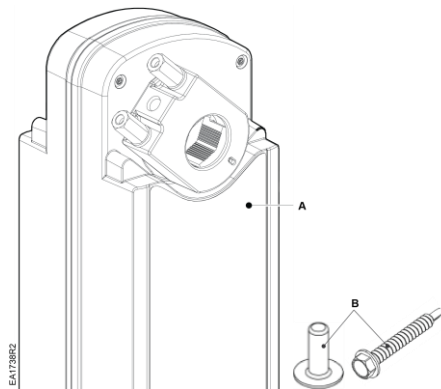


OpenAir® GVD/GKD Series Electronic Damper Actuator Designed for UL Listed Fire/Smoke and Smoke Control Dampers



- a. Actuator
- b. Eyelet and 1/4-inch hex head screw

Figure 1. GVD/GKD Actuator Parts.

Product Description

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

Product Numbers

GKD121.1U	GVD121.1U
GKD126.1U	GVD126.1U
GKD221.1U	GVD221.1U
GKD226.1U	GVD226.1U
GKD321.1U	GVD321.1U
GKD326.1U	GVD326.1U

Warning/Caution Notations

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

Required Tools

- 6 mm hex wrench
- No. 2 Phillips screwdriver
- Drill
- 1/4-inch (6.4 mm) hex driver
- 10 mm socket or box wrench

Prerequisites



WARNING:
Do not open the actuator housing.

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

Installation

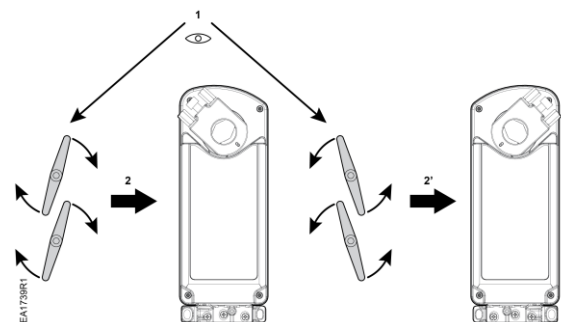


Figure 2. Actuator Mounting Orientation.

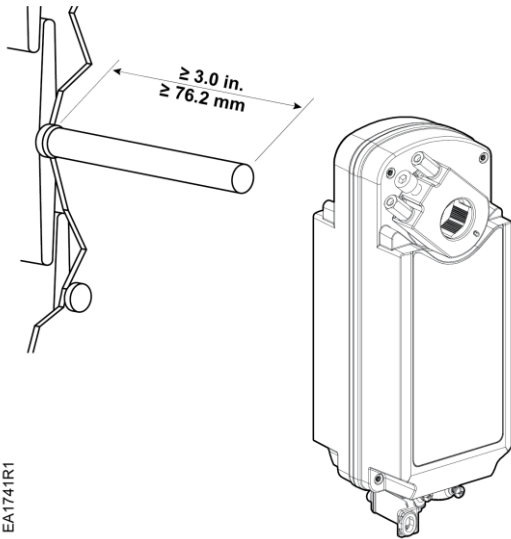
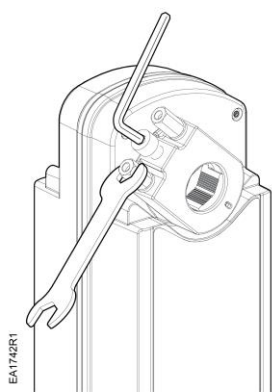


Figure 3. Shaft Length and Proper Shaft Adapter Location.



CAUTION:

- Use a 6 mm hex wrench to center the damper shaft by turning the socket head screw.
- Use a 10 mm socket or box wrench to apply 97 in-lb to 115 in-lb (11 Nm to 13 Nm) of torque to both coupling nuts to clamp the actuator to the shaft.

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

See Figure 5 for the correct centering of the damper shaft within the actuator's shaft adapter. With both coupling nuts loosened, adjust the socket head bolt with the 6 mm Allen wrench to bring the shaft into the center of the adapter.

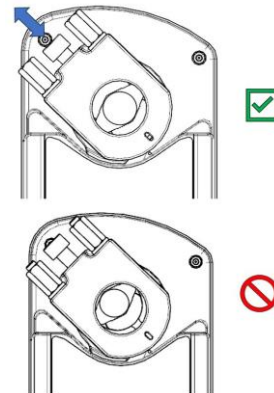


Figure 5. Correctly Centered Damper Shaft.

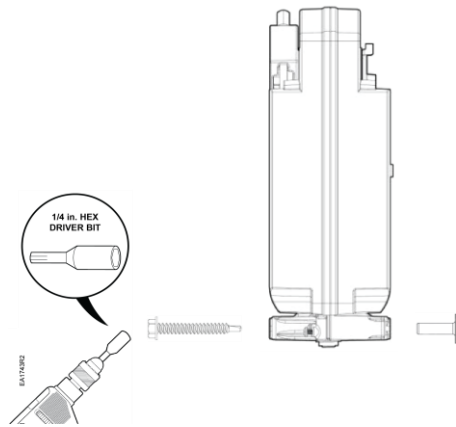


Figure 6.

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

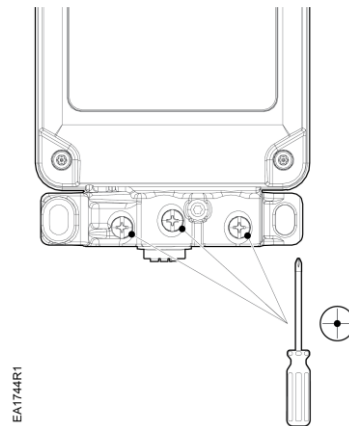
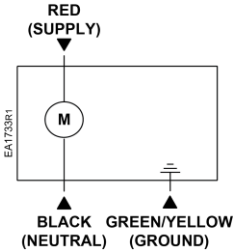


Figure 7. Tighten Conduit Screws (No. 2 Phillips Screwdriver).

Wiring

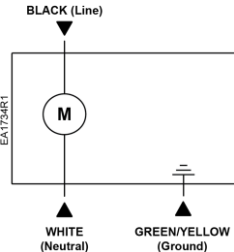
NOTE: All wiring must conform to NEC and local codes and regulations.

24 Vac



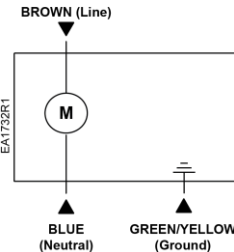
Function	Color
Supply	Red
Neutral	Black
Ground	Green/Yellow

120 Vac



Function	Color
Line	Black
Neutral	White
Ground	Green/Yellow

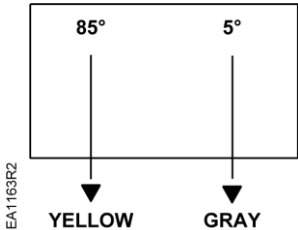
230 Vac



Function	Color
Line	Brown
Neutral	Blue
Ground	Green/Yellow



CAUTION: These AC powered actuators must be wired with Line referenced with respect to Neutral, as indicated. 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.

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

Electronic Fusible Link (EFL)

All GVD/GKD 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 cover marked **EFL**.

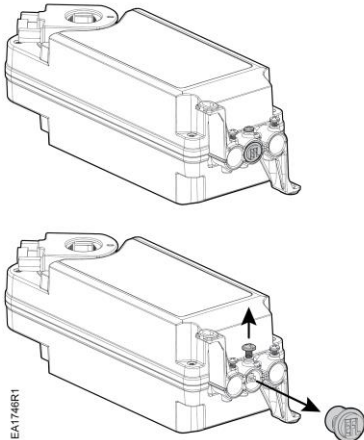


Figure 8. Removing the EFL.

2. Use a small, needle-nose pliers to squeeze the release lock of the jumper plug and remove the jumper plug.

NOTE: Remove the entire jumper plug, including the wire loop.

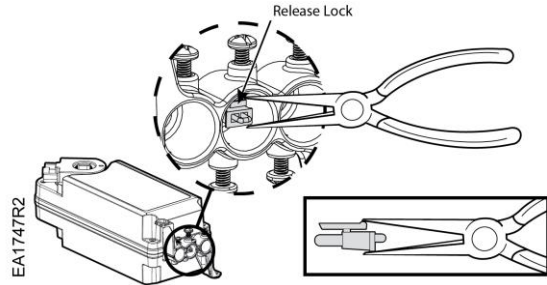


Figure 9. Removing the Jumper Plug.

3. Insert the quick connect plug from the EFL and ensure that the cable is secure.

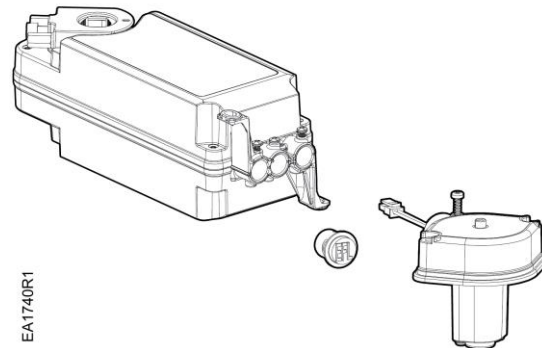


Figure 10. Inserting the Quick Connect Plug.

NOTE:

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

Maintenance



CAUTION:

The GVD/GKD actuators do 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

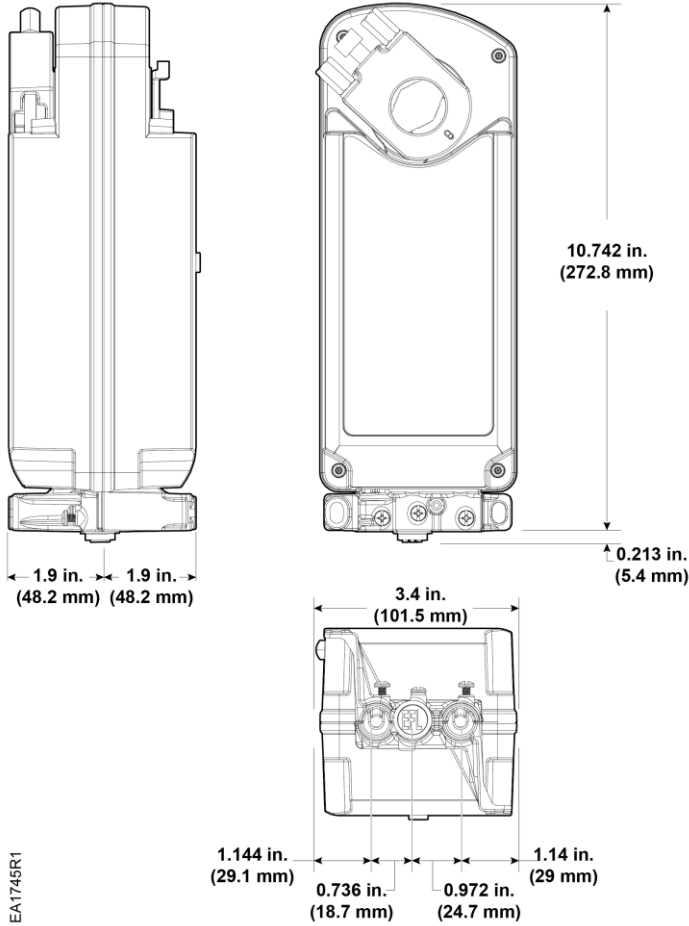


Figure 11. Dimensions of the GVD/GKD OpenAir Actuators in Inches (mm).

References

Technical Instructions A6V11959744
OpenAir® GVD/GKD Series Electronic Damper
Actuator UL Listed Fire/Smoke and Smoke Control
Dampers

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