

Non-spring Return Installation Instructions

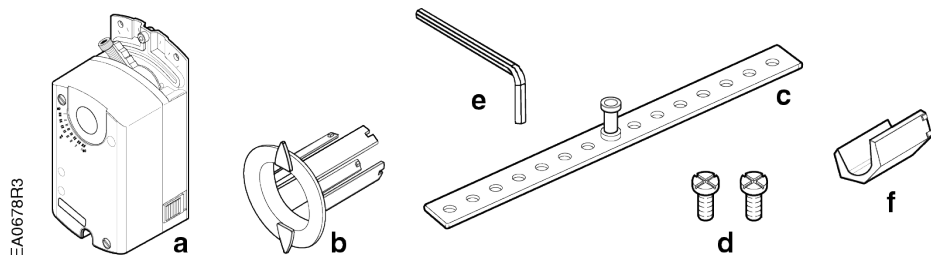


Figure 1. Parts of the Daikin Actuator.

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

Product Description

These installation instructions describe the steps for direct-coupled mounting of the Daikin 88 lb-in DKN-MS41-6083 Non-spring Return Rotary Electronic Damper Actuator.

Product Number

DKN-MS41-6083

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

30 minutes

Warning/Caution Notations

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



WARNING:
Do not open the actuator.

Instructions

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

1. Determine whether the damper blades will rotate clockwise or counterclockwise to open. See Figure 3.
2. If the blades will rotate counterclockwise, slide the manual override switch to manual, and move the adjustment lever to the right. Return the switch to automatic. See Figure 2.

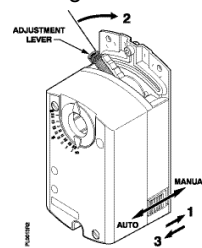


Figure 2.

3. Set the Dual In-line Package (DIP) switches to the required positions. See Figure 3.
4. To access the DIP switches, raise the tab on the lower left side of the actuator's face. See Figure 3. The factory setting is clockwise (middle switch), with a direct-acting feedback signal (right switch).
5. Close the tab over the DIP switches.

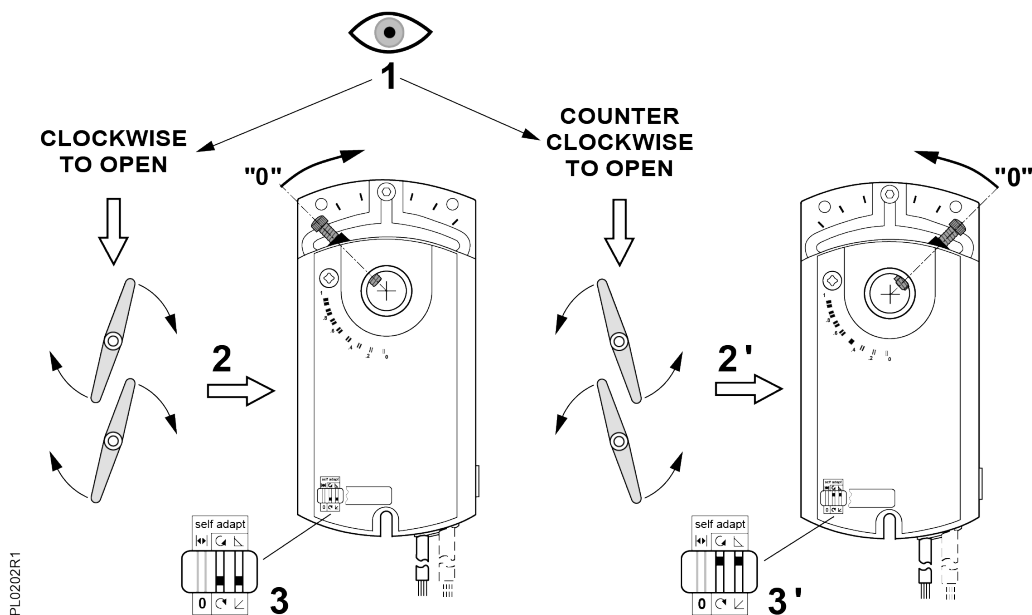


Figure 3. Setting the Direction of Rotation.

Mounting and Installation

The Daikin Actuator comes with a factory-installed 1/2-inch shaft guide.

If the shaft size is 5/8-inch, skip Figure 5 and proceed with the instructions in Figure 6.

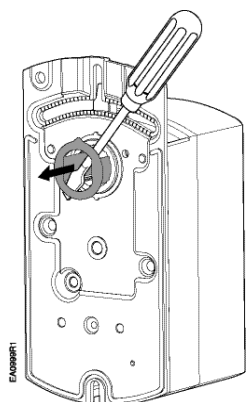
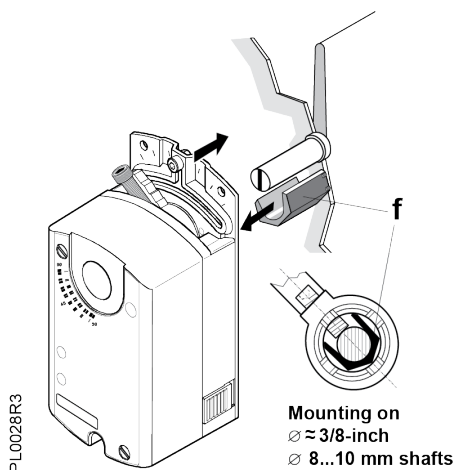
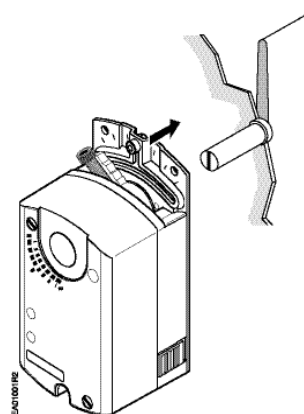


Figure 4.
Removing 1/2-inch Shaft Guide for
3/8-inch Ø or 5/8-inch Ø Shaft.



1. Remove factory-installed 1/2-inch guide. See Figure 4.
A 3/8-inch shaft adapter is provided in actuator package.
2. Hold the shaft insert so that the raised tabs are inserted last when placing the insert into the back of the actuator.
Proceed to Figure 6, Step 2.

Figure 5. 3/8-inch Ø Shaft.



1. Remove factory-installed 1/2-inch guide. See Figure 4.
2. Mount actuator to shaft per Figure 6.

Figure 6. 5/8-inch Ø Shaft.

Mounting and Installation, Continued

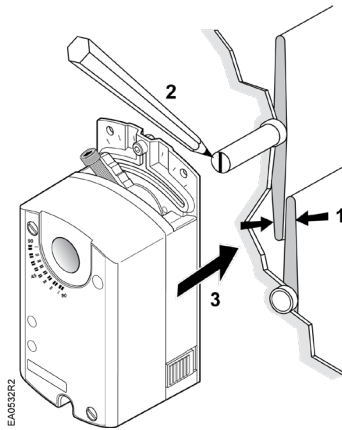


Figure 7. Mounting the Actuator to the Damper Shaft.

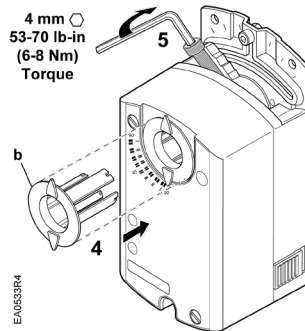


Figure 8. Installing the Position Indicator (b).

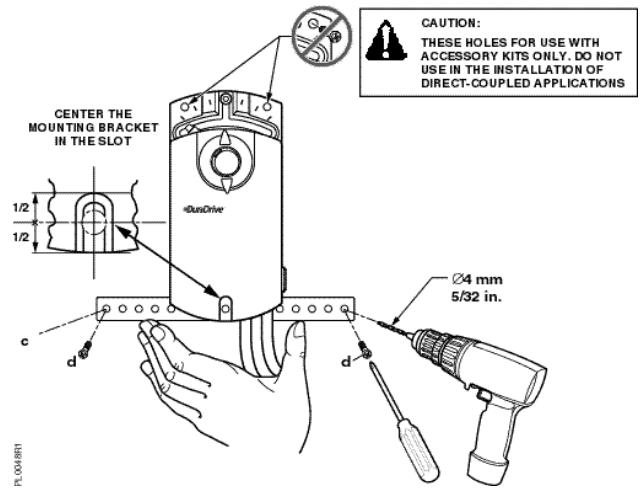


Figure 9. Attaching the Anti-rotation Bracket.

Manual Override

To move the damper blades and lock the position with no power present, do the following:

1. Slide the red manual override knob toward the back of the actuator.
2. Adjust the damper position.
3. Slide the red manual override knob toward the front of the actuator.

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

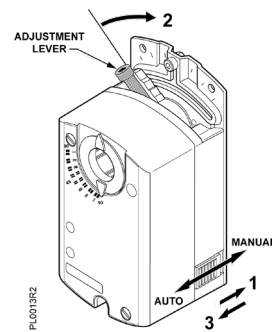


Figure 10. Manual Override.

Mechanical Range Adjustment

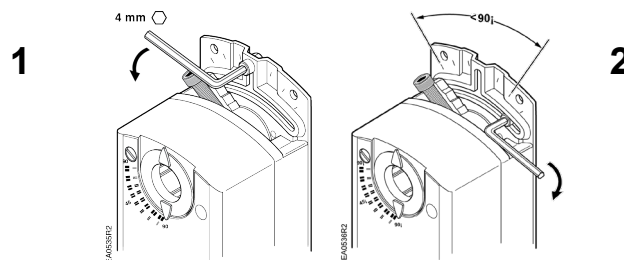



Figure 11. Moving the Mechanical Range Stop.

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

Mechanical Range Adjustment, Continued

Mechanical range limitation and self-adapt feature.

1. To use the entire 0 to 10V input signal to control the adjusted range, raise the tab located on the lower left-hand side of the actuator and locate the DIP switches. See Figure 3.
2. Set the self-adapt DIP switch to  (ON). See Figure 13.
3. Close the tab over the DIP switches.

For example, if you set the locking screw at 70° and turn the self-adapt switch ON, a 5V input signal will drive the damper to 35° (50% of its adjusted range).

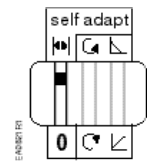


Figure 12. Self-adapt Switch in the On Position.

Factory setting 0 (OFF)



CAUTION:

When turning the self-adaptive feature on, or after a software reset with the feature on, the actuator will enter a five-minute calibration cycle as the actuator adjusts to the rotation limits of the system. A software reset happens after power on or may be caused by electrostatic discharge (ESD) at levels of 2kV and above.

Wiring

- All wiring must conform to NEC and local codes and regulations.
- Use earth ground isolating step-down Class 2 transformers. Do not use auto transformers.
- 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 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

24 Vac power supply
0 to 10V modulating control

Each wire has the standard symbol printed on it. See Table 2.

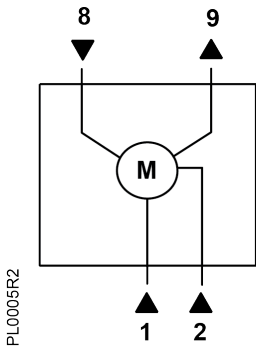


Figure 13. 0 to 10V Modulating Control.

Table 1. Modulating Control.

Standard Symbol	Function	Color
1	Supply (SP)	Red
2	Neutral (SN)	Black
8	0 to 10V input signal	Gray
9	Output for 0 to 10 Vdc position indication	Pink

Dimensions

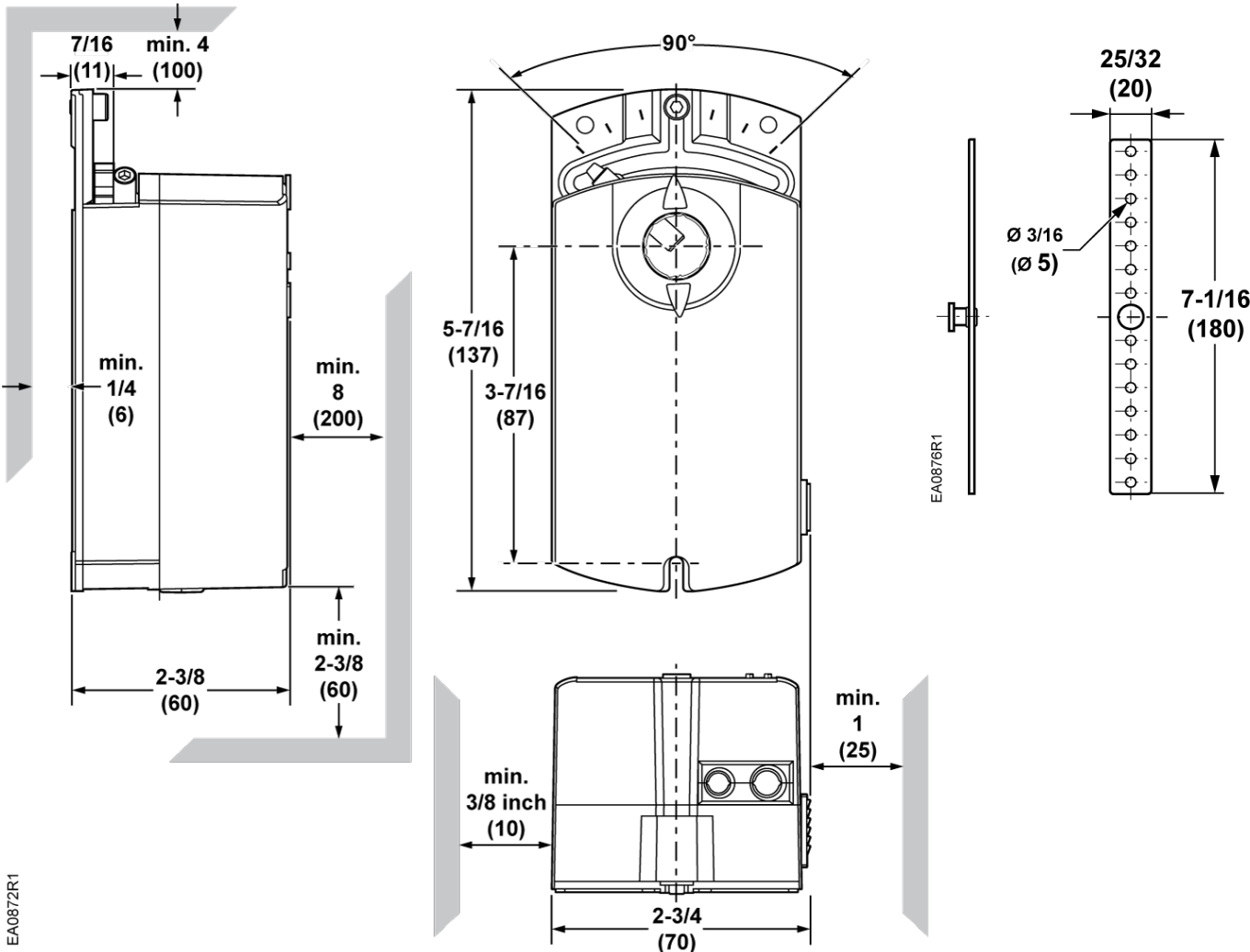


Figure 14. Dimensions of Daikin Actuator and Anti-rotation Bracket.
Dimensions in Inches (Millimeters).