

OpenAir Damper Actuators

Range overview



Building Technologies

SIEMENS



For a comfortable working and living environment

Consultants, wholesalers, system houses, craftsmen, building owners, operators and the environment take advantage of the technology and reliability offered by the OpenAir™ damper actuators from Siemens, which have been leading the way for over 20 years. Building automation can only function correctly if each component in the system operates reliably and accurately. The damper actuators are of modular design and excel not only in low power consumption. They increase the flexibility of the application areas and enable fast implementation of customer requirements, thus ensuring secure and sustained added value of HVAC plant.



■ **Complete product range for all types of application**

OpenAir damper actuators are reliable, powerful solutions for recirculated air, outside air, shutoff, smoke extraction and fire protection dampers, blinds as well as VAV devices, central and compact air conditioning units.

■ **Faster installation – lower overall costs**

With standardized dimensions, wiring and mounting concepts, OpenAir damper actuators are designed for direct connection and straightforward commissioning. This results in savings when it comes to installation expenses. All actuator models are secured with a single fixing screw. The high-torque actuators are equipped with a self-centering shaft adapter, which can be fitted from both sides. This offers the advantage that the actuator can also be easily fitted to short shafts. This patented design does not allow the actuator to move in the longitudinal holder, thus preventing friction and cracking noises.

■ **Rugged housing for added durability and longevity**

First-class engineering has made it possible to design the OpenAir damper actuators with very compact dimensions. They are easy to handle and very resistant to the rough conditions encountered during transportation, storage and on the construction site.

■ **Motors with low noise level**

The sturdy design, brushless motors and gear-trains that have already been run in ensure low-noise operation. Thus, the OpenAir damper actuators are suited for use in commercial buildings, hotels, hospitals, office buildings, schools and public buildings.

■ **Certified production for high quality**

Siemens meets the stringent ISO 9001 and ISO 14001 standards, thus satisfying the requirements of a closed quality and ecological cycle. High quality and simple design are of prime concern from development all the way through to disposal. The actuators are produced based on the subassembly principle and undergo integral testing. Each actuator is subjected to extensive final testing after assembly is completed. The OpenAir damper actuators conform to the CE, C-Tick and UL standards and are therefore suited for worldwide use.

■ **Fast delivery**

Siemens' global sales network ensures fast and uncomplicated delivery.

■ **Excellent price/performance ratio**

OpenAir damper actuators provide the best price/performance ratio due to their compact dimensions, exactly calculable size, precise functioning and good price.

Highlights

- Complete product range for any type of application
- Quick installation – low overall costs
- Rugged housing for added durability
- Motors with low noise level
- Certified production for high quality
- Fast delivery
- Best price/performance ratio



Spring return actuators and accessories

[illegible]

Non-spring return actuators and accessories

[illegible]

More benefits

Rotary actuators with spring return

Self-centering shaft coupling with patented design relieves strain on the actuator for longer motor life and increased reliability

Position indicators are universally located for at-a-glance verification

Rugged housing on all models for added durability and longevity

Manual override allows to check:

- Mounting of actuator on damper shaft
- Mechanical functionality of damper blade
- End position of damper blade

Optional built-in adjustable start/span factory-installed for faster installation

Single-bolt fastening for easy installation and reduced installed cost

AC/DC operation for added flexibility

Auxiliary end switches adjustment on both sides of the actuator

Compact footprint for ease of installation



GMA model shown

Other SR models: GQD, GCA



Direct-coupled connection for on-the-go installation.
Position measured continuously with no need to power up at startup, saving time.
Full-stroke overload protection kicks in automatically to protect motor and components.

Precabled options are factory-installed for faster, easier installation in the field.
Consistent wiring detail across product family for faster installation and lower installed cost.
Motor technology for quiet, low-noise operation.

More performance

Rotary actuators non-spring return

Single-bolt fastening for easy installation and reduced installed cost

Position indicators are universally located for at-a-glance verification

Rugged housing on all models for added durability and longevity

Optional built-in adjustable start/span available factory-installed for faster installation

Self-centering, shaft coupling with patented design relieves strain on the actuator for longer motor life and increased reliability

Auxiliary end switches adjustment on both sides of the actuator

Manual override allows to check:
- Mounting of actuator on damper shaft
- Mechanical functionality of damper blade
- End position of damper blade



Other NSR models: GSD, GDB, GLB, GBB, GIB



GEB model shown

Direct-coupled connection snap on for on-the-go, fast installation. Full-stroke protection kicks in automatically to protect motor and components. Precabled options are factory-installed for faster, easier installation in the field.

Small footprint provides powerful performance. Consistent wiring detail across product family for faster installation and lower installed cost. Motor technology for quiet, low-noise operation.

More alternatives

Linear actuators non-spring return

Rugged housing on all models for added durability and longevity

Auxiliary end switches adjustment on both sides of the actuator

Manual override allows to check:
- Mounting of actuator on damper shaft
- Mechanical functionality of damper blade
- End position of damper blade

Optional built-in adjustable start/span factory-installed for faster installation

Other NSR models: GDB, GLB, GBB

GEB model shown



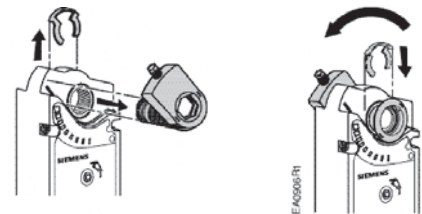
Full-stroke protection kicks in automatically to protect motor and components. Precabled options are factory-installed for faster, easier installation in the field. Small footprint provides powerful performance.

Consistent wiring detail across product family for faster installation and lower installed cost. Motor technology for quiet, low-noise operation.

More mounting alternatives

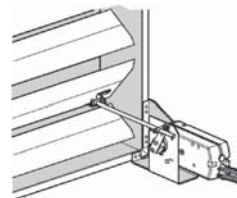
Short shaft mounting option

For easy mounting on short shafts without special accessories, the self-centering shaft adapter can be mounted on the backside of the actuator. Each actuator includes an adapter so that the position indicator is still easily viewed.



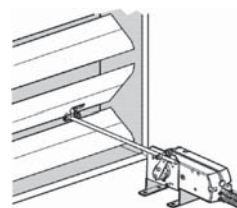
Frame mounting

The frame mounting kit is used when actuator cannot be directly mounted on damper shaft due to space limitations.



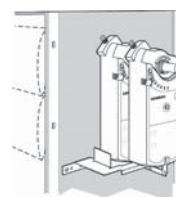
Foot mounting

Easily replace existing modulating motors using the foot mounting kit. The foot mounting kit can also be used for placing the actuator in the air stream and linking to the damper blades.



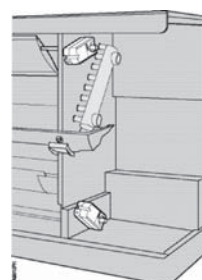
Actuators mounted in tandem

OpenAir actuators can be mounted in tandem to effectively double the torque of a single actuator. This unique feature allows OpenAir actuators to operate in a wider range of applications.



Unit fan applications

Excellent when space is limited, the GMA and GEB have a small footprint for easy mounting. High torque, full features, and a small footprint make the GMA and GEB actuators a perfect choice for unit fan applications.







OpenAir accessories

Description	GDB/ GLB	GEB/ GMA	GCA/GIB GBB	Part no. / type reference
 <p>Hex key Hex key Adjustment key 1 ea.</p>		<ul style="list-style-type: none"> • • 	<ul style="list-style-type: none"> • 	74 109 0017 0 4 109 2111 0 74 109 0013 0
 <p>Rotary to linear set with lever Allows a direct-coupled actuator to provide a linear drive; can be used to simultaneously drive a set of opposing or adjacent dampers with a single actuator.</p>	<ul style="list-style-type: none"> • 			ASK71.5
 <p>Rotary to linear set with lever Allows a direct-coupled actuator to provide an auxiliary linear drive; can be used to simultaneously drive a set of opposing or adjacent dampers with a single actuator.</p>		<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • 	ASK71.13 ASK71.3
 <p>Rotary to linear set with lever and angle bracket For use in applications where the actuator can be rigidly surface-mounted and a linear stroke output is required.</p>	<ul style="list-style-type: none"> • 			ASK71.6
 <p>Rotary to linear set with lever and mounting plate For use in applications where the actuator can be rigidly surface-mounted and a linear stroke output is required.</p>		<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • 	ASK71.14 ASK71.4
 <p>Universal lever For use with all OpenAir rotary to linear kits for linear applications requiring connection to damper louver shaft when joint connection is not possible. For 8 to 25.6 mm round.</p>	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • 	ASK71.9

Description	GDB/ GLB	GEB/ GMA	GCA/GIB GBB	Part no. / type reference
 <p>Tandem mounting bracket</p> <p>Tandem mounting bracket for 2-position and 3-position GCA/GIB models</p> <p>Tandem mounting bracket for modulating GCA/GIB models</p>		<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • • 	<p>ASK73.3</p> <p>ASK73.1</p> <p>ASK73.2</p>
 <p>Rotary to linear set for duct mounting For airstream applications and where a foot-mounted actuator can be used. Includes crank arm, Teflon support-bearing ring, and mounting fasteners.</p> <p>Rotary to linear set for duct and frame mounting</p>	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • 	<p>ASK71.6</p> <p>ASK71.1</p> <p>ASK71.11</p>
 <p>Rotary to linear set for frame mounting For direct mounting to damper frame. Includes a crank arm to generate a linear stroke, a Teflon support-bearing ring to minimize side-loading on the actuator's output bearing, and other mounting fasteners.</p> <p>Rotary to linear set for duct and frame mounting</p>		<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • 	<p>ASK71.2</p> <p>ASK71.11</p>
 <p>Anti-rotation bracket</p>	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • 	<p>4 190 7152 0</p> <p>74 190 0013 0</p> <p>4 190 6599 0</p>
 <p>Replacement standard shaft adapter</p>		<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • 	<p>74 718 0008 0</p> <p>4 718 1402 0</p>

OpenAir accessories

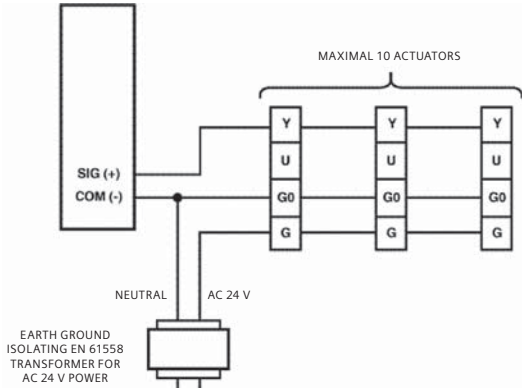
Description	GDB/ GLB	GEB/ GMA	GCA/GIB GBB	Part no. / type reference
 <p>Special shaft adapter</p> <ul style="list-style-type: none"> Up to 27 mm shaft diameter <p>Note: When used with a GIB, accepts shaft diameters from 19 to 27 mm</p>			•	ASK74.1
 <p>Actuator shaft insert for small shaft diameters</p> <ul style="list-style-type: none"> Up to 10 mm diameter 	•			ASK78.3
 <p>Replacement position indicators/packs of 10</p>	•	•	•	4 304 1349 0 74 304 0000 0 4 304 1348 0
 <p>Weathershield Includes cover, gasket and screws.</p> <ul style="list-style-type: none"> IP65 UV-resistant 		•	• •	ASK75.3 ASK75.1 ASK75.4
 <p>Shaft extension</p>		•	•	ASK74.7
 <p>Setting unit Handheld programming tool for VAV static GDB/GLB/ASV181.1E/3</p>	•			AST10

Description	GDB/ GLB	GEB/ GMA	GCA/GIB GBB	Part no. / type reference
 <p>Interface converter PPS2 to RS232 interface converter for use with GDB/GLB/ASV181.1E/3</p> <p>Service case</p>	<ul style="list-style-type: none"> • • 			<p>AST11</p> <p>AST21</p>
 <p>External auxiliary switches External auxiliary switch kit, attachable to GCA, GMA, GEB, GBB und GIB rotary actuators</p> <ul style="list-style-type: none"> - 1 external auxiliary switch - 2 external auxiliary switches 		<ul style="list-style-type: none"> • • 	<ul style="list-style-type: none"> • • 	<p>ASC77.1E</p> <p>ASC77.2E</p>
 <p>Shaft inserts for GDB/GLB...1</p> <ul style="list-style-type: none"> - D-profile - Round 1/2" - Square 8 x 8 mm - Square 8 x 8 mm fix - Square 10 x 10 mm - Round 8 mm - Round 10 mm - Round 12 mm - Round 3/8" - D-profile fix 	<ul style="list-style-type: none"> • • • • • • • • • • 			<p>ASK78.4</p> <p>ASK78.5</p> <p>ASK78.6</p> <p>ASK78.14</p> <p>ASK78.7</p> <p>ASK78.8</p> <p>ASK78.9</p> <p>ASK78.10</p> <p>ASK78.11</p> <p>ASK78.12</p>
 <p>Shaft adapter square</p> <ul style="list-style-type: none"> - 15 x 15 mm - 12 x 12 mm - 10 x 10 mm - 8 x 8 mm - 15 x 15 mm - 12 x 12 mm - 10 x 10 mm - 8 x 8 mm 		<ul style="list-style-type: none"> • • • • 	<ul style="list-style-type: none"> • • • • 	<p>74 718 0019 0</p> <p>74 718 0020 0</p> <p>74 718 0021 0</p> <p>74 718 0022 0</p> <p>74 718 0027 0</p> <p>74 718 0028 0</p> <p>74 718 0029 0</p> <p>74 718 0030 0</p>

More wiring options

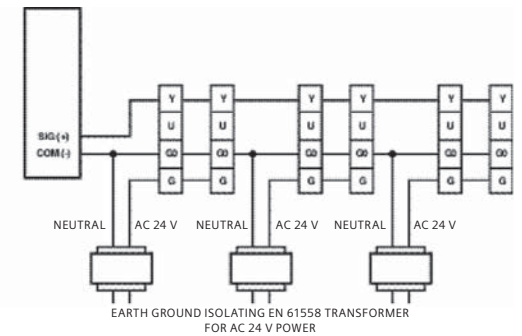
DC 0...10 V actuators wired in parallel with one transformer

OpenAir DC 0...10 V actuators can be wired in parallel with one signal driving up to ten actuators. Feedback should not be wired together and can be picked up at one of the actuators.



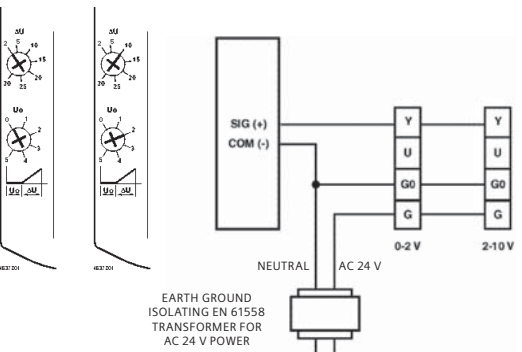
DC 0...10 V actuators wired in parallel with multiple transformers

OpenAir DC 0...10 V actuators can be wired in parallel with one signal driving a bank of up to ten actuators. Multiple transformers can power multiple actuators. Feedback should not be wired together and can be picked up at one of the actuators.



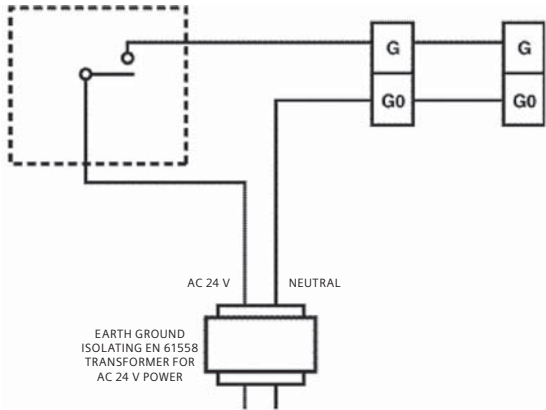
Sequencing of DC 0...10 V actuators

With the settings shown, two DC 0...10 V actuators can be sequenced such that the first one will operate at DC 0...2 V and the second at DC 2...10 V. This feature is perfect for specialized applications, such as staging or minimum required airflow.



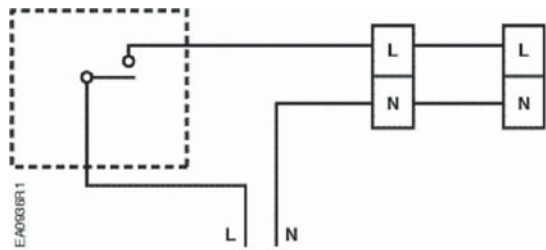
2-position AC 24 V actuators wired in parallel

Two actuators can be wired in parallel to double the torque or may be mounted separately and operated in parallel.



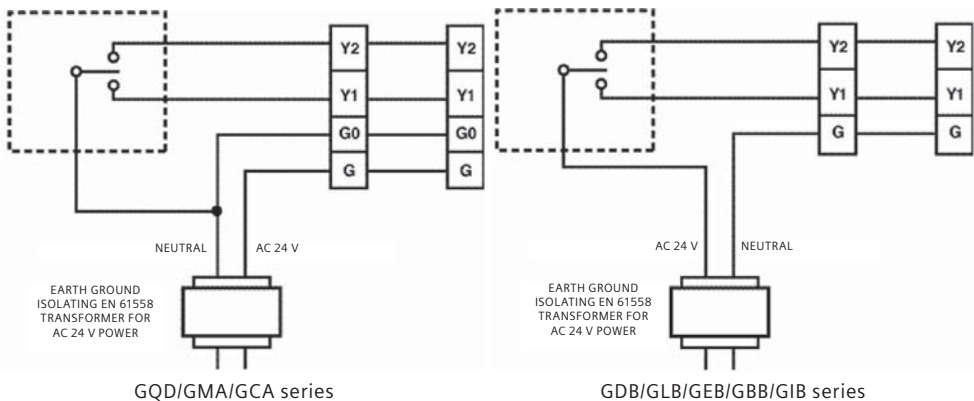
2-position AC 230 V actuators wired in parallel

Two actuators can be wired in parallel to double the torque or may be mounted separately and operated in parallel.



3-position actuators wired in parallel

Two actuators of the same type can be wired in parallel to double the torque or may be mounted separately and operated in parallel.

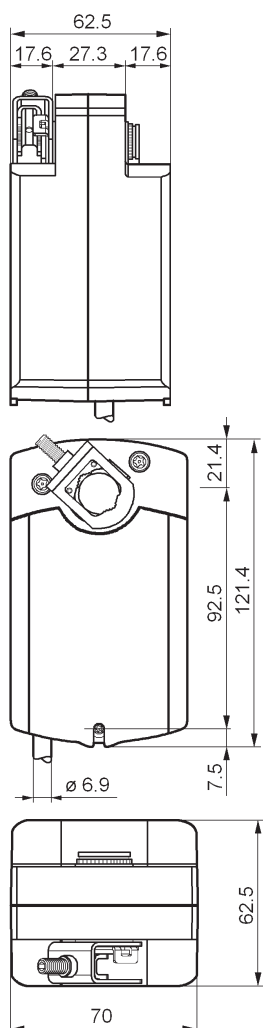


*Note:
GBB/GIB index A ↔ GBB/GIB index B

Submittal summary

OpenAir GQD series – spring return, rotary movement

Dimensions shown in mm



Technical data

Torque	2 Nm running and 2 Nm spring return
Runtime for 90°	30 sec. operating 15 sec. typical closing
Frequency	50 / 60 Hz
Power consumption	AC/DC 24 V
Running	6.5 VA / 4.5 W
Holding	4 VA / 2.5 W
Power consumption	AC 230 V
Running	10 VA / 4.5 W
Holding	7 VA / 3 W
Angle of rotation	90° nominal 95° maximal
Shaft dimensions	8 to 15 mm round 6 to 11 mm square 20 mm min. length
Operating temperature	-32...+55 °C
Storage temperature	-32...+50 °C
Ambient humidity	<95% r.h. (non-condensing)
Precabled connection	0.75 mm ² , 0.9 m long
Degree of protection	IP40
CE conformity	
Electromagnetic	
Compatibility (EMC)	2004/108/EEC
Emission standards	IEC/EN 61000-6-3
Immunity standards	IEC/EN 61000-6-2
Material	durable plastic
Gear lubrication	silicon-free
Dimensions	70 (W) x 121.4 (H) x 62.5 mm (D)
Weight	0.50 kg



2 Nm
AC/DC 24 V and AC 230 V
Modulating
2-position/3-position



N474

Connection diagrams

Diagram showing a 2-position switch (III) controlling a motor (M). The switch has terminals 1 (G) and 2 (G0). The motor has terminals 1 (G) and 2 (G0). The supply is AC/DC 24 V. The motor is connected to AC/DC 0 V.

2-position, AC/DC 24 V

Diagram showing a 2-position switch (□) controlling a motor (M). The switch has terminals 3 (L) and 4 (N). The motor has terminals 3 (L) and 4 (N). The supply is AC 230 V. The motor is connected to AC 0 V.

2-position, AC 230 V

Diagram showing a 3-position switch (III) controlling a motor (M). The switch has terminals 6 (Y1) and 7 (Y2). The motor has terminals 6 (Y1) and 7 (Y2). The supply is AC 24 V, DC 24...48 V, and AC 0 V. The motor is connected to AC 24 V, AC/DC 0 V, and DC 24...48 V.

3-position, AC 24 V / DC 24...48 V

Diagram showing a modulating switch (III) controlling a motor (M). The switch has terminals 1 (G) and 8 (Y). The motor has terminals 1 (G) and 8 (Y). The supply is AC 24 V, DC 24...48 V, and AC 0 V. The motor is connected to AC/DC 0 V, DC 0...10 V, and DC 24...48 V.

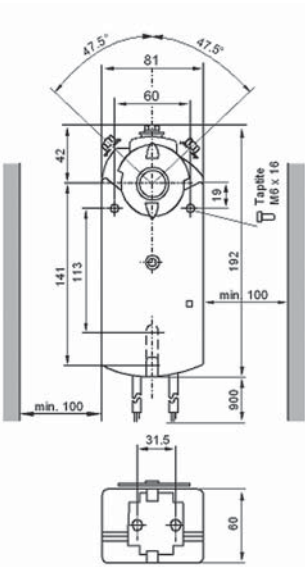
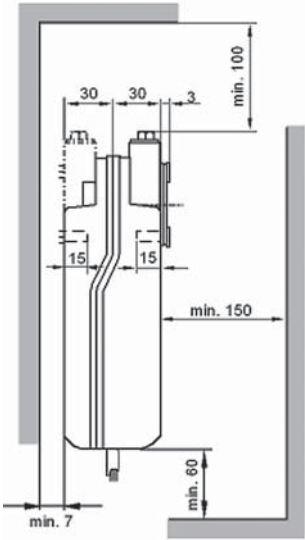
Modulating (DC 0...10 V), AC 24 V / DC 24...48 V

Type reference	Operating voltage			Control		
	AC 24 V ± 20% DC 24 V ± 15%	AC 24 V ± 20% DC 24...48 V ± 20%	AC 230 V ± 15%	DC 0...10 V	3-position	2-position
GQD121.1A	●					●
GQD321.1A			●			●
GQD131.1A		●			●	
GQD161.1A		●		●		

Submittal summary

OpenAir GMA series – spring return, rotary movement

Dimensions shown in mm



Technical data	
Torque	7 Nm running and 7 Nm spring return
Runtime for 90°	90 sec. operating 15 sec. typical closing
Frequency	50 / 60 Hz
Power consumption	AC/DC 24 V
Running	5 VA / 3.5 W
Holding	2.5 W
Power consumption	AC 230 V
Running	7 VA / 4.5 W
Holding	3.5 W
Angle of rotation	90° nominal 95° maximal
Shaft dimensions	6.4 to 20.5 mm round 6.4 to 13 mm square 20 mm min. length
Operating temperature	-32...+55 °C
Storage temperature	-32...+70 °C
Ambient humidity	<95% r.h. (non-condensing)
Precabled connection	0.75 mm², 0.9 m long
Degree of protection	IP54
CE conformity	
Electromagnetic Compatibility (EMC)	2004/108/EEC
Emission standards	IEC/EN 61000-6-3
Immunity standards	IEC/EN 61000-6-2
Material	die-cast aluminum alloy
Gear lubrication	silicone-free
Dimensions	192 mm (H) x 81 mm (W) x 63 mm (D)
Weight	1.3 kg

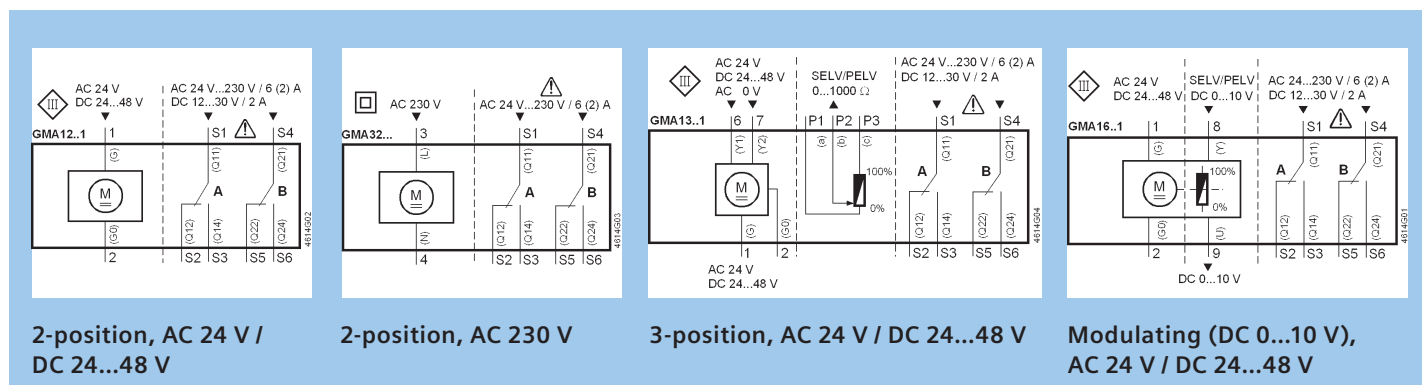


7 Nm
AC 24 V / DC 24...48 V and AC 230 V
Modulating
2-position/3-position



N474

Connection diagrams

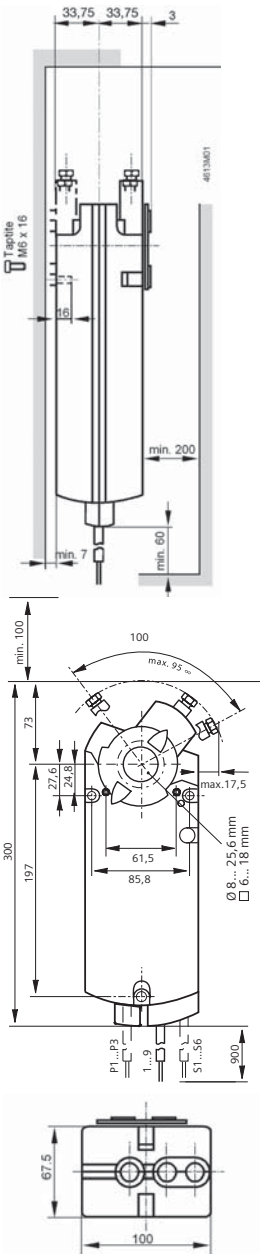


Type reference	Operating voltage		Control			Built-in control options		
	AC 24 V $\pm 20\%$ DC 24...48 V $\pm 20\%$	AC 230 V $\pm 10\%$	DC 0...10 V	3-position	2-position	Position feedback	Dual auxiliary switches	Offset and span
GMA121.1E	●				●			
GMA126.1E	●				●		●	
GMA321.1E		●			●		●	
GMA326.1E		●			●		●	
GMA131.1E	●			●				
GMA132.1E	●			●		●		
GMA136.1E	●			●			●	
GMA161.1E	●		●			●		
GMA163.1E	●		●			●		●
GMA164.1E	●		●			●	●	●
GMA166.1E	●		●			●	●	

Submittal summary

OpenAir GCA series – spring return, rotary movement

Dimensions shown in mm



Technical data	
Torque	18 Nm running and 18 Nm spring return
Runtime for 90°	90 sec. operating 15 sec. typical closing
Frequency	50 / 60 Hz
Power consumption	AC/DC 24 V
Running	7 VA / 5 W
Holding	3 W
Power consumption	AC 230 V
Running	8 VA / 6 W
Holding	4 W
Angle of rotation	90° nominal 95° maximal
Shaft dimensions	8 to 25.6 mm round 6 to 18 mm square 20 mm min. length
Operating temperature	-32...+55 °C
Storage temperature	-32...+70 °C
Ambient humidity	<95% r.h. (non-condensing)
Precabled connection	0.75 mm², 0.9 m long
Degree of protection	IP54
CE conformity	
Electromagnetic	
Compatibility (EMC)	2004/108/EEC
Emission standards	IEC/EN 61000-6-3
Immunity standards	IEC/EN 61000-6-2
Material	die-cast aluminum alloy
Gear lubrication	silicone-free
Dimensions	300 mm (H) x 100 mm (W) x 70.5 mm (D)
Weight	2.1 kg

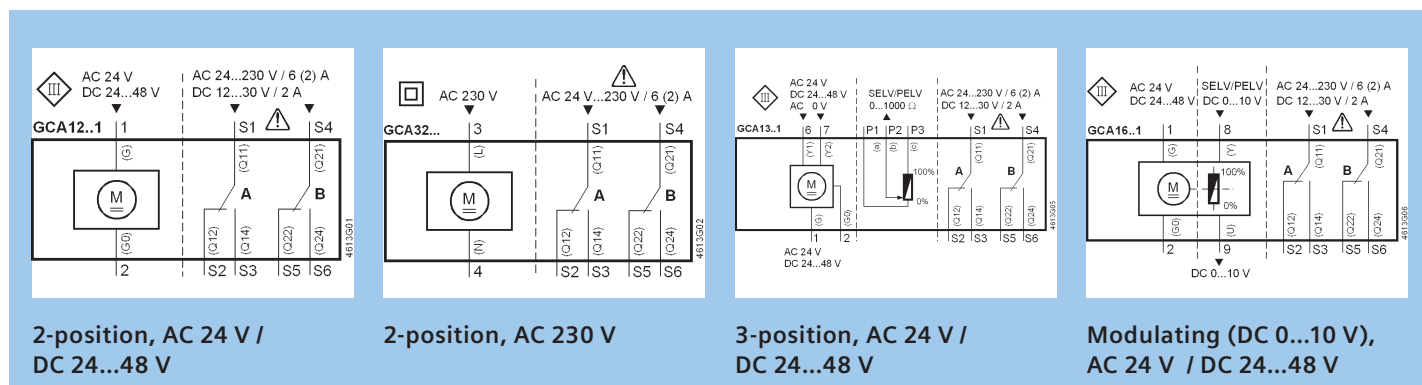


18 Nm
AC 24 V / DC 24...48 V and AC 230 V
Modulating
2-position/3-position



N474

Connection diagrams

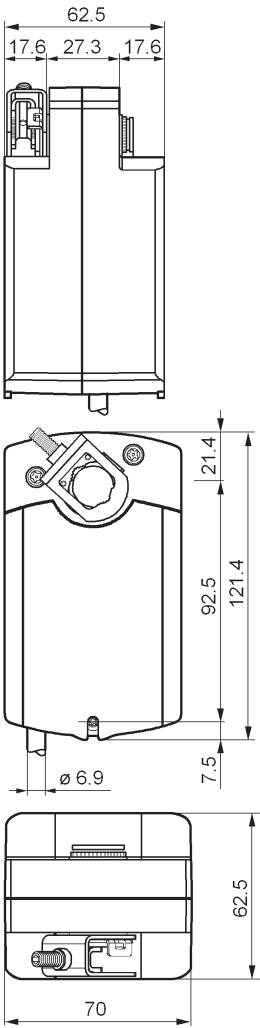


Type reference	Operating voltage		Control			Built-in control options		
	AC 24 V $\pm 20\%$ DC 24...48 V $\pm 20\%$	AC 230 V $\pm 10\%$	DC 0...10 V	3-position	2-position	Position feedback	Dual auxiliary switches	Offset and span
GCA121.1E	●				●			
GCA126.1E	●				●		●	
GCA321.1E		●			●		●	
GCA326.1E		●			●		●	
GCA131.1E	●			●				
GCA135.1E	●			●		●	●	
GCA161.1E	●		●			●		
GCA163.1E	●		●			●		●
GCA164.1E	●		●			●	●	●
GCA166.1E	●		●			●	●	

Submittal summary

OpenAir GSD series – non-spring return, rotary movement

Dimensions shown in mm



Technical data	
Torque	2 Nm
Runtime for 90°	30 sec.
Frequency	50 / 60 Hz
Power consumption	AC/DC 24 V
Running	2 VA / 1.5 W
Holding	1 VA / 0.5 W
Power consumption	AC 230 V
Running	12 VA / 2 W
Holding	12 VA / 2 W
Angle of rotation	90° nominal 95° maximal
Shaft dimensions	8 to 15 mm round 6 to 11 mm square 20 mm min. length
Operating temperature	-32...+55 °C
Storage temperature	-32...+50 °C
Ambient humidity	<95% r.h. (non-condensing)
Precabled connection	0.75 mm², 0.9 m long
Degree of protection	IP40
CE Conformity	
Electromagnetic Compatibility (EMC)	2004/108/EG
Emission standards	IEC/EN 61000-6-3
Immunity standards	IEC/EN 61000-6-2
Material	durable plastic
Gear lubrication	silicon-free
Dimensions	121.4 (W) x 70 (H) x 62.5 mm (D)
Weight	0.44 kg



2 Nm
AC/DC 24 V and AC 230 V
On/Off (1-wire SPST)

Connection diagrams

On/Off (1-wire SPST),
AC/DC 24 V

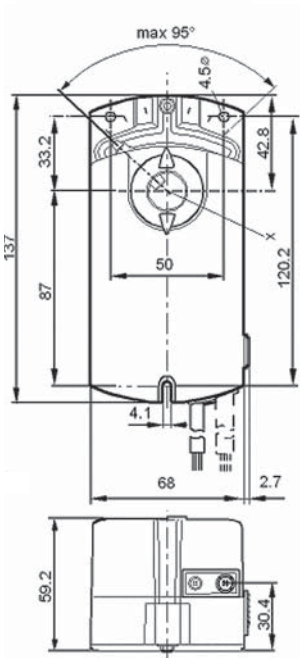
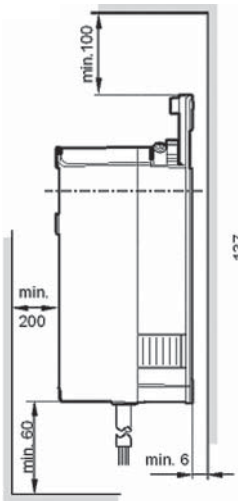
On/Off (1-wire SPST),
AC 230 V

Type reference	Operating voltage		Control
	AC 24 V ± 20% DC 24 V ± 15%	AC 230 V ± 15%	On/Off (1-wire SPST)
GSD121.1A	●		●
GSD321.1A		●	●

Submittal summary

OpenAir GDB series – non-spring return, rotary movement

Dimensions shown in mm



Technical data

Torque	5 Nm
Runtime for 90°	150 sec. (50 Hz) opening and closing
Frequency	50 / 60 Hz
Power consumption	AC 24 V
Running	3 VA (modulating)
Running	2 VA (3-position)
Holding	1 W (modulating)
Power consumption	AC 230 V
Running	2 VA
Angle of rotation	90° nominal 95° maximal
Shaft dimensions	8 to 16 mm round 6 to 12.8 mm square 30 mm min. length
Operating temperature	-32...+55 °C
Storage temperature	-32...+70 °C
Ambient humidity	<95% r.h. (non-condensing)
Precabled connection	0.75 mm², 0.9 m long
Degree of protection	IP54
CE conformity	
Electromagnetic	
Compatibility (EMC)	2004/108/EEC
Emission standards	IEC/EN 61000-6-3
Immunity standards	IEC/EN 61000-6-2
Material	durable plastic
Gear lubrication	silicone-free
Dimensions	137 mm (H) x 68 mm (W) x 59.5 mm (D)
Weight	0.48 kg

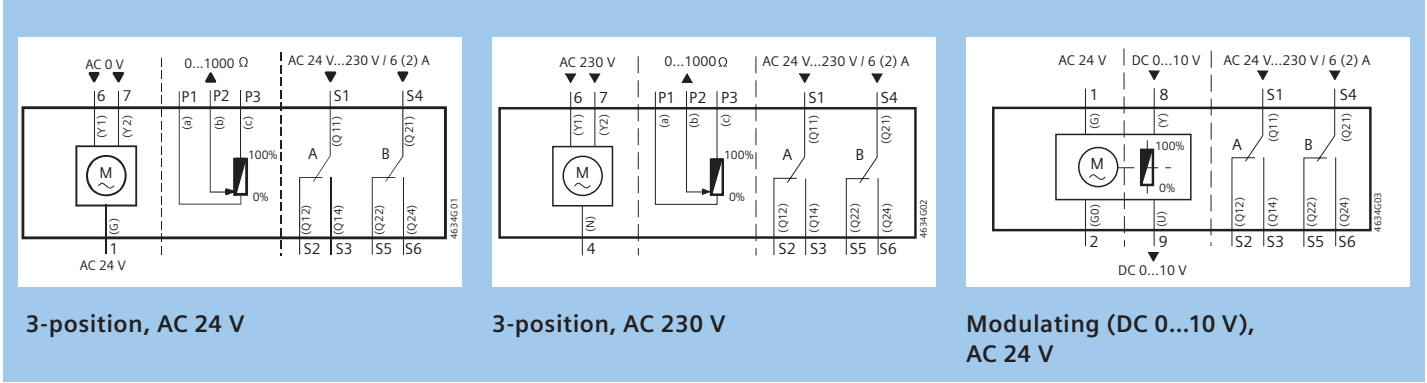


5 Nm
AC 24 V and AC 230 V
Modulating
3-position



N474

Connection diagrams



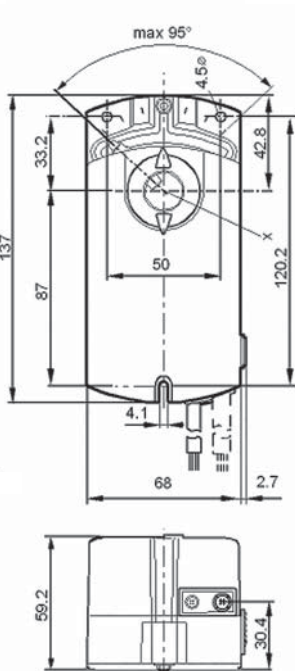
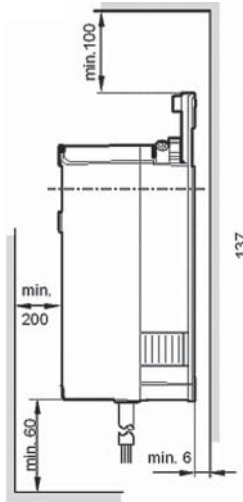
Type reference	Operating voltage		Control		Built-in control options		
	AC 24 V ± 20%	AC 230 V ± 10%	DC 0...10 V	3-position	Position feedback	Dual auxiliary switches	Offset and span
GDB131.1E	●			●			
GDB132.1E	●			●	●		
GDB136.1E	●			●		●	
GDB331.1E		●		●			
GDB332.1E		●		●	●		
GDB336.1E		●		●		●	
GDB161.1E	●		●		●		
GDB163.1E	●		●		●		●
GDB164.1E	●		●		●	●	●
GDB166.1E	●		●		●	●	

Note:
GSF161.1E, 2 Nm, 20 s runtime for 90° also available

Submittal summary

OpenAir GLB series – non-spring return, rotary movement

Dimensions shown in mm



Technical data

Torque	10 Nm
Runtime for 90°	150 sec. (50 Hz) opening and closing
Frequency	50 / 60 Hz
Power consumption	AC 24 V
Running	3 VA (modulating)
Running	2 VA (3-position)
Holding	1 W (modulating)
Power consumption	AC 230 V
Running	2 VA
Angle of rotation	90° nominal 95° maximal
Shaft dimensions	8 to 16 mm round 6 to 12.8 mm square 30 mm min. length
Operating temperature	-32...+55 °C
Storage temperature	-32...+70 °C
Ambient humidity	<95% r.h. (non-condensing)
Precabled connection	0.75 mm², 0.9 m long
Degree of protection	IP54
CE conformity	
Electromagnetic	
Compatibility (EMC)	2004/108/EEC
Emission standards	IEC/EN 61000-6-3
Immunity standards	IEC/EN 61000-6-2
Material	durable plastic
Gear lubrication	silicone-free
Dimensions	137 mm (H) x 68 mm (W) x 59.5 mm (D)
Weight	0.48 kg

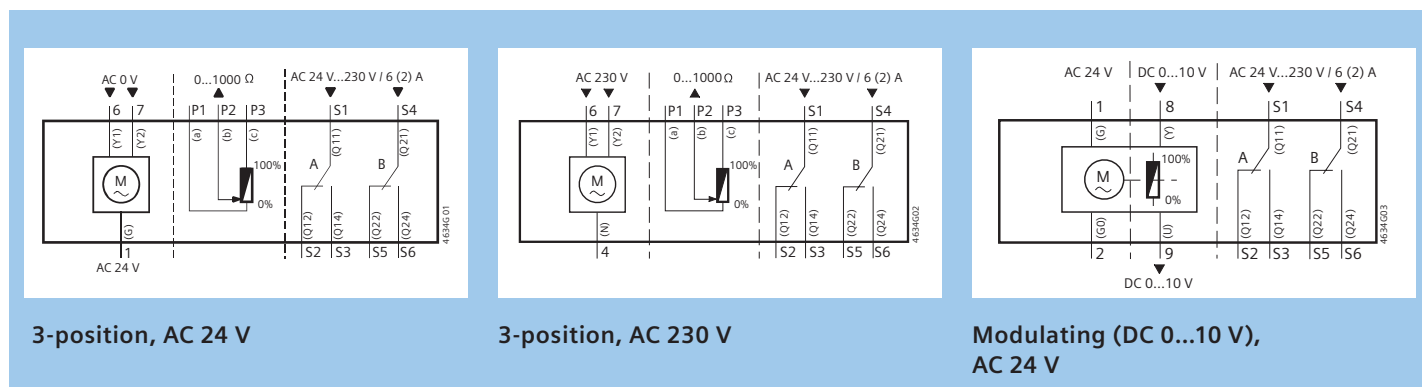


10 Nm
AC 24 V and AC 230 V
Modulating
3-position



N474

Connection diagrams

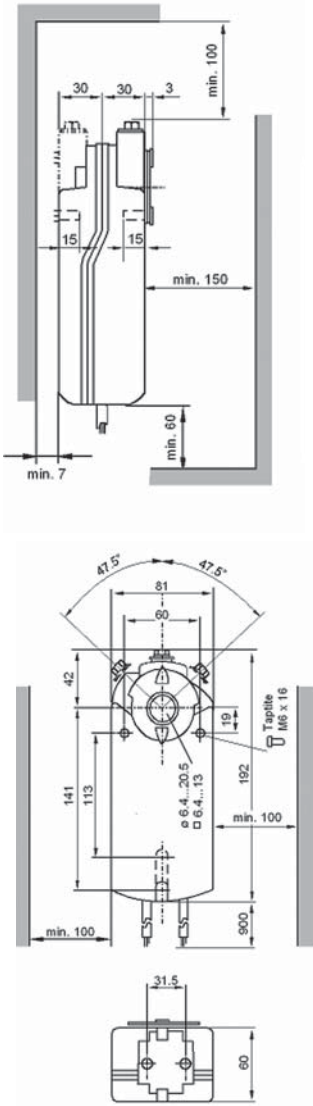


Type reference	Operating voltage		Control		Built-in control options		
	AC 24 V ± 20%	AC 230 V ± 10%	DC 0...10 V	3-position	Position feedback	Dual auxiliary switches	Offset and span
GLB131.1E	•			•			
GLB132.1E	•			•	•		
GLB136.1E	•			•		•	
GLB331.1E		•		•			
GLB332.1E		•		•	•		
GLB336.1E		•		•		•	
GLB161.1E	•		•		•		
GLB163.1E	•		•		•		•
GLB164.1E	•		•		•	•	•
GLB166.1E	•		•		•	•	

Submittal summary

OpenAir GEB series – non-spring return, rotary movement

Dimensions shown in mm



Technical data	
Torque	15 Nm
Runtime for 90°	150 sec. (50 Hz) opening and closing
Frequency	50 / 60 Hz
Power consumption	AC 24 V
Running	4 VA (3-position)
Running	6 VA (modulating)
Holding	1.5 W (modulating)
Power consumption	AC 230 V
Running	3 VA
Angle of rotation	90° nominal 95° maximal
Shaft dimensions	6 to 20.5 mm round 6.4 to 13 mm square 20 mm min. length
Operating temperature	-32...+55 °C
Storage temperature	-32...+70 °C
Ambient humidity	<95% r.h. (non-condensing)
Precabled connection	0.75 mm², 0.9 m long
Degree of protection	IP54
CE conformity	
Electromagnetic	
Compatibility (EMC)	2004/108/EEC
Emission standards	IEC/EN 61000-6-3
Immunity standards	IEC/EN 61000-6-2
Material	die-cast aluminum alloy
Gear lubrication	silicone-free
Dimensions	192 mm (H) x 81 mm (W) x 63 mm (D)
Weight	1.1 kg

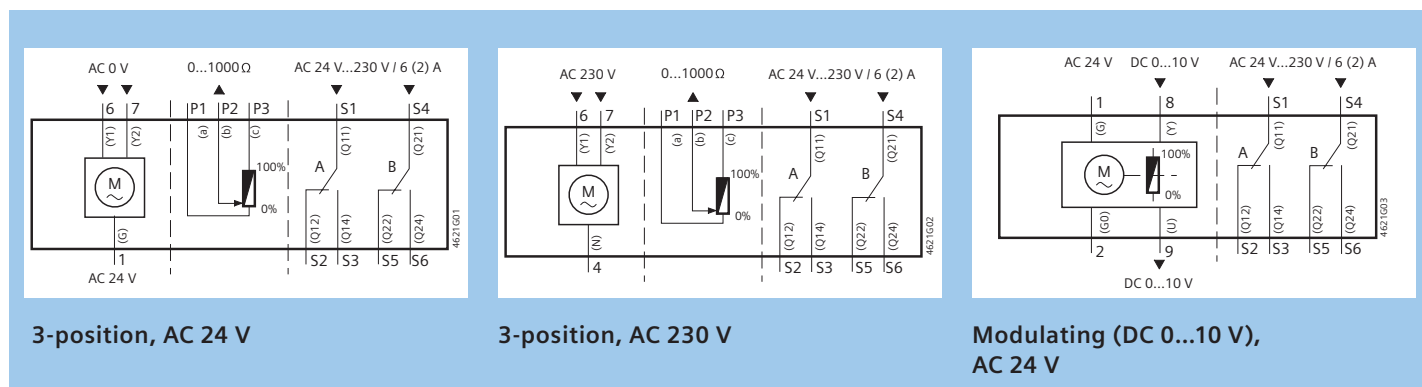


15 Nm
AC 24 V and AC 230 V
Modulating
3-position



N474

Connection diagrams



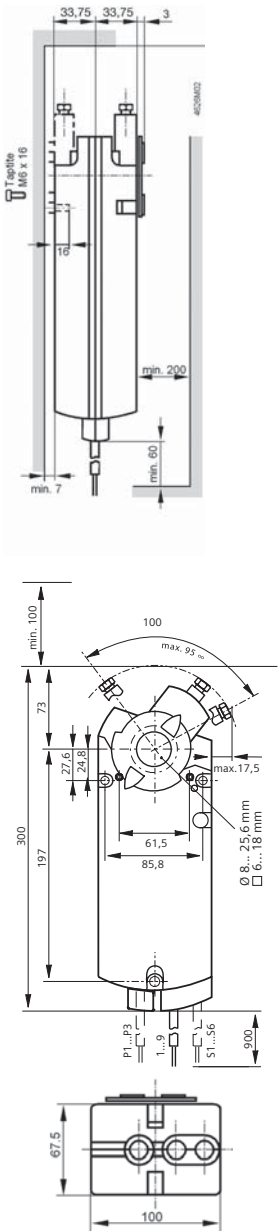
Type reference	Operating voltage		Control		Built-in control options			
	AC 24 V ± 20%	AC 230 V ± 10%	DC 0...10 V	3-position	Position feedback	Dual auxiliary switches	Offset and span	Input signal selectable*)
GEB131.1E	●			●				
GEB132.1E	●			●	●			
GEB136.1E	●			●		●		
GEB331.1E		●		●				
GEB332.1E		●		●	●			
GEB336.1E		●		●		●		
GEB161.1E*	●		●		●			●
GEB163.1E	●		●		●		●	
GEB164.1E	●		●		●	●	●	
GEB166.1E*	●		●		●	●		●

*) DC 0...10 V or DC 2...10 V

Submittal summary

OpenAir GBB series – non-spring return, rotary movement

Dimensions shown in mm

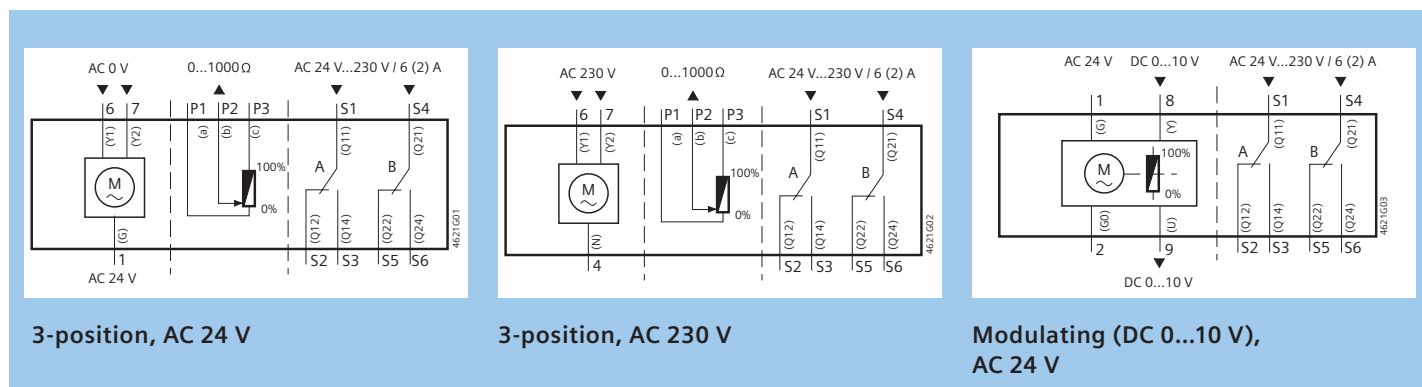


Technical data	
Torque	25 Nm
Runtime for 90°	150 sec. (50 Hz) opening and closing
Frequency	50 / 60 Hz
Power consumption	AC 24 V
Running	7 VA (3-position)
Running	8 VA (modulating)
Holding	1 W (modulating)
Power consumption	AC 230 V
Running	5 VA
Angle of rotation	90° nominal 95° maximal
Shaft dimensions	8 to 25.6 mm round 6 to 18 mm square 20 mm min. length
Operating temperature	-32...+55 °C
Storage temperature	-32...+70 °C
Ambient humidity	<95% r.h. (non-condensing)
Precabled connection	0.75 mm², 0.9 m long
Degree of protection	IP54
CE conformity	
Electromagnetic	
Compatibility (EMC)	2004/108/EEC
Emission standards	IEC/EN 61000-6-3
Immunity standards	IEC/EN 61000-6-2
Material	die-cast aluminum alloy
Gear lubrication	silicone-free
Dimensions	300 mm (H) x 100 mm (W) x 70.5 mm (D)
Weight	2.0 kg



25 Nm
AC 24 V and AC 230 V
Modulating
3-position

Connection diagrams



Type reference	Operating voltage		Control		Built-in control options		
	AC 24 V ± 20%	AC 230 V ± 10%	DC 0...10 V	3-position	Position feedback	Dual auxiliary switches	Offset and span
GBB131.1E	●			●			
GBB135.1E	●			●	●	●	
GBB136.1E	●			●		●	
GBB331.1E		●		●			
GBB335.1E		●		●	●	●	
GBB336.1E		●		●		●	
GBB161.1E	●		●		●		
GBB163.1E	●		●		●		●
GBB164.1E	●		●		●	●	●
GBB166.1E	●		●		●	●	

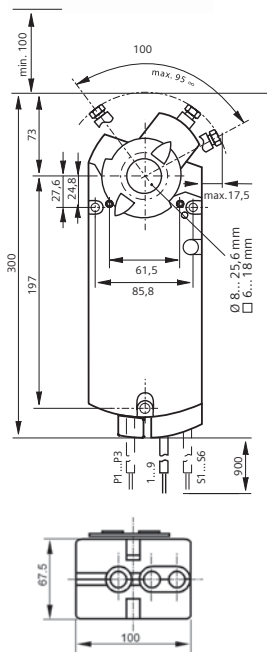
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N474
32

Technical drawing of a Tactile M6 x 16 sensor. The drawing shows a side view of the sensor with the following dimensions:

- Top section width: 33.75
- Top section width: 33.75
- Top section width: 3
- Top section width: 16
- Top section width: min. 200
- Top section width: min. 60
- Top section width: min. 7

The drawing is labeled "Tactile M6 x 16" and "4620M02".

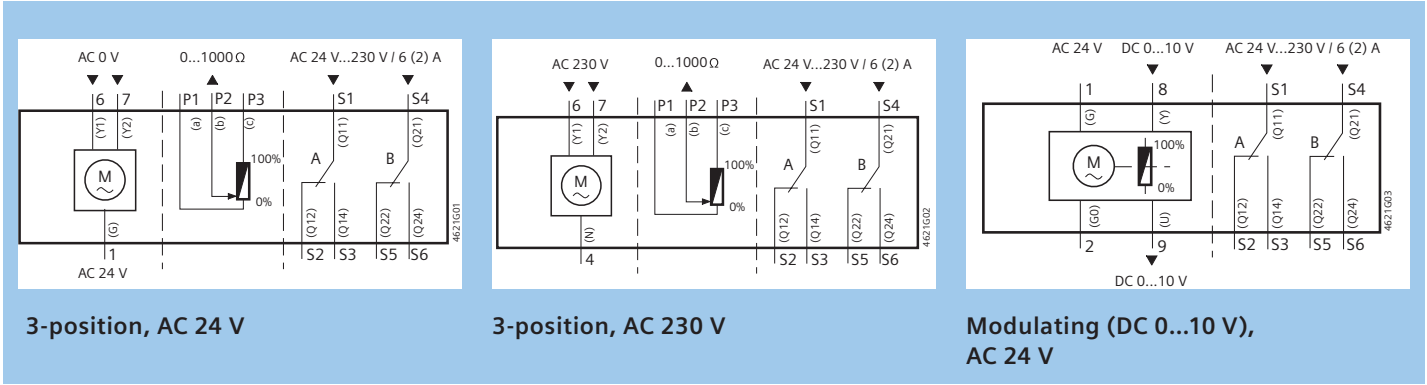


Torque	35 Nm
Runtime for 90°	150 sec. (50 Hz) opening and closing
Frequency	50 / 60 Hz
Power consumption	AC 24 V
Running	7 VA (3-position)
Running	8 VA (modulating)
Holding	1 W (modulating)
Power consumption	AC 230 V
Running	5 VA
Angle of rotation	90° nominal 95° maximal
Shaft dimensions	8 to 25.6 mm round 6 to 18 mm square 20 mm min. length
Operating temperature	-32...+55 °C
Storage temperature	-32...+70 °C
Ambient humidity	<95% r.h. (non-condensing)
Precabled connection	0.75 mm², 0.9 m long
Degree of protection	IP54
CE conformity	
Electromagnetic	
Compatibility (EMC)	2004/108/EEC
Emission standards	IEC/EN 61000-6-3
Immunity standards	IEC/EN 61000-6-2
Material	die-cast aluminum alloy
Gear lubrication	silicone-free
Dimensions	300 mm (H) x 100 mm (W) x 70.5 mm (D)
Weight	2.0 kg



35 Nm
AC 24 V and AC 230 V
Modulating
3-position

Connection diagrams

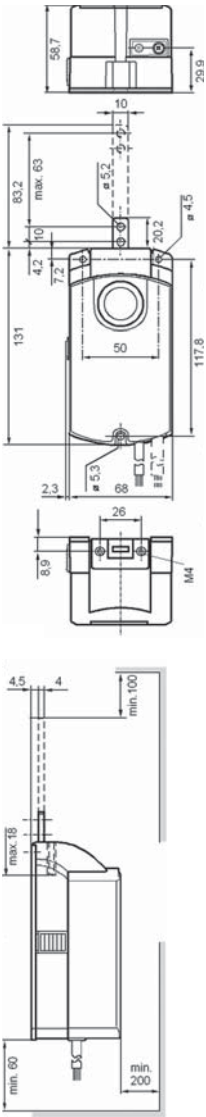


Type reference	Operating voltage		Control		Built-in control options		
	AC 24 V ± 20%	AC 230 V ± 10%	DC 0...10 V	3-position	Position feedback	Dual auxiliary switches	Offset and span
GIB131.1E	●			●			
GIB135.1E	●			●	●	●	
GIB136.1E	●			●		●	
GIB331.1E		●		●			
GIB335.1E		●		●	●	●	
GIB336.1E		●		●		●	
GIB161.1E	●		●		●		
GIB163.1E	●		●		●		●
GIB164.1E	●		●		●	●	●
GIB166.1E	●		●		●	●	

Submittal summary

OpenAir GDB series – non-spring return, linear movement

Dimensions shown in mm

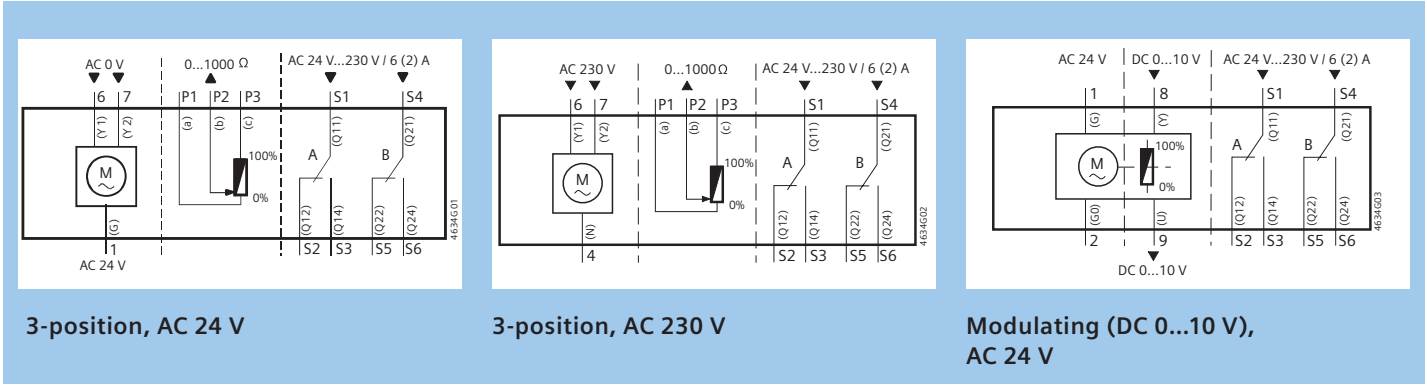


Technical data	
Force	125 N
Runtime for 60 mm	150 sec. (50 Hz) opening and closing
Frequency	50 / 60 Hz
Power consumption	AC 24 V
Running	3 VA (modulating)
Running	2 VA (3-position)
Holding	1 W (modulating)
Power consumption	AC 230 V
Running	2 VA
Stroke	60 mm
Operating temperature	-32...+55 °C
Storage temperature	-32...+70 °C
Ambient humidity	<95% r.h. (non-condensing)
Precabled connection	0.75 mm², 0.9 m long
Degree of protection	IP40
CE conformity	
Electromagnetic	
Compatibility (EMC)	2004/108/EEC
Emission standards	IEC/EN 61000-6-3
Immunity standards	IEC/EN 61000-6-2
Material	durable plastic
Gear lubrication	silicone-free
Dimensions	152 mm (H) x 68 mm (W) x 59 mm (D)
Weight	0.48 kg



125 N
AC 24 V and AC 230 V
Modulating
3-position

Connection diagrams

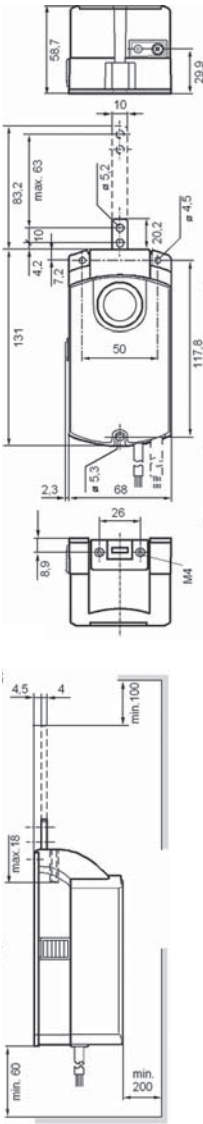


Type reference	Operating voltage		Control		Built-in control options		
	AC 24 V ± 20%	AC 230 V ± 10%	DC 0...10 V	3-position	Position feedback	Dual auxiliary switches	Offset and span
GDB131.2E	●			●			
GDB132.2E	●			●	●		
GDB136.2E	●			●		●	
GDB331.2E		●		●			
GDB332.2E		●		●	●		
GDB336.2E		●		●		●	
GDB161.2E	●		●		●		
GDB163.2E	●		●		●		●
GDB164.2E	●		●		●	●	●
GDB166.2E	●		●		●	●	

Submittal summary

OpenAir GLB series – non-spring return, linear movement

Dimensions shown in mm

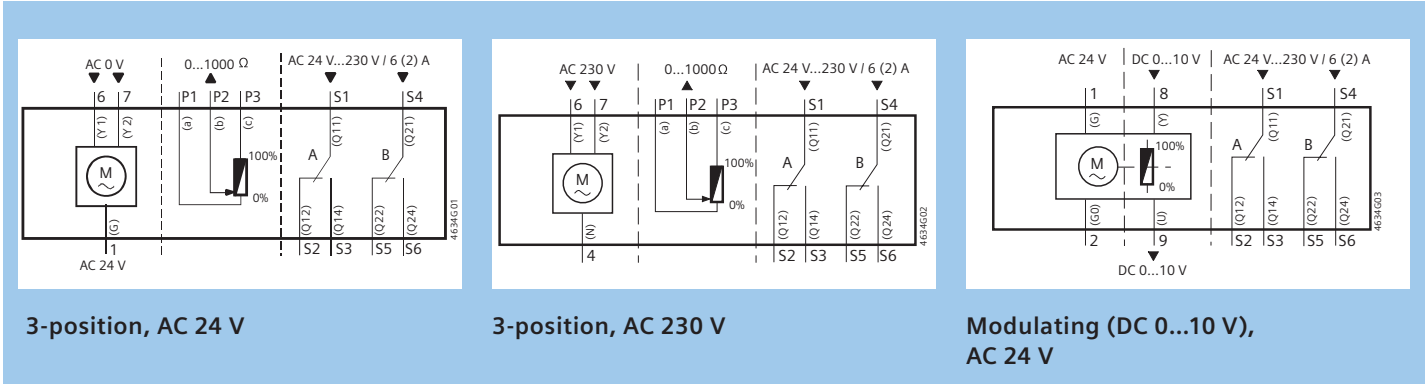


Technical data	
Force	250 N
Runtime for 60 mm	150 sec. (50 Hz) opening and closing
Frequency	50 / 60 Hz
Power consumption	AC 24 V
Running	3 VA (modulating)
Running	2 VA (3-position)
Holding	1 W (modulating)
Power consumption	AC 230 V
Running	2 VA
Stroke	60 mm
Operating temperature	-32...+55 °C
Storage temperature	-32...+70 °C
Ambient humidity	<95% r.h. (non-condensing)
Precabled connection	0.75 mm², 0.9 m long
Degree of protection	IP40
CE conformity	
Electromagnetic	
Compatibility (EMC)	2004/108/EEC
Emission standards	IEC/EN 61000-6-3
Immunity standards	IEC/EN 61000-6-2
Material	durable plastic
Gear lubrication	silicone-free
Dimensions	152 mm (H) x 68 mm (W) x 59 mm (D)
Weight	0.48 kg



250 N
AC 24 V and AC 230 V
Modulating
3-position

Connection diagrams

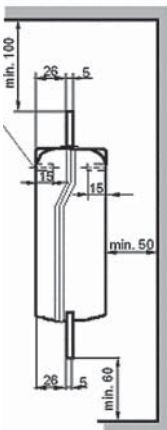
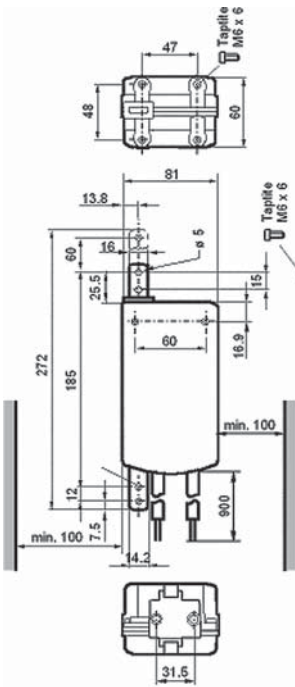


Type reference	Operating voltage		Control		Built-in control options		
	AC 24 V ± 20%	AC 230 V ± 10%	DC 0...10 V	3-position	Position feedback	Dual auxiliary switches	Offset and span
GLB131.2E	●			●			
GLB132.2E	●			●	●		
GLB136.2E	●			●		●	
GLB331.2E		●		●			
GLB332.2E		●		●	●		
GLB336.2E		●		●		●	
GLB161.2E	●		●		●		
GLB163.2E	●		●		●		●
GLB164.2E	●		●		●	●	●
GLB166.2E	●		●		●	●	

Submittal summary

OpenAir GEB series – non-spring return, linear movement

Dimensions shown in mm



Technical data	
Force	400 N
Runtime for 57 mm	150 sec. (50 Hz) opening and closing
Frequency	50 / 60 Hz
Power consumption	AC 24 V
Running	4 VA (3-position)
Running	6 VA (modulating)
Holding	1.5 W (modulating)
Power consumption	AC 230 V
Running	3 VA
Stroke	60 mm
Operating temperature	-32...+55 °C
Storage temperature	-32...+70 °C
Ambient humidity	<95% r.h. (non-condensing)
Precabled connection	0.75 mm², 0.9 m long
Degree of protection	IP40
CE conformity	
Electromagnetic	
Compatibility (EMC)	2004/108/EEC
Emissions standards	IEC/EN 61000-6-3
Immunity standards	IEC/EN 61000-6-2
Material	die-cast aluminum alloy
Gear lubrication	silicone-free
Dimensions	212 mm (H) x 81 mm (W) x 60 mm (D)
Weight	0.9 kg

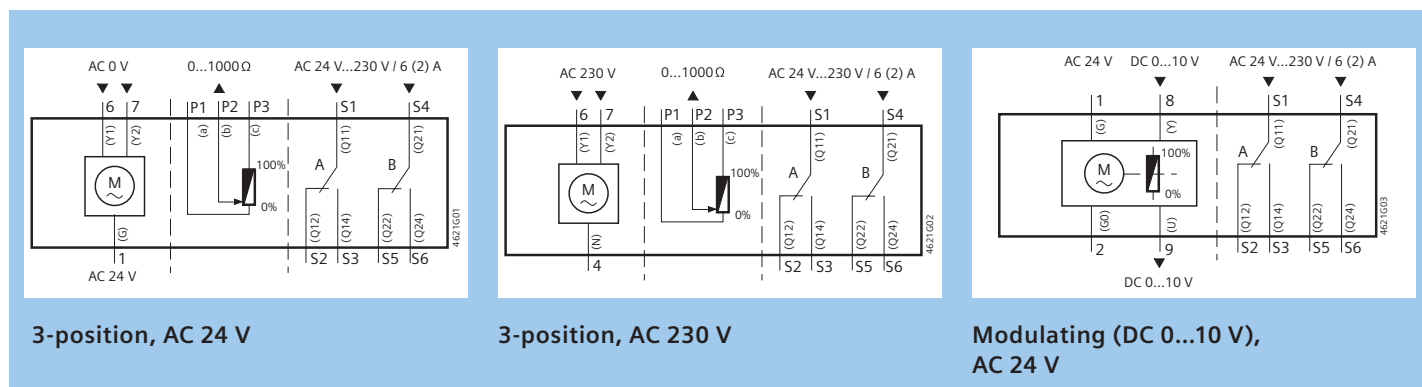


400 N
AC 24 V and AC 230 V
Modulating
3-position



N474

Connection diagrams



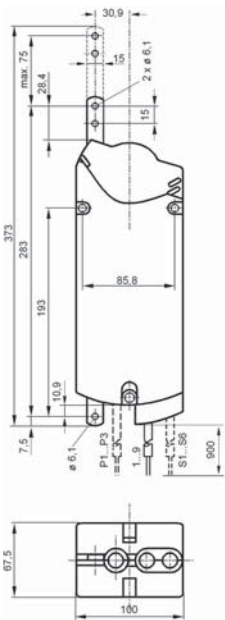
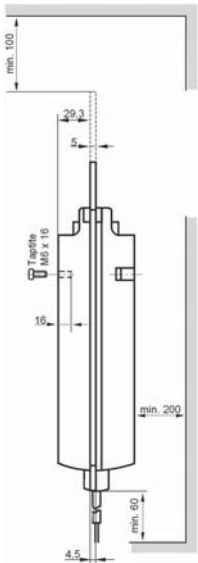
Type reference	Operating voltage		Control		Built-in control options			
	AC 24 V ± 20%	AC 230 V ± 10%	DC 0...10 V	3-position	Position feedback	Dual auxiliary switches	Offset and span	Input signal selectable*)
GEB131.2E	●			●				
GEB132.2E	●			●	●			
GEB136.2E	●			●		●		
GEB331.2E		●		●				
GEB332.2E		●		●	●			
GEB336.2E		●		●		●		
GEB161.2E*	●		●		●			●
GEB163.2E	●		●		●		●	
GEB164.2E	●		●		●	●	●	
GEB166.2E*	●		●		●	●		●

*) DC 0...10 V or DC 2...10 V

Submittal summary

OpenAir GBB series – non-spring return, linear movement

Dimensions shown in mm

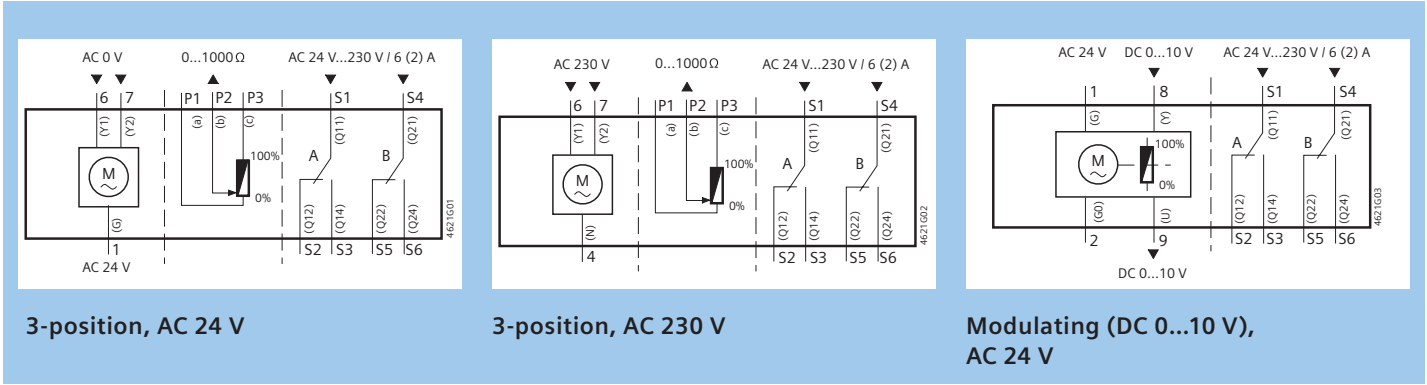


Technical data	
Force	550 N
Runtime for 75 mm	150 sec. (50 Hz) opening and closing
Frequency	50 / 60 Hz
Power consumption	AC 24 V
Running	7 VA (3-position)
Running	8 VA (modulating)
Holding	1 W (modulating)
Power consumption	AC 230 V
Running	5 VA
Stroke	75 mm
Operating temperature	-32...+55°C
Storage temperature	-32...+70°C
Ambient humidity	<95% r.h. (non-condensing)
Precabled connection	0.75 mm², 0.9 m long
Degree of protection	IP54
CE conformity	
Electromagnetic Compatibility (EMC)	2004/108/EEC
Emission standards	IEC/EN 61000-6-3
Immunity standards	IEC/EN 61000-6-2
Material	die-cast aluminum alloy
Gear lubrication	silicone-free
Dimensions	298 mm (H) x 100 mm (W) x 67.5 mm (D)
Weight	2.0 kg



550 N
AC 24 V and AC 230 V
Modulating
3-position

Connection diagrams

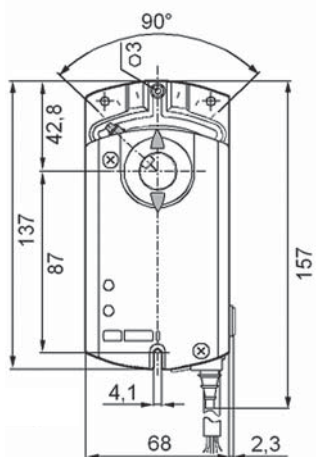
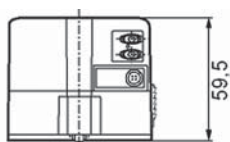
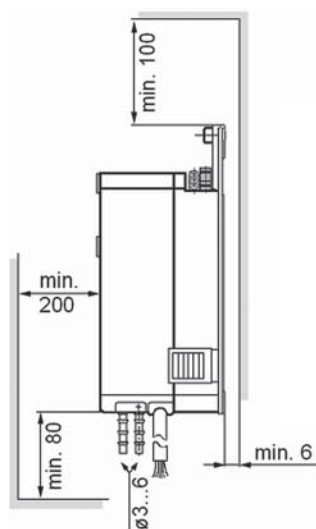


Type reference	Operating voltage		Control		Built-in control options		
	AC 24 V ± 20%	AC 230 V ± 10%	DC 0...10 V	3-position	Position feedback	Dual auxiliary switches	Offset and span
GBB131.2E	●			●			
GBB135.2E	●			●	●	●	
GBB136.2E	●			●		●	
GBB331.2E		●		●			
GBB335.2E		●		●	●	●	
GBB336.2E		●		●		●	
GBB161.2E	●		●		●		
GBB163.2E	●		●		●		●
GBB164.2E	●		●		●	●	●
GBB166.2E	●		●		●	●	

Submittal summary

OpenAir GDB – VAV static air volume compact controller, non-spring return

Dimensions shown in mm



Technical data

Torque	5 Nm
Runtime for 90°	150 sec. (50 Hz) opening and closing
Frequency	50 / 60 Hz
Power consumption	AC 24 V
Running	3 VA
Running + calibration	7.5 VA
Holding	1 W
Vnom range	1.00...2.55
Vmin range	-20%...100%
Vmax range	20%...120%
Measuring range	0...400 Pa
Operating range	4...300 Pa
Accuracy	(T = 25 °C, 990 mbar, Vn = 1) ± 2.5%
Time constant	1 sec.
Angle of rotation	90° nominal 95° maximal
Shaft dimensions	8 to 16 mm round 6 to 12.8 mm square 30 mm min. length
Operating temperature	0...+50 °C
Storage temperature	-25...+70 °C
Ambient humidity	<95% r.h. (non-condensing)
Precabled connection	0.75 mm², 0.9 m long
Degree of protection	IP54
CE conformity	
Electromagnetic Compatibility (EMC)	2004/108/EEC
Emission standards	IEC/EN 61000-6-3
Immunity standards	IEC/EN 61000-6-2
Material	durable plastic
Gear lubrication	silicone-free
Dimensions	137 mm (H) x 68 mm (W) x 59.5 mm (D)
Weight	0.54 kg

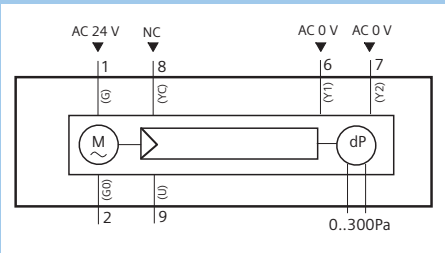


5 Nm
AC 24 V
Modulating
3-position

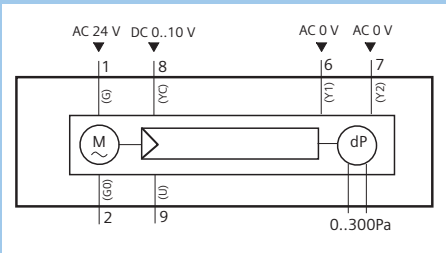


N474

Connection diagrams



3-position, AC 24 V



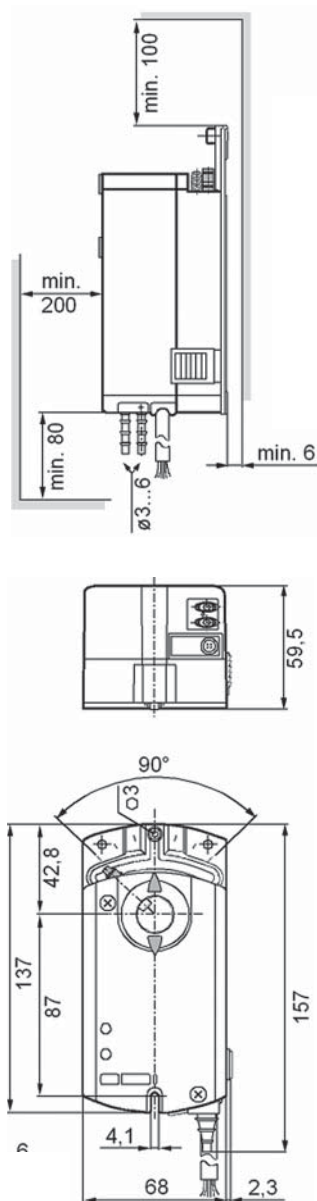
Modulating (DC 0...10 V),
AC 24 V

Type reference	Operating voltage	Control		Built-in control options	
	AC 24 V ± 20%	DC 0...10 V	3-position	300 Pa static differential pressure sensor	Y1 and Y2 open/close signal
GDB181.1E/3	●	●	●	●	●

Submittal summary

OpenAir GLB – VAV static air volume compact controller, non-spring return

Dimensions shown in mm



Technical data

Torque	10 Nm
Runtime for 90°	150 sec. (50 Hz) opening and closing
Frequency	50 / 60 Hz
Power consumption	AC 24 V
Running	3 VA
Running + calibration	7.5 VA
Holding	1 W
Vnom range	1.00...2.55
Vmin range	-20%...100%
Vmax range	20%...120%
Measuring range	0...400 Pa
Operating range	4...300 Pa
Accuracy	(T = 25 °C, 990 mbar, Vn = 1) ± 2.5%
Time constant	1 sec.
Angle of rotation	90° nominal 95° maximal
Shaft dimensions	8 to 16 mm round 6 to 12.8 mm square 30 mm min. length
Operating temperature	0...+50 °C
Storage temperature	-25...+70 °C
Ambient humidity	<95% r.h. (non-condensing)
Precabled connection	0.75 mm², 0.9 m long
Degree of protection	IP54
CE conformity	
Electromagnetic Compatibility (EMC)	2004/108/EEC
Emission standards	IEC/EN 61000-6-3
Immunity standards	IEC/EN 61000-6-2
Material	durable plastic
Gear lubrication	silicone-free
Dimensions	137 mm (H) x 68 mm (W) x 59.5 mm (D)
Weight	0.54 kg

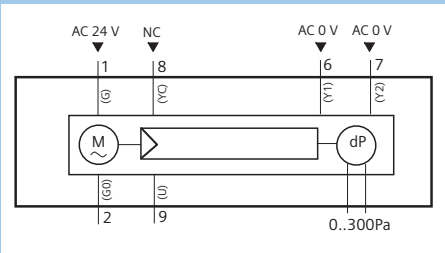


10 Nm
AC 24 V
Modulating
3-position

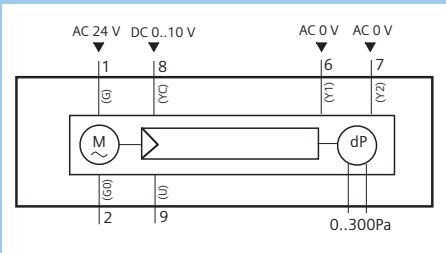


N474

Connection diagrams



3-position, AC 24 V



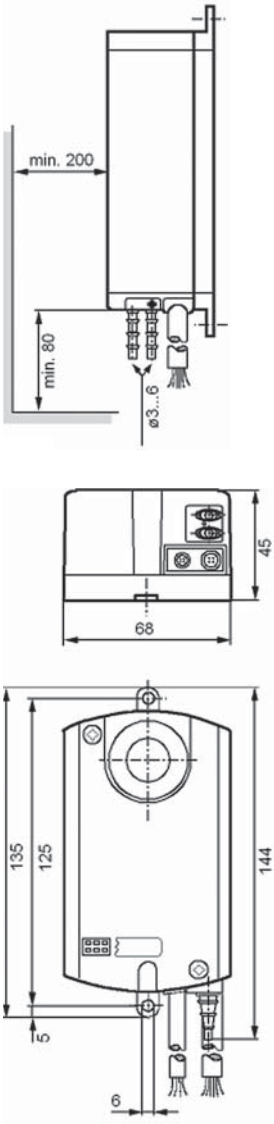
Modulating (DC 0...10 V),
AC 24 V

Type reference	Operating voltage	Control		Built-in control options	
	AC 24 V ± 20%	DC 0...10 V	3-position	300 Pa static differential pressure sensor	Y1 and Y2 open/close signal
GLB181.1E/3	●	●	●	●	●

Submittal summary

OpenAir ASV – VAV static air volume modular controller

Dimensions shown in mm

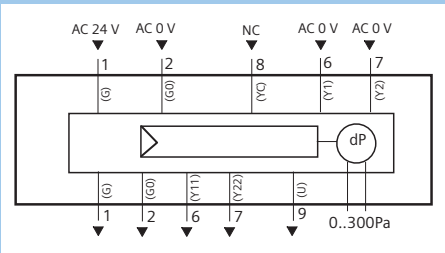


Technical data	
Frequency	50 / 60 Hz
Power consumption	AC 24 V
Running	3 VA
Running + calibration	7.5 VA
Holding	1 W
Vnom range	1.00...2.55
Vmin range	-20%...100%
Vmax range	20%...120%
Measuring range	0...400 Pa
Operating range	4...300 Pa
Accuracy	(T = 25 °C, 990 mbar, Vn = 1) ± 2.5%
Time constant	1 sec.
Operating temperature	0...+50 °C
Storage temperature	-25...+70 °C
Ambient humidity	<95% r.h. (non-condensing)
Precabled connection	0.75 mm², 0.9 m long
Degree of protection	IP54
CE conformity	
Electromagnetic	
Compatibility (EMC)	2004/108/EEC
Emission standards	IEC/EN 61000-6-3
Immunity standards	IEC/EN 61000-6-2
Material	durable plastic
Dimensions	135 mm (H) x 68 mm (W) x 45 mm (D)
Weight	0.28 kg

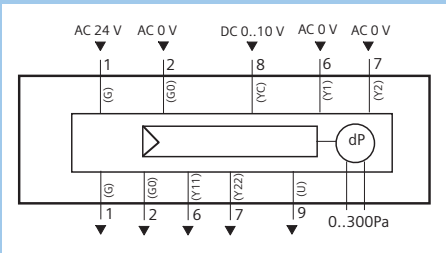


AC 24 V
Modulating
3-position

Connection diagrams



3-position, AC 24 V



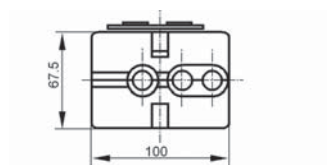
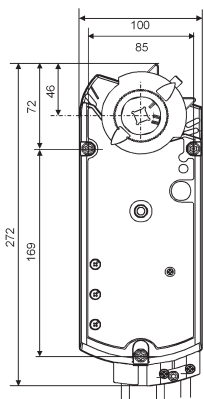
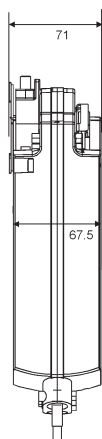
Modulating (DC 0...10 V),
AC 24 V

Type reference	Operating voltage	Control		Built-in control options	
	AC 24 V ± 20%	DC 0...10 V	3-position	300 Pa static differential pressure sensor	Y1 and Y2 open/close signal
ASV181.1E/3	●	●	●	●	●

Submittal summary

OpenAir GGA actuators for fire protection dampers – spring return, rotary movement

Dimensions shown in mm



Technical data

Torque	18 Nm running and 18 Nm spring return
Runtime for 90°	90 sec. operating 15 sec. typical closing
Frequency	50 / 60 Hz
Power consumption	AC/DC 24 V
Running	7 VA / 5 W
Holding	3 W
Power consumption	AC 230 V
Running	8 VA / 6 W
Holding	4 W
Angle of rotation	90° nominal 95° maximal
Shaft dimensions	8 x 8, 10 x 10, 12 x 12, 15 x 15 mm
Operating temperature	-32...+50 °C
Storage temperature	-32...+50 °C
Ambient humidity	<95% r.h. (non-condensing)
Precabled connection	0.75 mm², 0.9 m long
Degree of protection	IP54
CE conformity	
Electromagnetic	
Compatibility (EMC)	2004/108/EEC
Emission standards	IEC/EN 61000-6-3
Immunity standards	IEC/EN 61000-6-2
Material	die-cast aluminum alloy
Gear lubrication	silicone-free
Dimensions	264 mm (H) x 100 mm (W) x 71 mm (D)
Weight	2.6 kg
Thermal cut-out	
Connecting cable	0.9 m long
Switching temp.	Tf1: outside the duct 72 °C
For sizing	Tf2: inside the duct 72 °C
Degree of protection	IP30

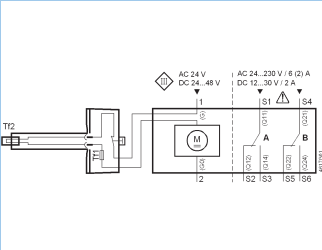


18 Nm
AC 24 V / DC 24...48 V and AC 230 V
2-position

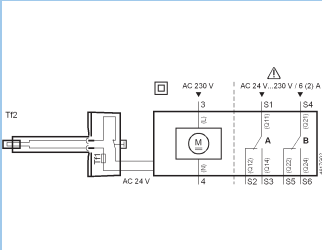


N474

Connection diagrams



**2-position,
AC 24 V / DC 24...48 V**



**2-position,
AC 230 V**

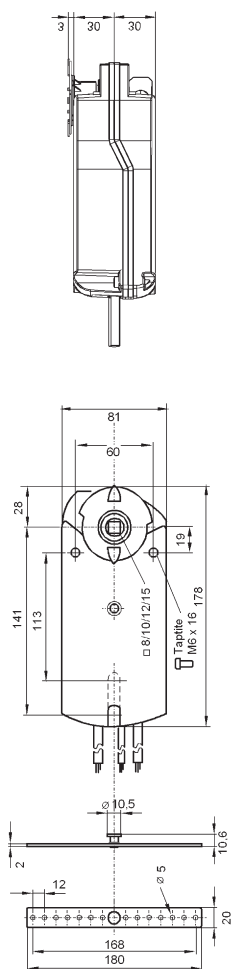
Type reference	Operating voltage		Control	Built-in control options	
	AC 24 V ± 20% DC 24...48 V ± 20%	AC 230 V ± 10%	2-position	Dual auxiliary switches	Thermal cut-out
GGA126.1E/**	●		●	●	
GGA126.1E/T**	●		●	●	●
GGA326.1E/**		●	●	●	
GGA326.1E/T**		●	●	●	●

** = 08 or 10 or 12 or 15 for form-fitted shaft adapters from 8 x 8 to 15 x 15 mm square

Submittal summary

OpenAir GNA actuators for fire protection dampers – spring return, rotary movement

Dimensions shown in mm



Technical data

Torque	7 Nm running and 7 Nm spring return
Runtime for 90°	90 sec. operating 15 sec. typical closing
Frequency	50 / 60 Hz
Power consumption	AC/DC 24 V
Running	5 VA / 3.5 W
Holding	2.5 W
Power consumption	AC 230 V
Running	7 VA / 4.5 W
Holding	3.5 W
Angle of rotation	90° nominal 95° maximal
Shaft dimensions	8 x 8, 10 x 10, 12 x 12, 15 x 15 mm square
Operating temperature	-32...+50 °C
Storage temperature	-32...+50 °C
Ambient humidity	<95% r.h. (non-condensing)
Precabled connection	0.75 mm², 0.9 m long
Degree of protection	IP54
CE conformity	
Electromagnetic Compatibility (EMC)	2004/108/EEC
Emission standards	IEC/EN 61000-6-3
Immunity standards	IEC/EN 61000-6-2
Material	die-cast aluminum alloy
Gear lubrication	silicone-free
Dimensions	178 mm (H) x 81 mm (W) x 63 mm (D)
Weight	1.3 kg
Thermal cut-out	
Connecting cable	0.9 m long
Switching temp.	Tf1: outside the duct 72 °C
For sizing	Tf2: inside the duct 72 °C
Degree of protection	IP30

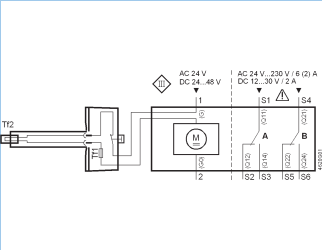


7 Nm
AC 24 V / DC 24...48 V and AC 230 V
2-position

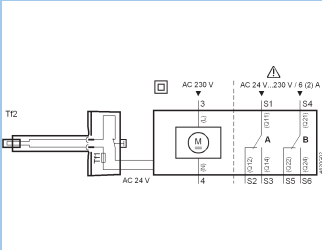


N474

Connection diagrams



2-position,
AC 24 V / DC 24...48 V



2-position,
AC 230 V

Type reference	Operating voltage		Control	Built-in control options	
	AC 24 V ± 20% DC 24...48 V ± 20%	AC 230 V ± 10%		Dual auxiliary switches	Thermal cut-out
GNA126.1E/**	●		●	●	
GNA126.1E/T**	●		●	●	●
GNA326.1E/**		●	●	●	
GNA326.1E/T**		●	●	●	●

** = 08 or 10 or 12 or 15 for form-fitted shaft adapters from 8 x 8 to 15 x 15 mm square

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The information in this document contains general descriptions of technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract.

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