for control circuit pendant stations XAC B and XAC M.
Units XB2 B can be mounted using a stiffening plate, please consult us.

See separate components, pages 6/42 to 6/54

(1) Enclosure comprising:

- the enclosure,
- protective cable sleeve for cable Ø 10...22 mm or Ø 22...35 mm,
- cable tie (for tightening sleeve onto cable),
- internal cable clamp.

Pendant control stations

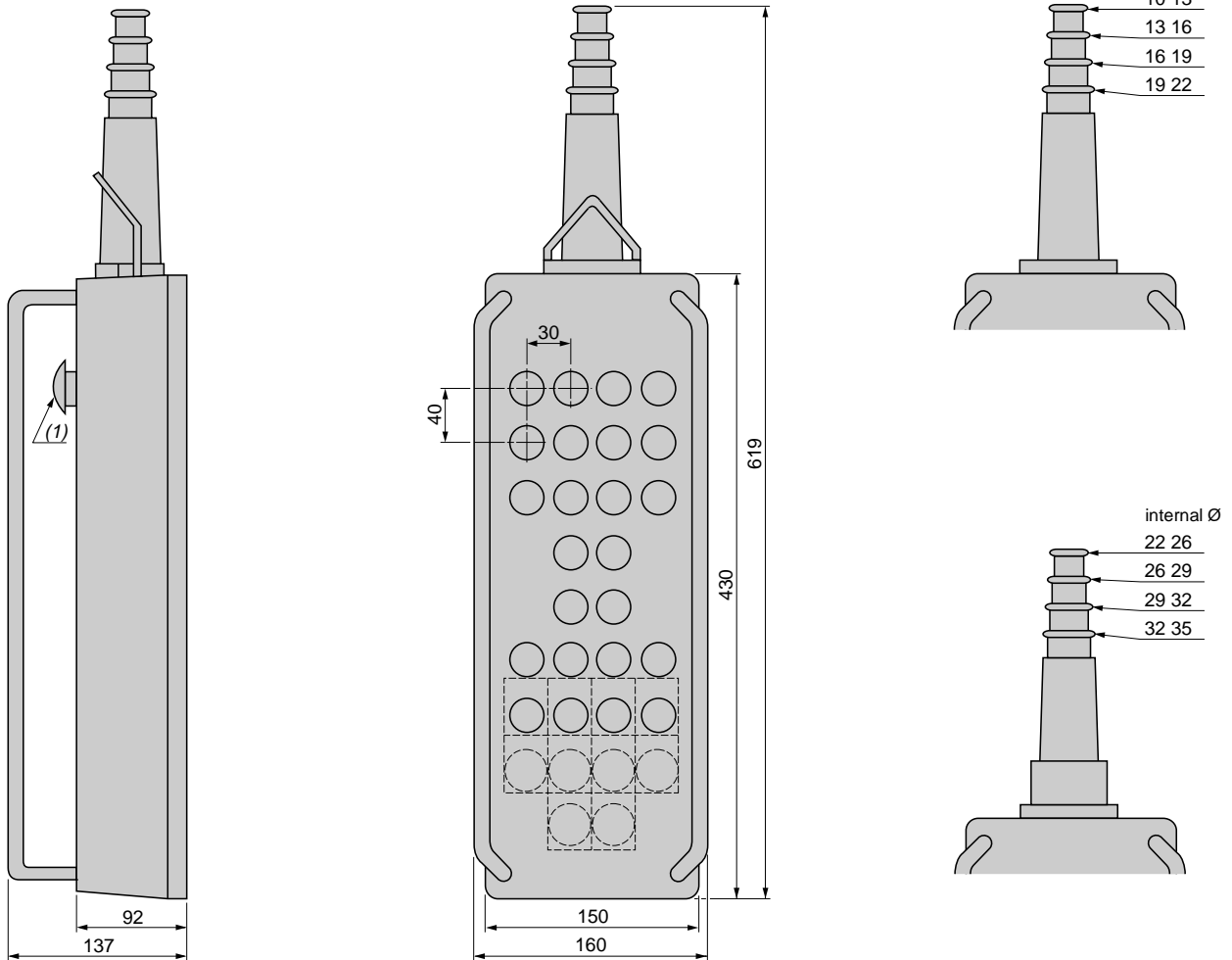
Double insulated, type XAC F
For control circuits

(XAC F: Products for maintenance purposes only)

Pendant control stations

XAC F●●●1 (30 operators maximum, front mounting)

6

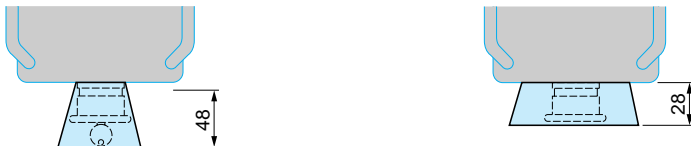


(1) With mushroom head operator.

Protective guards

XAC B982

XAC B983



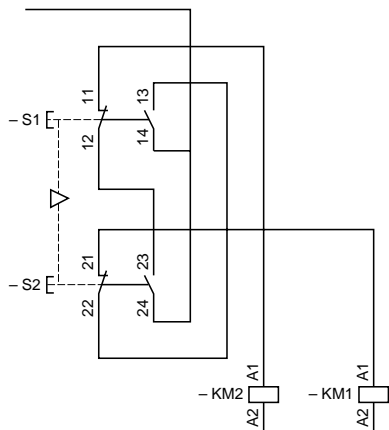
Pendant control stations

Double insulated, type XAC F
For control circuits

(XAC F: Products for maintenance purposes only)

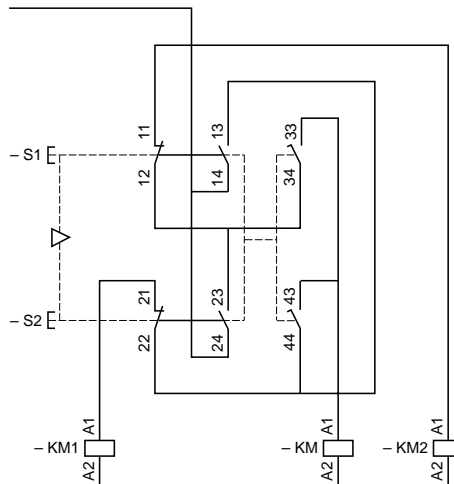
For control of single-speed reversing motor

Contact block XES D1181



For control of 2-speed reversing motor

Contact block XES D1281



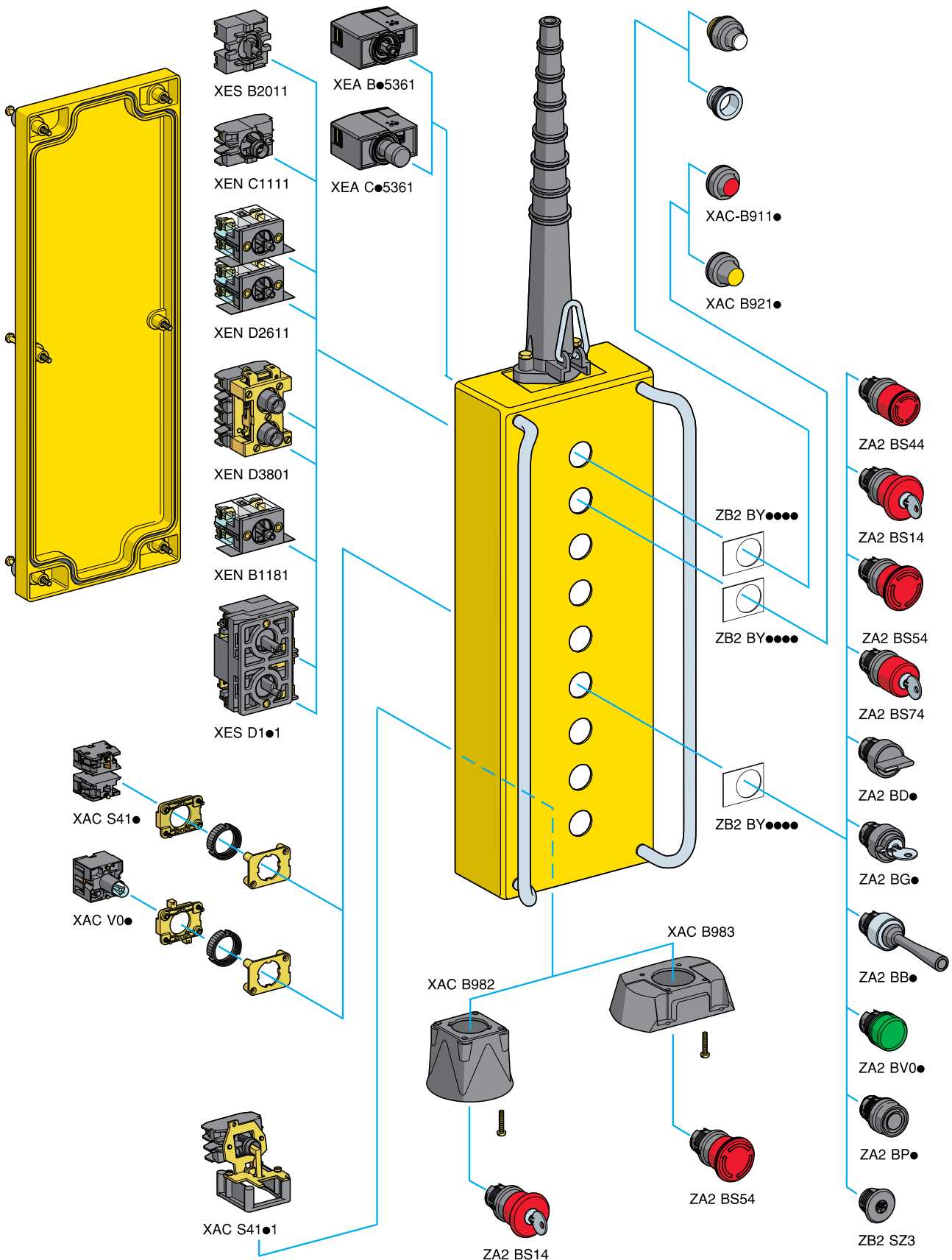
KM: high speed contactor

Pendant control stations

Double insulated, type XAC F
For control circuits

(XAC F: Products for maintenance purposes only)

6



Controllers

For hoisting applications, types **XD** and **XK**

Applications

“Light hoisting”
Compact and light weight

For control of small materials handling equipment, elevating work platforms, fork-lift trucks, etc. Can be installed on control panels or enclosures types XAL, XAM and XAP	For control of materials handling equipment, public work cranes, etc. Can be installed on portable controller stations type XJP
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6

Mechanical durability (in millions of operating cycles)		
Number of directions	Basic	
	Variable composition	
Number of movements		
Maximum number of notches in each direction		
Types of lever movement	Notched	with stayput operation with spring return to zero operation
	Unnotched	with spring return to zero operation
Operating schemes		
Maximum number of contacts per movement		
Contact (1)	Supply	
	Nominal thermal current	
Mechanical durability of contact blocks (in millions of operating cycles)		
Control device		
Handles (2)	a	simple
	b1	with zero (centre) position mechanical interlocking
	b2	with zero (centre) position mechanical and electrical interlocking
	c1	“Dead man’s” type
	c2	with built-in pushbutton
Lever gate		
Maximum number of potentiometers per movement		

1 in each direction	1 in each direction	1 in each direction
2 or 4 depending on model	4	4
–	8	8
1 or 2	2	2
XD2: 1 or 2 XD4, XD5: 1	3	3
■	■	■
■	■	■
–	■	■
Predefined cams	Predefined cams	Variable composition cams
XD2: 4 (1 or 2 N/O contacts in each direction) XD4, XD5: 2 (1 N/O contact in each direction)	4 or 4 + 1 zero (centre) position contact	4 or 4 + 1 zero (centre) position contact
~ and ---	~ and ---	~ and ---
10 A	10 A	10 A
5	1	1
Vertical lever	Vertical lever	Vertical lever
■	■	■
–	■	■
–	■	■
–	■	■
–	■	■
Fixed composition 30° in each direction	Variable composition	Variable composition
–	1 or 2 depending on contact block arrangement	1 or 2 depending on contact block arrangement

Type references

XD2, XD4, XD5	XKB A	XKB E
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Page(s)

1/97, 1/165 and 1/183	6/72	6/74
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(1) N/C slow break contacts with positive opening operation. Contacts closed in absence of cam lobe.

(2) Handles type b1 and b2 are designed in accordance with the French hoisting standard NF E 52070 (Dec. 1985): Electrical equipment of hoisting devices, paragraph 8231: all control devices must be designed, constructed and positioned in such a manner as to avoid any accidental operation...

“Medium hoisting”
Compact and fully configurable unit

For control of cranes, overhead travelling cranes, etc.
 Can be installed on fixed seated controller desks type XJC

“Heavy hoisting”
Extremely robust and fully configurable unit

For control of overhead travelling cranes (iron and steelworks, rolling mills) etc.
 Can be installed on seated controller desks type XJC



3 in each direction	4 in each direction	4 in each direction	4 in each direction
4	4	2	2
8	8	2	2
2	2	1	1
5	6	6	9
■	■	■	■
■	■	■	■
■	■	■	■
Variable composition cams	Variable composition cams	Variable composition cams	Variable composition cams
16	24	24	12
~ and ---	~ and ---	~ and ---	~ and ---
10 A	20 A	20 A	20 A
3	4	4	4
Vertical lever	Vertical lever	Vertical lever	Side lever
■	■	■	■
■	■	■	–
■	■	■	–
■	■	■	–
■	■	■	–
Predefined or customised	Predefined or customised	–	–
2	2	2	1

XKD F	XKM A	XKM B	XKM C
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6/80	6/88	6/88	6/94
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6

Controllers

For hoisting applications, type **XK**

Controller

The controllers are units designed to control hoisting and materials handling equipment by grouping their electrical circuits. They comprise adaptable sub-assemblies that enable the construction of many different versions. Used in association with automation system equipment, they ensure the starting, acceleration and braking of the drive motors. They are designed for fitting into portable controller stations or controller desks. The mounting is dust and damp protected.

Mechanical block

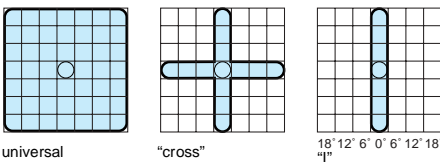
Articulated mechanical assembly that holds the control lever, lever gate, actuating mechanism, cam carriers, contacts and potentiometer adaptation device.

Control lever

Operating device that enables separate or simultaneous control of the movements. Fitted to it are dust and damp protecting bellows, the handle and mechanical and electrical safety devices that are actuated when the controller lever is returned to its zero (centre) position.

Lever gate

Standard lever gates

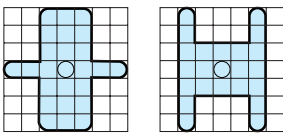


universal

"cross"

18' 12' 6' 0' 6' 12' 18' "I"

Examples of special lever gates



2 types of lever gate:

■ **Standard types:**

- universal: allows the lever to move to its maximum travel in 1 or 2 directions simultaneously ("universal" or "8-direction" controller),
- "cross" or "I" gates: only allow the lever to move to its maximum travel in 1 direction at a time.

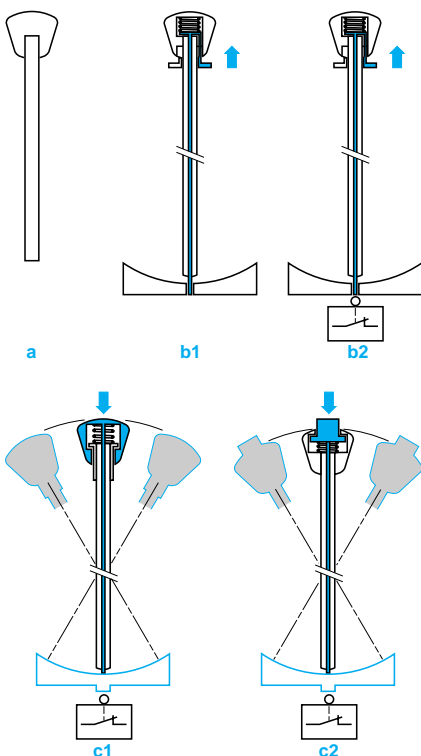
■ **Special types:** related to the application, they are used to control the required combination of movements.

End stops

Additional devices for limiting the lever travel to a number of positions in a given direction.

6

Handles



a Simple handle: fixed knob screwed onto the control lever.

b1 Handle with zero (centre) position mechanical interlock.

Operation:

The knob of the handle comprises a fixed part (upper section) and a moving part (lower section). When the lever is in the zero (centre) position, it is mechanically locked by a sliding rod within the lever. To disengage the lock, the lower part of the handle is pulled upwards thus freeing the rod.

b2 Handle with zero (centre) position mechanical interlock + electrical contact.

Mechanical operation identical to that described above.

When the lever is in the zero (centre) position, the rod actuates a contact block. The disengagement of the lock causes the contact(s) in the block to change state.

c1 "Dead man's" handle.

Operation:

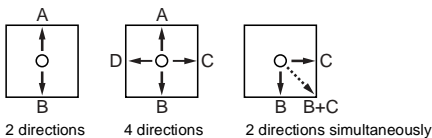
The knob of the handle comprises a fixed part (lower section) and a moving part (upper section). When the upper section of the knob is pushed downwards it pushes a sliding rod within the lever. This rod actuates a moving bowl which, in turn, causes a contact block (located in the lower part of the mechanism) to change state and remain in this condition irrespective of the control lever position.

c2 Handle with built-in flush or projecting pushbutton (audible alarm type).

Mechanical operation identical to that described above.

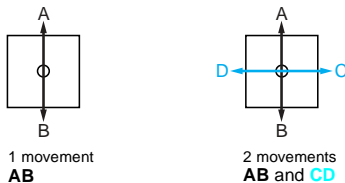
The handle is fixed and it is only the pushbutton that operates the sliding rod.

Direction



This is the direction of operation of the control lever away from its zero (centre) position towards one of 2 or 4 directions (either 2 directions directly in line or 4 directions at 90°).
Diagonal movement is the operation of 2 directions simultaneously.

Movement

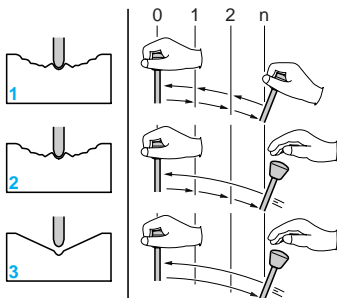


The movement is the combination of 2 directions either side of the zero position that are directly in line.

Electrical position

This is the change of state of a contact block obtained by angular displacement of the control lever.

Types of lever movement



Three different types of lever operation for each direction:

1 Notched positions, with stayput operation.

The control lever is moved notch by notch from its zero (centre) position to its maximum travel position in the required direction.
The lever maintains its position when the operator releases the handle.

2 Notched positions, with spring return to zero operation.

Notched operation identical to that described above but with an automatic device that returns the lever to its zero (centre) position when the operator releases the handle.

3 Unnotched positions, with spring return to zero operation.

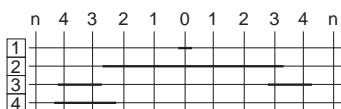
The control lever of the controller is moved from its zero (centre) position to its maximum travel position in the required direction without notching.
Irrespective of its position, the lever spring returns to the zero (centre) position when the operator releases the handle.

Electrical contacts

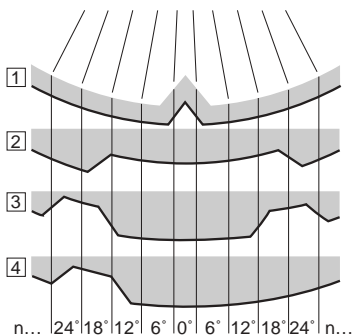
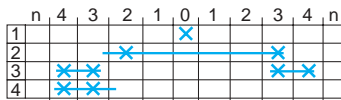
When designing the scheme take into account that all contacts are closed until actuated (opened) by an operating cam.

Cam schemes

Electrical scheme in accordance with IEC 113-4



Controller scheme in accordance with IEC 337-2A



The contact blocks are actuated by a series of various length cams which are arranged to provide the required scheme.

These cams can either be:

- variable composition, i.e. comprising different sub-assemblies mounted on a cam carrier,
 - predetermined, i.e. for a function that is widely used in conventional schemes.
- Example: reversing cams for direction of operation.

Cam carriers

Mechanism designed for mounting cams on for controllers with variable composition cams.

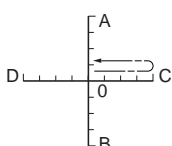
Cam actuation of contacts

When actuated by the cam lobe, the contact opens thus ensuring positive opening operation. Therefore, the presence of a cam corresponds to the absence of a cross or line on the scheme.

Example of graphic representation of a scheme

The various methods for indicating the operating sequence of the contacts are represented by schemes in accordance with IEC 113-4 or IEC 337-2A (section 2). The ordering grids for XK controllers are designed in accordance with IEC 337-2A (section 2).
Take particular note of the way an assured electrical overlapping is represented as is shown for contacts 2 and 4 between positions 2 and 3 (see diagram to left).

Operating cycle



An operating cycle applied from an initial common O position is the passing from this initial position to the extreme position in each direction and subsequent return to the initial O position.

Controllers

For "light hoisting" applications, type **XKB**

100229-34_M



XKB ●

Compact and lightweight units, designed to control "light hoisting" and materials handling equipment. Mainly for use in portable stations.

2 models:

- **XKB A:** controllers with predefined, non modifiable, scheme.
- **XKB E:** controllers with variable composition schemes.

Control lever

Length: 130 mm. Travel in each direction: 28° maximum.

Lever gate

Universal and modifiable.

Specific, by adding half-gates to the universal lever gate (referenced by letter) 9 main combinations. .

End stops

The total lever travel can be limited to 20° or 12° by using removable end stops (**XKB Z972** for 20°, **XKB Z971** for 12°) when the lever gate comprises half-gates Y or Z.

Handles

- Simple handle with zero (centre) position contact (closed at zero).
- Handle with zero (centre) position mechanical interlock + contact (closed at zero).
- "Dead man's" handle with contact (open when handle released).
- Handle with built-in flush or projecting pushbutton and contact (open when pushbutton or handle released).

Note: it is important to decide which type of handle is required when selecting the controller, since modification cannot be affected after installation.

Electrical positions

3 positions maximum in each direction.

Types of lever movement

- **Notched positions, with stayput operation:** 3 notches maximum in each direction (12°, 20°, 28°).
- **Notched positions, with spring return to zero operation:** 3 notches maximum in each direction (12°, 20°, 28°). (XKB E: only 1 contact may be used at each notch.)
- **Unnotched positions, with spring return to zero operation:** 28° maximum travel in each direction. (XKB E: only 1 contact may be used for each spring return to zero position.)

Contacts

The contact blocks used for establishing the scheme are located in a monobloc assembly. There are 2 types:

- Block with 4 contacts per movement.
 - Block with 4 contacts per movement + 1 zero (centre) position contact.
- For both types, an additional contact is available. Its function depends on the type of handle.

Cam schemes

■ **XKB A:** standard schemes can be established using predefined cams. These cams are moulded and cannot be modified.

2 versions:

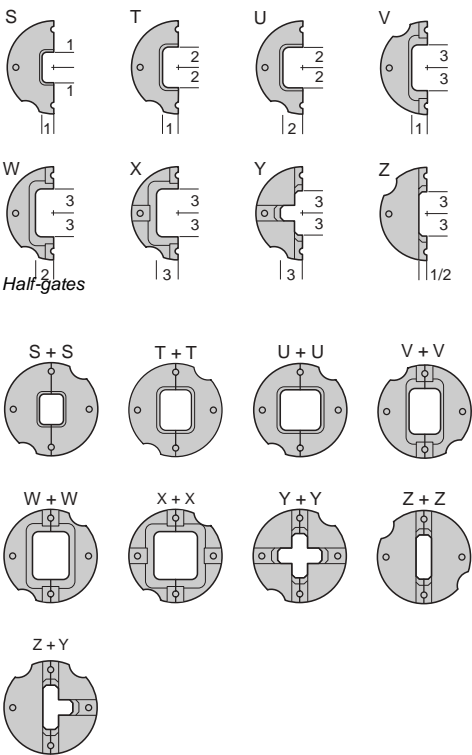
- Using a block with 4 contacts per movement: 2 reversing cams and 2 function cams per movement.
 - Using a block with 4 contacts per movement + 1 zero (centre) position contact: 2 reversing cams and 2 function cams per movement + 1 zero (centre) position cam.
 - **XKB E:** special schemes can be established using snap-on cams (for each position) mounted on cam carriers. (overlapping contact operation is not possible).
- 2 versions:
- Using a block with 4 contacts per movement: 4 variable composition cams per movement.
 - Using a block with 4 contacts per movement + 1 zero (centre) position contact: 4 variable composition cams per movement + 1 fixed composition zero (centre) position cam.

Legend

One 100 x 100 mm anodised aluminium legend plate with matt satin finish. Standard "hoist-long travel" and "traverse-slew" symbols or text (to be stated on Order form, see page 6/73).

Potentiometer adaptation

- 2 potentiometers maximum per movement when using block with 4 contacts per movement.
- 1 potentiometer maximum per movement when using block with 4 contacts per movement + 1 zero (centre) position contact.



9 main combinations

Environment

Conformity to standards		IEC 337-1, NF C 63-140, VDE 0660 part 2
Product certifications		XKB A: CSA ~ 300 V "heavy duty", --- "standard duty", ASE: 500 mV max., 10 A max., 100 VA max., USSR
Protective treatment		Standard version "TC"
Ambient air temperature	For storage	°C - 40...+ 70
	For operation	°C - 20...+ 70
Operating position		All positions
Vibration resistance		6 gn (1 to 70 Hz)
Shock resistance	Conforming to IEC 68-2-27	20 gn, duration 11 ms
Electric shock protection	Conforming to IEC 536 and NF C 20-030	Class I
Maximum operating lever force required in each direction		daN < 1.7
Degree of protection	Conforming to IEC 529	IP 54 (unit with simple handle mounted in dust and damp proof enclosure)
Mechanical durability (In millions of operating cycles)		1 in each direction
Weight		kg XKB A and XKB E : 0.850

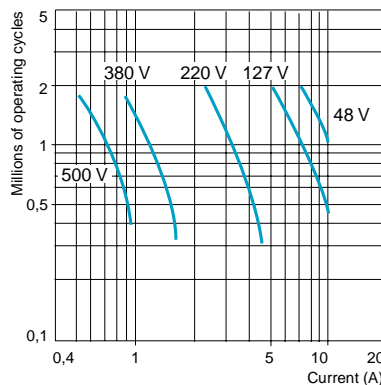
Contact block characteristics

Type		Monobloc assembly comprising 9 double-break contacts (8 function contacts and 1 zero position contact mounted at lever base) or monobloc assembly comprising 11 double-break contacts (8 function contacts + 2 zero position contacts and 1 zero position contact mounted at lever base)
Conventional thermal current	A	10 conforming to IEC 337-1, NF C 63-140, VDE 0660, CSA C 22-2 n° 14
Rated insulation voltage	V	~ 500 conforming to NF C 20-040, VDE 0110, IEC 158-1
Insulation category		Group C conforming to NF C 20-040 and VDE 0110
Contact operation		Slow break, double-break contacts with positive opening operation; N/O (green operator). N/C contact (red operator): zero position contact mounted at lever base
Resistance across terminals	mΩ	≤ 25 (in accordance with NF C 93-050, at 1 A)
Terminal referencing		Conforming to CENELEC EN 50013
Short-circuit protection		10 A cartridge fuse type gG conforming to IEC 337-1B, VDE 0660 part 2

Operational power
Conforming to IEC 337-1
Utilisation categories AC-11 and DC-11
Operating rate: 3600 operating cycles/hour
Load factor: 0.5

a.c. supply ~ 50-60 Hz
~ Inductive circuit

d.c. supply ---



Power broken in W for 1 million operating cycles

Voltage V	24	48	120
mm	90	90	75

Connection	Captive screw clamp terminals	Clamping capacity: <input type="checkbox"/> minimum 1 x 0.5 mm ² , <input type="checkbox"/> maximum, with or without cable end: 2 x 1.5 mm ² or 1 x 2.5 mm ² , or by clips conforming to NF C 20-120
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Controllers

For “light hoisting” applications, types **XKB A** and **XKB E**

Grid for composing the reference of a controller

Reference of controller type XKB

		Model	Contacts	Handle	Lever movement AB	CD	Potentiometer adaptation
XKB		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Model							
With predefined scheme		A					
With variable composition scheme		E					
Contact blocks							
Block with 4 contacts per movement	Screw clamp terminal connections		1				
	6.3 clip connections		2				
Block with 4 contacts per movement + 1 zero (centre) position contact	Screw clamp terminal connections		3				
	6.3 clip connections		4				
Handle							
Simple + zero (centre) position electrical interlocking (contact closed in rest position)				1			
With zero (centre) position mechanical and electrical interlocking (contact closed in rest position)				2			
“Dead man’s” type (contact open when released)				4			
With built-in flush pushbutton (contact open in rest position)				5			
With built-in projecting pushbutton (contact open in rest position)				6			
Type of lever movement							
On movement AB							
Movement not required (blocked)					0		
Notched positions, with stayput operation					1		
Unnotched positions, with spring return to zero operation					2		
Notched positions, with spring return to zero operation (1)					3		
On movement CD							
Movement not required (blocked)						0	
Notched positions, with stayput operation						1	
Unnotched positions, with spring return to zero operation						2	
Notched positions, with spring return to zero operation (1)						3	
Potentiometer adaptation							
Without adaptation nor potentiometer							0
Adaptation only (without potentiometer)	On movement AB						4
	On movement CD						5
	On movements AB + CD						6
Adaptation + potentiometer (2)	On movement AB						7
	On movement CD						8
	On movements AB + CD						9

(1) Type of lever operation recommended when using a potentiometer.

(2) Potentiometer type and value to be stated on the Order form. For standard application potentiometers, see page 6/104.

Controllers

For "light hoisting" applications, type **XKB A**
Controllers XKB A with predefined, non modifiable
schemes, factory assembled

See example on page 6/75

Customer		Schneider Electric Industries			
Company	Customer's reference	Sales office - Subsid. - Plant	Editor	Geographical zone	Order N°

Reference (use the grid for composing the reference of a controller on page 6/72)

Number of identical units	<input type="text"/>	XKB	<input type="text"/>	Model	Contacts	Handle	Lever movement	Potentiometer adaptation
				A	<input type="text"/>	<input type="text"/>	AB	CD

For Schneider Electric Industries use only										
Order N°	Item N°	MOD	ETI	POI	GLV	CTS	MAB	MCD	PAB	PCD
		XKB	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Lever gate

In accordance with the half-gates available, sketch and crosshatch the lever's field of movement on the scheme grids below.
In the absence of this information, the controller will be supplied with a "universal" gate.

Potentiometer adaptation

Cross the required position on the schemes below.

On movement AB Type/size: _____
Value: _____

On movement CD Type/size: _____
Value: _____

Legend

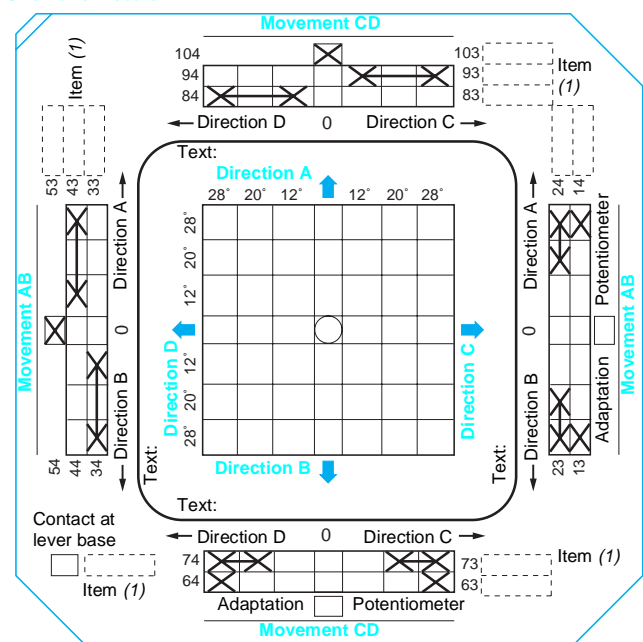
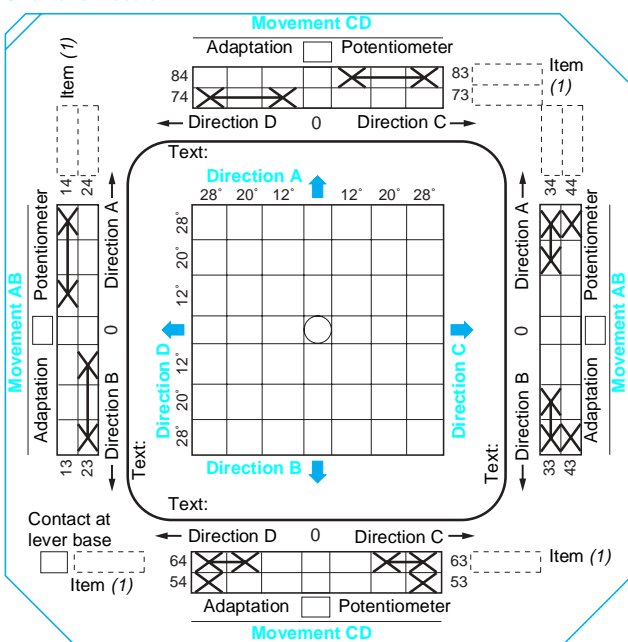
- Without legend
- With blank legend **XKB Y1**
- With "traverse-slew" symbols, **XKB Y2**
- With "hoist-long travel" symbols, **XKB Y3**
- With specific engraved text, **XKB Y1001**
(clearly state the text on the scheme below)
- Left-hand operated unit
- Right-hand operated unit

Scheme 1: 4 contacts per movement (viewed from above)

Scheme 2: 4 contacts + 1 zero (centre) position contact per movement (viewed from above)

Orientation locator

Orientation locator



(1) Reserved for contact identification in the automation system scheme. It is not possible to mark it on the controller.

Order form

(specimen suitable for photocopying)

Controllers

For "light hoisting" applications, type **XKB E** Controllers XKB E with variable and modifiable schemes, factory assembled

Customer		Schneider Electric Industries			
Company	Customer's reference	Sales office - Subsid. - Plant	Editor	Geographical zone	Order N°

Reference (use the grid for composing the reference of a controller on page 6/72)						
Model	Contacts	Handle	Lever movement	Potentiometer adaptation		
			AB CD			

Number of identical units **XKB** **E**

For Schneider Electric Industries use only											
Order N°	Item N°	MOD	ETI	POI	GLV	CTS	MAB	MCD	PAB	PCD	
		XKB	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Lever gate
In accordance with the half-gates available, sketch and crosshatch the lever's field of movement on the scheme grids below.
In the absence of this information, the controller will be supplied with a "universal" gate.

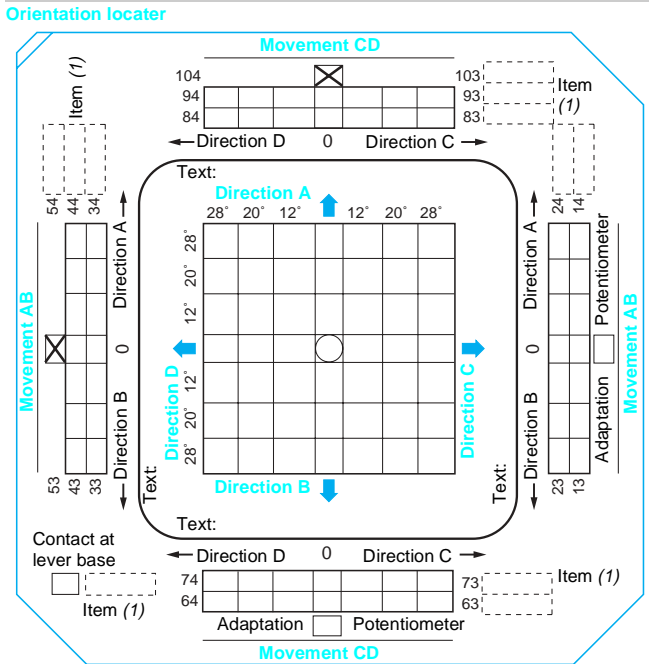
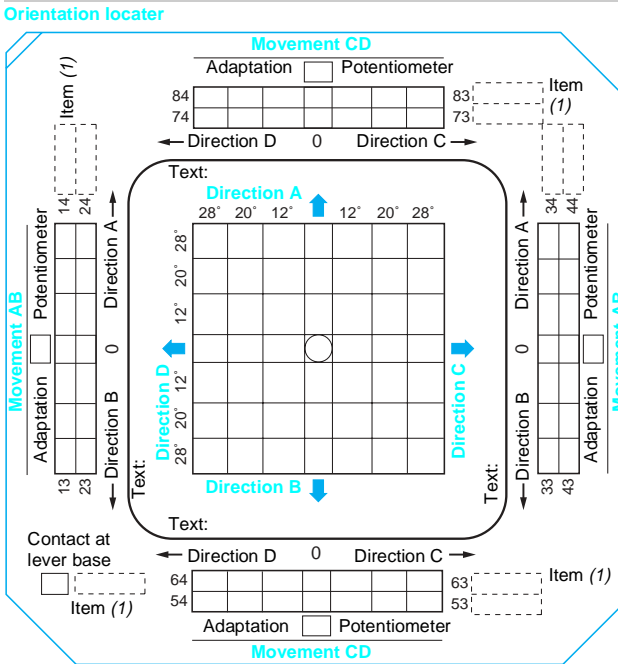
Potentiometer adaptation
Cross the required position on the schemes below.
On movement AB Type/size: _____ Value: _____
On movement CD Type/size: _____ Value: _____

- Legend**
- Without legend
 - With blank legend, **XKB Y1**
 - With "traverse-slew" symbols, **XKB Y2**
 - With "hoist-long travel" symbols, **XKB Y3**
 - With specific engraved text, **XKB Y1001** (clearly state the text on the scheme below)
 - Left-hand operated unit
 - Right-hand operated unit

⚠ If the scheme is not defined, all **XKB E** controllers will be supplied with the standard scheme as used for XKB A.

Scheme 1: 4 contacts per movement (viewed from above)

Scheme 2: 4 contacts + 1 zero (centre) position contact per movement (viewed from above)



(1) Reserved for contact identification in the automation system scheme. It is not possible to mark it on the controller.
Spring return operation: only 1 contact can be used with spring return at each notch.

6

Controllers

For "light hoisting" applications, type **XKB E**
Ordering form completion example

Requirement

A 2 movement controller:
"hoist-long travel".
"Universal" lever gate, limited to 2 "lower" positions.

Model

With variable composition scheme (customised electrical scheme as shown below)

Contact blocks

Block with 4 contacts + 1 zero (centre) position contact per movement (screw clamp terminals).

Handle

"Dead man's" type

Type of lever operation on movement AB

Unnotched positions, with spring return to zero operation

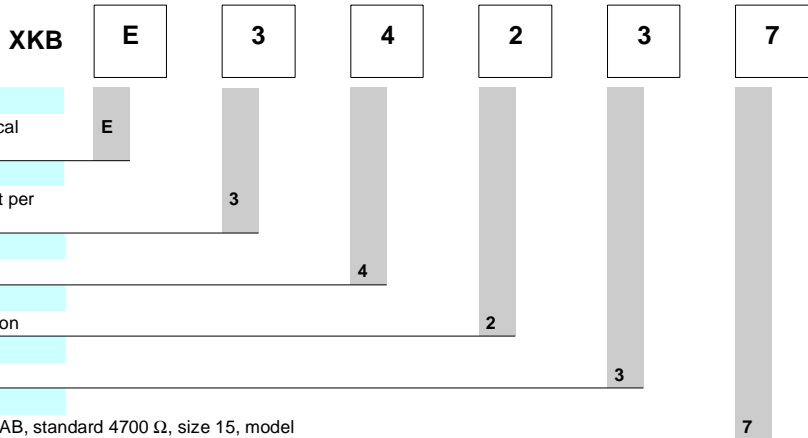
Type of lever operation on movement CD

Notched positions, with spring return to zero operation

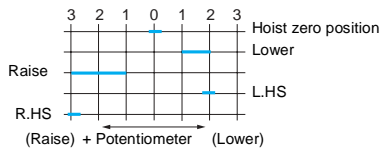
Potentiometer adaptation

With adaptation device + potentiometer on movement AB, standard 4700 Ω, size 15, model

Composition of the reference (see page 6/72)



Electrical scheme for movement AB "hoist"

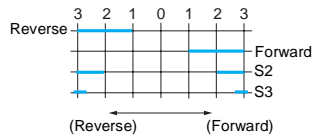


Lever gate

In accordance with the half-gates available, sketch and crosshatch the lever's field of movement on the scheme grids below.

In the absence of this information, the controller will be supplied with a "universal" gate.

Electrical scheme for movement CD "long travel"



Potentiometer adaptation

Cross the required position on the schemes below.

On movement AB

Type/size: **XKZ A15047**

Value: **4700 Ω**

On movement CD

Type/size:

Value:

Legend

Without legend

With blank legend, **XKB Y1**

With "traverse-slew" symbols, **XKB Y2**

With "hoist-long travel" symbols, **XKB Y3**

With specific engraved text, **XKB Y1001**
(clearly state the text on the scheme below)

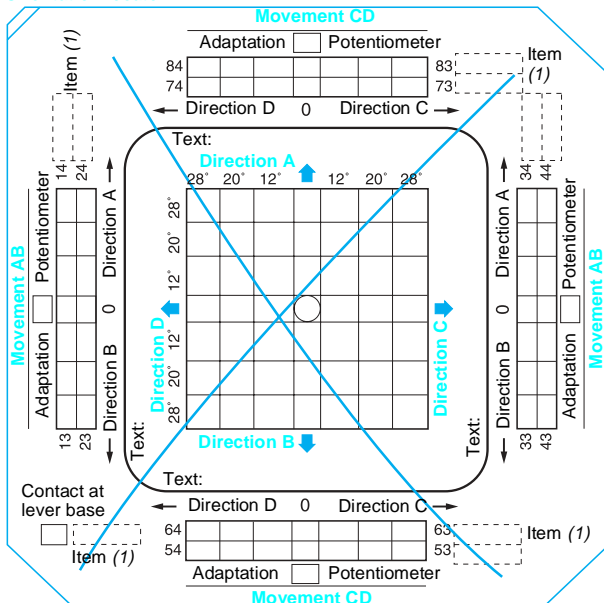
Left-hand operated unit

Right-hand operated unit

If the scheme is not defined, all **XKB E** controllers will be supplied with the standard scheme as used for **XKB A**.

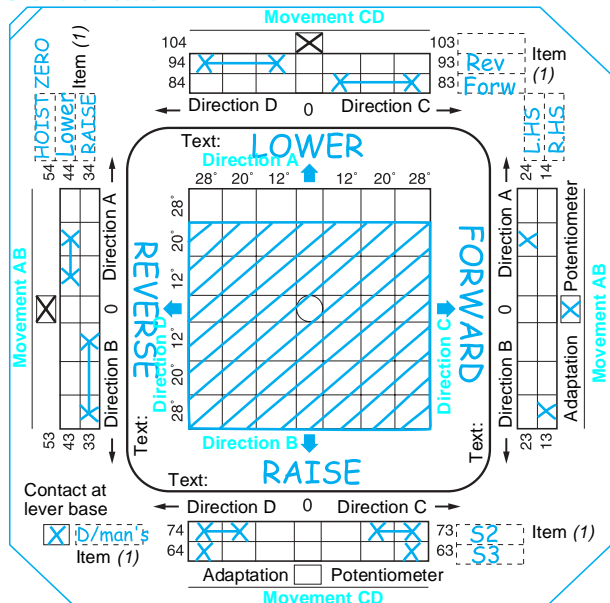
Scheme 1: 4 contacts per movement (viewed from above)

Orientation locator



Scheme 2: 4 contacts + 1 zero (centre) position contact per movement

Orientation locator



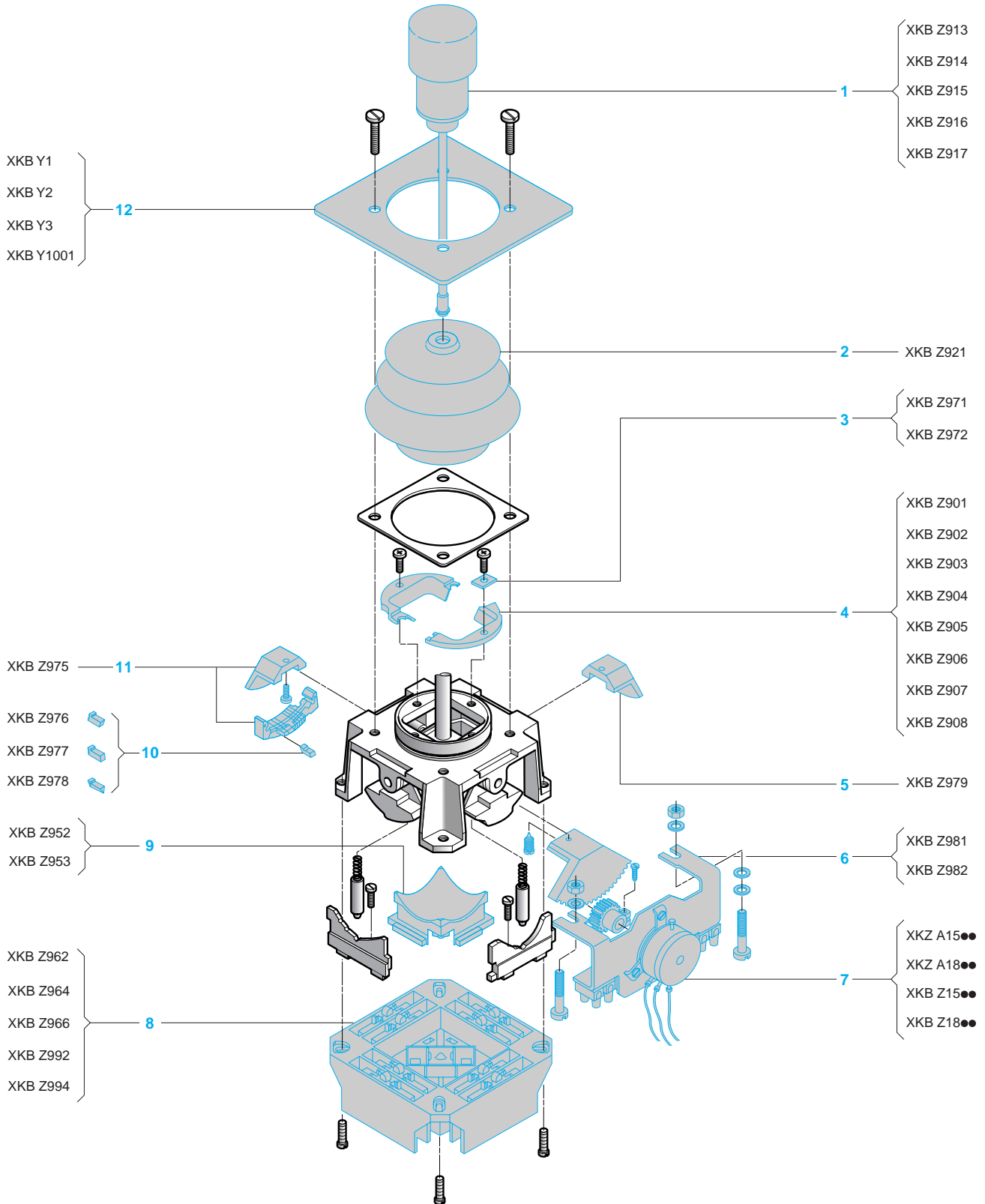
(1) Reserved for contact identification in the automation system scheme. It is not possible to mark it on the controller.

Spring return operation: only 1 contact can be used with spring return at each notch.

Controllers

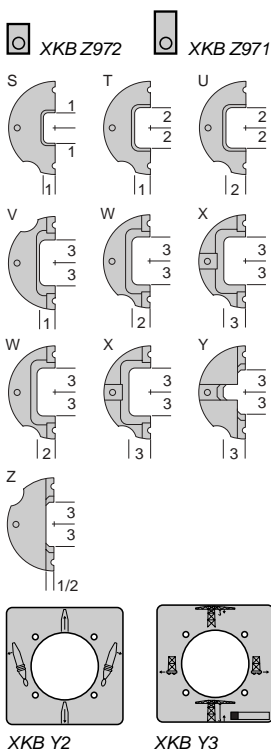
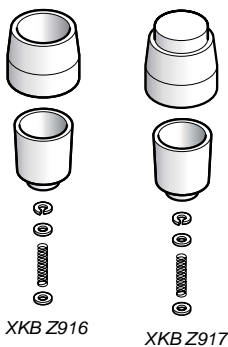
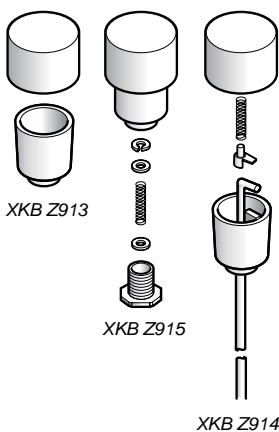
For "light hoisting" applications, type **XKB**
Separate components

6



Controllers

For "light hoisting" applications, type **XKB**
Separate components



Description	Item	Characteristics	Unit reference	Weight kg
Bellows	2	–	XKB Z921	0.060
Handles △ Not interchangeable between different models	1	Simple	XKB Z913	0.030
		With zero (centre) position interlocking	XKB Z914	0.040
		"Dead man's" type	XKB Z915	0.045
		With built-in flush pushbutton	XKB Z916	0.030
		With built-in projecting pushbutton	XKB Z917	0.030
Lever gate Universal and modifiable Specific, by adding half-gates to the universal lever gate (referenced by letter)	4	S	XKB Z901	0.005
		T	XKB Z902	0.005
		U	XKB Z903	0.005
		V	XKB Z904	0.005
		W	XKB Z905	0.005
		X	XKB Z906	0.005
		Y	XKB Z907	0.005
		Z	XKB Z908	0.005
Removable end stops Sold in lots of 10	3	Stop limiting to 1 notch of movement	XKB Z971	0.025
		Stop limiting to 2 notches of movement	XKB Z972	0.020
Contacts: block with 4 contacts per movement Screw clamp terminal connections	8	For use with simple handle or handle with zero (centre) position interlocking	XKB Z962	0.185
		For use with "Dead man's" handle or handle with built-in pushbutton	XKB Z966	0.185
Contacts: block with 4 contacts per movement + 1 zero (centre) position contact Screw clamp terminal connections	8	For use with simple handle or handle with zero (centre) position interlocking	XKB Z992	0.215
		For use with "Dead man's" handle or handle with built-in pushbutton	XKB Z994	0.215
Cam carriers for variable composition cams (XKB E only) Sold in lots of 20	11	–	XKB Z975	0.105
Cams (XKB E only) Sold in lots of 50	10	Right-hand position (colour: green)	XKB Z976	0.010
		Left-hand position (colour: red)	XKB Z977	0.010
		Pass cam (colour: black)	XKB Z978	0.010
Zero (centre) position cam with fixing screw	5	–	XKB Z979	0.010
Lever base adaptations	9	Interlocking bowl	XKB Z952	0.010
		Bowl for "Dead man's" handle or handle with built-in pushbutton	XKB Z953	0.010
Legends	12	Blank	XKB Y1	0.025
		"Traverse - slew"	XKB Y2	0.025
		"Hoist - long travel"	XKB Y3	0.025
		With specific engraved text	XKB Y1001	0.025
Potentiometer adaptation kits (1)	6	Size 15	XKB Z981	0.090
		Size 18 (2)	XKB Z982	0.090
Potentiometers for controllers XKB	7	–	XKZ A15●●, A18●● XKB Z15●●, Z18●● See pages 6/104 and 6/105	–

(1) Including 13 tooth pinion.

□ The maximum lever travel of 28° per direction corresponds to a potentiometer shaft rotation of 161°.

□ Levers with friction drive facility are available under certain conditions; please consult your Regional Sales Office.

(2) The size 18 potentiometer adaptation on an XKB controller prevents it from being mounted in an XJP controller station.

Controllers

For “medium hoisting” applications, type **XKD**

109230-34-



XKD F

Compact and fully configurable units designed to control “medium hoisting” equipment.

Mainly for use on fixed control stations or seated controller desks type **XJC**.

1 model:

- **XKD F**: controller with variable composition schemes.

Control lever

Length: 200 mm. Travel in each direction: 36° maximum.

Lever gate

Integral, non removable, part of the mechanical block. Must be specified on the Order form.

Handles

- Simple handle.
- Handle with zero (centre) position mechanical interlock.
- Handle with zero (centre) position mechanical interlock + 1 C/O snap action contact.
- “Dead man’s” handle + slow break contact(s).
- Handle with built-in flush or projecting pushbutton + slow break contact(s).

Angular electrical positions

- 6 positions maximum in each direction.

Types of lever movement

- **Notched positions, with stayput operation**

2 versions:

- 5 notches maximum in each direction, at 12°, 18°, 24°, 30° and 36° (6° per notch), only when used with variable composition cam carriers comprising 4 or 8-contact blocks (1st notch at 6°).
- 3 notches maximum in each direction, at 12°, 24° and 36° (12° per notch), only when used with variable composition cam carriers comprising 2-contact blocks.

Note: It is possible to use, on the same movement, a “5 notch max.” cam carrier combined with a “3 notch max.” cam carrier. The lever operation is “5 notch” type.

- **Notched positions, with spring return to zero operation**

3 or 5 notches maximum in each direction depending on the versions stated above.

△ 4 simultaneous contacts max. with spring return can be used at the 1st (12°) notch.

- **Unnotched positions, with spring return to zero operation**

36° maximum travel in each direction.

△ 2 simultaneous contacts maximum with spring return can be used at 6° and then 4 contacts maximum at each subsequent 6° position.

Contacts

16 contacts maximum per movement.

The contact blocks are mounted in pairs on a fixing plate.

Cam schemes

2 versions:

- **Variable composition cams, 6° per position; 4 or 8-contact cam carriers.**

□ From 1 to 5 mechanical positions.

□ Overlapping contact operation possible (see graphic representation on page 6/69) except between the 4th and last position.

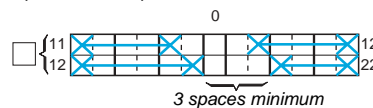
- **Variable composition cams, 12° per position; 2-contact cam carriers.**

□ From 1 to 3 mechanical positions.

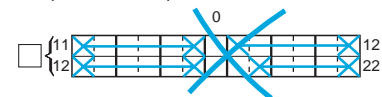
□ The contacts can be actuated 6° by 6° approx., except under the following conditions:

For technical reasons, it is essential to have at least 3 spaces on the electrical scheme for the same contact.

2 possible examples



2 impossible examples



The 2-contact cam carriers are compact and do not increase the size of the mechanical block base.

Legend

One 120 x 120 mm anodised aluminium legend plate with matt satin finish.

Text to be stated on Order form.

Potentiometer adaptation

2 potentiometers maximum per movement:

□ mounted directly on the mechanical block when used with 2-contact variable composition cams,

□ mounted at the extremity of the contact supports when used with 4 and 8-contact variable composition cams.

Environment

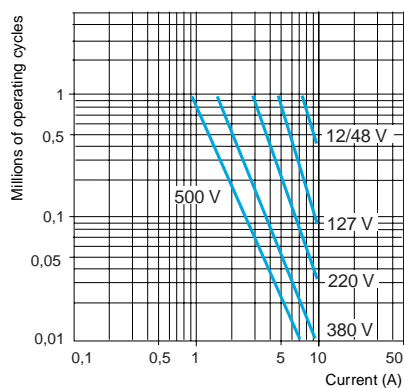
Conformity to standards		IEC 337-1, NF C 63-140, VDE 0660 part 2	
Product certifications		CSA A600, Q 600, Bureau Véritas, USSR	
Protective treatment		Standard version “TC”	
Ambient air temperature	For storage	°C	- 40...+ 70
	For operation	°C	- 20...+ 70
Operating position		All positions	
Vibration resistance		2 gn (10 to 500 Hz) conforming to IEC 68-2-6	
Shock resistance		15 gn, duration 11 ms, conforming to IEC 68-2-27	
Electric shock protection		Class I, conforming to IEC 536 and NF C 20-030	
Maximum operating lever force required in each direction	daN	Notched positions, with stayput operation:	Notched or unnotched positions, with spring return to zero operation: < 3.5
Degree of protection		IP 54 conforming to IEC 529 (unit with simple handle mounted in dust and damp proof enclosure)	
Mechanical durability	In millions of operating cycles	XKD F : 3 in each direction	
Weight	XKD F kg	Mechanical block: 0.950 4-contact assembly: 0.350 8-contact assembly: 0.560	

Contact block characteristics

Type		N/C contact (ZB2 BE102)	
Conventional thermal current	A	10 conforming to IEC 337-1, NF C 63-140, VDE 0660, CSA C 22-2 n° 14	
Rated insulation voltage	V	≈ 500 conforming to NF C 20-040, VDE 0110, IEC 158-1	
Insulation category		Group C conforming to NF C 20-040 and VDE 0110	
Contact operation		Slow break, double-break contacts with positive opening operation	
Resistance across terminals	mΩ	≤ 25 (in accordance with NF C 93-050, at 1 A)	
Short-circuit protection		10 A cartridge fuse type gG conforming to IEC 337-1B, VDE 0660 part 2	

Operational power
Conforming to IEC 337-1
Utilisation categories AC-11 and DC-11
Operating rate: 3600 operating cycles/hour
Load factor: 0.5

a.c. supply ~ 50-60 Hz
~ Inductive circuit



d.c. supply —

Power broken in W for 1 million operating cycles

Voltage V	24	48	120
mm	65	48	40

Connection

Captive screw clamp terminals
Clamping capacity:
□ minimum 1 x 0.5 mm²,
□ maximum, with or without cable end: 2 x 1.5 mm² or 1 x 2.5 mm² conforming to NF C 20-120

Controllers

For “medium hoisting” applications, type **XKD F**
Grid for composing the reference of a controller

Reference of controller type XKD

	Lever	Handle	Movement AB			Movement CD		
			No. of blocks	Lever movement	Potentiometer adaptation	No. of blocks	Lever movement	Potentiometer adaptation
XKD F	1							

Control lever

Standard model, length 200 mm 1

Handle

Simple (standard model)		1
With zero (centre) position mechanical interlocking		2
With zero (centre) position mechanical & electrical interlocking (1 C/O contact)		3
“Dead man’s” type	With N/C + N/O contact	4
	With N/O + N/O contact	5
With built-in flush pushbutton	With N/C + N/O contact	6
	With N/O + N/O contact	7
With built-in projecting pushbutton	With N/C + N/O contact	8
	With N/O + N/O contact	9

Movement AB

Number of 2-contact blocks

0 blocks	0
1 block	1
2 blocks	2
3 blocks	3
4 blocks	4
5 blocks	5
6 blocks	6
8 blocks	8

Type of lever movement

Notched positions, with stayput operation	3 notches (1)	1
	5 notches (starting from 12°) or 6 notches (from 6°) (2) (3)	2
Notched positions, with spring return to zero operation	3 notches (1)	3
	5 notches (starting from 12°) or 6 notches (from 6°) (2) (3)	4
Unnotched positions, with spring return to zero operation (4)		5

Potentiometer adaptation

Without adaptation nor potentiometer	0
With adaptation only (without potentiometer)	1
With adaptation + potentiometer (5)	2

Movement CD

Number of 2-contact blocks

0 blocks	0
1 block	1
2 blocks	2
3 blocks	3
4 blocks	4
5 blocks	5
6 blocks	6
8 blocks	8

Type of lever movement

Notched positions, with stayput operation	3 notches (1)	1
	5 notches (starting from 12°) or 6 notches (starting from 6°) (2) (3)	2
Notched positions, with spring return to zero operation	3 notches (1)	3
	5 notches (starting from 12°) or 6 notches (starting from 6°) (2) (3)	4
Unnotched positions, with spring return to zero operation (4)		5

Potentiometer adaptation

Without adaptation nor potentiometer	0
With adaptation only (6) (without potentiometer)	1
With adaptation (6) + potentiometer (5)	2

(1) 3 notches: restricted to 2-contact variable composition cams only.

(2) 5 notches: by using 1 or 2 variable composition 4 or 8-contact cams. 1st mechanical notch at 12° (6 electrical positions in each direction).

(3) It is possible to obtain 6 mechanical notches, 1st mechanical notch at 6° (6 electrical positions in each direction). Please consult your Regional Sales office.

(4) Type of lever operation recommended when using a potentiometer.

(5) Potentiometer type and value to be stated on the Order form, see pages 6/104 and 6/105.

(6) It is possible to obtain 6 mechanical notches, 1st mechanical notch at 6° (6 electrical positions in each direction). Please consult your Regional Sales office.

Characteristics:
page 6/79

Dimensions:
page 6/101

Controllers

For "medium hoisting" applications, type **XKD F**
Controllers with variable composition schemes,
factory assembled

See example on page 6/83

Customer		Schneider Electric Industries			
Company	Customer's reference	Sales office - Subsid. - Plant	Editor	Geographical zone	Order N°

Reference (use the grid for composing the reference of a controller on page 6/80)

				Movement AB			Movement CD		
		Lever	Handle	No. of blocks	Lever movement	Potentiometer adaptation	No. of blocks	Lever movement	Potentiometer adaptation

Number of identical units

XKD F

1

For Schneider Electric Industries use only

Order N°	Item N°	MOD	LEV	POI	GLV	CT1	CT3	MAB	P13	CT2	CT4	MCD	P24
XKD													

Lever gate

Sketch and crosshatch the lever's field of movement on the grid

Movement CD

Adaptation Potentiometer

Drum n°2

Potentiometer adaptation

Cross the position on the scheme

On movement AB

Type/size:

Value:

On movement CD

Type/size:

Value:

Drum n°3

Movement AB

Adaptation Potentiometer

Drum n°1

Adaptation Potentiometer

Movement AB

Choice of cam carriers

(1) Cross the type of cam carrier required:

(a): 3 notch cam carrier, 2 contacts max.,

(b): 5 notch cam carrier, 4 contacts max.,

(c): 5 notch cam carrier, 8 contacts max.

(2) Reserved for contact identification in the automation system scheme. It is not possible to mark it on the controller.

Contact at lever base

Drum n°4

Movement CD

Adaptation Potentiometer

Legend

Without legend

Blank legend **XKB Y1**

Legend with specific engraving, **XKD Y1001** (clearly state text on this scheme)

Left-hand operated unit

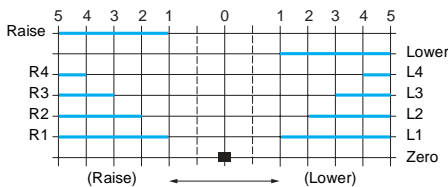
Right-hand operated unit

- Electrical overlapping of contacts is not possible between the 5th and 6th notches.
- Spring return operation: 2 simultaneous contacts maximum with spring return can be used at 6° and then 4 contacts at each subsequent 6° position.

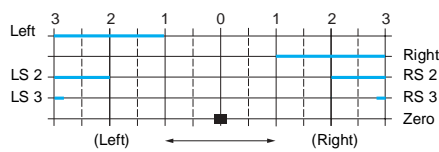
Requirement

A 2 movement controller: “hoist-traverse”.
“Cross” type lever gate. Controller conforming to NF E 52-070.
No potentiometer adaptation on movements AB or CD.

Scheme for movement AB “hoist”



Scheme for movement CD “traverse”



Notes:

Movement AB

The scheme for movement AB requires 7 contacts, therefore, select 4 blocks of 2 contacts.
The only alternative is the selection of either drum n° 3 or n° 1, depending on the available space.

Movement CD

The space between each notch indicated on the 3 position scheme cannot be adhered to.
Effectively, to obtain 5 contacts, a 2-contact block can be selected (drum n° 2), which does not increase the size of the base, together with 2 x 2-contact blocks (drum n° 4).
The lever gate will limit the lever travel to 3 notches.

Composition of the reference (see page 6/80)

XKD F **1** **2** **4** **4** **0** **3** **4** **0**

Control lever

Standard, length 200 mm

1

Handle

With zero (centre) position mechanical interlocking

2

Movement AB “hoist”

Number of 2-contact blocks

4 blocks

4

Type of lever movement

5 notched positions, with spring return to zero operation

4

Potentiometer adaptation

Without adaptation nor potentiometer

0

Movement CD “traverse”

Number of 2-contact blocks

3 blocks

3

Type of lever movement

5 notched positions, with spring return to zero operation

4

Potentiometer adaptation

Without adaptation nor potentiometer

0

Controllers

For "medium hoisting" applications, type **XKD F**
Ordering form completion example

Customer		Schneider Electric Industries			
Company	Customer's reference	Sales office - Subsid. - Plant	Editor	Geographical zone	Order N°

Reference (use the grid for composing the reference of a controller on page 6/80)

	Lever	Handle	Movement AB			Movement CD		
	No. of blocks	Lever movement	Potentiometer adaptation	No. of blocks	Lever movement	Potentiometer adaptation		

Number of identical units **XKD F**

For Schneider Electric Industries use only

Order N°	Item N°	MOD	LEV	POI	GLV	CT1	CT3	MAB	P13	CT2	CT4	MCD	P24
		XKD	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Scheme: viewed from above

Lever gate

Sketch and crosshatch the lever's field of movement on the grid

Movement CD

Adaptation Potentiometer

Drum n°2

Potentiometer adaptation

Cross the position on the scheme

On movement AB

Type/size: _____

Value: _____

On movement CD

Type/size: _____

Value: _____

Drum n°3

Item (2)

Zero 4 3 2 1 LOWER RAISE

Choice of cam carriers (1)

LOWER

Direction A

Text: 36° 30' 24' 18' 12' 6' Ex: 5 notches

Text: 36° 30' 24' 18' 12' 6' Ex: 6 notches

Text: 12° 18' 24' 30' 36° Ex: 3 notches

Direction B LEFT 0 Direction C RIGHT

Choice of cam carriers (1)

Drum n°1

Item (2)

Choice of cam carriers (1)

Choice of cam carriers

(1) Cross the type of cam carrier required:

(a): 3 notch cam carrier, 2 contacts max.,

(b): 5 notch cam carrier, 4 contacts max.,

(c): 5 notch cam carrier, 8 contacts max.

(2) Reserved for contact identification in the automation system scheme. It is not possible to mark it on the controller. Contact at lever base

NO 51-52

NO KI-K2

Movement CD

Adaptation Potentiometer

Drum n°4

Choice of cam carriers (1)

Legend

Without legend

Blank legend **XKB Y1**

Legend with specific engraving, **XKD Y1001** (clearly state text on this scheme)

Left-hand operated unit

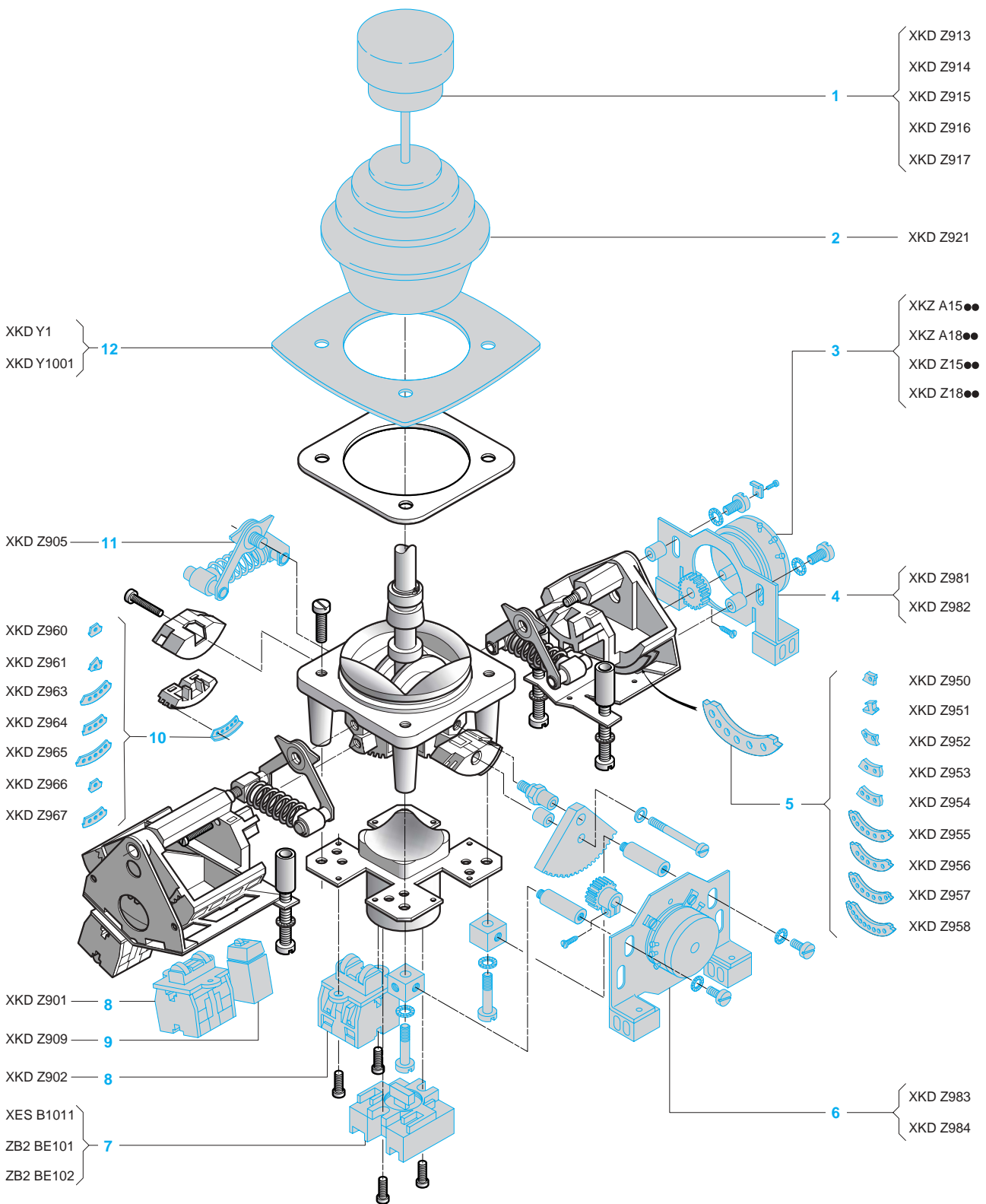
Right-hand operated unit

- Electrical overlapping of contacts is not possible between the 5th and 6th notches.
- Spring return operation: 2 simultaneous contacts maximum with spring return can be used at 6° and then 4 contacts at each subsequent 6° position.

Controllers

For "medium hoisting" applications, type **XKD F**
Separate components

6



Controllers

For “medium hoisting” applications, type **XKD F**
Separate components



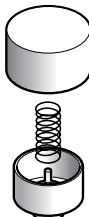
XKD Z913



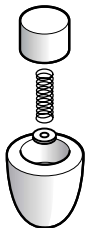
XKD Z914



XKD Z915



XKD Z916



XKD Z917

Description	Item	Characteristics	Unit reference	Weight kg
Bellows	2	Bellows + 1 flat seal	XKD Z921	0.075
Handles △ Not interchangeable between different models	1	Simple	XKD Z913	0.060
		With zero (centre) position interlocking	XKD Z914	0.035
		“Dead man’s” type	XKD Z915	0.040
		With built-in flush pushbutton	XKD Z916	0.050
		With built-in projecting pushbutton	XKD Z917	0.050
Spring return operation mechanism <i>Sold in lots of 2</i>	11	Spring return to zero mechanism	XKD Z905	0.100
Notched operation mechanism	9	Position notching mechanism for variable composition cams	XKD Z909	0.010
Variable composition cams for support with 4 or 8 contacts <i>Sold in lots of 50</i>	5	Pass cam	XKD Z950	0.005
		Complementary, 1 position	XKD Z951	0.005
		Complementary, 1.5 position	XKD Z952	0.010
		Complementary, 2 positions	XKD Z953	0.010
		Complementary, 3 positions	XKD Z954	0.020
		Complementary, 6 positions	XKD Z955	0.035
		5 positions	XKD Z956	0.030
		7 positions	XKD Z957	0.040
		9 positions	XKD Z958	0.050
Variable composition cams for support with 2 contacts <i>Sold in lots of 20</i>	10	Complementary, half-position	XKD Z960	0.005
		Complementary, 1 position	XKD Z961	0.005
		Reversing, for notches 1+ 2 + 3	XKD Z963	0.020
		Acceleration, for notches 2 + 3	XKD Z964	0.005
		Acceleration, for notch 3	XKD Z965	0.010
		Pass cam	XKD Z966	0.010
		Cam for zero position contact	XKD Z967	0.010
Scheme contacts	8	2 x ZB2 BE102 contacts mounted on baseplate	Without marker XKD Z901 With marker XKD Z902	0.050 0.050
Zero (centre) position electrical interlocking C/O contact	7	Snap action	XES B1011	0.030
Contacts for “Dead man’s” handle or handle with built-in pushbutton	7	Slow break	N/C, positive opening ZB2 BE102 N/O ZB2 BE101	0.015 0.015
Legends	12	Blank	XKD Y1	0.035
		With specific engraved text	XKD Y1001	0.035
Potentiometer adaptation kits (1)	4	On end of contact supports	Size 15 XKD Z981 Size 18 XKD Z982	0.120 0.130
	6	Directly on mechanical block	Size 15 XKD Z983 Size 18 XKD Z984	0.120 0.130
Potentiometers for controllers XKD	3	–	XKZ A15●●, A18●● XKD Z15●●, Z18●● See pages 6/104 and 6/105	–

(1) Including 15 tooth pinion.

□ The maximum lever travel of 36° per direction corresponds to a potentiometer shaft rotation of 168°.

□ Levers with friction drive facility are available under certain conditions. Please consult your Regional Sales Office.

Controllers

For “heavy hoisting” applications, type **XKM**

109231_33_M



XKM A

109232_37_M



XKM B

109233_38_M



XKM C

6

Extremely robust and fully configurable units designed to control “heavy hoisting” equipment.

Mainly for use on fixed control stations or seated controller desks type **XJC**.

3 different controller models:

- **XKM A**: with variable composition schemes, multidirectional control of 2 movements by central lever.
- **XKM B**: with variable composition schemes, control of 1 movement by central lever.
- **XKM C**: with variable composition schemes, control of 1 movement by side lever.

Control lever

XKM A and **XKM B**: length: 200 or 250 mm. Travel in each direction: 36° max.

XKM C: side lever, length 240 mm. Travel in each direction: 54° maximum.

Lever gate

XKM A: universal or specific (must be specified on Order form).

XKM B and **XKM C**: no lever gate.

End stops

Removable, attached to mechanical block to limit lever travel in 6° steps.

Handle

XKM A and **XKM B**; 5 versions:

- Simple handle.
 - Handle with zero (centre) position mechanical interlock.
 - Handle with zero (centre) position mechanical interlock + 1 C/O snap action contact.
 - “Dead man’s” handle with 1 C/O snap action contact.
 - Handle with built-in flush or projecting pushbutton + 1 C/O snap action contact.
- XKM C**: simple handle.

Electrical positions

XKM A and **XKM B**: 6 positions maximum in each direction.

XKM C: 9 positions maximum in each direction.

Type of lever movement

■ **Notched positions, with stayput operation.**

XKM A and **XKM B**; 2 versions:

- 6 notch sector in each direction: 6°, 12°, 18°, 24°, 30°, 36°.
- 5 notch sector in each direction: 12°, 18°, 24°, 30°, 36°.

Note: two different notching forces: Normal: operating lever force: 2 daN. Increased: operating lever force: 4 daN (for 4 simultaneously operated contacts).

XKM C, 2 versions:

- 9 notch sector maximum in each direction: 6°, 12°, 18°, 24°, 30°, 36°, 42°, 48°, 54°.
- 8 notch sector maximum in each direction: 12°, 18°, 24°, 30°, 36°, 42°, 48°, 54°.

■ **Notched positions, with spring return to zero operation.**

XKM A, B and C, 2 versions:

- 6 notches maximum in each direction: 6°, 12°, 18°, 24°, 30°, 36°.
- 5 notches maximum in each direction: 12°, 18°, 24°, 30°, 36°.

△ 2 simultaneous contacts maximum with spring return can be used at 6° and then 4 contacts maximum at each subsequent notch.

■ **Unnotched positions, with spring return to zero operation:**

XKM A, B and C: 36° maximum travel in each direction.

△ 2 simultaneous contacts maximum with spring return can be used at 6° and then 4 contacts maximum at each subsequent 6° position.

Contacts

24 contacts maximum per movement (2 x 3 blocks of 4 contacts).

2 versions:

- Standard, double-break contacts.
- Double-break contacts with magnetic blow-out.

Cam schemes

24 cams maximum per movement (12 contacts on each side), mounted in groups of 4.

Warning: for technical reasons relating to mounting, the first cam (for contact 13-14) must be a reversing or zero position cam.

Legends

1 for each direction, interchangeable without dismantling the unit.

Material: anodised aluminium, anodic oxidation marking.

Standard markings: FORWARD, REVERSE, RAISE, LOWER, LEFT, RIGHT.

Other markings: to be stated on Order form.

Potentiometer adaptation

2 potentiometers maximum per movement.

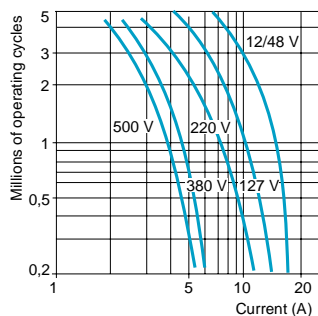
Potentiometers mounted at the extremity of the contact supports or directly onto the faces of the mechanical block.

Environment			
Conformity to standards		IEC 337-1, NF C 63-140, VDE 0660 part 2, CSA C 22-2 n° 14	
Product certifications		CSA 600 V max. (≈) “heavy duty”, USSR	
Protective treatment		Standard version “TC”	
Ambient air temperature	For storage	°C	- 40...+ 70 °C
	For operation	°C	- 10...+ 70 °C
Operating position		All positions	
Vibration resistance	Conforming to IEC 68-2-6	2 gn (10 to 500 Hz)	
Shock resistance	Conforming to IEC 68-2-27	Direction of shocks on vertical axis: 15 gn Direction of shocks on horizontal and transversal axes: 100 gn	
Electric shock protection	Conforming to IEC 536 and NF C 20-030	Class I	
Maximum operating lever force required in each direction		daN	< 4 for 4 simultaneously actuated contacts (to 1 st notch) < 4.5 for 4 simultaneously actuated contacts for spring return to zero version (maintained against end stop)
Degree of protection	Conforming to IEC 529	IP 54 (unit with simple handle mounted in dust and damp proof enclosure)	
Mechanical durability (in millions of operating cycles)		4 in each direction (mechanical control device)	
Weight		kg	XKM A: mechanical block: 4.6. 4-contact assembly: 0.7 XKM B: mechanical block: 3. 4-contact assembly: 0.7 XKM C: mechanical block: 3.7. 4-contact assembly: 0.7

Contact block characteristics			
Type		Block of 4 double-break contacts	
Conventional thermal current	A	20 conforming to IEC 337-1, NF C 63-140, VDE 0660	
Rated insulation voltage	V	≈ 500 conforming to NF C 20-040, VDE 0110, IEC 158-1; 600 V conforming to CSA C 22-2 n° 14	
Insulation category		Group C conforming to NF C 20-040 and VDE 0110	
Contact operation		Slow break, double-break contacts with positive opening operation 2 versions: standard or with magnetic blow-out	
Resistance across terminals	mΩ	≤ 25 (in accordance with NF C 93-050, at 1 A)	
Terminal referencing		Conforming to CENELEC EN 50013	
Short-circuit protection		20 A cartridge fuse type gG conforming to IEC 337-1B, VDE 0660 part 2	

Operational power
Conforming to IEC 337-1
Utilisation categories AC-11 and DC-11
Operating rate: 3600 operating cycles/hour
Load factor: 0.5

Standard double-break contact block
a.c. supply ~ 50-60 Hz
Inductive circuit



d.c. supply ---
Power broken in W for 3 million operating cycles

Voltage V	24	48	120
mm	70	75	75

Double-break contact block with magnetic blow-out.
d.c. supply ---
Power broken in W for 3 million operating cycles

Voltage V	24	48	120
mm	90	100	100

Connection	Captive screw clamp terminals Clamping capacity: □ minimum: 1.5 mm ² , □ maximum: 2 x 2.5 mm ² with cable end
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Controllers

For “heavy hoisting” applications, type **XKM**
Grid for composing the reference of a controller XKM A
or XKM B

Reference of a controller type XKM A or XKM B

	Model	Lever	Handle	Contacts	Movement AB			Movement CD (XKM A only)		
					No. of blocks	Lever movement	Potentiometer adaptation	No. of blocks	Lever movement	Potentiometer adaptation
XKM										
Model										
2 movement controller (AB + CD)	A									
1 movement controller (AB)	B									
Control lever										
Short: length 200 mm (standard)		1								
Long: length 250 mm		2								
Handle										
Simple (standard model)			1							
With zero (centre) position mechanical interlocking			2							
With zero (centre) position mechanical & electrical interlocking (1 C/O contact)			3							
“Dead man’s” type (1 C/O contact)			4							
With built-in flush pushbutton (1 C/O contact)			5							
With built-in projecting pushbutton (1 C/O contact)			6							
Type of contacts										
Block of 4 double-break contacts (standard model)				1						
Block of 4 double-break contacts with magnetic blow-out				2						
Movement AB										
Number of 4-contact blocks										
					0 blocks		0			
					1 block		1			
					2 blocks		2			
					3 blocks		3			
					4 blocks		4			
					5 blocks		5			
					6 blocks		6			
Type of lever movement										
Notched positions, with stayput operation	5 notches (1)	Normal lever force					1			
		Increased lever force					2			
	6 notches (2)	Normal lever force						3		
		Increased lever force						4		
Notched positions, with spring return to zero operation	5 notches (1)						5			
	6 notches (2)						6			
Unnotched positions, with spring return to zero operation (3)							7			
Potentiometer adaptation										
Without potentiometer support plate, or potentiometer							0			
With potentiometer support plate only (4) (potentiometer not included)							1			
With potentiometer support plate + potentiometer (5)							2			
Movement CD (for type XKM A only)										
Number of 4-contact blocks										
					0 blocks			0		
					1 block			1		
					2 blocks			2		
					3 blocks			3		
					4 blocks			4		
					5 blocks			5		
					6 blocks			6		
Type of lever movement										
Notched positions, with stayput operation	5 notches (1)	Normal lever force							1	
		Increased lever force						2		
	6 notches (2)	Normal lever force							3	
		Increased lever force							4	
Notched positions, with spring return to zero operation	5 notches (1)							5		
	6 notches (2)							6		
Unnotched positions, with spring return to zero operation (3)							7			
Potentiometer adaptation										
Without adaptation nor potentiometer										0
With adaptation only (without potentiometer)										1
With adaptation + potentiometer (5)										2

(1) 5 mechanical notches (1st notch at 12°) (6 electrical positions in each direction). (2) 6 mechanical notches (1st notch at 6°) (6 electrical positions in each direction). (3) Type of lever operation recommended when using a potentiometer. (4) Adaptation including 15 tooth pinion. (5) Potentiometer type and value to be stated on the Order form, see pages 6/104 and 6/105.

Controllers

For "heavy hoisting" applications, type XKM
Controllers XKM A and XKM B with variable
composition schemes, factory assembled

See example on page 6/91

Customer		Schneider Electric Industries			
Company	Customer's reference	Sales office - Subsid. - Plant	Editor	Geographical zone	Order N°

Reference (use the grid for composing the reference of a controller on page 6/88)

Number of identical units	Model	Lever	Handle	Type of contact	Movement AB			Movement CD (XKM A only)			
					No. of blocks	Lever movement	Potentiometer adaptation	No. of blocks	Lever movement	Potentiometer adaptation	
	XKM										

For Schneider Electric Industries use only

Order N°	Item N°	MOD	LEV	POI	GLV	CT1	CT3	MAB	P13	CT2	CT4	MCD	P24
		XKM											

Scheme: viewed from above

Lever gate

Sketch and crosshatch the lever's field of movement on the grid

Movement CD (XKM A only)

Adaptation Potentiometer

Drum n°2

Potentiometer adaptation

Cross the position on the scheme

On movement AB

Type/size: _____

Value: _____

On movement CD

Type/size: _____

Value: _____

Drum n°3

Item (2)

Movement AB Potentiometer

Adaptation

Drum n°1

Item (2)

Movement AB Potentiometer

Adaptation

Choice of cam carriers

(1) The 1st cam must either be a zero position cam or a reversing cam.

Zero position cam Or Reversing cam

(2) Reserved for contact identification in the automation system scheme. It is not possible to mark it on the controller.

Contact at lever base

Item (2)

Drum n°4

Item (2)

Movement CD (XKM A only)

Legend (1 for each direction)

Without legend

Blank legend XKM Y1

Legend with specific engraving (clearly state text on this scheme)

Left-hand operated unit

Right-hand operated unit

Legend with standard text (see page 6/99)

Left-hand operated unit

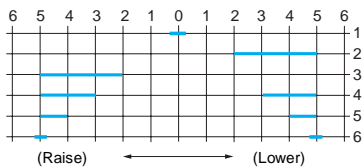
Right-hand operated unit

△ 2 simultaneous contacts maximum with spring return can be used at 6° and then 4 contacts at each subsequent 6° position.

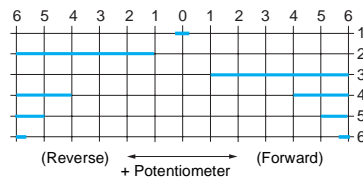
Requirement

A 2 movement controller: “hoist-long travel”.
Universal lever gate, limited to 4 notches on the “raise” and “lower” directions (1st notch at 12°).
Potentiometer adaptation on movement CD. Potentiometer selected: 4700 Ω, size 15, standard model.

Scheme for movement AB “hoist”



Scheme for movement CD “long travel”



Notes:

Movement AB

- Two installation alternatives depending on the required size:
- 2 blocks of 4 contacts, both on the same side of the mechanical block (example shown),
 - 1 block of 4 contacts on either side of the mechanical block.

Movement CD

- Same installation alternatives as for movement AB.
Two alternatives for potentiometer installation:
- On end of cam carriers and contact supports (example shown).
 - Directly on the mechanical block.

Composition of the reference (see page 6/88)

	XKM	A	1	4	1	2	5	0	2	7	2
Model 2 movements (AB + CD)	A										
Control lever Short: length 200 mm (standard)			1								
Handle “Dead man’s” type with 1 C/O contact				4							
Type of contacts Standard double-break					1						
Movement AB											
Number of 4-contact blocks 2 blocks (i.e. 8 contacts when 6 contacts required)						2					
Type of lever movement Notched positions, with spring return to zero operation and 5 notch sectors (starting from 12°)							5				
Potentiometer Without adaptation device or potentiometer								0			
Movement CD											
Number of 4-contact blocks 2 blocks (i.e. 8 contacts when 6 contacts required)									2		
Type of lever movement Unnotched positions, with spring return to zero operation										7	
Potentiometer With potentiometer adaptation device + size 15, 4700 Ω potentiometer											2

Controllers

For "heavy hoisting" applications, type **XKM A**
Ordering form completion example

Customer		Schneider Electric Industries			
Company	Customer's reference	Sales office - Subsid. - Plant	Editor	Geographical zone	Order N°

Reference (use the grid for composing the reference of a controller on page 6/88)

Model	Lever	Handle	Type of contact	Movement AB			Movement CD		
				No. of blocks	Lever movement	Potentiometer adaptation	No. of blocks	Lever movement	Potentiometer adaptation

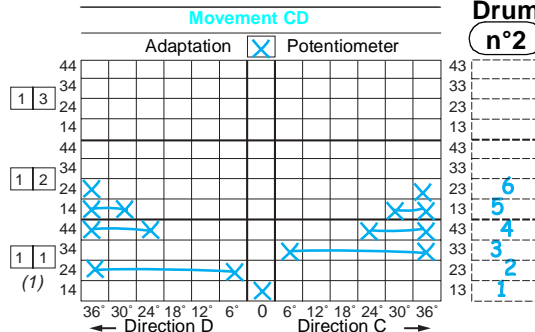
Number of identical units **1** XKM **A** **1** **4** **1** **2** **5** **0** **2** **7** **2**

For Schneider Electric Industries use only

Order N°	Item N°	MOD	LEV	POI	GLV	CT1	CT3	MAB	P13	CT2	CT4	MCD	P24
		XKM											

Scheme: viewed from above

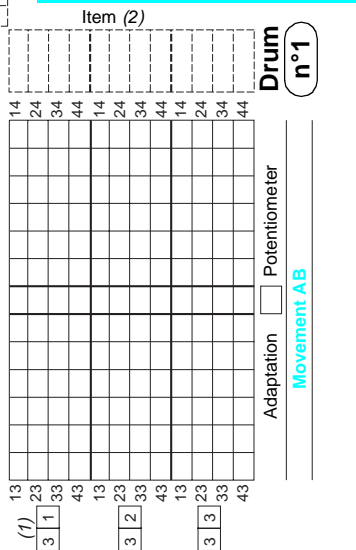
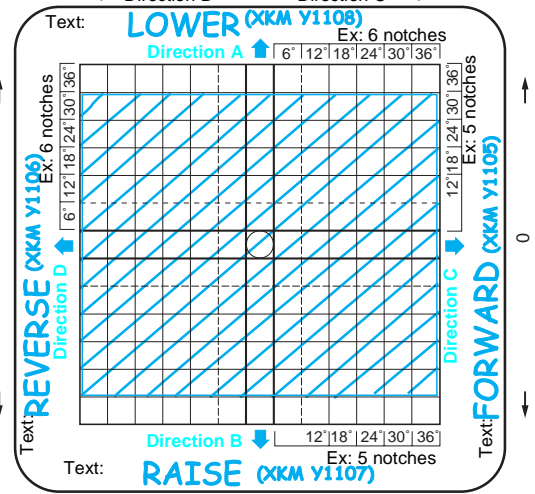
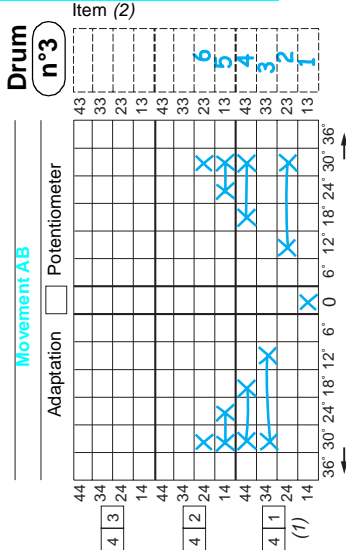
Lever gate
Sketch and crosshatch the lever's field of movement on the grid



Potentiometer adaptation
Cross the position on the scheme

On movement AB
Type/size: _____
Value: _____

On movement CD
Type/size: _____
Value: **4700 Ω**

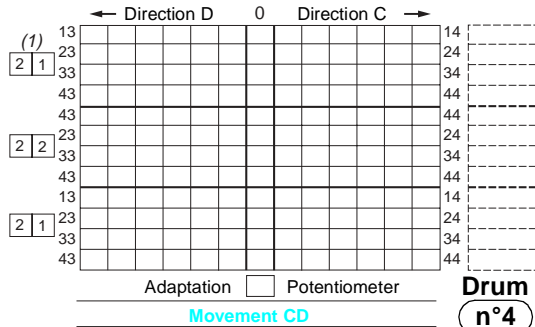


Choice of cam carriers

(1) The 1st cam must either be a zero position cam or a reversing cam.

(2) Reserved for contact identification in the automation system scheme. It is not possible to mark it on the controller.

Contact at lever base
 b/man's
Item (2)



Legend (1 for each direction)

Without legend

Blank legend XKM Y1

Legend with specific engraving (clearly state text on this scheme)
Left-hand operated unit

Right-hand operated unit

Legend with standard text (see page 6/99)
Left-hand operated unit

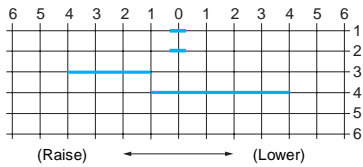
Right-hand operated unit

△ 2 simultaneous contacts maximum with spring return can be used at 6° and then 4 contacts at each subsequent 6° position.

Requirement

A single movement controller: “hoist”.

Scheme for movement AB “hoist”



Note:

Movement AB

Two installation alternatives depending on the required size (space in the enclosure or non symmetrical installation):

- 1 to 3 blocks of 4 contacts on each side of the mechanical block,
- 1 to 3 blocks on one side only.

Composition of the reference (see page 6/88)

	XKM	B	1	1	1	1	6	0			
Model 1 movement controller (AB)		B									
Control lever Short: length 200 mm (standard)			1								
Handle Simple (standard model)				1							
Type of contacts Block of 4 double-break contacts (standard model)					1						
Movement AB											
Number of 4-contact blocks 1 block (i.e. 4 contacts)						1					
Type of lever movement 6 notched positions, with spring return to zero operation							6				
Potentiometer Without potentiometer support plate, or potentiometer								0			

6

Controllers

For "heavy hoisting" applications, type **XKM B**
Ordering form completion example

Customer		Schneider Electric Industries			
Company	Customer's reference	Sales office - Subsid. - Plant	Editor	Geographical zone	Order N°

Reference (use the grid for composing the reference of a controller on page 6/88)

Model	Lever	Handle	Type of contact	Movement AB			Movement CD		
				No. of blocks	Lever movement	Potentiometer adaptation	No. of blocks	Lever movement	Potentiometer adaptation

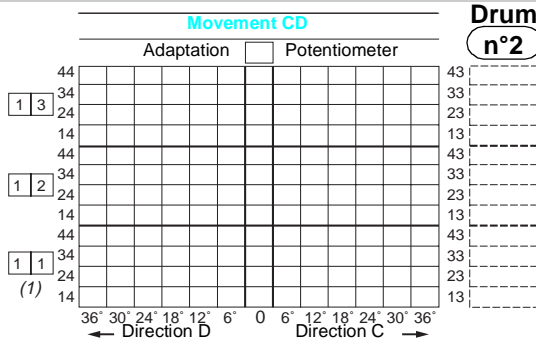
Number of identical units: **XKM**

For Schneider Electric Industries use only

Order N°	Item N°	MOD	LEV	POI	GLV	CT1	CT3	MAB	P13	CT2	CT4	MCD	P24
		XKM	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Scheme: viewed from above

Lever gate
Sketch and crosshatch the lever's field of movement on the grid

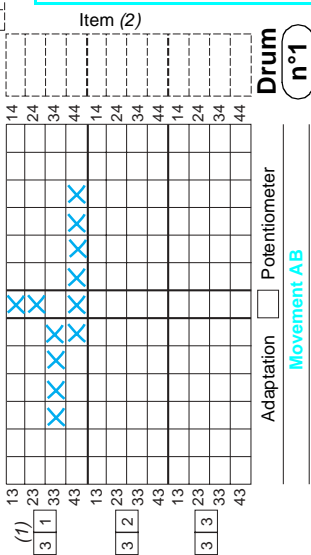
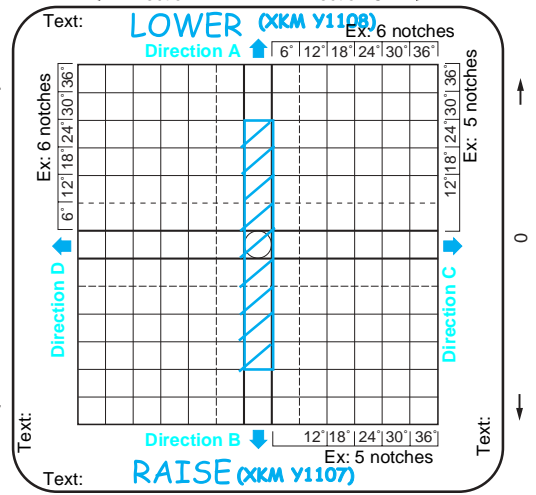
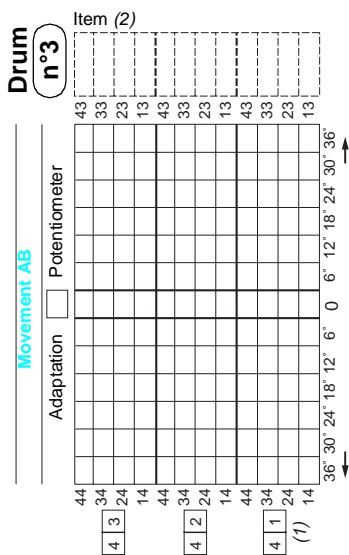


Drum n°2

Potentiometer adaptation
Cross the position on the scheme

On movement AB
Type/size: _____
Value: _____

On movement CD
Type/size: _____
Value: **4700 Ω**



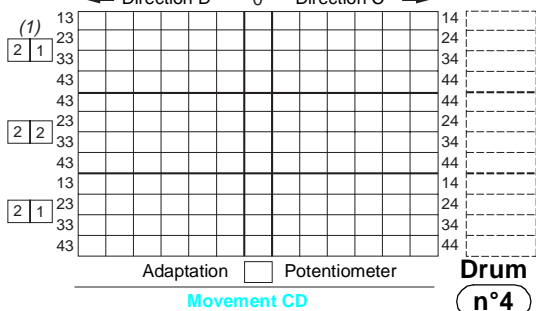
Choice of cam carriers

(1) The 1st cam must either be a zero position cam or a reversing cam.

(2) Reserved for contact identification in the automation system scheme. It is not possible to mark it on the controller.

Contact at lever base

Item (2)



Legend (1 for each direction)

Without legend

Blank legend **XKM Y1**

Legend with specific engraving (clearly state text on this scheme)

Left-hand operated unit

Right-hand operated unit

Legend with standard text (see page 6/99)

Left-hand operated unit

Right-hand operated unit

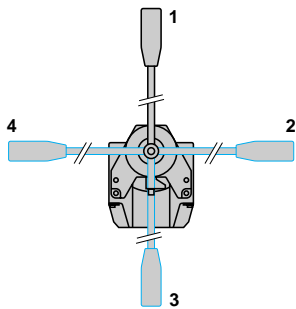
△ 2 simultaneous contacts maximum with spring return can be used at 6° and then 4 contacts at each subsequent 6° position.

Reference of controller type XKM C

	Movement AB				
	Lever	Contacts	No. of blocks	Lever movement	Potentiometer adaptation
XKM C	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Control lever

Side lever, position according to diagram below



Position 1	1
Position 2	2
Position 3	3
Position 4	4

Type of contacts

Block of 4 double-break contacts (standard model)	1
Block of 4 double-break contacts with magnetic blow-out	2

Movement AB

Number of 4-contact blocks

1 block	1
2 blocks	2
3 blocks	3

Type of lever movement

Notched positions, with stayput operation	5 notches (1)	Normal lever force	1
		Increased lever force	2
	6 notches (2)	Normal lever force	3
		Increased lever force	4
	8 notches (1)		5
	9 notches (2)		6
Notched positions, with spring return to zero operation	5 notches (1)		7
	6 notches (2)		8
Unnotched positions, with spring return to zero operation (3)			9

Potentiometer adaptation

Without adaptation nor potentiometer	0
With adaptation (4) only (without potentiometer)	1
With adaptation (4) + potentiometer (5)	2

(1) 1st mechanical notch at 12°.

(2) 1st mechanical notch at 6°.

(3) Type of lever operation recommended when using a potentiometer.

(4) Adaptation including 15 tooth pinion.

(5) Potentiometer type and value to be stated on the Order form, see page 6/104.

Controllers

For "heavy hoisting" applications, type **XKM C**
Controllers with variable composition schemes,
factory assembled

See example on page 6/96

Customer		Schneider Electric Industries			
Company	Customer's reference	Sales office - Subsid. - Plant	Editor	Geographical zone	Order N°

Reference (use the grid for composing the reference of a controller on page 6/94)

Number of identical units	Model	Lever	Contacts	Movement AB		
				Number of blocks	Lever movement	Potentiometer adaptation
	XKM C					

For Schneider Electric Industries use only

Order N°	Item N°	MOD	LEV	POI	GLV	CTS	MAN	POT
		XKM						

Potentiometer adaptation

Cross the required position on the scheme below.

On movement AB

Type/size:

Value:

Legend

Without legend

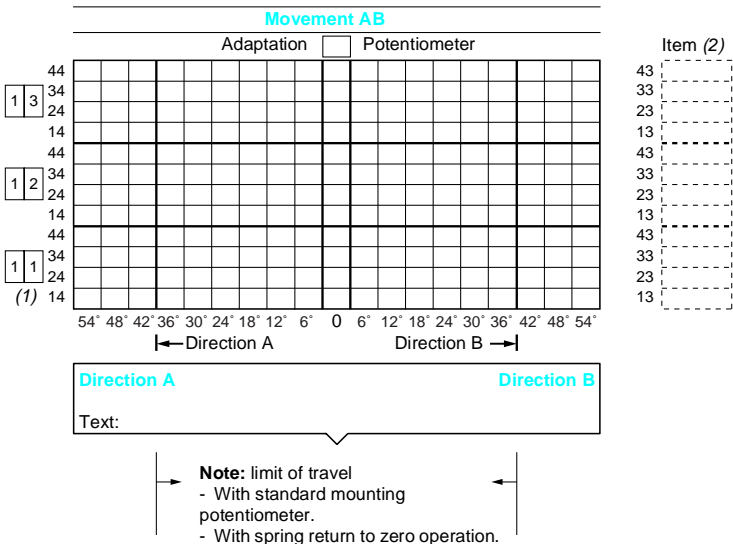
Blank legend **XKM CY1**

Legend with specific engraving, **XKM CY1001**
(clearly state the text on the scheme below)

Left-hand operated unit

Right-hand operated unit

Scheme (viewed from above)



⚠ 2 simultaneous contacts maximum with spring return can be used at 6° and then 4 contacts at each subsequent 6° position.

(1) The 1st cam must either be a zero position cam or a reversing cam.

(2) Reserved for contact identification in the automation system scheme. It is not possible to mark it on the controller.

Requirement

A 1 movement (AB), 2 direction controller, fitted with a vertical (upward pointing) lever.

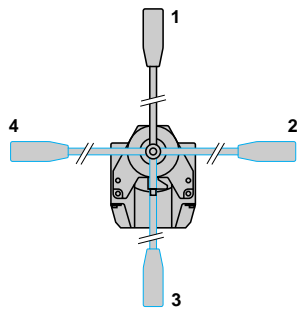
Movement AB:

Installation of 2 blocks of 4 standard double-break contacts.

Lever movement with 6 notches at 6° intervals (1st mechanical notch at 6°), with notched cams and stayput angular positions.
No potentiometer.

Composition of the reference (see page 6/94)

		Lever	Contacts	Movement AB		
		No. of blocks	Lever movement	Potentiometer adaptation		
XKM C		1	1	2	3	0
Control lever						
Side lever, position according to diagram below		Position 1	1			
		Position 2	2			
		Position 3	3			
		Position 4	4			
Type of contacts						
Block of 4 double-break contacts (standard model)			1			
Block of 4 double-break contacts with magnetic blow-out			2			
Movement AB						
Number of 4-contact blocks						
1 block				1		
2 blocks				2		
3 blocks				3		
Type of lever movement						
Notched positions, with stayput operation	5 notches (1)	Normal lever force		1		
		Increased lever force		2		
	6 notches (2)	Normal lever force		3		
		Increased lever force		4		
8 notches (1)			5			
	9 notches (2)			6		
Notched positions, with spring return to zero operation	5 notches (1)			7		
	6 notches (2)			8		
Unnotched positions, with spring return to zero operation (3)				9		
Potentiometer adaptation						
Without adaptation nor potentiometer						0
With adaptation (4) only (without potentiometer)						1
With adaptation (4) + potentiometer (5)						2



6

(1) 1st mechanical notch at 12°.
 (2) 1st mechanical notch at 6°.
 (3) Type of lever operation recommended when using a potentiometer.
 (4) Adaptation including 15 tooth pinion.
 (5) Potentiometer type and value to be stated on the Order form, see page 6/104.

Controllers

For "heavy hoisting" applications, type **XKM C**
Ordering form completion example

Customer		Schneider Electric Industries			
Company	Customer's reference	Sales office - Subsid. - Plant	Editor	Geographical zone	Order N°

Reference (use the grid for composing the reference of a controller on page 6/94)

Number of identical units	Model	Lever	Contacts	Movement AB		
				Number of blocks	Lever movement	Potentiometer adaptation
<input type="text" value=""/>	XKM <input type="text" value="C"/>	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="2"/>	<input type="text" value="3"/>	<input type="text" value="0"/>

For Schneider Electric Industries use only

Order N°	Item N°	MOD	LEV	POI	GLV	CTS	MAN	POT
		XKM <input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>

Potentiometer adaptation

Cross the required position on the scheme below.

Legend

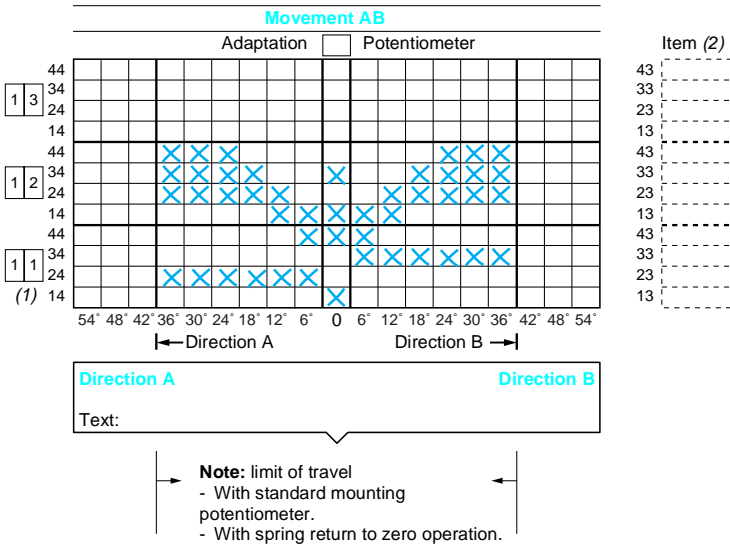
- Without legend
- Blank legend **XKM CY1**
- Legend with specific engraving, **XKM Y1001** (clearly state the text on the scheme below)
- Left-hand operated unit
- Right-hand operated unit

On movement AB

Type/size:

Value:

Scheme (viewed from above)



△ 2 simultaneous contacts maximum with spring return can be used at 6° and then 4 contacts at each subsequent 6° position.

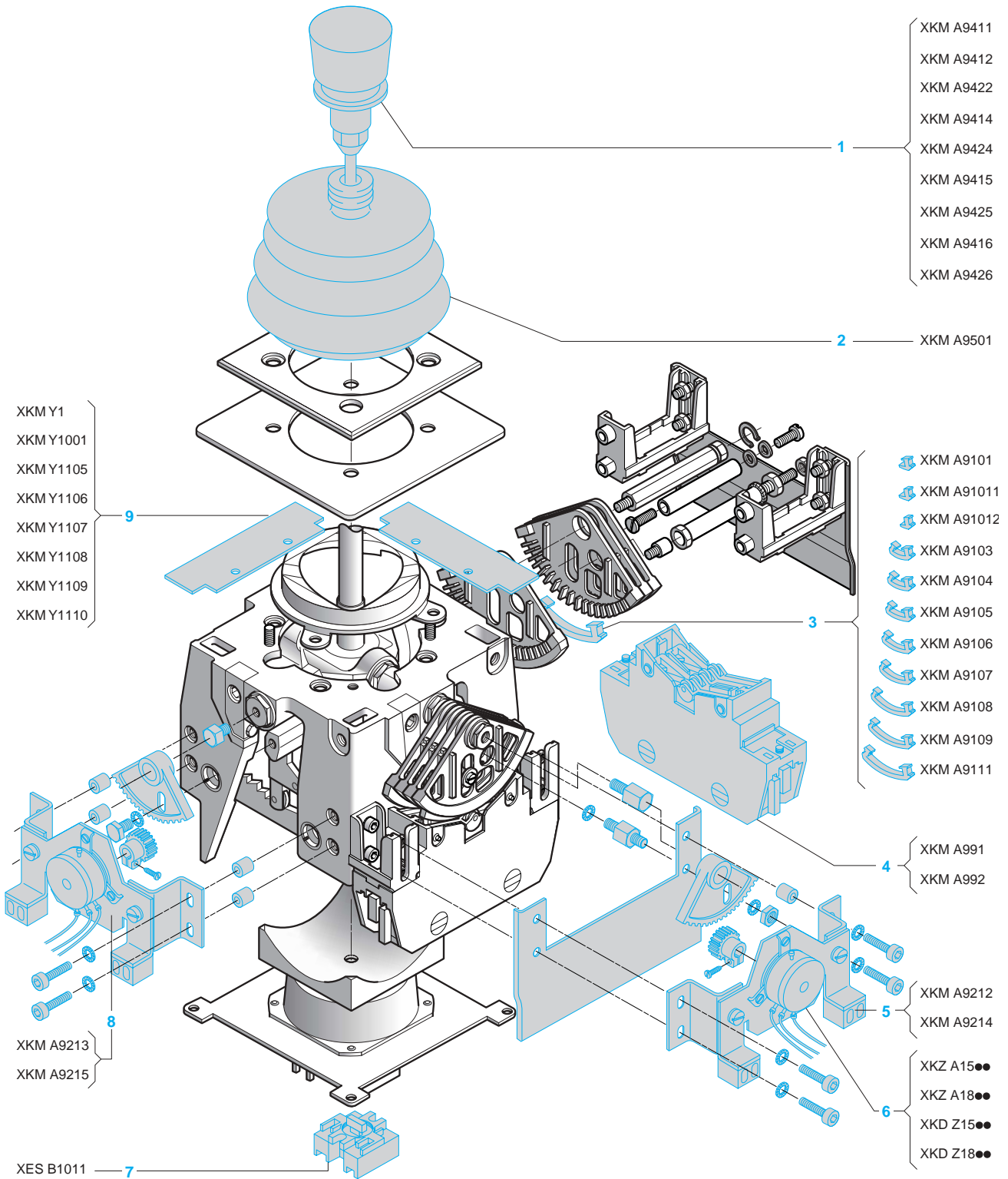
(1) The 1st cam must either be a zero position cam or a reversing cam.

(2) Reserved for contact identification in the automation system scheme. It is not possible to mark it on the controller.

Controllers

For "heavy hoisting" applications, type **XKM**
Separate components

6



Controllers

For “heavy hoisting” applications, type **XKM**
Separate components



XKM A9411



XKM A9411



XKM A9414



XKM A9424



XKM A9412



XKM A9422



XKM A9415



XKM A9425



XKM A9416



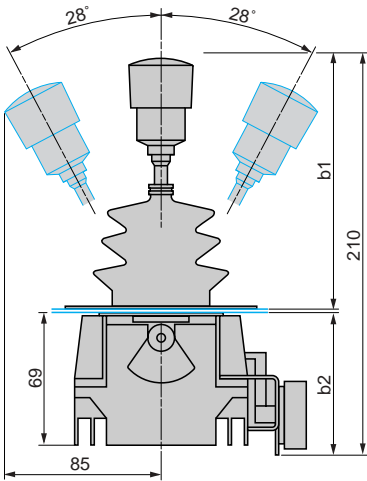
XKM A9426

Description	Item	Characteristics	Unit reference	Weight kg	
Bellows	2	–	XKM A9501	0.120	
Simple handle	1	–	For short or long lever XKM A9411	0.085	
Handles + rods	1	With zero (centre) position interlocking	For short lever XKM A9414	0.145	
			For long lever XKM A9424	0.155	
	“Dead man’s” type	For short lever XKM A9412	0.150		
		For long lever XKM A9422	0.160		
	With built-in flush pushbutton	For short lever XKM A9415	0.140		
		For long lever XKM A9425	0.150		
With built-in projecting pushbutton	For short lever XKM A9416	0.140			
	For long lever XKM A9426	0.150			
Variable composition cams <i>Sold in lots of 50</i>	3	Pass cam	XKM A9101	0.115	
		Complementary	XKM A91011	0.120	
		Overlapping	XKM A91012	0.105	
		3 positions	XKM A9103	0.205	
		4 positions	XKM A9104	0.245	
		5 positions	XKM A9105	0.370	
		6 positions	XKM A9106	0.400	
		7 positions	XKM A9107	0.430	
		8 positions	XKM A9108	0.460	
		9 positions	XKM A9109	0.505	
		11 positions	XKM A9111	0.560	
Blocks of 4 contacts	4	Double-break	XKM A991	0.310	
		Double-break with magnetic blow-out	XKM A992	0.335	
Contact at lever base	7	1 C/O snap action	XES B1011	0.030	
Legends	9	Blank	XKM Y1	0.010	
		With specific engraving (specify text when ordering)	XKM Y1001	0.010	
		With standard text	Forward	XKM Y1105	0.010
			Reverse	XKM Y1106	0.010
		Raise	XKM Y1107	0.010	
		Lower	XKM Y1108	0.010	
		Left	XKM Y1109	0.010	
Right	XKM Y1110	0.010			
Potentiometer adaptation kits (1)	5	On end of contact supports	Size 15 XKM A9214	0.120	
			Size 18 XKM A9212	0.130	
	8	Directly on mechanical block	Size 15 XKM A9215	0.120	
			Size 18 XKM A9213	0.130	
Potentiometers for controllers XKM A, XKM B, XKM C	6	–	XKZ A15●●, A18●● XKD Z15●●, Z18●● See pages 6/104 and 6/105	–	

(1) Including 15 tooth pinion.

- The maximum lever travel of 36° per direction corresponds to a potentiometer shaft rotation of 168°.
- Levers with friction drive facility are available under certain conditions. Please consult your Regional Sales Office.

XKB A, XKB E

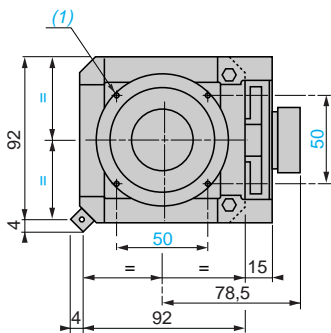


		b1	b2
XKB A,	with size 15 (3 W) potentiometer	129...134	75
XKB E	with size 18 (4 W) potentiometer	129...134	80

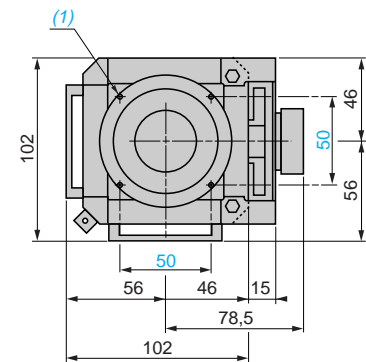
(1) Fixing by 4 M5 screws.

Note: the size 18 potentiometer adaptation on an XKB controller prevents it from being mounted in an XJP controller station.

4-contact block

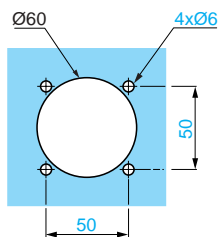


4-contact block + 1 zero position contact



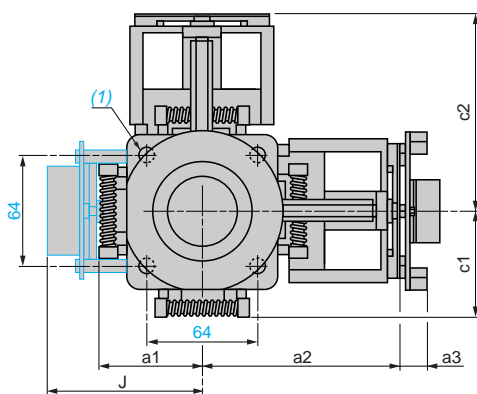
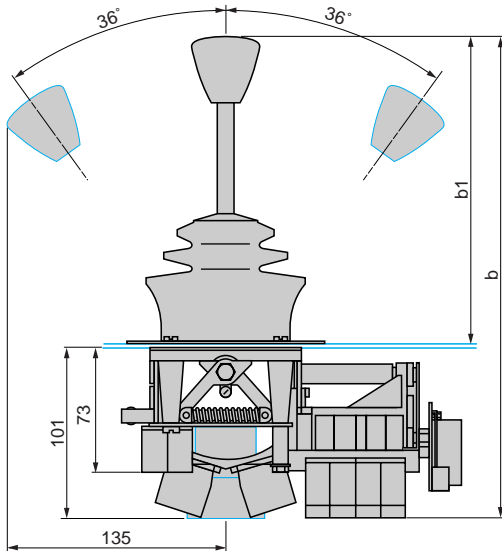
Panel cut-out

thickness 1 to 6 mm



6

XKD F



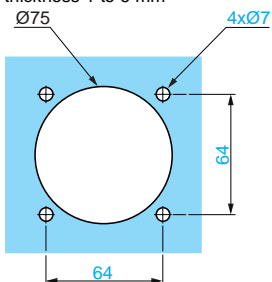
	b	b1
XKD F with short lever	288	181...186
XKD F with long lever	338	236...241

	a1	a2	c1	c2
XKD F with 2 contacts	52	-	52	-
XKD F with 2 contacts + spring return to zero	65	-	65	-
XKD F with 4 contacts	-	90	-	90
XKD F with 8 contacts	-	120	-	120

	J	a3
Adaptation for potentiometer size 15 (3 W)	83.5	24.5
Adaptation for potentiometer size 18 (4 W)	85.5	26.5

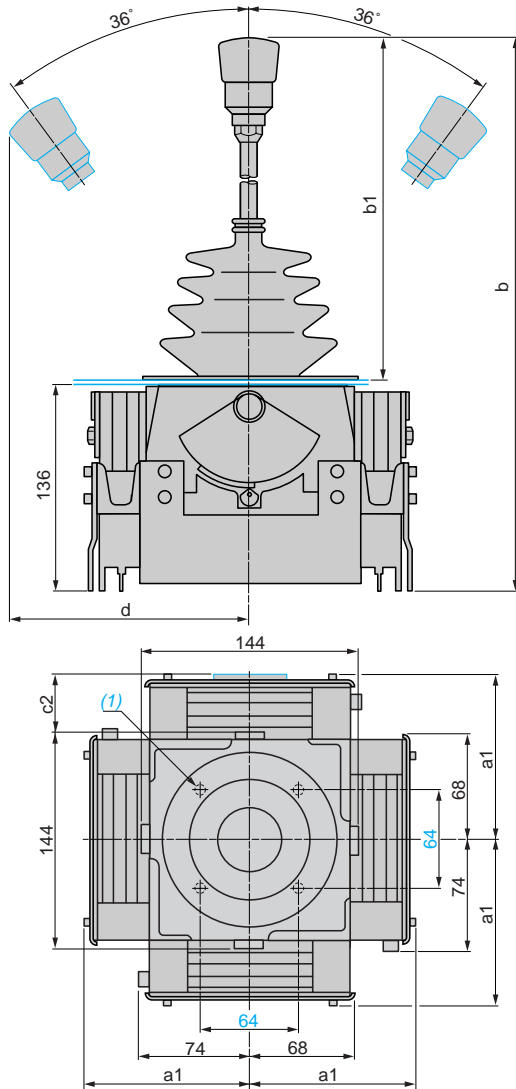
Panel cut-out

thickness 1 to 6 mm

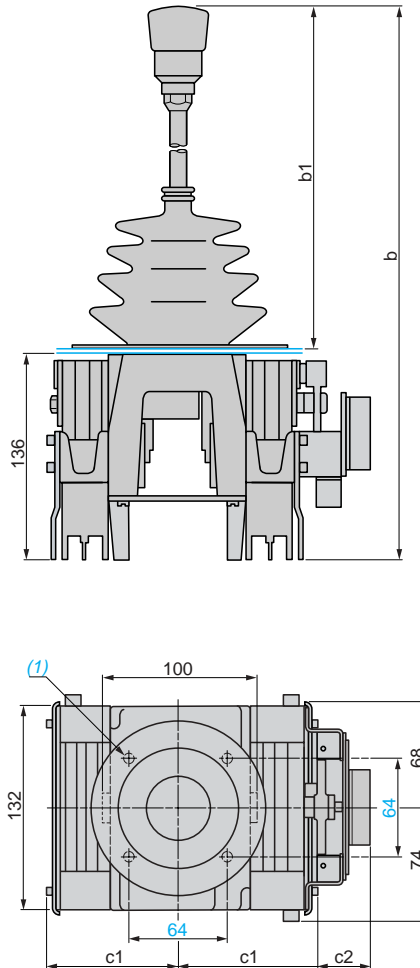


(1) Fixing by 4 M6 screws.

XKM A



XKM B



6

		b	b1	d
XKM A, XKM B	with short lever	322	180 to 185	125
	with long lever	392	230 to 235	125

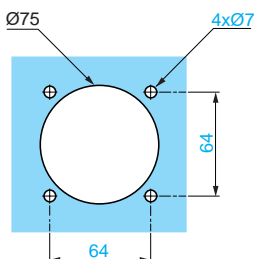
		c2
Adaptation for potentiometer	size 15 (3 W)	37.5
	size 18 (4 W)	44.5

		a1	c1
XKM A, XKM B	with 4 contacts	110	88
	with 8 contacts	140	118
	with 12 contacts	170	148

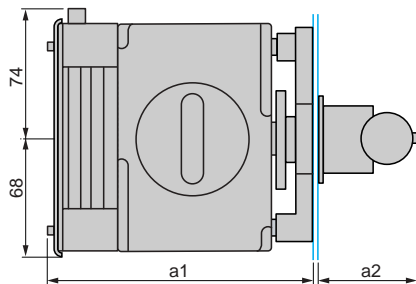
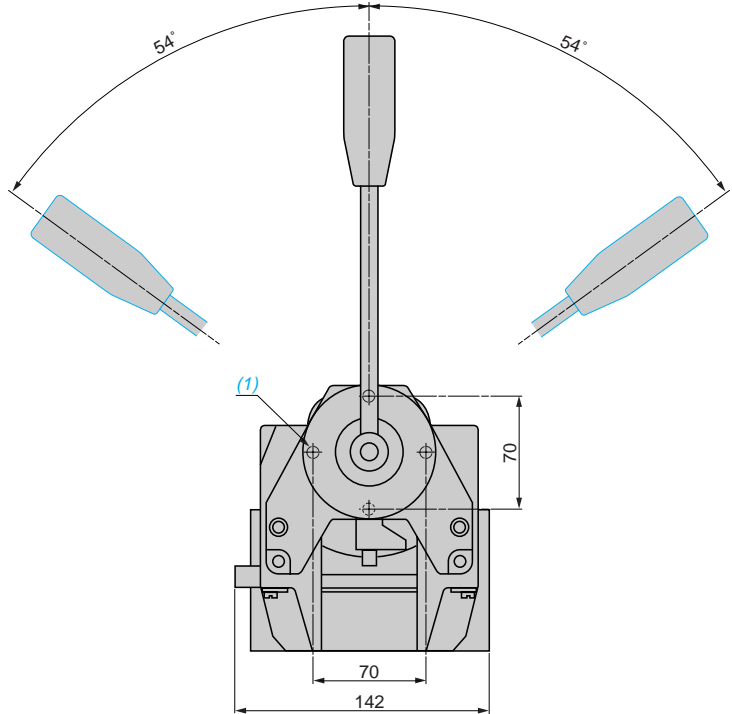
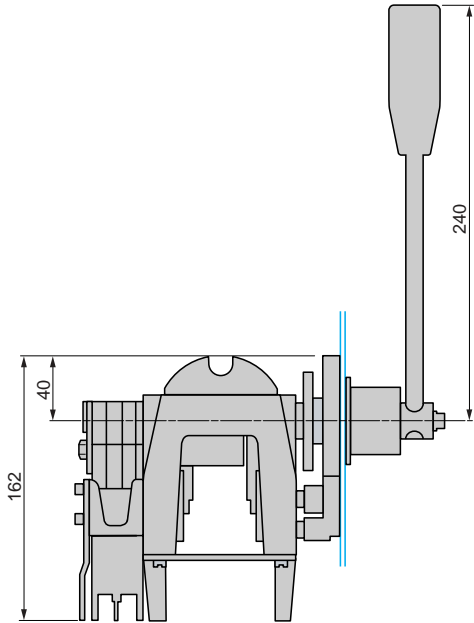
(1) Fixing by 4 M6 screws.

Panel cut-out

thickness 1 to 6 mm



XKM C

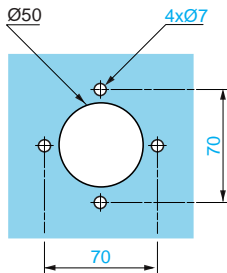


	a1	a2
XKM C with 4 contacts	157	36 to 41
with 8 contacts	187	36 to 41
with 12 contacts	217	36 to 41

(1) Fixing by 4 M6 screws.

Panel cut-out

thickness 1 to 6 mm



Controllers

Potentiometers for controllers
For standard applications, type **XKZ A**

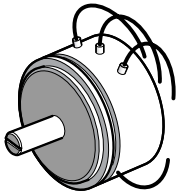
Mechanical characteristics

Potentiometer type	XKZ A15 ●●●	XKZ A18 ●●●
Size	15	18
Conformity to standards	UTE 93265	
Mounting method	By the body ("synchro" type)	
Rotational operation	Continuous	
Function	Linear (1% resolution)	
Operating angle	360°	
Mechanical durability (in millions of operating cycles)	3	1

Electrical characteristics

Centre tap	Wired out to terminal	
Dead zone around centre tap point (neutral zone)	2° ± 1°	
Nominal power (Pn)	3 W at 85 °C	4 W at 85 °C
Connections	Flying leads from soldered standard tags	

References



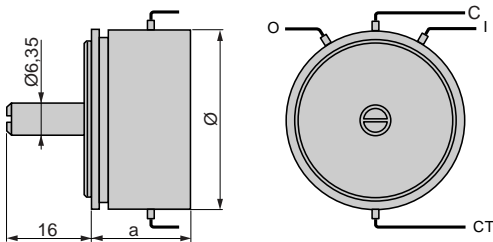
XKZ A●●●●

Resistance value Ω	Availability	Size	Reference	Weight kg
4700 (2 x 2350)	Stock item	15	XKZ A15047	0.060
	Short delivery	18	XKZ A18047	0.060
1000 (2 x 500)	Short delivery	15	XKZ A15010	0.060
	On demand	18	XKZ A18010	0.060
2200 (2 x 1100)	Short delivery	15	XKZ A15022	0.060
	On demand	18	XKZ A18022	0.060
10,000 (2 x 5000)	Stock item	15	XKZ A15100	0.060
	On demand	18	XKZ A18100	0.060
Other values	On demand	15	XKZ A15000 (1)	0.060
	On demand	18	XKZ A18000 (1)	0.060

(1) When ordering an XKZ A15000 or XKZ A18000, the total resistance value must be stated.
The other characteristics are the same.

6

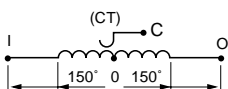
Dimensions



The pinion included with the adaptation simply clamps onto the potentiometer operating shaft (diameter 6.35 mm, length 16 mm).

	a	∅
XKZ A15 ●●●	20	36.5
XKZ A18 ●●●	27	44.45

Connection



I = yellow
O = green
C = red
CT = black

Controllers

Potentiometers for controllers

For applications requiring an extended
“neutral zone”, types **XKB Z** and **XKD Z**

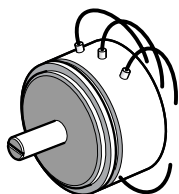
Mechanical characteristics

Potentiometer type	XKB Z15●●, XKD Z15●●	XKB Z18●●, XKD Z18●●
Size	15	18
Conformity to standards	UTE 93265	
Mounting method	By the body (“synchro” type)	
Rotational operation	Continuous	
Function	Linear (1% resolution)	
Operating angle	360°	
Mechanical durability (in millions of operating cycles)	3	1

Electrical characteristics

Centre tap	Wired out to terminal	
Dead zone around centre tap point (neutral zone)	40°, mainly for use with controllers XKB 30°, mainly for use with controllers XKD and XKM	
Nominal power (Pn)	3 W at 85 °C	4 W at 85 °C
Connections	Flying leads from soldered standard tags	

References



XKB Z1●●●, XKD Z1●●●

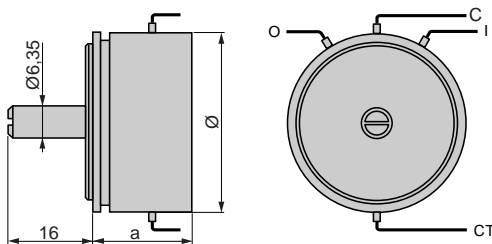
Potentiometers for controllers XKB

Resistance value Ω	Availability	Size	Reference	Weight kg
4700 (2 x 2350)	On demand	15	XKB Z1547	0.055
	On demand	18	XKB Z1847	0.065
800 (2 x 400)	On demand	15	XKB Z1508	0.055
	On demand	18	XKB Z1808	0.065

Potentiometers for controllers XKD and XKM

4700 (2 x 2350)	Stock item	15	XKD Z1547	0.055
	On demand	18	XKD Z1847	0.065
800 (2 x 400)	On demand	15	XKD Z1508	0.055
	On demand	18	XKD Z1808	0.065

Dimensions

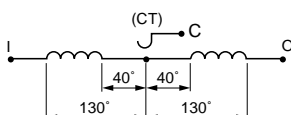


The pinion included with the adaptation simply clamps onto the potentiometer operating shaft (diameter 6.35 mm, length 16 mm).

	a	∅
XKB Z15●●, XKD Z15●●	20	36.5
XKB Z18●●, XKD Z18●●	27	44.45

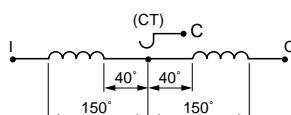
Connection

XKB Z15●●, XKB Z18●●



I = yellow
O = green
C = red
CT = black

XKD Z15●●, XKD Z18●●



I = yellow
O = green
C = red
CT = black

Technical information

- Protective treatment according to climatic environment page 7/2
- Product standards and approvals page 7/4
- Degrees of protection provided by enclosures page 7/6
-

Index

- Product reference index page 7/14

Technical information

Protective treatment of equipment according to climatic environment

Depending on the climatic and environmental conditions in which the equipment is placed, Schneider Electric can offer specially adapted products to meet your requirements.

In order to make the correct choice of protective finish, two points should be remembered:

- the prevailing climate of the country is never the only criterion,
- only the atmosphere in the immediate vicinity of the equipment need be considered.

All climates treatment "TC"

This is the standard treatment for Telemecanique brand equipment and is suitable for the vast majority of applications. It is the equivalent of treatments described as "Klimafest", "Climateproof".

In particular, it meets the requirements specified in the following publications:

- Publication UTE C 63-100 (method I), successive cycles of humid heat at: + 40 °C and 95 % relative humidity.
- DIN 50016 - Variations of ambient conditions within a climatic chamber: + 23 °C and 83 % relative humidity, + 40 °C and 92 % relative humidity.

It also meets the requirements of the following marine classification societies: BV-LR-GL-DNV-RINA.

Characteristics

- Steel components are usually treated with zinc chromate. When they have a mechanical function, they may also be painted.
- Insulating materials are selected for their high electrical, dielectric and mechanical characteristics.
- Metal enclosures have a stoved paint finish, applied over a primary phosphate protective coat, or are galvanised (e.g. some prefabricated busbar trunking components).

Limits for use of "TC" (All climates) treatment

- "TC" treatment is suitable for the following temperatures and humidity:

Temperature (°C)	Relative humidity (%)
20	95
40	80
50	50

"TC" treatment is therefore suitable for all latitudes and in particular tropical and equatorial regions where the equipment is mounted in normally ventilated industrial premises. Being sheltered from external climatic conditions, temperature variations are small, the risk of condensation is minimised and the risk of dripping water is virtually non-existent.

Extension of use of "TC" (All climates) treatment

In cases where the humidity around the equipment exceeds the conditions described above, or in equatorial regions if the equipment is mounted outdoors, or if it is placed in a very humid location (laundries, sugar refineries, steam rooms, etc.), "TC" treatment can still be used if the following precautions are taken:

- The enclosure in which the equipment is mounted must be protected with a "TH" finish (see next page) and must be well ventilated to avoid condensation and dripping water (e.g. enclosure base plate mounted on spacers).
- Components mounted inside the enclosure must have a "TC" finish.
- If the equipment is to be switched off for long periods, a heater must be provided (0.2 to 0.5 kW per square decimetre of enclosure), that switches on automatically when the equipment is turned off. This heater keeps the inside of the enclosure at a temperature slightly higher than the outside surrounding temperature, thereby avoiding any risk of condensation and dripping water (the heat produced by the equipment itself during normal running is sufficient to provide this temperature difference).
- Special considerations for "Operator dialog" and "Detection" products: for certain pilot devices, the use of "TC" treatment can be extended to outdoor use provided their enclosure is made of light alloys, zinc alloys or plastic material. In this case, it is also essential to ensure that the degree of protection against penetration of liquids and solid objects is suitable for the applications involved.

Technical information

Protective treatment of equipment according to climatic environment

“TH” treatment for hot and humid environments

This treatment is suitable for hot and humid atmospheres where installations are regularly subject to condensation, dripping water and the risk of fungi.

In addition, plastic insulating components are resistant to attacks from insects such as termites and cockroaches. These properties have often led to this treatment being described as “Tropical Finish”, but this does not mean that all equipment installed in tropical and equatorial regions must systematically have undergone “TH” treatment. On the other hand, certain operating conditions in temperate climates may well require the use of “TH” treated equipment (see limitations for use of “TC” treatment).

Special characteristics of “TH” treatment

- All insulating components are made of materials which are either resistant to fungi or treated with a fungicide, and which have increased resistance to creepage (Standards IEC 60112, NF C 26-220, DIN 5348).
- Metal enclosures receive a top-coat of stoved, fungicidal paint, applied over a rust inhibiting undercoat. Components with “TH” treatment may be subject to a surcharge (1). Please consult your Regional Sales Office.

Protective treatment selection guide

Surrounding environment	Duty cycle	Internal heating of enclosure when not in use	Type of climate	Protective treatment	
				of equipment	of enclosure
Indoors					
No dripping water or condensation	Unimportant	Not necessary	Unimportant	“TC”	“TC”
Presence of dripping water or condensation	Frequent switching off for periods of more than 1 day	No	Temperate	“TC”	“TH”
		Yes	Equatorial	“TH”	“TH”
	Continuous	Not necessary	Unimportant	“TC”	“TH”
Outdoors (sheltered)					
No dripping water or dew	Unimportant	Not necessary	Temperate	“TC”	“TC”
			Equatorial	“TH”	“TH”
Exposed outdoors or near the sea					
Frequent and regular presence of dripping water or dew	Frequent switching off for periods of more than 1 day	No	Temperate	“TC”	“TH”
		Yes	Equatorial	“TH”	“TH”
	Continuous	Not necessary	Unimportant	“TC”	“TH”

These treatments cover, in particular, the applications defined by methods I and II of guide UTE C 63-100.

Special precautions for electronic equipment

Electronic products always meet the requirements of “TC” treatment. A number of them are “TH” treated as standard.

Some electronic products (for example: programmable controllers, flush mountable controllers CCX and flush mountable operator terminals XBT) require the use of an enclosure providing a degree of protection to at least IP 54, as defined by standards IEC 60664 and NF C 20 040, for use in industrial applications or in environmental conditions requiring “TH” treatment.

These electronic products, including flush mountable products, must have a degree of protection to at least IP 20 (provided either by their own enclosure or by their installation method) for restricted access locations where the degree of pollution does not exceed 2 (a test booth not containing machinery or other dust producing activities, for example).

Special treatments

For particularly harsh industrial environments, Schneider Electric is able to offer special protective treatments. Please consult your Regional Sales Office.

(1) A large number of the Telemecanique brand products are “TH” treated as standard and are, therefore, not subject to a surcharge.

Technical information

Product standards and certifications

Standardisation

Conformity to standards

Telemecanique brand products satisfy, in the majority of cases, national (for example: BS in Great Britain, NF in France, DIN in Germany), European (for example: CENELEC) or international (IEC) standards. These product standards precisely define the performance of the designated products (such as IEC 60947 for low voltage equipment).

When used correctly, as designated by the manufacturer and in accordance with regulations and correct practices, these products will allow users to build equipment, machine systems or installations that conform to their appropriate standards (for example: IEC 60204-1, relating to electrical equipment used on industrial machines).

Schneider Electric is able to provide proof of conformity of its production to the standards it has chosen to comply with, through its quality assurance system.

On request, and depending on the situation, Schneider Electric can provide the following:

- a declaration of conformity,
- a certificate of conformity (ASEFA/LOVAG),
- a homologation certificate or approval, in the countries where this procedure is required or for particular specifications, such as those existing in the merchant navy.

Code	Certification authority Name	Abbreviation	Country
ANSI	American National Standards Institute	ANSI	USA
BS	British Standards Institution	BSI	Great Britain
CEI	Comitato Elettrotecnico Italiano	CEI	Italy
DIN/VDE	Verband Deutscher Electrotechniker	VDE	Germany
EN	Comité Européen de Normalisation Electrotechnique	CENELEC	Europe
GOST	Gosudarstvenne Komitet Standartov	GOST	Russia
IEC	International Electrotechnical Commission	IEC	Worldwide
JIS	Japanese Industrial Standard	JISC	Japan
NBN	Institut Belge de Normalisation	IBN	Belgium
NEN	Nederlands Normalisatie Instituut	NNI	Netherlands
NF	Union Technique de l'Electricité	UTE	France
SAA	Standards Association of Australia	SAA	Australia
UNE	Asociacion Española de Normalizacion y Certificacion	AENOR	Spain

European EN standards

These are technical specifications established in conjunction with, and with approval of, the relative bodies within the various CENELEC member countries (European Union, European Free Trade Association and many central and eastern European countries having «member» or «affiliated» status). Prepared in accordance with the principle of consensus, the European standards are the result of a weighted majority vote. Such adopted standards are then integrated into the national collection of standards, and contradictory national standards are withdrawn. European standards incorporated within the French collection of standards carry the prefix NF EN. At the 'Union Technique de l'Electricité' (*Technical Union of Electricity*) (UTE), the French version of a corresponding European standard carries a dual number: European reference (NF EN ...) and classification index (C ...).

Therefore, the standard NF EN 60947-4-1 relating to motor contactors and starters, effectively constitutes the French version of the European standard EN 60947-4-1 and carries the UTE classification C 63-110.

This standard is identical to the British standard BS EN 60947-4-1 or the German standard DIN EN 60947-4-1.

Whenever reasonably practical, European standards reflect the international standards (IEC).

With regard to automation system components and distribution equipment, in addition to complying with the requirements of French NF standards, Telemecanique brand components conform to the standards of all other major industrial countries.

Regulations

European Directives

Opening up of European markets assumes harmonisation of the regulations pertaining to each of the member countries of the European Union.

The purpose of the European Directive is to eliminate obstacles hindering the free circulation of goods within the European Union, and it must be applied in all member countries. Member countries are obliged to transcribe each Directive into their national legislation and to simultaneously withdraw any contradictory regulations. The Directives, in particular those of a technical nature which concern us, only establish the objectives to be achieved, referred to as "essential requirements".

The manufacturer must take all the necessary measures to ensure that his products conform to the requirements of each Directive applicable to his production.

As a general rule, the manufacturer certifies conformity to the essential requirements of the Directive(s) for his product by affixing the CE mark.

The CE mark is affixed to Telemecanique brand products concerned, in order to comply with French and European regulations.

Significance of the CE mark

- The CE mark affixed to a product signifies that the manufacturer certifies that the product conforms to the relevant European Directive(s) which concern it; this condition must be met to allow free distribution and circulation within the countries of the European Union of any product subject to one or more of the E.U. Directives.
- The CE mark is intended solely for national market control authorities.
- The CE mark must not be confused with a conformity marking.

Technical information

Product standards and certifications

European Directives (continued)

For electrical equipment, only conformity to standards signifies that the product is suitable for its designated function, and only the guarantee of an established manufacturer can provide a high level of quality assurance.

For Telemecanique brand products, one or several Directives are likely to be applicable, depending on the product, and in particular:

- the Low Voltage Directive 73/23/EEC amended by Directive 93/68/EEC: the CE mark relating to this Directive has been compulsory since 1st January 1997.
- the Electromagnetic Compatibility Directive 89/336/EEC, amended by Directives 92/31/EEC and 93/68/EEC: the CE mark on products covered by this Directive has been compulsory since 1st January 1996

ASEFA-LOVAG certification

The function of ASEFA (Association des Stations d'Essais Française d'Appareils électriques - Association of French Testing Stations for Low Voltage Industrial Electrical Equipment) is to carry out tests of conformity to standards and to issue certificates of conformity and test reports. ASEFA laboratories are authorised by the French authorisation committee (COFRAC). ASEFA is now a member of the European agreement group LOVAG (Low Voltage Agreement Group). This means that any certificates issued by LOVAG/ASEFA are recognised by all the authorities which are members of the group and carry the same validity as those issued by any of the member authorities.

Quality labels

When components can be used in domestic and similar applications, it is sometimes recommended that a "Quality label" be obtained, which is a form of certification of conformity.

Code	Quality label	Country
CEBEC	Comité Electrotechnique Belge	Belgium
KEMA-KEUR	Keuring van Electrotechnische Materialen	Netherlands
NF	Union Technique de l'Electricité	France
ÖVE	Österreichischer Verband für Electrotechnik	Austria
SEMKO	Svenska Electriska Materiel Kontrollanatalten	Sweden

Product certifications

In some countries, the certification of certain electrical components is a legal requirement. In this case, a certificate of conformity to the standard is issued by the official test authority.

Each certified device must bear the relevant certification symbols when these are mandatory:

Code	Certification authority	Country
CSA	Canadian Standards Association	Canada
UL	Underwriters Laboratories	USA

Note on certifications issued by the Underwriters Laboratories (UL). There are two levels of approval:

"Recognized" (UL) The component is fully approved for inclusion in equipment built in a workshop, where the operating limits are known by the equipment manufacturer and where its use within such limits is acceptable by the Underwriters Laboratories. The component is not approved as a "Product for general use" because its manufacturing characteristics are incomplete or its application possibilities are limited. A "Recognized" component does not necessarily carry the certification symbol.

"Listed" (UL) The component conforms to all the requirements of the classification applicable to it and may therefore be used both as a "Product for general use" and as a component in assembled equipment. A "Listed" component must carry the certification symbol.

Marine classification societies

Prior approval (= certification) by certain marine classification societies is generally required for electrical equipment which is intended for use on board merchant vessels.

Code	Classification authority	Country
BV	Bureau Veritas	France
DNV	Det Norske Veritas	Norway
GL	Germanischer Lloyd	Germany
LR	Lloyd's Register	Great Britain
NKK	Nippon Kaiji Kyokai	Japan
RINA	Registro Italiano Navale	Italy
RRS	Register of Shipping	Russia

Note

For further details on a specific product, please refer to the "Characteristics" pages in this catalogue or consult your Regional Sales Office.

Technical information

Degrees of protection provided by enclosures

Degrees of protection against the penetration of solid bodies, water and personnel access to live parts

The European standard EN 60529 dated October 1991, IEC publication 529 (2nd edition - November 1989), defines a coding system (IP code) for indicating the degree of protection provided by electrical equipment enclosures against accidental direct contact with live parts and against the ingress of solid foreign objects or water.

This standard does not apply to protection against the risk of explosion or conditions such as humidity, corrosive gasses, fungi or vermin.

Certain equipment is designed to be mounted on an enclosure which will contribute towards achieving the required degree of protection (example : control devices mounted on an enclosure).

Different parts of an equipment can have different degrees of protection (example : enclosure with an opening in the base).

Standard NF C 15-100 (May 1991 edition), section 512, table 51 A, provides a cross-reference between the various degrees of protection and the environmental conditions classification, relating to the selection of equipment according to external factors.

Practical guide UTE C 15-103 shows, in the form of tables, the characteristics required for electrical equipment (including minimum degrees of protection), according to the locations in which they are installed.



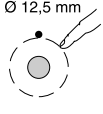

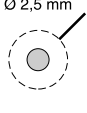
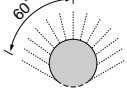
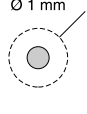

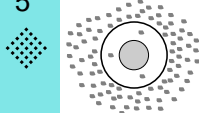
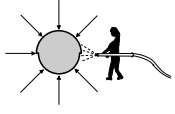
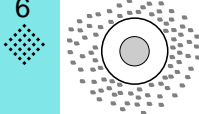
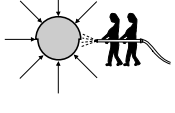
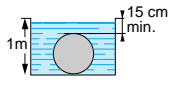
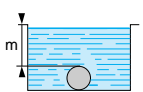
IP ●●● code

The IP code comprises **2 characteristic numerals** (e.g. IP 55) and may include **an additional letter** when the actual protection of personnel against direct contact with live parts is better than that indicated by the first numeral (e.g. IP 20C).

Any characteristic numeral which is unspecified is replaced by an X (e.g. IP XXB).

1st characteristic numeral : corresponds to **protection of the equipment against penetration of solid objects** and **protection of personnel against direct contact with live parts**.

2nd characteristic numeral : corresponds to **protection of the equipment against penetration of water with harmful effects**.

	Protection of the equipment	Protection of personnel		Protection of the equipment	Protection of personnel
0	Non-protected	Non-protected	0	Non-protected	
1	 $\varnothing 50 \text{ mm}$ Protected against the penetration of solid objects having a diameter greater than or equal to 50 mm.	Protected against direct contact with the back of the hand (accidental contacts).	1	 Protected against vertical dripping water, (condensation).	
2	 $\varnothing 12,5 \text{ mm}$ Protected against the penetration of solid objects having a diameter greater than or equal to 12.5 mm.	Protected against direct finger contact.	2	 Protected against dripping water at an angle of up to 15°.	
3	 $\varnothing 2,5 \text{ mm}$ Protected against the penetration of solid objects having a diameter greater than or equal to 2.5 mm.	Protected against direct contact with a $\varnothing 2.5 \text{ mm}$ tool.	3	 Protected against rain at an angle of up to 60°.	
4	 $\varnothing 1 \text{ mm}$ Protected against the penetration of solid objects having a diameter > 1 mm.	Protected against direct contact with a $\varnothing 1 \text{ mm}$ wire.	4	 Protected against splashing water in all directions.	
5	 Dust protected (no harmful deposits).	Protected against direct contact with a $\varnothing 1 \text{ mm}$ wire.	5	 Protected against water jets in all directions.	
6	 Dust tight.	Protected against direct contact with a $\varnothing 1 \text{ mm}$ wire.	6	 Protected against powerful jets of water and waves.	
			7	 Protected against the effects of temporary immersion.	
			8	 Protected against the effects of prolonged immersion under specified conditions.	

Degrees of protection against mechanical impact

The European standard EN 50102 dated March 1995 defines a coding system (IK code) for indicating the degree of protection provided by electrical equipment enclosures against external mechanical impact. Standard NF C 15-100 (May 1991 edition), section 512, table 51 A, provides a cross-reference between the various degrees of protection and the environmental conditions classification, relating to the selection of equipment according to external factors. Practical guide UTE C 15-103 shows, in the form of tables, the characteristics required for electrical equipment (including minimum degrees of protection), according to the locations in which they are installed.

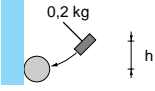
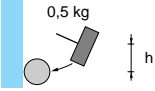
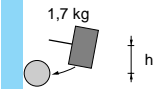
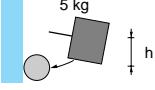
Additional letter : corresponds to protection of personnel against direct contact with live parts.

IK ●● code

The IK code comprises 2 characteristic numerals (e.g. IK 05).

2 characteristic numerals : corresponding to a value of impact energy.

A	With the back of the hand.
B	With the finger.
C	With a Ø 2.5 mm tool.
D	With a Ø 1 mm wire.

		h (cm)	Energy (J)
00	Non-protected		
01		7.5	0.15
02		10	0.2
03		17.5	0.35
04		25	0.5
05		35	0.7
06		20	1
07		40	2
08		30	5
09		20	10
10		40	20

Product reference index

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	and 1/161	9001 KR8BH25	1/192		and 1/205	DE9RA201014	5/11		and 3/9
6508805●●●	1/209	9001 KR8P35●●●●●	1/197	9001 SKR9P36●●●	1/204	DL1 AA●●●	5/22	K10 D012QCH	3/9
9001 KR1●●●●●	1/192		and 1/199		and 1/205	DL1 BDB●	4/17,	K10 D012UCH	3/10
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9001 B●●	1/208		and 1/199		and 1/205	DL1 BDG●	and 4/51	K10 F003MCH	3/11
9001 C●●	1/208	9001 KR8P38●●●●●	1/197	9001 SKR9R●●●●	1/200		4/17,	K10 F003UCH	3/10
9001 G●●	1/208		and 1/199	9001 SKS●●●FB	1/202		4/41	K10 F013●CH	3/9
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9001 K11J35L●●●	1/198	9001 KR8R05H25	1/192	9001 SKT36L●●31	1/204	DL1 BDM●	4/17,	K10 F027MCH	3/11
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9001 K1L36L●●●13	1/195	9001 KR9BH13	1/192	9001 T8U	1/209	DL1 BDE●	and 4/51	K115 C003AP	3/88
9001 K1L38L●●●13	1/195	9001 KR9P35●●●●●	1/197	9001 W●●	1/208		4/17,	K115 C003HP	3/89
9001 K2L35●●●H13	1/196	9001 KR9P36●●●●●	1/197	9001 Y●●	1/208		4/41	K115 C503HP	3/89
9001 K2L36●●●H13	1/196	9001 KR9P38●●●●●	1/197				and 4/51	K115 D002WP	3/92
9001 K2L38●●●H13	1/196		and 1/199	A		DL1 BE●S	4/5,	K115 D004AP	3/88
9001 K2L7●H13	1/196	9001 KR9P7RH25	1/199	AE3 FX122	2/61		4/17	K115 D004HP	3/89
9001 K31H8	1/199	9001 KR9R20H6	1/192	AF1 VB510	1/93		and 4/27	K115 D504HP	3/89
9001 K34	1/199	9001 KR9R21H6	1/192		and 1/161	DL1 BKB●	4/17,	K115 D504WP	3/92
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9001 K35H2	1/199	9001 KR9RH13	1/192		and 1/161		and 4/51	K115 F013UP	3/90
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9001 K3L7●H13	1/195	9001 KS43K5R	1/193	APD 1A31D●●	2/59		4/41	K150 B001UP	3/90
9001 K43J35L●●●	1/198	9001 KS46FB	1/193	APD 1A31XDA	2/60	DL1 BR●●	and 4/51	K150 C003AP	3/88
9001 K46J35L●●●	1/198	9001 KS53FB	1/193	APD 1A32C●●	2/60	DL1 CB006	4/55	K150 C003HP	3/89
9001 K48	1/209	9001 KS53K5R	1/193	APD 1A34●●●	2/60		1/94,	K150 C503HP	3/89
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9001 K56YM	1/209	9001 KT36L●●●●●	1/197	APD 1A64F1	2/60	DL1 CD006●	1/94	K150 D504HP	3/89
9001 K6	1/209	9001 KT38L●●●●●	1/197	APD 1A76F2	2/60		and 1/162	K150 E003WP	3/92
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9001 K63J35L●●●	1/198	9001 KY●	1/209	APD 1B●●	2/58	DL1 CE●●●	1/178	K150 F013UP	3/90
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9001 K69	1/209	9001 L●●	1/208	APD 1D1●●●●	2/59		and 1/162	K150 H004UP	3/90
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9001 K93R	1/208	9001 SK2L35L●●●	1/203	APD 1P●●●●	2/58	DL1 CE130NSP	1/178	K1A 50●A	3/34
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	and 2/17		and 1/23		1/86,	ZBV J●	1/83		and 2/28
	to 2/20	ZB6 DE●	1/20	ZBA 3●●	1/154		and 1/151	ZBZ 2102	1/93
ZB5 AFD●●●	1/128	ZB6 DF●	1/20		and 2/28	ZBV M●●	1/83,		and 1/161
ZB5 AG●●●	1/134	ZB6 DG●	1/24	ZBA 3●●	1/86,		1/151	ZBZ 3●	1/87,
	and 2/19	ZB6 DV●	1/21		1/154		and 2/13		1/155
ZB5 AH●●●	1/129	ZB6 DW●	1/20	ZBA 4●●	and 2/28	ZBW 008●	1/95		and 2/23
	and 1/147		and 1/21		1/86,		and 1/162	ZBZ 8	1/94
ZB5 AJ●●	1/133	ZB6 E●●●	1/19	ZBA 4●●	1/154	ZBW 91●●	1/95,		and 1/162
	and 2/18	ZB6 Y0●●	1/32		and 2/28		1/163	ZBZ ●156	1/83
ZB5 AK●●●●	1/149		and 1/33	ZBA 5●●	1/86,	ZBW 93●●	and 2/29		and 1/151
	and 2/22	ZB6 Y1●●●	1/30		1/154		1/95,	ZBZ S6	1/33
ZB5 AL●●●	1/125	ZB6 Y2●●●	1/30	ZBA 6●●	and 2/28		1/163	ZBZ V●	1/83,
	to 1/129,		and 1/31		1/86,	ZBY 00●●●	and 2/29		1/151
	2/14	ZB6 Y3●0●	1/30	ZBA 9	and 2/28		1/82,	ZBZ X13	and 2/13
	and 2/15	ZB6 Y4●0●	1/30		1/86,		1/90,	ZD2 GY●●●●	4/11
ZB5 AP●●●	1/125	ZB6 Y7●●●	1/32	ZBA 9	1/154		1/150,	ZD4 PA●●●	1/97
	and 2/14	ZB6 Y90●	1/33		and 2/28		1/158		and 1/165
ZB5 AR●●●	1/130	ZB6 YA●●●	1/32	ZBC ●	1/154	ZBY 01●●	and 2/25		2/13
ZB5 AS●●●	1/131	ZB6 YA1●●	1/27	ZBC ●	1/163		1/87,	ZEN L11●1	
	and 2/16		to 1/29	ZBC V01●●	and 2/29		1/155		
ZB5 AT●●	1/131	ZB6 YA2●●	1/27		1/163	ZBY 02●●●	and 2/23		
	and 2/16		to 1/29	ZBC W91●●	and 2/29		1/90,		
ZB5 AV●●●●●	1/136	ZB6 YA3●●	1/27		1/163		1/158		
	to 1/139		and 1/28	ZBC W93●●	and 2/29	ZBY 11●●	and 2/25		
	and 2/21	ZB6 YA4●●	1/27		1/160		1/92,		
ZB5 AW●●●●●	1/140		and 1/28	ZBC Y1101	and 2/27		1/160		
	to 1/148	ZB6 YA626	1/28		and 2/27	ZBY 12●●	and 2/27		
	and 2/21	ZB6 YAA●	1/26	ZBC Y●H10●	1/157		1/92,		
ZB5 AX●	1/131	ZB6 YAE●	1/26		and 2/25		1/160		
ZB5 AZ●●●●●	1/150,	ZB6 YAV●	1/26	ZBC Z3●	1/157	ZBY 13●●	and 2/27		
	1/161,	ZB6 YAW●	1/26		and 2/25		1/92,		
	1/178,	ZB6 YB028	1/33	ZBD 8D1	1/162		1/160		
	2/13	ZB6 YC0●●	1/32		and 2/29	ZBY 1912	and 2/27		
	and 2/48		and 1/33	ZBD A185	1/162		1/92,		
ZB5 CA●●●●	1/126	ZB6 YC1●●	1/27		and 2/29		1/160		
	and 1/127,		to 1/29	ZBD LU●●	1/162	ZBY 21●●	and 2/27		
	2/14	ZB6 YC2●●	1/27		and 2/29		1/87,		
	and 2/15		to 1/29	ZBE 10●●●	1/82,		1/155		
ZB5 CH●●	1/129	ZB6 YC3●●	1/27		1/150	ZBY 22●●	and 2/23		
	and 1/147		and 1/28	ZBE 20●	and 2/13		1/88,		
ZB5 CL●	1/126	ZB6 YC4●●	1/27		1/82		1/156		
	and 2/14		and 1/28	ZBE 70●	and 1/150	ZBY 23●●	and 2/24		
ZB5 CV0●●	1/139	ZB6 YC626	1/28		1/85,		1/88,		
	and 2/21	ZB6 YCA●	1/26	ZBG 2●●●	1/153		1/156,		
ZB5 CW●●●●	1/145	ZB6 YCE●	1/26	ZBG 3131A	and 2/48		1/178		
	and 2/21	ZB6 YCV●	1/26		1/97	ZBY 2931	and 2/24		
ZB5 SZ●	1/93,	ZB6 YCW●	1/26		1/94,		1/88,		
	1/161	ZB6 YD0●●	1/32	ZBG 4●●●	1/162		1/156,		
	and 2/13		and 1/33		and 2/29		1/178		
ZB6 AA●	1/21	ZB6 YD1●●	1/27		and 2/29	ZBY 2H101	and 2/23		
ZB6 AC●	1/21		to 1/29	ZBG 520E	1/94,		1/89		
ZB6 AD●●	1/22	ZB6 YD2●●	1/27		1/162		1/157		
	and 1/23		to 1/30		and 2/29		and 2/25		
ZB6 AE●	1/20	ZB6 YD3●●	1/27		and 2/29				

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