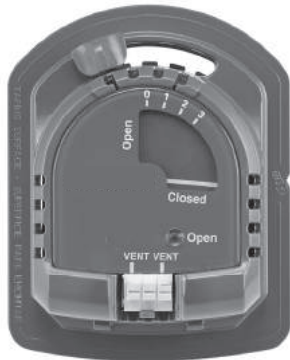




# TrueZone Direct Drive Damper Actuator

FOR USE ON ZD, ARD, AND EARD SERIES DAMPERS

## INSTALLATION INSTRUCTIONS



M847D-Vent



M847D-Zone

24V to M1 and M6 to power the damper closed. The EARD is a spring-closed vent damper that requires 24V to the VENT terminals to power the damper open. When power is removed from the motor, the damper springs back to its normally-open or normally-closed position.

## 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-prise.

**Dimensions:** See Fig. 1.

## APPLICATION

The M847D actuators are two position, 24 Vac spring return damper actuators designed to operate directly driven zone or vent dampers, used to control air flow in ducts.

The M847D-ZONE (used with ARD and ZD dampers) and M847D-VENT (used with EARD dampers) actuators have a 24 Vac, 50/60 cycle, .32A motor. The ARD and ZD are wired to terminals M1 and M6 for power closed/spring return open, with an option for M4 wire to power LED light only. The ARD and ZD are a spring-open damper that requires

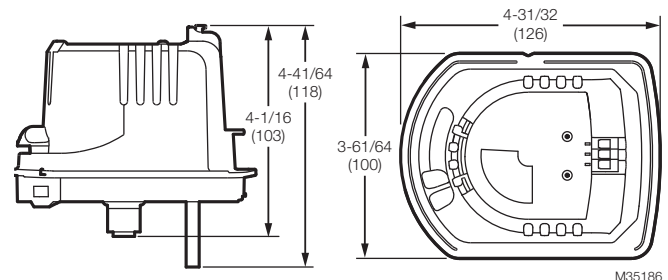


Fig. 1. Dimensional Details.



# 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.

### REPLACING M847D-ZONE ON AN ARD ZONE 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.

### OLDER-STYLE ARD & ZD (7/16" DIA. COUPLING STYLE DAMPERS)

Most versions of ARD and ZD dampers will work with the new M847D-ZONE actuator. Some older ARD and ZD dampers have a different shaft diameter and the new actuator will not fit. Resideo no longer offers the shaft adaptors for these models. If the actuator has failed, replace the damper.

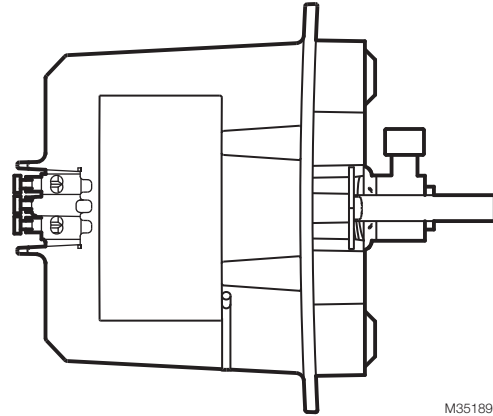


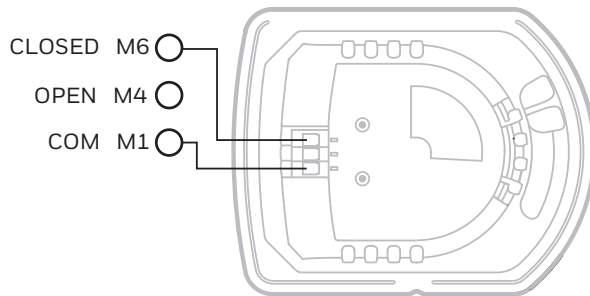
Fig. 2.

### REPLACING M847D-ZONE ON A 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

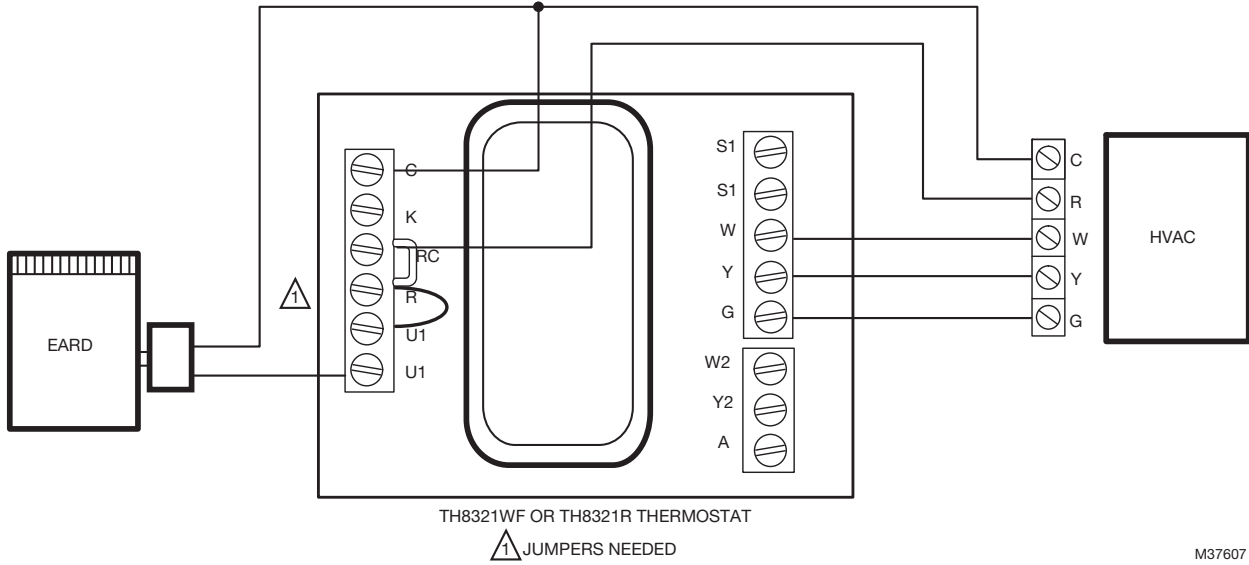
See Fig. 3 for typical wiring hook-ups of the M847D.



NOTE: WHEN INSTALLING ON OLDER MASTERTROL BOARDS SUCH AS THE MARK V, JUMPER M2-M5 ON THE PANEL.

M37925

Fig. 3. Typical M847D-ZONE Hookup.



**Fig. 4. Typical M847D-VENT wiring.**

## CHECKOUT

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

1. When 24 Vac is applied to M1 & M6 terminals on M847D-ZONE or VENT terminals on M847D-VENT, the motor powers to the closed or open position.
2. When power is removed, the motor releases and spring returns to the normal position.

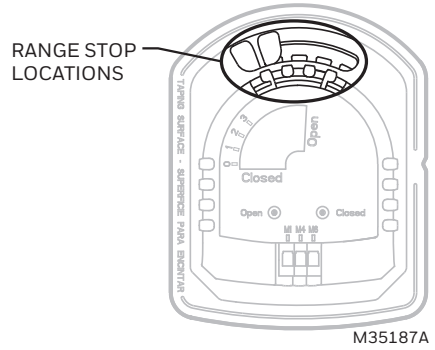
If full opening and closing is not achieved, check the lower adjustment lever is to the extreme left and the upper lever is to the extreme right. See Fig. 5 (Air Flow Adjustments).

## 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. 5. Air Flow Adjustment.**

TRUEZONE DIRECT DRIVE DAMPER ACTUATOR



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