

SONY
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FCB-EH3150



FCB-EH3310



FCB-EH3410



FCB-EH6300



FCB-EH6500

FCB-EH Series

Color Block Cameras

Exmor

INTRODUCTION

Sony, a leader in high-definition (HD) technology, is enhancing its FCB-EH Block Camera Series with the new FCB-EH6500, and upgrading the FCB-EH3400 and FCB-EH3300 cameras. As demand grows for high-quality, high-resolution images that only HD can deliver, the FCB-EH Series now offers a range of 12x to 30x optical zoom lenses with outstanding features for surveillance, intelligent traffic, unmanned vehicles, photo booths, police vehicles, low vision and videoconferencing applications.

The flagship FCB-EH6500 camera incorporates a 1/2.8-type Exmor® CMOS image sensor with Full HD (1920 x 1080) resolution, and achieves excellent zoom performance with a 30x optical zoom lens. The FCB-EH6300 is also equipped with the same image sensor to deliver Full HD resolution with a 20x optical zoom lens.

The other models in the series all incorporate a 1/4-type Exmor CMOS image sensor with HD (1280x720) resolution. The newly upgraded models, the FCB-EH3410 and FCB-EH3310, deliver improved image sharpness compared to their predecessors (the FCB-EH3400 and FCB-EH3300), making them ideal for security applications. And the smallest camera in the FCB-EH Series is the cost effective FCB-EH3150, which along with its HD resolution sensor, features a 12x optical lens.

All of these cameras inherit a multitude of features from Sony's renowned FCB Series such as Wide-D*, Auto ICR, and Spherical Privacy Zone Masking. With this breadth of choice, it has never been easier to select the right Sony camera for your specific imaging applications.

	FCB-EH6500	FCB-EH6300	FCB-EH3410	FCB-EH3310	FCB-EH3150
Imager sensor	1/2.8-type		1/4-type		
Lens	30x	20x	28x	20x	12x
Picture quality	Full HD 1080p (1920 x 1080)		HD 720p (1280 x 720)		
Minimum illumination*	0.5 lx (F1.6, 50%)		0.25 lx (F1.35, 50%)		0.3 lx (F1.6, 50%)
Digital zoom	12x (360x with optical zoom)	12x (240x with optical zoom)	12x (336x with optical zoom)	12x (240x with optical zoom)	12x (144x with optical zoom)
Wide-D (Wide dynamic range)	●	●	●	●	●
Image stabilization	●		●		
StableZoom	●		●		
Auto ICR (Auto IR-cut Filter Removal)	●	●	●	●	●
Spherical privacy zone masking	●	●	●	●	●
Noise reduction	●	●	●	●	●
Slow AE response	●	●	●	●	●

* High sensitivity mode, ICR off.

KEY FEATURES

- **Excellent high-definition (HD) picture quality**
- **Exmor® CMOS sensor achieves high image quality and high sensitivity**
- **Powerful zoom capability**
- **Bright, fast, and robust 30x zoom lens**
The FCB-EH6500 incorporates a new 30x bright zoom lens with F1.6. This lens has a fast-zooming capability (approx. 3.2 seconds from tele end to wide end) and high durability.
- **Various output modes**
HD (High Definition)
Analog: Component (Y/Pb/Pr)
Digital: Y/Cb/Cr 4:2:2 via LVDS (Y: 8-bit, C: 8-bit, V-sync, H-sync, Field, and Clock)
SD (Standard Definition)
VBS
- **Simple connection – one cable, one connector**
 - Covering video, VISCA communication, and power supply with a single cable
 - Supports both 30-pin micro coaxial (digital and analog output) and 24-pin FFC (analog output only)*1 interfaces
- **Image Stabilization*2**
The FCB-EH6500 and FCB-EH3410 are equipped with an Image-stabilization function which minimizes the appearance of shaky images caused by low-frequency vibration. This function is useful for outdoor surveillance and traffic monitoring applications.
- **StableZoom™**
StableZoom mode uses a predetermined optical zoom ratio to enable the Image-stabilization function of the camera. Once stabilization begins, it gradually combines the optical and digital zoom to absorb shaky movements. In StableZoom mode, this function starts naturally without bringing an abrupt change to the horizontal angle of view.

■ Video mode changes on the fly

Without any power cycle, this function makes it possible to change the video mode remotely, from 1080p/29.97 to 720p/59.94 mode for example. This function enables the user to change the video resolution of the camera through the software power reset function.

■ Security-oriented functions include:

- Wide-D technology (On/Off/Auto/Ratio fix)
- Day/Night function (On/Off/Auto/Threshold enabled)
- Digital noise reduction (up to five levels)
- Spherical Privacy Zone Masking (24 zones with various PTZ controls)
- Motion detection alarm (four zones with several triggering and threshold modes)

Other Features

- Various modes for White Balance (Auto, ATW, Indoor, Outdoor, Outdoor Auto, Sodium Vapor Lamp Fix/Auto, One-push, Manual)
- Picture effects (E-Flip, Nega Art, Black & White, Mirror Image, Color Enhancement)
- Picture freeze
- Temperature readout
- Slow AE response (approx. five minutes)
- Title display (20 characters per line, max. 11 lines)
- Camera mode display (English)
- Electronic shutter/slow shutter
- Spot AE
- High Resolution mode
- IR Focus Correction function
- Four presets for gamma control
- Four levels of chrominance suppression

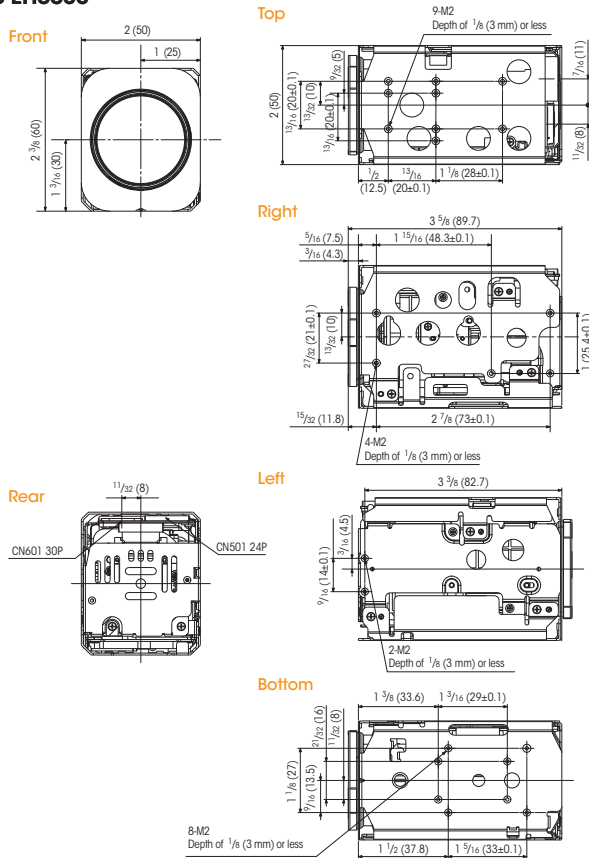
*1 The FCB-EH3150 does not have a 24-pin FFC.

*2 When image stabilization is activated, residual movement may appear at the top and bottom of the image.

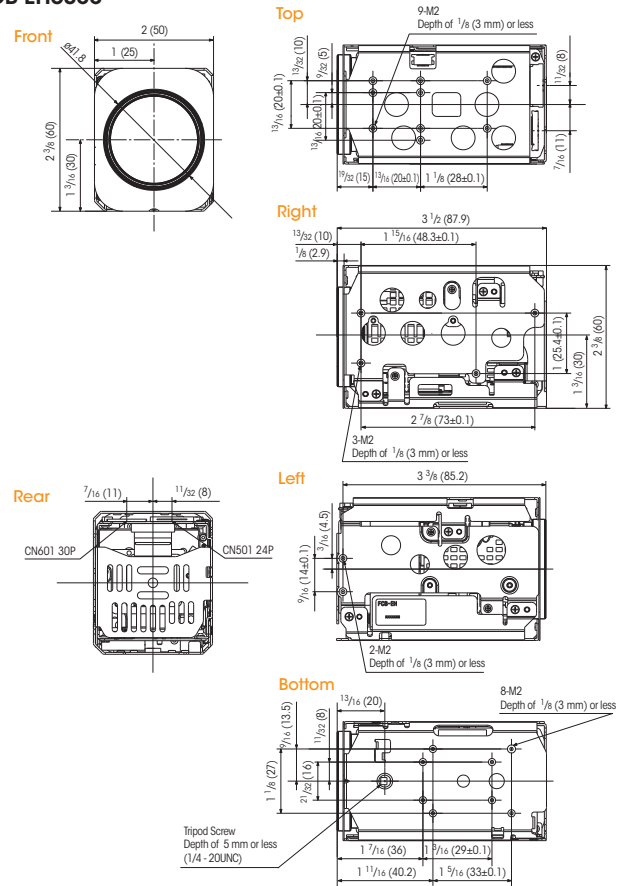
DIMENSIONS

Unit: inches (mm)

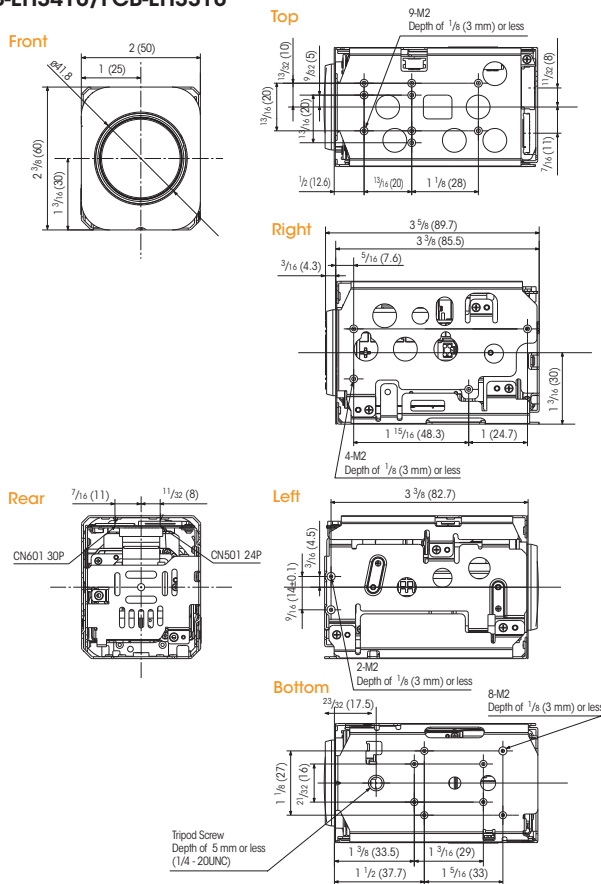
FCB-EH6500



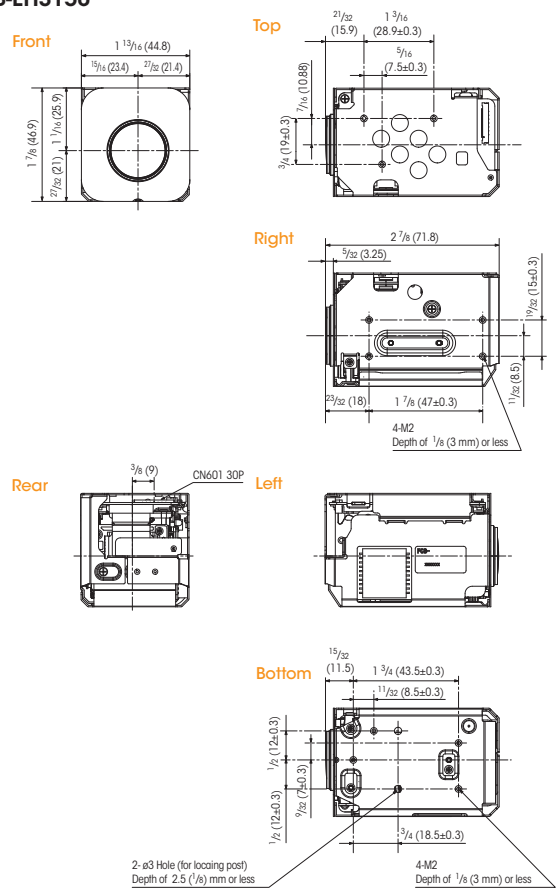
FCB-EH6300



FCB-EH3410/FCB-EH3310



FCB-EH3150



SPECIFICATIONS

	FCB-EH6500	FCB-EH6300	FCB-EH3410	FCB-EH3310	FCB-EH3150	
Camera						
Image sensor Type	1/2.8-type Exmor CMOS			1/4-type Exmor CMOS		
Number of effective pixels	Approx. 3.27 Megapixels			Approx. 1.43 Megapixels		
Image size (H x V)	1920 x 1080, 1280 x 720, 720 x 480, 720 x 576			1280 x 720, 720 x 480, 720 x 576		
Lens	30x optical zoom f=4.6 mm (wide) to 138.0 mm (tele) F1.6 to F4.7	20x optical zoom f=4.7 mm (wide) to 94.0 mm (tele) F1.6 to F3.5	28x optical zoom f=3.5 mm (wide) to 98.0 mm (tele) F1.35 to F3.7	20x optical zoom f=3.5 mm (wide) to 70.0 mm (tele) F1.35 to F3.4	12x optical zoom f=3.7 mm (wide) to 44.4 mm (tele) F1.6 to F2.5	
Digital zoom	12x (360x with optical zoom)	12x (240x with optical zoom)	12x (336x with optical zoom)	12x (240x with optical zoom)	12x (144x with optical zoom)	
Angle of view (H)	1080p mode 59.5° (wide end) to 2.1° (tele end)	55.4° (wide end) to 2.9° (tele end)	-			
	720p mode 40.6° (wide end) to 1.4° (tele end)	37.6° (wide end) to 2.0° (tele end)	55.9° (wide end) to 2.1° (tele end)	55.9° (wide end) to 2.9° (tele end)	53.4° (wide end) to 4.6° (tele end)	
Minimum object distance	10 mm (wide end) to 1,200 mm (tele end) (Default: 300 mm)	10 mm (wide end) to 1,000 mm (tele end) (Default: 300 mm)	10 mm (wide end) to 1,500 mm (tele end) (Default: 300 mm)	10 mm (wide end) to 1,000 mm (tele end) (Default: 300 mm)	10 mm (wide end) to 1,000 mm (tele end) (Default: 300 mm)	
Sync system	Internal					
Minimum illumination (50%)	High sensitivity mode 0.5 lx (F1.6, ICR off) 0.095 lx (F1.6, ICR on)		0.25 lx (F1.35, ICR off) 0.03 lx (F1.35, ICR on)	0.3 lx (F1.6, ICR off) 0.06 lx (F1.6, ICR on)		
	Normal mode 1.7 lx (F1.6, ICR off) 0.3 lx (F1.6, ICR on)		1.0 lx (F1.35, ICR off) 0.1 lx (F1.35, ICR on)	1.2 lx (F1.6, ICR off) 0.3 lx (F1.6, ICR on)		
Recommended illumination	100 lx to 100,000 lx					
S/N ratio	More than 50 dB					
Signal system	HD 1080p/30, 1080p/29.97, 1080p/25, 1080i/60 (30 PsF), 1080i/59.94 (29.97 PsF), 1080i/50 (25 PsF), 720p/30, 720p/59.94, 720p/50, 720p/30, 720p/29.97, 720p/25	1080p/29.97, 1080p/25, 1080i/59.94 (Frame out: 29.97 PsF), 1080i/50 (Frame out: 25 PsF), 720p/59.94, 720p/50, 720p/29.97, 720p/25	720p/59.94, 720p/50, 720p/29.97, 720p/25			
	SD	NTSC, PAL				
Video output	HD Analog: Component (Y/Pb/Pr), Digital: Y/Cb/Cr 4:2:2 via LVDS, (Signal format conforms to SMPTE274/SMPTE296.)	SD VBS				
Camera control interface	VISCA (CMOS 5 V level), Baud rate: 9.6 Kbps, 19.2 Kbps, 38.4 Kbps, Stop bit: 1 bit					
Electronic shutter speed	1/1 to 1/10,000 s, total 22 steps					
White balance	Auto, ATW, Indoor, Outdoor, Sodium Vapor Lamp (Fix/Auto), One-push, Manual					
Gain	Auto/Manual (-3 dB to +28 dB, +2 dB step/total 16 steps), Max. Gain Limit (+6 dB to +28 dB, +2 dB step/total 12 steps)					
AE control	Auto, Manual, Priority mode (shutter priority & iris priority), Bright, EV compensation, Slow AE					
Focusing system	Auto (Sensitivity: normal, low), One-push AF, Manual, Infinity, Interval AF, Zoom Trigger AF, Focus compensation in ICR on					
EV compensation	No					
Backlight compensation	Yes					
Aperture control	16 steps					
Pre-set	6 positions					
Camera Features						
Wide-D*	Yes (On/Off/Auto)**		Yes (On/Off/Auto)			
Image stabilization	Yes	No	Yes	No		
StableZoom	Yes	No	Yes (33x)			
Digital output	Yes					
Auto ICR	Yes					
Spherical privacy zone masking	Yes					
Noise reduction	Yes (On/Off) (Level 5 to 1/Off total 6 steps)					
Motion detection	Yes					
Alarm	Yes					
Slow AE response	Yes (Approx. 5 minutes)					
Picture effects	Yes (E-Flip, Nega Art, Black & White, Mirror image, Color enhancement)					
Picture freeze	Yes					
Slow shutter	Yes					
Temperature readout	Yes					
Title display	Yes (20 characters/line, max. 11 lines)					
Camera mode display	Yes					
Key switch control	No					
Camera operation switch	No					
General						
Storage temperature	-4°F to 140 °F (-20°C to +60 °C)					
Storage humidity	20% to 95%					
Operating temperature	23°F to 140°F (-5°C to +60°C)					
Operating humidity	20% to 80%					
Power requirements	6.0 V to 12.0 V DC					
Power consumption	3.3 W (zoom/focus inactive) / 3.8 W (zoom/focus active)	3.2 W (zoom/focus inactive) / 3.8 W (zoom/focus active)	2.7 W (zoom/focus inactive) / 3.4 W (zoom/focus active)			
Weight	Approx. 9.3 oz (265 g)	Approx. 9.2 oz (260 g)	Approx. 8.5 oz (240 g)	Approx. 5.3 oz (150 g)		
Dimensions (W x H x D)	2 x 2 3/8 x 3 5/8 inches (50.0 x 60.0 x 89.7 mm)	2 x 2 3/8 x 3 1/2 inches (50.0 x 60.0 x 87.9 mm)	2 x 2 3/8 x 3 5/8 inches (50.0 x 60.0 x 89.7 mm)	1 13/16 x 1 7/8 x 7/8 inches (44.8 x 46.9 x 71.8 mm)		

* Wide dynamic range. ** Half frame rate when Wide-D is On.

PIN ASSIGNMENTS

CN601 30-pin Micro Coaxial
(for power supply/communication/video out (analog/digital))

Pin No.	Name	Level
1	TXOUT3+	
2	TXOUT3-	
3	TXCLKOUT+	
4	TXCLKOUT-	
5	TXOUT2+	
6	TXOUT2-	
7	TXOUT1+	
8	TXOUT1-	
9	TXOUT0+	
10	TXOUT0-	
11	GND	
12	TxD	CMOS 5 V (Low: Max. 0.1 V, High: Min. 4.4 V)
13	RxD	CMOS 5 V (Low: Max. 0.8 V, High: Min. 2.0 V)
14	DC IN	6 to 12 V DC
15	DC IN	6 to 12 V DC
16	DC IN	6 to 12 V DC
17	DC IN	6 to 12 V DC
18	DC IN	6 to 12 V DC
19	GND	
20	GND	
21	GND	
22	GND	
23	GND	
24	GND	
25	NC	
26	RESET IN	RESET: Low (GND) Normal: Open (1.8 V)
27	VBS OUT	
28	Y OUT	HD Analog Component
29	Pb OUT	HD Analog Component
30	Pr OUT	HD Analog Component

Connector: USL00-30L-C (KEL Corp.)

CN501 * 24-pin FFC

(for power supply/communication/video out (analog))

Pin No.	Name	Level
1	GND	
2	TxD	CMOS 5 V (Low: Max. 0.1 V, High: Min. 4.4 V)
3	RxD	CMOS 5 V (Low: Max. 0.8 V, High: Min. 2.0 V)
4	RESET IN	RESET: Low (GND) Normal: Open (1.8 V)
5	GND	
6	NC	
7	GND	
8	NC	
9	GND	
10	VBS OUT	
11	GND	
12	Y OUT	HD Analog Component
13	GND	
14	Pb OUT	HD Analog Component
15	GND	
16	Pr OUT	HD Analog Component
17	GND	
18	DC IN	6 to 12 V DC
19	DC IN	6 to 12 V DC
20	DC IN	6 to 12 V DC
21	DC IN	6 to 12 V DC
22	GND	
23	DC IN	6 to 12 V DC
24	GND	

Connector: 046240024006800+ (Kyocera Elco)
* The FCB-EH3150 does not have a 24-pin FFC.