

OpenAir™ GND Series Electronic Damper Actuator

UL Listed Fire/Smoke and Smoke Control Dampers

2-Position, 15-second Run Time,

15-second Spring Return Time



Description

The OpenAir direct coupled, fast-acting, two-position, spring return electronic actuators are available as 24 Vac/dc, 120 Vac, and 230 Vac models. They are intended for use on UL-listed smoke control dampers and combination fire/smoke rated dampers.

Features

- Optional built-in auxiliary switches: Fixed switch points at 5° and 85° rotation.
- Optional built-in Electronic Fusible Link (EFL) capability with four temperature ratings: 165°F (74°C), 212°F (100°C), 250°F (121°C), 350°F (177°C).
- Reversible fail-safe spring return.
- All metal housing.
- Pre-cabled Teflon® insulated lead wires.
- Fifteen-second operation at rated torque, temperature and voltage.



Application

This actuator is used for the control of dampers requiring up to 53 lb-in (6 Nm) driving torque. It is intended for control of UL-listed smoke control dampers and combination fire/smoke HVAC dampers. This actuator is designed to meet the 2002 revisions to the UL 555/555S and the AMCA Standard 520 specifications.

Product Numbers

G	Direct-coupled Electronic Fire and Smoke Damper Actuator
N	Spring Return 53 lb-in (6 Nm)
D	15 second run time
1	24 Vac/dc
2	120 Vac
3	230 Vac
2	2-position
1	Standard version
6	Two auxiliary switches
.1	Fire and smoke shaft adapter
U	Assembled in USA
/B	Bulk pack 10
/F	Electronic Fusible Link (EFL) connection
/F/B	EFL connection and bulk pack 10

Warning/Caution Notations

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

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.

Specifications	Operating voltage	24 Vac \pm 20% 24 Vdc +20%, -10%
	Power supply	Frequency
Frequency		60 Hz 230 Vac \pm 10%
	Frequency	50/60 Hz
	Power consumption	24 Vac/dc
	running	20 VA/12W
	holding	8 VA/6W
	Power Consumption	120 Vac/230 Vac
	running	20 VA
	holding	9 VA
Function	Running torque	53 lb-in (6 Nm) (minimum)
	Stall torque (minimum)	160 lb-in (18 Nm)
	Torque reduction at elevated temperature	Less than 10%
	Runtime for 90° closing (on power loss) with spring return	15 seconds nominal 15 seconds maximum
	Nominal angle of rotation	95°
Life Expectancy		Minimum 35,000 full stroke cycles
Mounting	Damper shaft size	.5-inch (12,7 mm) round
	Damper shaft length, minimum	1.4-inch (36 mm)
Housing	Enclosure	NEMA 1
	Material	Die cast aluminum alloy
Ambient conditions	Operation	0°F to 140°F (-18°C to 60°C) one time 350°F (177°C)
	Storage and transport	-40°F to 158°F (-40°C to 70°C)
	Ambient humidity (non-condensing)	Maximum 95% rh non-condensing
	Teflon® cable	400°F (200°C)
Fixed Dual End Switches	Fixed Dual End Switches AC rating	24 Vac to 250 Vac, 24 Vdc 6A resistive/ 2 FLA/12 LRA
	Temperature rating	350°F (177°C)
Agency certification		UL873 cUL C22.2 No. 24-93 AS/NZS 2064 1/2:1997 Conforms to CE requirements for the EMC and low voltage directives Australian Electromagnetic Compatibility (EMC) per AS/NZS 4251.1/2:1999 (C-tick)
Miscellaneous	Pre-cabled connection Length:	FEP Teflon® jacketed 3 ft (0.9m)
	Dimensions	19/30 strand 18 GA 9-in \times 3.25-in \times 3-in D (229 mm \times 83 mm \times 76 mm)
	Weight	\approx 4 lb (1.8 kg)
	Country of Origin	USA

Accessories

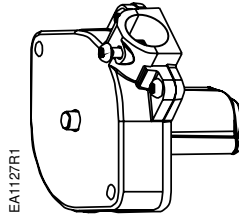


Figure 1.

Electronic Fusible Link (EFL)

ASK79.165 (165°F [74°C] operation)
ASK79.212 (212°F [100°C] operation)
ASK79.250 (250°F [121°C] operation)
ASK79.350 (350°F [177°C] operation)

NOTE: Determine and order appropriate actuator before selecting EFL.

Operation

When power is applied, the actuator coupling moves toward the open position, 90°. The actuator opens in 15 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 15 seconds nominal for 90°.

The National Fire Protection Association NFPA 92A Standard for Recommended Practice for Smoke-Control System and UL 864 Standard for Control Units and Accessories for Fire Alarm Systems, require weekly self-tests for **dedicated** smoke control equipment used in a smoke control system. The National Fire Protection Association NFPA 72 Standard for National Fire Alarm Codes states that all life-safety systems are to be functionally checked at least annually.

The GND actuator does not require any periodic cycling to function properly as an integral part of an active smoke control damper system. 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 (See 129-402) for detailed guidelines.



CAUTION:

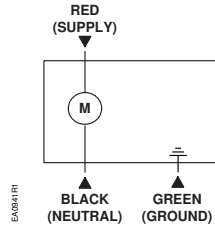
Read and carefully follow the Installation Instructions to avoid equipment damage.

Wiring

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

Wire Designations

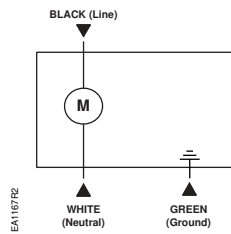
24 Vac/dc



Function	Color
Supply	Red
Neutral	Black
Ground	Green

Figure 2.

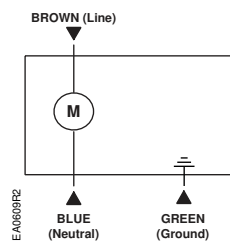
120 Vac



Function	Color
Line	Black
Neutral	White
Ground	Green

Figure 3.

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.

Figure 4.

Fixed Dual End Switches

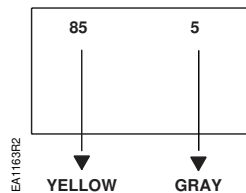


Figure 5.

Switch	Wire Color	Switch Makes	Switch Breaks
5°	Gray	< 5°	> 5°
85°	Yellow	> 85°	< 85°

NOTE:

Both sets of contacts are open when actuator is between 5° and 85°.



CAUTION:

Mixed switch operation to the switching outputs of both fixed dual end switches (5° and 85°) is not permitted.

Either AC line voltage from the same phase must be applied to all four outputs of the fixed dual end switches, or UL-Class 2 voltage must be applied to all four outputs.

Wiring, Continued

NOTE:
 When ordered, GND
 Electronic Fusible Link
 models come pre-wired
 for coupling with EFL
 sensor.

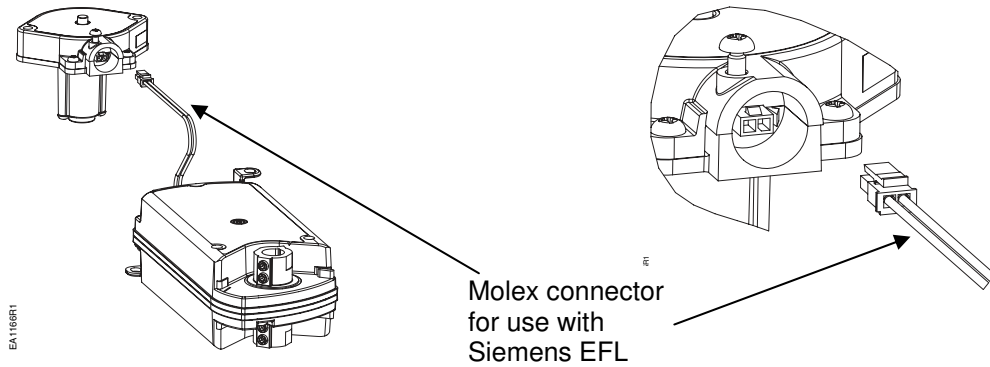


Figure 6.

Dimensions

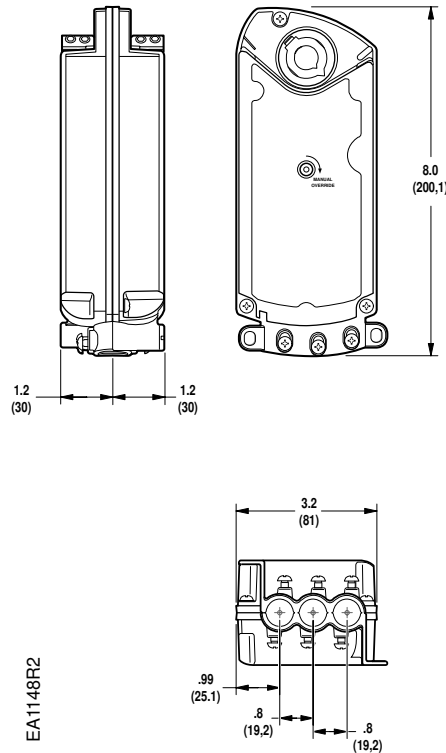


Figure 8. Dimensions of OpenAir GND Actuator in Inches (Millimeters).

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