

# OpenAir™ GGD Electronic Damper Actuator

## Designed for UL Listed Fire/Smoke and Smoke Control Dampers

### 2-Position, 15-second Runtime 15-second Spring Return Time



### Description

The OpenAir™ direct coupled, fast acting, two-position, spring return electronic actuators are available as 24 Vac, 115 Vac, and 230 Vac models. They are intended for use on UL listed smoke control dampers or combination fire/smoke rated dampers.

### Features

- High temperature rated drive system.
- Reversible fail-safe spring return.
- All metal housing.
- Teflon® insulated lead wires.
- Mechanical range adjustment.
- Multiple shaft couplings available; will accommodate up to 1.05-inch shafts.
- Fifteen second nominal open time; 15-second nominal spring return time.

### Application

This actuator is used for the control of dampers requiring up to 142 lb-in (16 Nm) driving torque. It is intended for control of UL listed smoke control dampers or combination fire/smoke HVAC dampers. This actuator is designed to meet the 1999 revisions to the UL 555S and AMCA 500-D specifications. Minimum stall torque 350 lb-in.



### Product Numbers

Table 1.

Type	Rotation	Shaft Adapter	24 Vac	115 Vac	230 Vac
Standard	95°	Self-centering	GGD121.1U	GGD221.1U	GGD321.1U
Eight pack of standard	95°	Self-centering	GGD121.1U/B	GGD221.1U/B	GGD321.1U/B
With oversize shaft adapter	95°	Oversized	GGD121.3U	GGD221.3U	GGD321.3U

<b>Specifications</b>	Operating voltage	24 Vac $\pm$ 20%
		115 Vac $\pm$ 15%
<b>Power supply</b>		230 Vac $\pm$ 10%
	Frequency	50/60 Hz
	Power consumption	
	running	150 VA
	holding	10 VA
<b>Function</b>	Running torque	142 lb-in (16 Nm)
	Spring return torque	108 lb-in (12 Nm)
	Minimum stall torque	350 lb-in (39 Nm)
	Torque reduction at elevated temperature	Less than 10%
	Runtime for 90°	
	operating with motor at 60 Hz	15 seconds nominal
	closing (on power loss) with spring return	15 seconds maximum
Nominal angle of rotation	95°	
<b>Life Expectancy</b>		Minimum 35,000 full stroke cycles.
<b>Mounting</b>	Damper shaft size	
	Standard	3/8 to 1 inch (8 to 25.6 mm)
	Oversize	1.05 inch maximum (26.6 mm)
	Minimum shaft length	3/4-inch (20 mm)
<b>Housing</b>	Enclosure	NEMA 1
	Material	Die cast aluminum alloy
<b>Ambient conditions</b>	Ambient temperature	
	operation	0 to 130°F (-18 to 55°C) One time 350°F (177°C) for 1/2 hour (per UL555S)
	storage and transport	-25 to 158°F (-32 to 70°C)
	Ambient humidity (non-condensing)	Maximum 95% rh
<b>Agency certification</b>		UL listed to UL873 cUL certified to Canadian standard C22.2 No. 24-93 Australian EMC Framework (C-tick) with the limits per AS/NZS CISPR 11:2004 (2 <sup>nd</sup> Edition)
<b>Miscellaneous</b>	Pre-cabled connection	18 AWG
	Dimensions	See Figure 1.
	Weight	$\approx$ 7 lbs. (3.2 kg)
	Eight pack	$\approx$ 56 lbs. (25.4 kg)
	Country of Origin	USA

**Warning/Caution Notations**

<b>WARNING</b>		Personal injury/loss of life may occur if you do not perform a procedure as specified.
<b>CAUTION:</b>		Equipment damage may occur if you do not follow a procedure as specified.

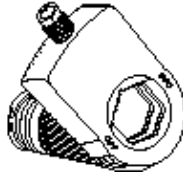
---

**Accessories**

EA0500R1

**985-006** Anti-rotation (mounting) bracket.

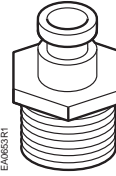
EA0498R1

**985-004**  
Self-centering shaft  
adapter.

EA0497R1

**ASK74.1** Oversized shaft  
adapter will accommodate  
up to a 1.05-inch (26.6 mm)  
diameter shaft. Use for  
coupling to 1-inch  
jackshafts that are slightly  
oversized.

EA0685R1

**985-035P25** Conduit  
adapter for accom-  
modating a conduit  
box (pk of 25).

EA0686R1

**985-008P20** Conduit  
adapter for a 1/2-inch  
(12 mm) NPT  
connector (pk of 20).

---

**Operation**

When power is applied, the actuator coupling moves toward the open position, "90°". The actuator opens in fifteen seconds nominal, 90° at 60 Hz. In the event of a power failure or when operating voltage is turned off, the actuator returns to the "0" position. The return time is fifteen seconds maximum for 90°.

The GGD actuator does not require any periodic cycling to function properly as an integral part of an active smoke control damper system.

**NOTE:** **Siemens Industry, Inc. however, strongly suggests that all life safety systems are functionally checked periodically.** Check the smoke control damper/actuator every time you functionally check your smoke detectors, emergency lights, and/or power generators for operation.

## Installation

Refer to the installation instructions for detailed guidelines.



### CAUTION:

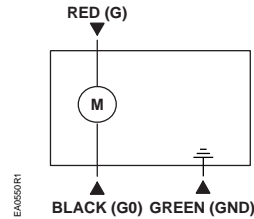
Read and carefully follow the *Installation Instructions* (129-255) to avoid equipment damage.

## Wiring

All wiring must conform to NEC and local codes and regulations.

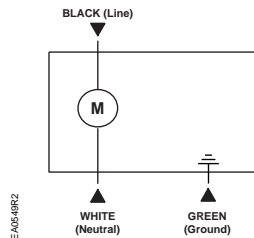
### Wire Designations

24 Vac



Function	Color
Supply (SP)	Red
Neutral (SN)	Black
Ground	Green

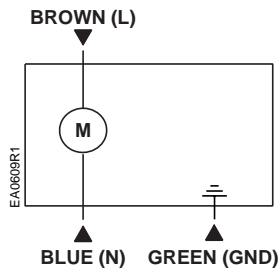
115 Vac



Function	Color
Line	Black
Neutral	White
Ground	Green

### Wire Designations, continued

230 Vac



Function	Color
Line	Brown
Neutral	Blue
Ground	Green



### CAUTION:

The actuator must be wired with a 230 Vac line with respect to neutral and the ground lead must be connected for proper protection of the actuator. Any other connection, such as phase to phase, can damage the actuator.

## Service

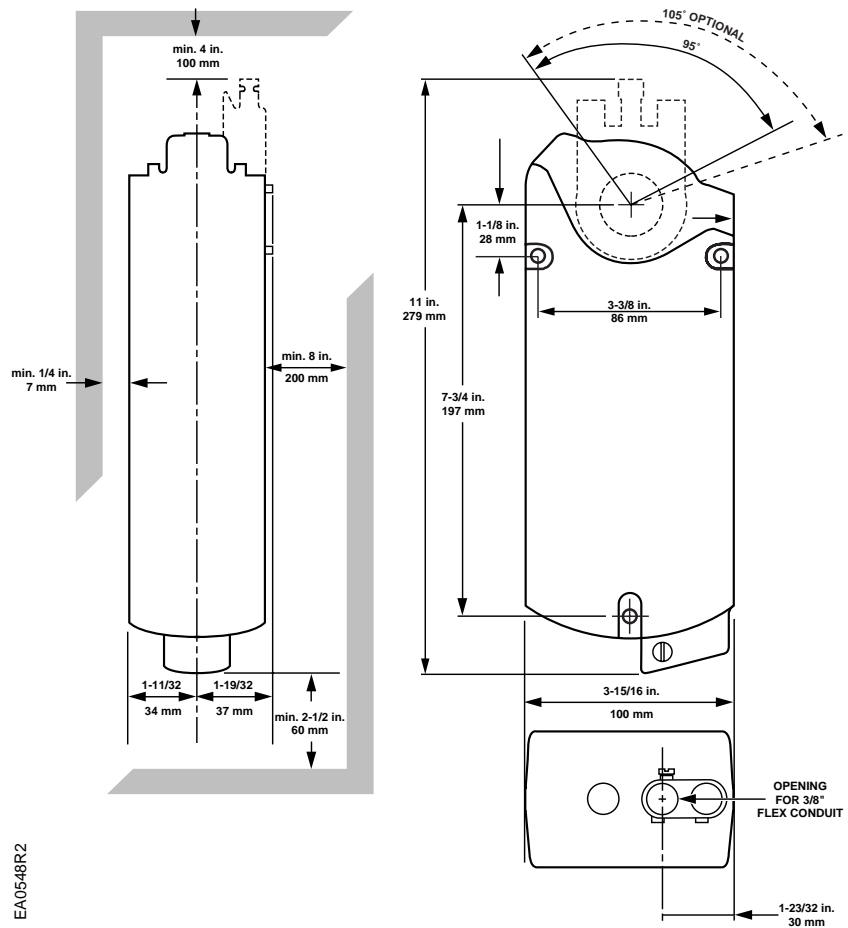


### WARNING:

Do not open the actuator. Personal injury may occur if opened. Opening the actuator voids the warranty.

If the actuator is inoperative, replace the unit.

**Dimensions**



**Figure 1. Dimensions of the Actuator.**

Information in this publication is based on current specifications. The company reserves the right to make changes in specifications and models as design improvements are introduced. OpenAir is a registered trademark of Siemens Schweiz AG. Teflon is a registered trademark of DuPont. Product or company names mentioned herein may be the trademarks of their respective owners. © 2011 Siemens Industry, Inc.