

Electronic Damper Actuator Spring Return

Easily Replaces:

- Belimo AF Series



Indoor
Environmental
Quality

160 lb.-in. Torque

- 24 Vac/dc, 2-position Control
- 120 Vac, 2-position Control
- 24 Vac/dc, Floating Control
- 24 Vac/dc, 0 to 10 Vdc/2 to 10 Vdc, Modulating Control



GCA Series Spring Return
Electronic Damper Actuator.

Description

Designed for control of building HVAC dampers, the OpenAir GCA Series Direct-coupled, Spring Return Electronic Actuators are available in 0 to 10 Vdc or 2 to 10 Vdc modulating, floating and two-position (on/off) control models.

Features

- 24 Vac/dc compatible
- Visible position indication
- Self-centering shaft coupling
- Bidirectional fail-safe spring return
- Rugged all metal housing
- Accepts shaft diameters up to 1" (25 mm)
- Quiet, low-power operation
- Brushless DC motor technology with stall protection
- Assembled in the U.S.A.
- Manual override
- Precabled
- All modulating types contain built-in feedback

Options

- Independently adjustable dual auxiliary switches
- Potentiometer for floating models
- Adjustable span and offset
- Signal inversion

Applications

The OpenAir GCA Series Damper Actuators are ideal for constant or variable air volume installations for the control of return air, mixed air, exhaust, and face and bypass dampers that require up to 160 lb.-in. (18 Nm) torque.

The actuators are designed for applications where the damper is required to return to a fail-safe position when there is a power failure.

Models are available with either an appliance cable for wiring in conduit or a plenum-rated cable for applications where conduit is not required.

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Damper Actuators

GCA Series Specifications

Operating Voltage (1–2)

GCA1xx	24 Vac ±20%, 24 Vdc ±10%
GCA22x	120 Vac ±10%

Frequency 50 to 60 Hz

Power Consumption

GCA15x.xx & GCA16x.xx	
Running	9 VA (7 W)
Holding	5 VA (4 W)

GCA12x.xx AC 24 Vac/dc	
Running	8 VA (6 W)
Holding	3 VA (3 W)

GCA22x.xx AC 120 Vac	
Running	9 VA (7 W)
Holding	9 VA (7 W)

GCA13x.xx AC 24 Vac/dc	
Running	8 VA (6 W)
Holding	5 VA (4 W)

Input Signal (8–2)

GCA16x	
Voltage-input	0 to 10 Vdc (max. 35 Vdc)
Input Resistance	>100 K Ohms

GCA15x	
Voltage-input	0 to 10 Vdc or 2 to 10 Vdc (max. 35 Vdc)
Input Resistance	>100 K Ohms

Position Output Signal (9–2)

GCA16x/GCA15x	
Voltage-output	0 to 10 Vdc
Max. Output Current	±1 mA

Equipment Rating for Operating Voltage, Input Signal, and Position Output Signal Class 2

Control Signal Adjustment

Offset (start point)	0 to 5 Vdc
Factory setting	0 V
Span	2 to 30 Vdc
Factory setting	10 V

Dual Auxiliary Switch

Contact Rating	
Standard Cable	6 A resistive, 2 A General Purpose
Plenum Cable	4 A resistive, 2 A General Purpose

Voltage

Standard Cable	24 to 250 Vac
Plenum Cable	24 Vac

Switch Range

Switch A	0 to 90° with 5° intervals
Recommended Range	0 to 45°
Switch B	0 to 90° with 5° intervals
Recommended Range	45 to 90°

Switching Hysteresis 2°

Position Feedback

GCA132.1x	0 to 1000 Ohm <10 mA
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Torque

Running Torque	160 lb.-in. (18 Nm)
Spring Return	160 lb.-in. (18 Nm)
Max. Torque	<380 lb.-in. (43 Nm)

Runtime for 90° operating with motor 90 seconds

Closing (on power loss) with Spring Return 15 seconds

Nominal Angle of Rotation 90°

Max. Angular Rotation 95°

Temperature

Operation	-25 to +130°F (-32 to +55°C)
Storage and Transport	-40 to +158°F (-40 to +70°C)

Humidity 95% RH, non-condensing

Shaft Size 3/8 to 1-in. (8 to 25 mm) Dia. •
1/4 to 3/4-in. (6 to 18 mm) Sq. ■

Min. Shaft Length 3/4-in. (20 mm)

Housing Enclosure NEMA 2*

Material Die-cast Aluminum alloy

Pre-cabled Connection AWG 18

Cable Length 3 ft. (0.9 m)

Agency Approvals UL 873
cUL C22.2 No. 24-93
CE

Dimensions 12" H x 4.75" W x 2.88" D
(305 mm H x 121 mm W x 73 mm D)

Shipping Weight 4.85 lb. (2.2 kg)

*Refer to Installation Instructions for acceptable mounting positions.

GCA Series Product Ordering

Input Signal	Cabling	Part No.				
		Standard	Span/Offset Adjustable	Dual Aux. Switches & Span/Offset Adjustable	Dual Aux. Switches Only	Position Feedback Only
0 to 10 Vdc, 24 Vac/dc	Standard	GCA161.1U	GCA163.1U	GCA164.1U	GCA166.1U	—
	Plenum Cable	GCA161.1P	GCA163.1P	GCA164.1P	GCA166.1P	—
	Plenum Cable/Bulk	GCA161.1P/B	—	—	—	—
0 to 10 Vdc or 2 to 10 Vdc Modulating 24 Vac/dc, (Signal Inversion)	Standard	GCA151.1U	—	—	GCA156.1U	—
	Plenum Cable	GCA151.1P	—	—	GCA156.1P	—
2-position, 24 Vac/dc	Standard	GCA121.1U	—	—	GCA126.1U	—
	Standard/Bulk	GCA121.1U/B	—	—	—	—
	Plenum Cable	GCA121.1P	—	—	GCA126.1P	—
2-position, 120 Vac	Standard	GCA221.1U	—	—	GCA226.1U	—
	Standard/Bulk	GCA221.1U/B	—	—	—	—
Floating, 24 Vac/dc	Standard	GCA131.1U	—	—	GCA136.1U	GCA132.1U
	Plenum Cable	GCA131.1P	—	—	GCA136.1P	GCA132.1P

Ordering Note Bulk packages contain 8 actuators.

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