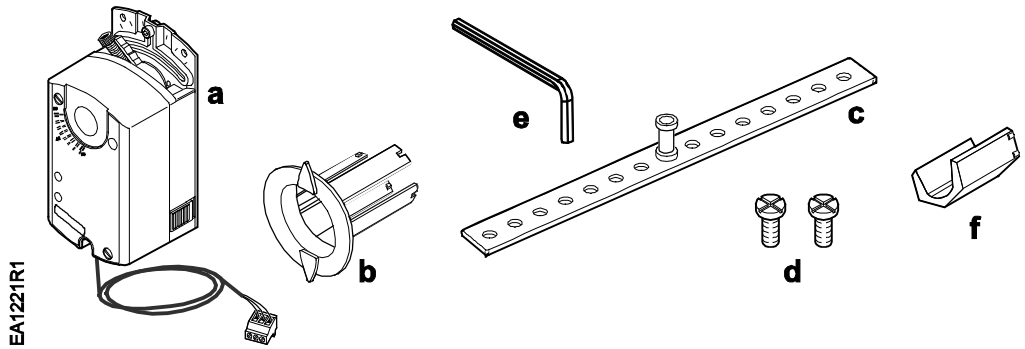
SIEMENS

**Installation Instructions**
Document No. 129-503
October 6, 2009

# OpenAir™ GDE Series Non-spring Return 24 Vac, Electronic Damper Actuator Rotary, with TEC Connector




a. Actuator
b. Position indicator
c. Mounting bracket
d. Mounting screws
e. 4 mm hex key
f. Shaft insert for use with 3/8-inch (8 to 10 mm) shafts

**Figure 1. Parts of the GDE Rotary Actuator.**

## Product Description

The OpenAir GDE131.1P/PC is a non-spring return, rotary, electronic damper actuator with a pre-terminated cable for TEC connection. These instructions provide steps for direct-coupled mounting of this actuator.

## Product Numbers

GDE131.1P/PC

## Required Tools

- 4 mm hex wrench
- 4 mm (5/32-inch) drill bit and drill
- Small flat-blade screwdriver
- Marker or pencil

## Estimated Installation Time

20 minutes

## Warning/Caution Notations

| | | |
|---|---|---|
| **WARNING:** | ⚠ | Personal injury/loss of life may occur if you do not follow the procedures as specified. |
| **CAUTION:** | ⚠ | Equipment damage, or loss of data may occur if you do not follow the procedures as specified. |

## Prerequisites

⚠ **WARNING:**

Do not open the actuator.

**NOTE:** Place the actuator on the damper shaft so that the front of the actuator is accessible. The label is on the front side.

1. Determine whether the damper blades will rotate clockwise or counterclockwise.
2. If the blades will rotate counterclockwise, slide and hold the manual override switch in the MANUAL position and move the adjustment lever to the right. Release the manual override switch so it returns to the AUTO position.

## Installation

### Shaft Adapter

**NOTE:** The GDE actuator comes with a factory installed 1/2-inch Ø shaft guide. If the damper shaft is 1/2-inch, proceed with the *Mounting Actuator* section.

**When using a 3/8-inch damper shaft:**

1. Remove factory installed 1/2-inch Ø shaft guide (Figure 2).
2. Orient the 3/8-inch (8 to 10 mm) shaft insert so that the raised tabs will be inserted last, and then place the shaft insert into the back of the actuator (Figure 3).
3. Proceed with the *Mounting Actuator* section.

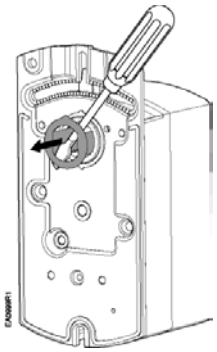


**Figure 2. Removing 1/2-inch Ø shaft guide for 3/8-inch or 5/8-inch damper shaft.**

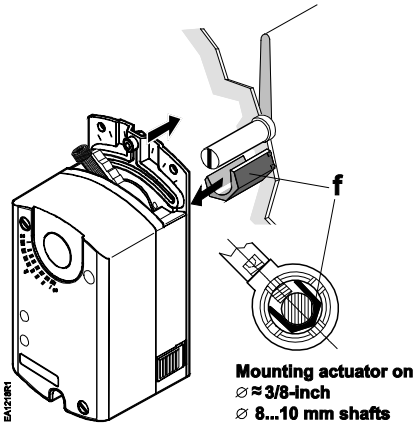



**Figure 3. Mounting 3/8-inch shaft insert.**

**When using a 5/8-inch damper shaft:**

1. Remove factory installed 1/2-inch Ø shaft guide (Figure 2).
2. Proceed with the *Mounting Actuator* section.

## Mounting Actuator

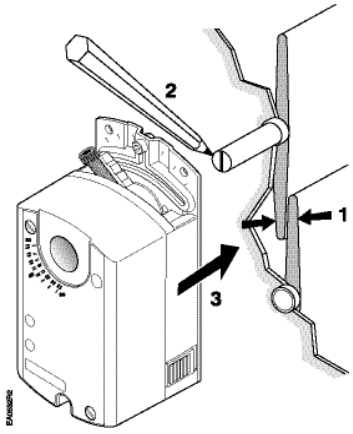



**Figure 4. Mounting Actuator to Damper Shaft.**

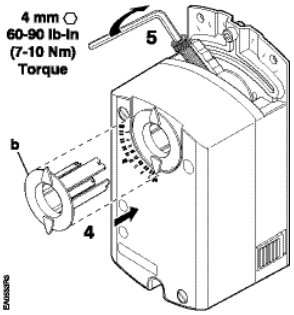



**Figure 5. Installing the Position Indicator.**

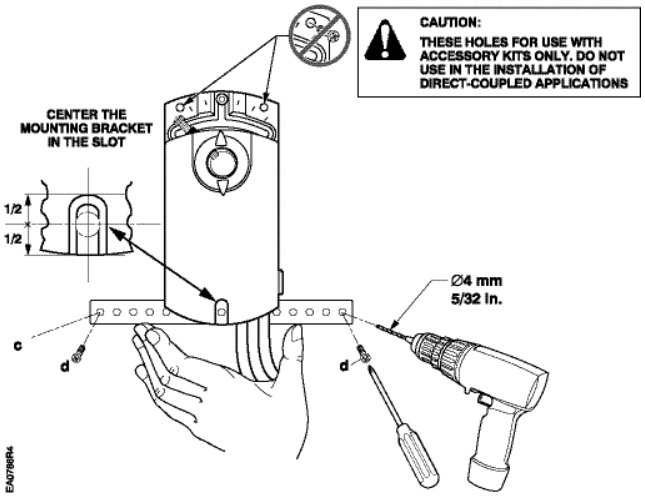



**Figure 6. Attaching the Mounting Bracket.**

## Manual Override

With no power present, to move the damper blades and lock the position, do the following:

1. Slide and hold the manual override switch in the MANUAL position (Figure 7).
2. Make adjustments to the damper position.
3. Release the manual override switch so it returns to the AUTO position.

Once power is restored, the actuator returns to automated control.

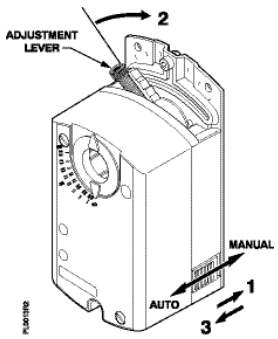



**Figure 7. Manual Override Switch.**

## Mechanical Range Adjustment

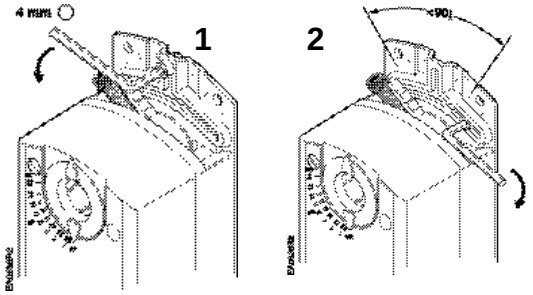



**Figure 8. Moving the Mechanical Range Stop.**

1. Loosen the stop set screw.
2. Move it along the track to the desired position, and fasten it in place.

## Wiring

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

Use earth ground isolating step-down Class 2 transformers. Do not use autotransformers.

Determine the supply transformer rating by summing total VA of all actuators used. It is recommended that one transformer power no more than 10 actuators.

**WARNING:**

**Installations requiring CE Conformance**

- All wiring for CE rated actuators must only be separated extra low voltage (SELV) or protective extra low voltage (PELV) per HD384-4-41.
- Use safety-isolating transformers (Class III transformer) per EN 61558. They must be rated for 100% duty cycle.
- Overcurrent protection for supply lines is maximum 10A.

## Wiring Diagrams

### Single Duct Applications

1. Remove one 4-pin terminal block from TEC terminals 1 through 4
2. Plug pre-terminated actuator connector into DO 1 and 2, using terminals 1, 2, and 3 (Figure 9). Connector can only be installed one way with violet wire in terminal 1.

**CAUTION:**

Terminal 4 is not used in this application.

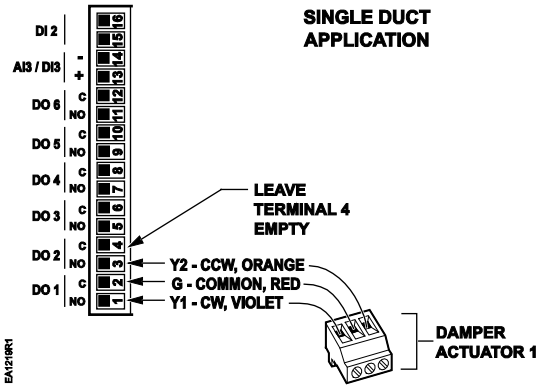



**Figure 9. Single Duct Application.**

### Dual Duct Applications

1. Remove two 4-pin terminal block from TEC terminals 1 through 8
2. Plug pre-terminated connector for Damper Actuator 1 into DO 1 and 2, using terminals 1, 2, and 3 (Figure 10).
   Connector can only be installed one way with violet wire in terminal 1.
3. Plug pre-terminated connector for damper actuator 2 into DO 3 and 4, using terminals 5, 6, and 7 (Figure 10).
   Connector can only be installed one way with violet wire in termnal 5.

**CAUTION:**

Terminals 4 and 8 are not used in this application.

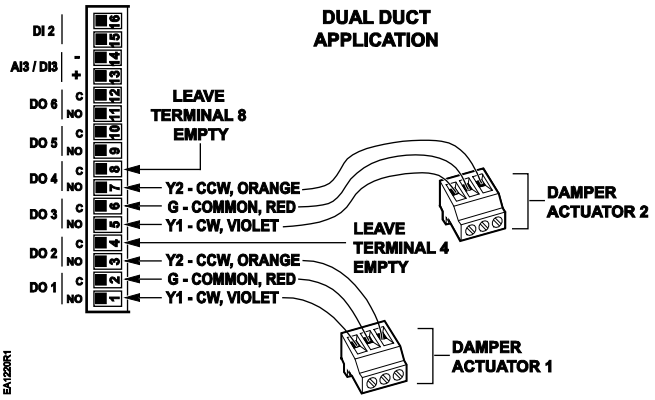



**Figure 10. Dual Duct Application.**

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## Dimensions

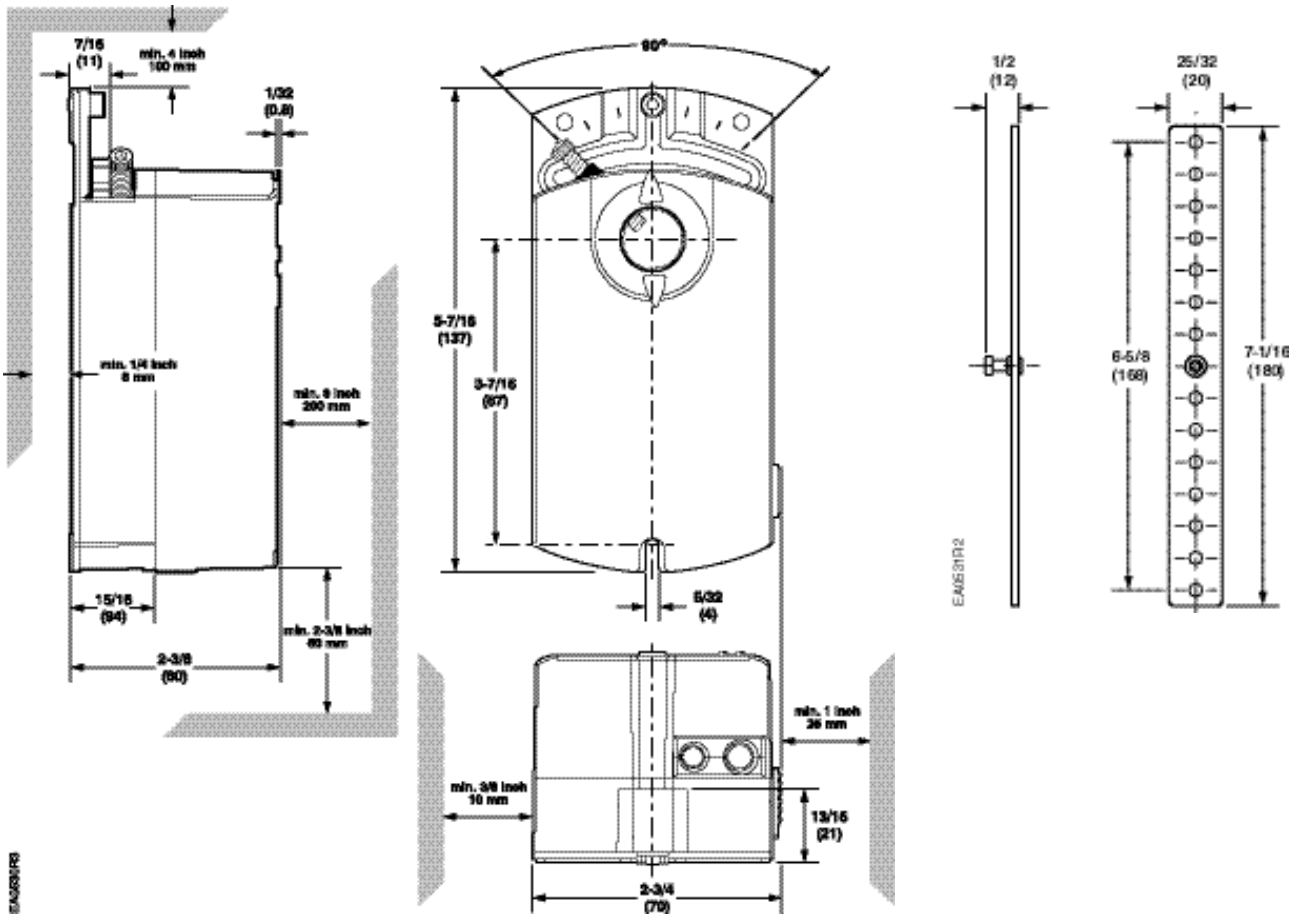


**Figure 11. Dimensions of the OpenAir GDE Actuator and Mounting Bracket.**

## References

EA GDE/GLB-1 155-187P25
OpenAir™ GDE/GLB Series
Non-spring Return 24 Vac
Modulating Control 0 to 10 Vdc
Rotary Electronic Damper Actuators
Technical Instructions

EA GDE/GLB-2 155-188P25
OpenAir™ GDE/GLB Series
Non-spring Return 24 Vac Floating Control
Rotary Electronic Damper Actuators
Technical Instructions



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