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Damper actuators: OpenAir speaks your language

Long-life, sturdy damper actuators for HVAC applications, air volume control as well as fire and smoke protection dampers

siemens.com/openair

Damper actuators to suit your taste

OpenAir™ is a comprehensive portfolio of damper actuators tailored to suit your requirements. You'll benefit from a wide selection of positioning forces, control signals, communications standards and add-on options. And more advantages: The proven damper actuators are easy to install and extremely durable in operation, during transportation and on the construction site. Low-consumption motors, fast and precise control, and long life cycles ensure noticeable cost and energy efficiency.

Siemens is also an experienced, reliable partner who supports you with a wide range of training services, practical tools and powerful support.

When efficiency meets maximum benefit

OpenAir: A range that meets all your needs

Energy-efficient, simple, flexible and reliable: Your benefits are at the heart of the entire damper actuator range, from smooth installation and rapid commissioning to operation that is both efficient and convenient. You save both time and costs by having a standardized wiring plan, for example, and a self-centering shaft adapter.

You'll be won over by the many convenient features

Once it's up and running, OpenAir proves to be a winner, in a satisfyingly understated way. Brushless motors and gearboxes that have already been run in guarantee especially quiet yet high-performance operation. The fast and accurate response to building automation commands also helps ensure a stable and even more comfortable indoor climate.

Quality, experience and total support for practical application

OpenAir is known for its exceptionally long product life cycle. With it, you build on over 40 years of experience in damper actuators and millions of products in use. You can also rely on comprehensive, practical support – for example, through many smart tools, direct support, and a worldwide sales and service network.

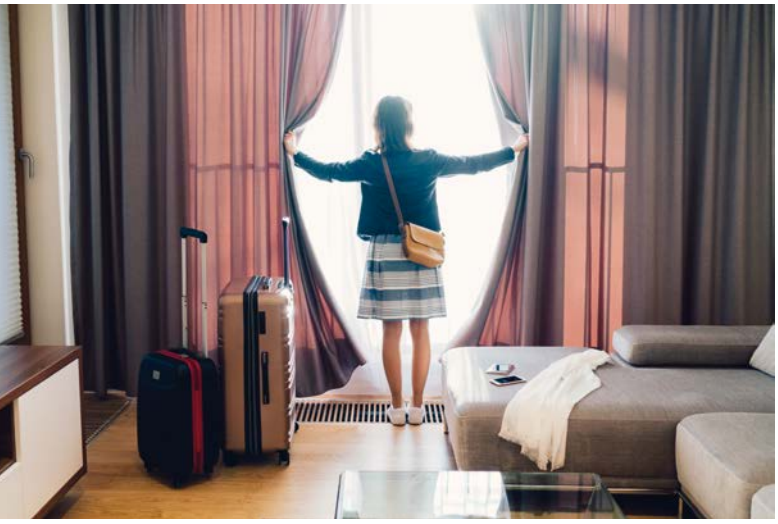
Understanding the language of buildings

Building Information Modeling (BIM) enables a significant productivity increase in the construction industry. BIM is a digitally supported process that changes the way we plan, build and operate buildings. Siemens provides a powerful, easy-to-use CAD browser that delivers BIM-compliant data that directly integrates into your BIM process, while also supporting more traditional CAD design workflows. Benefit from an easy transition to the future of construction with well over 4,000 products across all our global portfolio offerings:

siemens.com/bim

Highlights

- The right damper actuator for every application
- Rapid installation, maximum reliability, long service life
- Low-consumption motors, maximum precision, comfort you can feel



Powerful OpenAir damper actuators for HVAC applications – from 2 to 35 Nm and from 125 to 250 N.

Air damper actuators: Save time and costs with OpenAir

Highlights

- Always the right option for your application
- Cost-saving, precise and reliable
- Easy to install and highly efficient

Powerful actuators for HVAC applications

Are installation difficulties your biggest challenge? Or unusual locations? And are costs still a major determining factor for you? Stay on the safe side with the OpenAir air damper actuators – always right for your application.

Air damper actuators for HVAC applications are available in torque ranges from 2 to 35 Nm and with lifting forces from 125 to 250 N. Even in challenging locations where space is tight, for example, in false floors, ease of mounting is guaranteed – and so is maximum safety.

Easy to install, easy to integrate

With the self-centering shaft adapter, you will not only minimize your installation outlay, but also eliminate mounting errors entirely. The actuators with Modbus RTU offer you even more advantages. They reduce wiring costs and can be easily integrated into existing systems. With the Climatix™ controller range from Siemens, controllers and actuators are addressed automatically during commissioning. High energy efficiency and ease of maintenance let you achieve even more cost savings.

Easy system integration with Modbus RTU.

Actuators for HVAC applications		Control signal	Operating voltage	Standard model	Feedback potentio-meter (1 kOhm)	Adjustable offset/span	Adjustable offset/span with two auxiliary switches	Feedback (1 kOhm) with two auxiliary switches	Two auxili-ary switches	Dimensions, round dam-per shaft (mm)	Dimensions, square damper shaft (mm)
Air damper actuators with spring return											
	**GQD series** 2 Nm for approx. 0.3 m² damper area 30 s run time 15 s SR time	2-position	AC/DC 24 V	GQD121.1A	–	–	–	–	GQD126.1A	8...15	6...11
			AC 230 V	GQD321.1A	–	–	–	–	GQD326.1A		
		3-position	AC/DC 24 V	GQD131.1A	–	–	–	–	GQD136.1A		
		Modulating DC 0...10 V	AC/DC 24 V	GQD161.1A	–	–	–	–	GQD166.1A		
	**GPC series** 4 Nm for approx. 0.6 m² damper area 60 s run time 15 s SR time	2-position	AC/DC 24 V	GPC121.1A	–	–	–	–	GPC126.1A	8...15	6...11
			AC 230 V	GPC321.1A	–	–	–	–	GPC326.1A		
		3-position	AC/DC 24 V	GPC131.1A	–	–	–	–	GPC136.1A		
		Modulating DC 0...10 V	AC/DC 24 V	GPC161.1A	–	–	–	–	GPC166.1A		
		Modulating DC 0...10 V	AC 230 V	GPC361.1A	–	–	–	–	–		
	**GNP series** 6 Nm for approx. 1 m² damper area 2 s run time el. fail-safe function	2-position 3-position	AC/DC 24 V	GNP191.1E	–	–	–	–	GNP196.1E	6,4...20,5	6,4...13
		Modulating DC 0/2...10 V 0/4...20 mA	AC/DC 24 V	GNP191.1E	–	–	–	–	GNP196.1E		
	**GMA series** 7 Nm for approx. 1.5 m² damper area 90 s run time 15 s SR time	2-position	AC/DC 24 V	GMA121.1E	–	–	–	–	GMA126.1E	6,4...20,5	6,4...13
			AC 230 V	GMA321.1E	–	–	–	–	GMA326.1E		
		3-position	AC/DC 24 V	GMA131.1E	GMA132.1E	–	–	–	GMA136.1E		
		Modulating DC 0...10 V	AC/DC 24 V	GMA161.1E	–	GMA163.1E	GMA164.1E	–	GMA166.1E		
		Modbus RTU	AC 24 V	GMA161.1E/MO	–	–	–	–	–		
	**GCA series** 18 Nm for approx. 3 m² damper area 90 s run time 15 s SR time	2-position	AC/DC 24 V	GCA121.1E	–	–	–	–	GCA126.1E	8...25,6	6...18
			AC 230 V	GCA321.1E	–	–	–	–	GCA326.1E		
		3-position	AC/DC 24 V	GCA131.1E	–	–	–	GCA135.1E	–		
		Modulating DC 0...10 V	AC/DC 24 V	GCA161.1E	–	GCA163.1E	GCA164.1E	–	GCA166.1E		
		Modbus RTU	AC/DC 24 V	GCA161.1E/MO	–	–	–	–	–		
Air damper actuators without spring return											
	**GSD series** 2 Nm for approx. 0.3 m² damper area 30 s run time	2-position 3-position	AC/DC 24 V	GSD141.1A	–	–	–	–	GSD146.1A	8...15	6...11
			AC 230 V	GSD341.1A	–	–	–	–	GSD346.1A		
		Modulating DC 0...10 V	AC/DC 24 V	GSD161.1A	–	–	–	–	GSD166.1A		
		Modulating DC 0...10 V	AC 230 V	GSD361.1A	–	–	–	–	–		
	**GDB series** 5 Nm for approx. 0.8 m² damper area 150 s run time	2-position 3-position	AC/DC 24 V	GDB141.1E	GDB142.1E	–	–	–	GDB146.1E	8...16	6...12,8
			AC 230 V	GDB341.1E	–	–	–	–	GDB346.1E		
		Modulating DC 0...10 V	AC/DC 24 V	GDB161.1E	–	GDB163.1E	GDB164.1E	–	GDB166.1E		
			AC 230 V	GDB361.1E	–	–	–	–	–		
		Modbus RTU	AC 24 V	GDB111.1E/MO	–	–	–	–	–		
		KNX S-/LTE-Mode, KNX PL-Link	AC 24 V	GDB111.1E/KN	–	–	–	–	–		
	**GLB series** 10 Nm for approx. 1.5 m² damper area 150 s run time	2-position 3-position	AC/DC 24 V	GLB141.1E	GLB142.1E	–	–	–	GLB146.1E	8...16	6...12,8
			AC 230 V	GLB341.1E	–	–	–	–	GLB346.1E		
		Modulating DC 0...10 V	AC/DC 24 V	GLB161.1E	–	GLB163.1E	GLB164.1E	–	GLB166.1E		
			AC 230 V	GLB361.1E	–	–	–	–	–		
		Modbus RTU	AC 24 V	GLB111.1E/MO	–	–	–	–	–		
		KNX S-/LTE-Mode, KNX PL-Link	AC 24 V	GLB111.1E/KN	–	–	–	–	–		
	**GAP series** 6 Nm for approx. 1 m² damper area 2 s run time	2-position 3-position	AC/DC 24 V	GAP191.1E	–	–	–	–	GAP196.1E	6,4...20,5	6,4...13
		Modulating DC 0/2...10 V 0/4...20 mA	AC/DC 24 V	GAP191.1E	–	–	–	–	GAP196.1E		
	**GEB series** 20 Nm for approx. 3 m² damper area 150 s run time	2-position 3-position	AC/DC 24 V	GEB141.1E	GEB142.1E	–	–	–	GEB146.1E	8...20,5	8...14,5
			AC 230 V	GEB341.1E	–	–	–	–	GEB346.1E		
		Modulating DC 0...10 V	AC/DC 24 V	GEB161.1E	–	GEB163.1E	GEB164.1E	–	GEB166.1E		
			AC 230 V	GEB361.1E	–	–	–	–	–		
		Modbus RTU	AC 24 V	GEB161.1E/MO	–	–	–	–	–		
	**GBB series** 25 Nm for approx. 4 m² damper area 150 s run time	3-position	AC 24 V	GBB131.1E	–	–	–	GBB135.1E	GBB136.1E	8...25,6	6...18
			AC 230 V	GBB331.1E	–	–	–	GBB335.1E	GBB336.1E		
		Modulating DC 0...10 V	AC 24 V	GBB161.1E	–	GBB163.1E	GBB164.1E	–	GBB166.1E		
	**GIB series** 35 Nm for approx. 6 m² damper area 150 s run time	3-position	AC 24 V	GIB131.1E	–	–	–	GIB135.1E	GIB136.1E	8...25,6	6...18
			AC 230 V	GIB331.1E	–	–	–	GIB335.1E	GIB336.1E		
		Modulating DC 0...10 V	AC 24 V	GIB161.1E	–	GIB163.1E	GIB164.1E	–	GIB166.1E		
		Modbus RTU	AC 24 V	GIB161.1E/MO	–	–	–	–	–		
	**GDB series** 125 N for approx. 0.8 m² damper area 150 s run time	3-position	AC 24 V	GDB131.2E	–	–	–	–	GDB136.2E	–	–
			AC 230 V	GDB331.2E	–	–	–	–	GDB336.2E		
		Modulating DC 0...10 V	AC 24 V	GDB161.2E	–	GDB163.2E	–	–	–		
	**GLB series** 250 N for approx. 1.5 m² damper area 150 s run time	3-position	AC 24 V	GLB131.2E	–	–	–	–	GLB136.2E	–	–
			AC 230 V	GLB331.2E	–	–	–	–	GLB336.2E		
		Modulating DC 0...10 V	AC 24 V	GLB161.2E	–	GLB163.2E	–	–	–		

Networked OpenAir VAV controllers guarantee interoperability thanks to the standardized and open communications protocols. As a result, the VAV controllers can be installed in any system, even those made by different manufacturers.

Actuators for air volume control 300 Pa application range		Control signal	Operating voltage	Standard model	Dimensions round damper shaft (mm)	Dimensions square damper shaft (mm)
	**GDB 300 Pa VAV compact controller** 5 Nm for approx. 0.8 m² damper area 150 s run time	3-position	AC 24 V	GDB181.1E/3	8...16	6...12.8
		Modulating, DC 0/2...10 V	AC 24 V			
		KNX S-/LTE-Mode, KNX PL-Link	AC 24 V	GDB181.1E/KN		
		Modbus RTU	AC 24 V	GDB181.1E/MO		
		BACnet MS/TP	AC 24 V	GDB181.1E/BA		
	**GLB 300 Pa VAV compact controller** 10 Nm for approx. 1.5 m² damper area 150 s run time	3-position	AC 24 V	GLB181.1E/3	8...16	6...12.8
		Modulating, DC 0/2...10 V	AC 24 V			
		KNX S-/LTE-Mode, KNX PL-Link	AC 24 V	GLB181.1E/KN		
		Modbus RTU	AC 24 V	GLB181.1E/MO		
		BACnet MS/TP	AC 24 V	GLB181.1E/BA		
	**ASV 300 Pa VAV modular controller**	3-position	AC 24 V	ASV181.1E/3	–	–
		Modulating, DC 0/2...10 V	AC 24 V			

VAV controllers: OpenAir offers more possibilities, more convenience

Highlights

- Offers all common communications standards
- Fast, simple adjustment to VAV boxes
- Precise and stable differential pressure measurement

Superior actuators for air volume control

Reduced outlay, increased comfort: That neatly summarizes the solid benefits the OpenAir VAV controllers offer. It's all made possible thanks to maximum precision, excellent stability and winning flexibility – including the ability to respond rapidly to changed requirements.

Practical installation, varied application

Fast and simple adjustment to VAV boxes makes complicated and time-consuming installation a thing of the past. And because all common communications standards are accommodated and the VAV modular controller turns every 3-position actuator into a VAV actuator, you get to enjoy a much greater range of application than ever before.

The AST20 handheld operating unit for all VAV controllers offers a handy, ergonomic design. It makes both commissioning and maintenance easier, thanks to its intuitive menu system and its easy-to-follow screen.

Actuators for fire and smoke protection dampers	Control signal	Operating voltage	Two auxiliary switches	Two auxiliary switches and thermal cutout	Dimensions, square damper shaft (mm)
 **GRA actuator** 4 Nm for approx. 0.6 m² damper area 90 s run time 15 s SR time	2-position	AC/DC 24 V AC 230 V	GRA126.1E/..[1)] GRA326.1E/..[1)]	GRA126.1E/T..[1)] GRA326.1E/T..[1)]	10, 12
 **GNA actuator** 9/7 Nm for approx. 1 m² damper area 90 s run time 15 s SR time	2-position	AC/DC 24 V AC 230 V	GNA126.1E/..[1)] GNA326.1E/..[1)]	GNA126.1E/T..[1)] GNA326.1E/T..[1)]	10, 12
 **GGA actuator** 18 Nm for approx. 2.5 m² damper area 90 s run time 15 s SR time	2-position	AC/DC 24 V AC 230 V	GGA126.1E/..[1)] GGA326.1E/..[1)]	GGA126.1E/T..[1)] GGA326.1E/T..[1)]	10, 12

[1)] .. = use dimensions for square damper shaft (mm)

Actuators for fire and smoke protection dampers: Maximum safety with OpenAir

Reliable actuators for fire and smoke protection dampers

Safety when it matters: The OpenAir actuators function with reassuring reliability at a sensitive interface between humans and safety systems. After all, in an emergency it's extremely important to keep escape routes and emergency exits free from smoke as long as possible, even if there's a power outage or in special applications.

Powerful and safe opening and closing

Three powerful torque levels ensure that the dampers open and close rapidly and reliably. Two integrated auxiliary switches provide maximum safety in reporting the damper position.

Highlights

- Three powerful torque levels, thermal cutout at 72 °C or 95 °C
- Fast, easy and safe to install
- Robust housings for high endurance

Actuators for railway applications		Control signal	Operating voltage	Standard model	Feedback potentiometer	Two integrated auxiliary switches	Rotary direction switch
	**GDD series** 5 Nm 30 s run time	Modulating DC 0/2...10 V	DC 24 V	GDD161.1E/RW	–	–	Yes
		2-position 3-position		GDD141.1E/RW	GDD142.1E/RW	GDD146.1E/RW	
	**GDA series** 5 Nm 90 s run time	Modulating DC 0/2...10 V	DC 24 V	GDA161.1E/RW	–	–	Yes
		2-position 3-position		GDA141.1E/RW	GDA142.1E/RW	GDA146.1E/RW	
	**GLD series** 8 Nm 30 s run time	Modulating DC 0/2...10 V	DC 24 V	GLD161.1E/RW	–	–	Yes
		2-position 3-position		GLD141.1E/RW	GLD142.1E/RW	GLD146.1E/RW	
	**GLA series** 10 Nm 90 s run time	Modulating DC 0/2...10 V	DC 24 V	GLA161.1E/RW	–	–	Yes
		2-position 3-position		GLA141.1E/RW	GLA142.1E/RW	GLA146.1E/RW	

Air damper actuators for rail vehicles: OpenAir fits everywhere

Highlights

- Complies with all standards
- High reliability even under harsh conditions
- Extremely compact devices

Certified and customized to individual requirements

With OpenAir, we offer high-tech air damper actuators that comply with all necessary standards (EN 50155, EN 45545, EN 61373) for use in rail vehicles. To make your work easier, we provide the actuators with pre-mounted connectors of your choice and with the desired cable length.

Safe everywhere

The circuit boards, which are completely covered with a protective coating, and the very broad temperature operating range (of -40 to +85 °C) ensure maximum reliability and flexibility. The housing is also extremely compact, since the two auxiliary switches for signaling the air damper position are integrated.

Robust housings, high reliability, strong performance: The OpenAir actuator range is perfectly structured for ease of installation and efficient long-term operation.

OpenAir delivers what you need

Configure actuators to meet your requirements

If you have very specific requirements, you can easily use the product configurator in the Siemens Industry Mall to configure the right OpenAir actuator for your needs and order it directly. Your Siemens contact will of course be happy to help if you have additional requirements or want to place a large order.

Your configuration options

There's a choice of two labels and you can use your own company logo. You can also choose the cable type and length to fit your requirements. A selection of connectors is also available.

Highlights

- Actuators that are just right – made to suit your requirements
- Your own logo can be included if required
- Ordering is quick and easy

OpenAir – simple, robust and strong in everyday use

Fast and easy mounting

Damper actuators have to sell themselves right from the start – in terms of availability and installation as well as long-term use. You'll love the OpenAir range as soon as you discover how easily it can be installed, thanks to its sturdy housing and a well-thought-out wiring concept, as well as its self-centering shaft adapter that can be fixed with just a single screw.

The basic, proven features like color and number coding for the cables and the wiring diagram on the labels also help avoid errors during the installation process.

High quality ensures a long and reliable service life

The efficient OpenAir damper actuators will continue to prove their worth, because costs will always be one of the key issues in building automation into the future. The benefits of the high quality of this series are tangible, as you can see not only from their extremely long product life cycle but also from their economical low-consumption motors.

Highlights

- The right damper actuator for every application
- Easy and fast installation and commissioning
- High quality and extremely long product life cycle

Practical support

BIM – Building Information Modeling

BIM made easy with Siemens: With a wide range of products for BIM-based planning, Siemens is making it easy for you to experience the future of construction. The easy-to-use CAD browser from Siemens delivers BIM-compliant data that directly integrates into your BIM process, while also supporting more traditional CAD design workflows.

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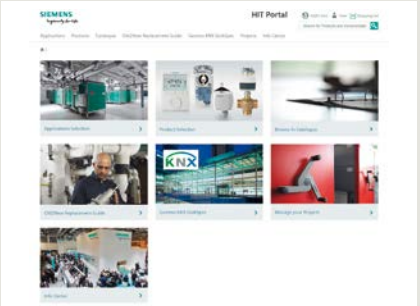
HIT Portal

The HIT Portal spares you the time-consuming search for the right products when you're designing HVAC systems. The tool offers more than 400 preconfigured standard HVAC configurations, all classified by their potential energy savings in accordance with EN 15232. That means, you can select the application that best meets the desired efficiency class. Extensive specifications are available, including system diagrams, lists of materials and technical documentation for each device.

Try it out: **siemens.com/hit**



Scan to HIT

This app lets you scan the data matrix code on the actuators to obtain immediate access to all important product information, including data sheets and installation instructions. The app for iOS and Android is free from the respective app stores.

Training

Draw on the accumulated knowledge of the experts at Siemens! Siemens is there to help: Its Building Technologies Academy provides training sessions in specialist subjects (for example, hydronics) and product-related training. Your Siemens contact will help you register.

Learn more about this project.

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All components working perfectly together

The new Bürgenstock Resort on top of the 1,100-meter Mount Bürgenberg in the Swiss Canton of Nidwalden opened in 2017. As Switzerland's largest hotel facility, the car-free resort comprises four hotels with three to five stars, a total of 800 beds, 68 residence suites, and a 10,000 square meter spa. The conference center offers 2,200 square meters of space for more than 800 guests. The facility is heated and cooled with energy from Lake Lucerne. Around 300 square meters of water per hour are pumped up the mountain. Lake water utilization is controlled via the Desigo CC building management platform from Siemens. Desigo CC also controls, monitors, and visualizes the ventilation equipment, sanitation systems, room automation, lighting, and area security. Thanks to the uniform, integrated system structure, the individual components are perfectly coordinated and easy to operate. This ensures that the facility is heated, cooled, and ventilated to the highest level of comfort and with the greatest energy efficiency.

Create a healthy indoor climate

We spend 90 percent of our lives indoors. Nevertheless, the air quality inside buildings is often up to five times worse than the outdoor air quality. A healthy indoor climate plays a major role in decreasing the risk of infection, reduces absenteeism, and increases productivity. Room air should never be too hot, too cold, or too dry. In this area, building automation makes a substantial contribution to the health and performance of building users.

People spend about 90 percent of their time indoors.

Improve the places where they spend their lives and
you improve their lives.

With our people and technology, our products and services,
our aim is to create perfect places.

For every stage of life.

When building technology creates perfect places –
that's Ingenuity for life.

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