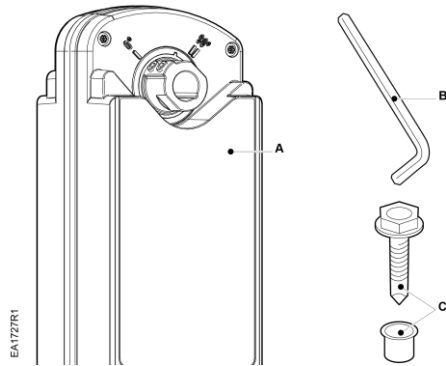


## OpenAir® GRD Series Electronic Damper Actuator Designed for UL Listed Fire/Smoke and Smoke Control Dampers



- a. Actuator
- b. Hex key – 3 mm
- c. Eyelet and 1/4-inch hex head screw

Figure 1. GRD Actuator Parts.

### Product Description

Step-by-step description for direct-coupled mounting of the OpenAir GRD fast-acting, two-position, rotary electronic damper actuator. These actuators are intended for control of approved fire and smoke leakage-rated HVAC dampers.

### Product Numbers

- |           |           |
|-----------|-----------|
| GRD121.1U | GRD126.1U |
| GRD221.1U | GRD226.1U |
| GRD321.1U | GRD326.1U |

### Warning/Caution Notations

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

### Required Tools

- 3 mm hex wrench (provided)
- No. 2 Phillips screwdriver
- Drill
- 1/4-inch (6.4 mm) hex driver

### Prerequisites



**WARNING:**  
Do not open the actuator housing.

**CAUTION:**  
Continuous use at voltages above the recommended tolerances may damage the actuator.

### Installation

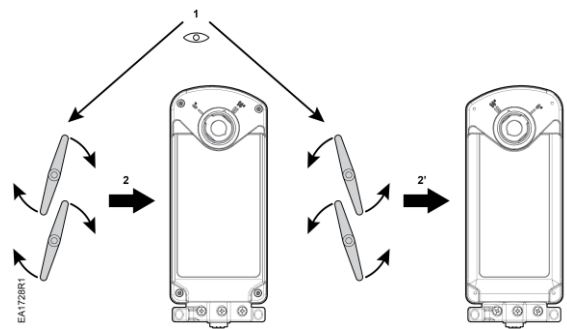
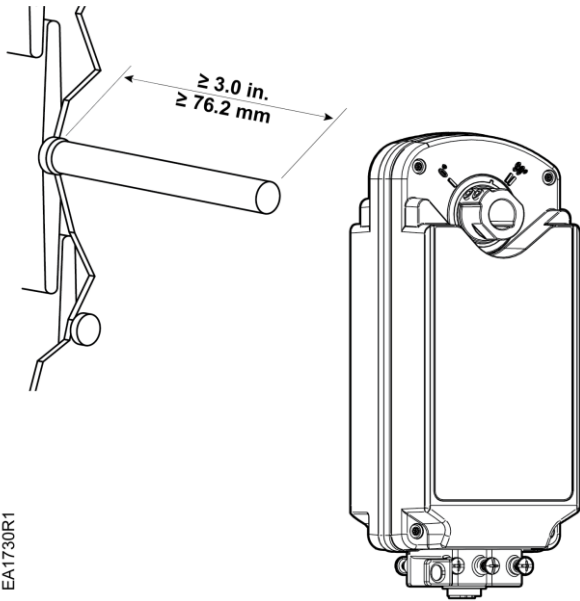
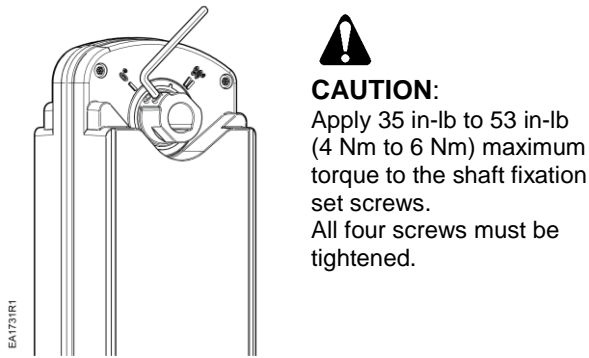


Figure 2. Actuator Mounting Orientation.

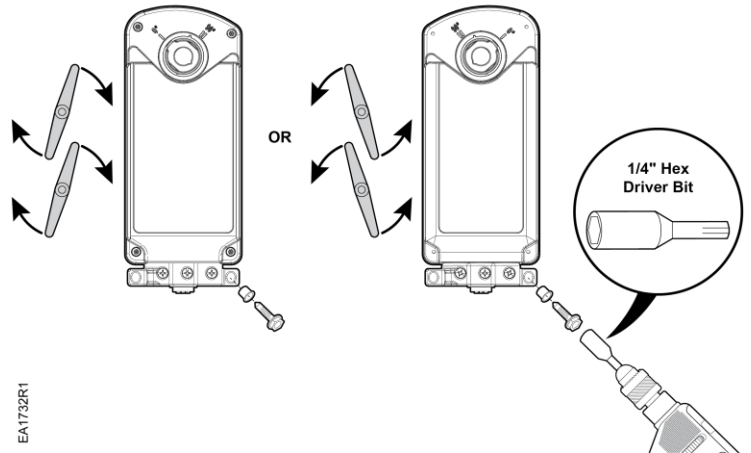


**Figure 3. Shaft Length and Proper Shaft Adapter Location.**



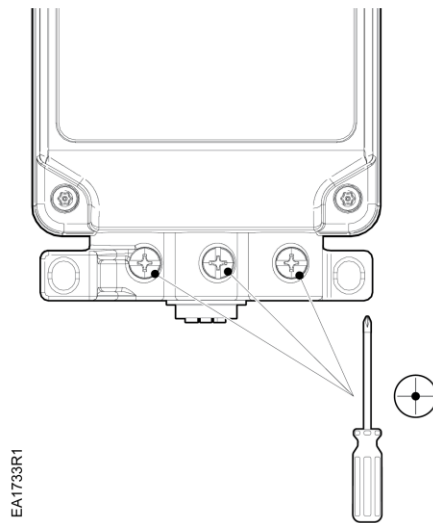
**CAUTION:**  
Apply 35 in-lb to 53 in-lb (4 Nm to 6 Nm) maximum torque to the shaft fixation set screws. All four screws must be tightened.

**Figure 4. Fasten the Shaft Adapter to the Damper Shaft.**



**Figure 5.**

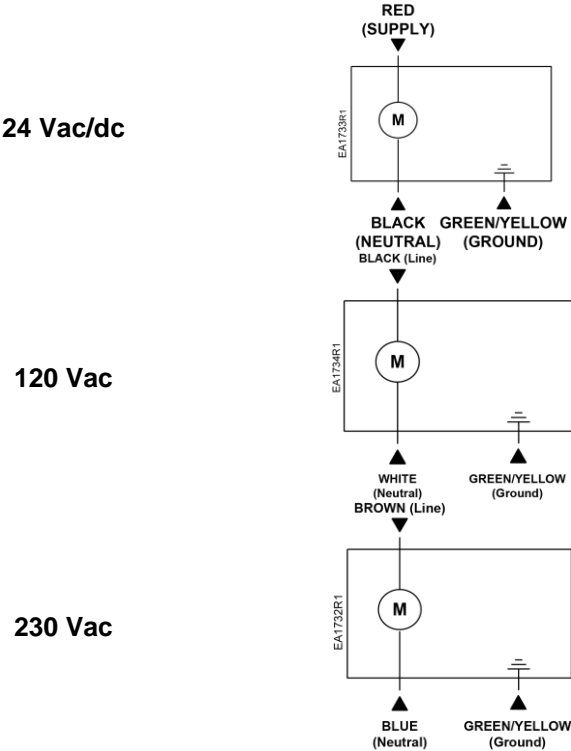
1. Insert the eyelet through housing ear.
2. Insert screw through eyelet and tighten using 1/4-inch (6.4 mm) hex driver.



**Figure 6. Tighten Conduit Screws (No. 2 Phillips Screwdriver).**

### Wiring

**NOTE:** All wiring must conform to NEC and local codes and regulations.



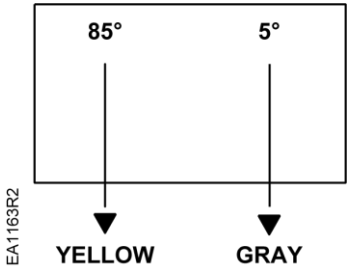
Function	Color
Supply	Red
Neutral	Black
Ground	Green/Yellow

Function	Color
Line	Black
Neutral	White
Ground	Green/Yellow

Function	Color
Line	Brown
Neutral	Blue
Ground	Green/Yellow



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



**Fixed Dual End Switches.**

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

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

### Electronic Fusible Link (EFL)

All GRD Electronic Damper Actuators are EFL-capable. EFLs are purchased separately. See Table 1.

**Table 1. Electronic Fusible Link Product Numbers.**

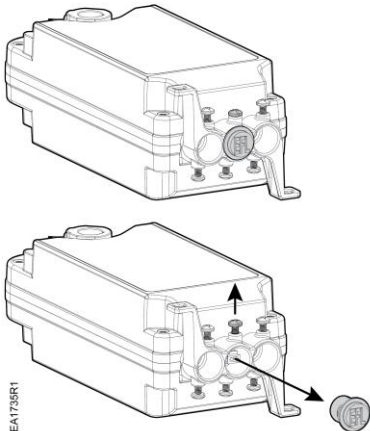
Part Number	Operation
ASK791.165	165°F (74°C)
ASK791.212	212°F (100°C)
ASK791.250	250°F (121°C)
ASK791.350	350°F (177°C)

**NOTE:**

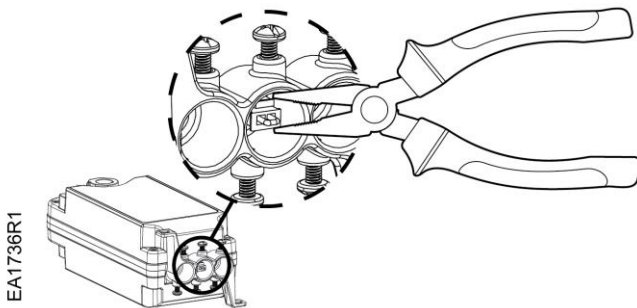
All EFLs are low voltage and do not need to be wired in conduit.

To install an EFL, do the following:

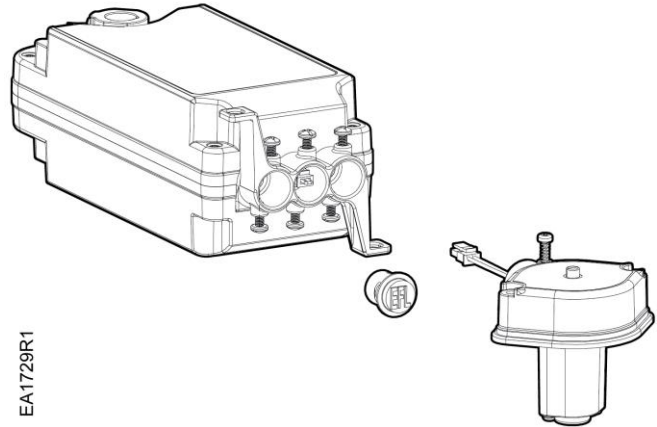
1. Remove and discard the plug marked **EFL**.



2. Using a small, needle-nose pliers or flat-blade screwdriver, remove the jumper.



3. Insert the quick connect from the EFL.



**NOTE:**

If you are not using an EFL, do not modify the actuator. An EFL or jumper must be installed for actuator to work properly.

### Maintenance



**CAUTION:**

The GRD actuator does not require any periodic cycling to function properly as an integral part of an active smoke control damper system. **The National Fire Alarm Code NFPA 72 states that all life safety systems are to be functionally checked at least annually.** Check the smoke control damper/actuator every time you functionally check your smoke detectors, emergency lights, and/or power generators for operation.

## Dimensions

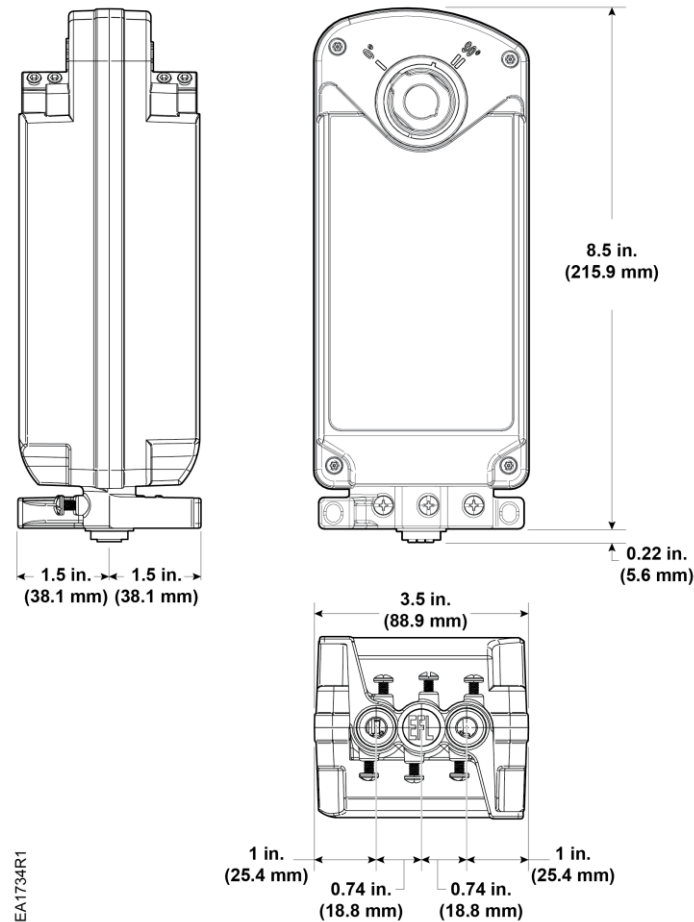


Figure 7. Dimensions of the GRD OpenAir Actuator in Inches (mm).

## References

Technical Instructions  
OpenAir® GRD Series Electronic Damper  
Actuator UL Listed Fire/Smoke and Smoke  
Control Dampers

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