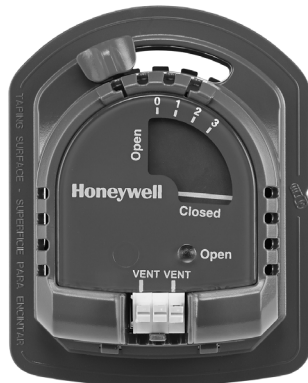


# TrueZone Direct Drive Damper Actuator

## INSTALLATION INSTRUCTIONS



**M847D-Vent**



**M847D-Zone**

## APPLICATION

The M847D is a two position, 24 Vac spring return damper actuator designed to operate directly driven zone dampers, used to control air flow in ducts. The synchronous motor actuator can be driven open (or closed) using any 24 volt rated two position switch - e.g. a wall switch or a thermostat subbase switch.

The M847D replaces the RDMH and RDMZ damper actuators for use on ARD, EARD and ZD dampers.

## SPECIFICATIONS

**Electrical Rating:** 24 Vac 60 Hz 0.32 Amp., 8 VA

**Electrical Connection:** Tool-Less insertion of 18-22 AWG Solid Wire.

**Nominal Angular Rotation:** 90° (max. 105°)

**Torque:** 60in. oz (.423 Nm)

**Nominal Motor Timing:** ( @ 25° C ambient)  
 Energized at rated load - 30 seconds.  
 De-energized (spring return) - 10 seconds.

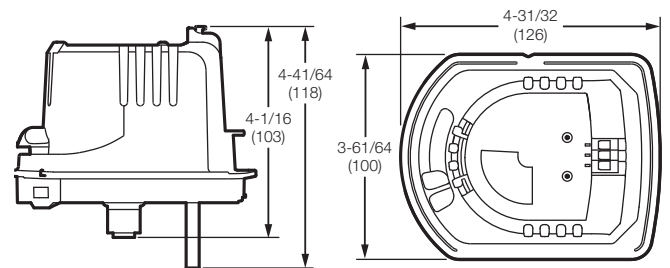
**Ambient Temperature Rating:** 5 to 60° C (+40 to 140° F)

**Direction of Shaft Rotation:** clockwise, when energized and viewed from the base or shaft end.

**Mounting Means:** direct connection to damper shaft.

**Mounting Position:** Multi-poise.

**Dimensions:** See Fig. 1.



**Fig. 1. Dimensional Details.**



## INSTALLATION AND CHECKOUT

### ! CAUTION

1. Read these instructions carefully. Failure to follow them could cause a hazardous condition.
2. Disconnect power supply before beginning of installation and wiring of control to prevent electrical shock or equipment damage.
3. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
4. All wiring must comply with local electrical codes, ordinances, and regulations.
5. Installer must be a trained, experienced service technician.
6. After installation is complete, check out the product operation as provided in these instructions.

### ! WARNING

1. DO NOT install this actuator on a flue damper.
2. DO NOT attempt to rotate the actuator by turning the connection coupling or the damper shaft when it is connected to the actuator or damage to the gear train may occur.

#### STANDARD MOUNTING (FOR 5/16" DIA. DAMPER SHAFT)

The M847D can be attached directly to the protruding 5/16" diameter damper shaft using the sleeve of the output shaft. Drill a 5/16" (8 mm) hole 1-5/16" (33.5 mm) directly below the damper shaft opening to accept the anti-rotation shaft protruding from the base of the motor. The length of the damper shaft to which the connection coupling is attached is such as to firmly hold the actuator in a position to adequately engage the anti-rotation pin in the warm air duct. See Fig. 1 for the critical dimensions.

#### REPLACING M847D ON A HONEYWELL ARD DAMPER

1. Disconnect the motor wiring.
2. Using a 1/8 in. hex wrench to loosen the motor coupling from the blade shaft, remove the existing motor assembly.
3. Observe that the damper blades are in the normal, spring open or spring closed position.
4. Place the new motor onto the shaft and tighten the coupling.
5. Reconnect the motor wiring.

#### ALTERNATE MOUNTING (FOR 7/16" DIA. COUPLING STYLE DAMPERS)

Before installing the M847D actuator to a damper with a 7/16" coupling, insert the drive shaft extension into the drive shaft and tighten with the set screw provided. See Fig. 2. Also install the anti-rotation extension to the end of the anti-rotation rod. Install the actuator on the damper and tighten the coupling screw.

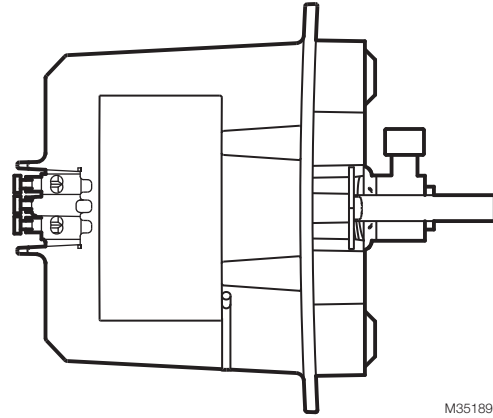


Fig. 2. For 7/16" Coupling Models Only.

#### REPLACING M847D ON A HONEYWELL ZD DAMPER

1. Disconnect the motor wiring.
2. Using a 3/16 in. hex wrench to loosen the Allen screw located above the faceplate at the motor coupling.
3. Remove the existing motor.
4. Observe that the damper blades are in the open position with the setscrew pointing toward the damper label.
5. Attach the new motor to the coupling. Make sure that the standoff on the motor is positioned in the grommet on the faceplate.
6. Tighten the set screw.
7. Reconnect the motor wiring.

### Wiring

See Fig. 3 for typical wiring hook-ups of the M847D.

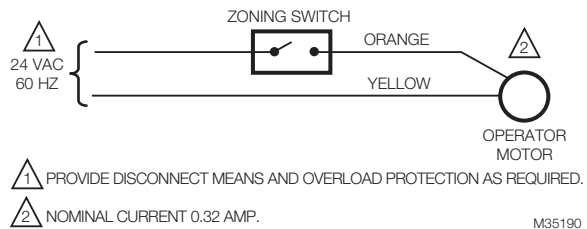


Fig. 3. Typical M847D Hookup.

### CHECKOUT

After completing the installation, check that the equipment operates correctly as follows:

1. When 24 Vac is applied to the motor leads, the motor powers to the closed or open position.
2. When power is removed, the motor releases and spring returns to the normal position.

If full opening and closing is not achieved, check the lower adjustment lever is to the extreme left and the upper lever is to the extreme right. See Fig. 4 (Air Flow Adjustments).

## Air Flow Adjustments

**NOTE:** The following describes the air flow adjustment position available with the actuator installed in the power closed mode for the M847D-Zone and power open for the M847D-Vent actuators.

Table 1. Air Flow Adjustment.

Range Stop Setting	Bleed Rate*
0	0
1	20%
2	30%
3	50%

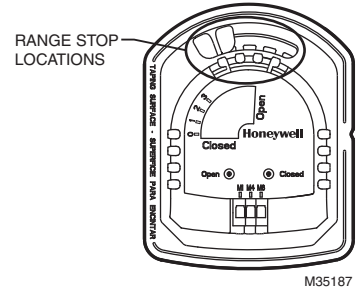


Fig. 4. Air Flow Adjustment.

**Automation and Control Solutions**

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