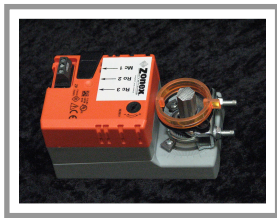


Installation Instructions



101AHDM **Direct Coupled Actuator**

Description

The 101AHDM is a 24vac, power open, power close direct coupled actuator used on Zonex Systems medium pressure and heavy duty supply dampers and electric bypass dampers. This actuator can be retrofit to other manufacturers' dampers and VAVs to enable them to be compatible with various Zonex control systems. The generic dampers and VAVs must have damper shafts approximately 2" long. Older California Economizer and Zonex Systems round dampers can also be retrofit with this actuator to save the cost of replacing the entire damper assembly.

Parts Included: Actuator, anti-rotation strap, screws, 5/8" and 3/4" spacer washers, and wiring labels.

Installation Procedures **Choose one of the following for your application:**

- A. Replace** ZONEX STMPD/101AMPD round dampers; STMRTD and 101CD / STCD rectangular dampers with the Honeywell ML6161A actuator. *Page. 1*
- B. Retrofit** Obsolete California Economizer STMPD and 101AMPD series round dampers with white drive gears and double-stack gold Synchron motor assembly. *See Pg. 2*
- C. Retrozone** Retrofit existing specified generic dampers and VAVs for current Zonex modulating control systems. *See Pg. 2*

Go to the Appropriate Section

- A. Replace** older ZONEX dampers with the Honeywell ML6161A actuator.

Tools: 6" adj wrench, pocket screwdriver (1/8"), Allen wrench (1/8"), standard Phillips and flat blade screwdrivers, felt tip marking pen.

1. De-energize the control system; note and remove the 3 wires from the old actuator terminals.
2. Set damper to full OPEN position, and mark the end of damper shaft with a line parallel with damper shell – use manual release lever on actuator, if needed.
3. Loosen the 2 Allen set screws on the shaft collar, and remove the anti-rotation screw from the actuator mount tab, opposite the shaft collar. Remove actuator and shaft spacer washer from the damper.
4. Install the new 3/4" shaft spacer washer, and rotate damper shaft to CLOSE the damper. Place AHDM actuator over damper shaft, and hand tighten the shaft clamp nuts. **See Fig. A-1**
5. Remove the reflective damper position indicator.
6. Press the manual release button, and rotate the shaft clamp until entered.
7. Slide the anti-rotation strap under the actuator (bend strap to fit contour of round damper). Place the strap halfway into the cutout, and secure with two self-tapping sheet metal screws. **See Fig. A-2**
8. With damper in CLOSED position, loosen the shaft clamp nuts; and press the manual release button and rotate the clamp to approximately 1/16" to 1/8" (5°) from the close stop. Tighten both clamp nuts. **See Fig. A-3**
9. Press the manual release button, and rotate shaft clamp to set the damper to OPEN position (refer to the mark made on the end of the shaft; it should be parallel to damper shell when open).
10. Adjust the open stop against the clamp and secure, and install the reflective damper position indicator.
11. Apply the correct wiring label on the top of the actuator – Arrows pointing to terminals (White = Round, Yellow = Rectangular), and reconnect the wires.
12. Installation complete – Test operation.

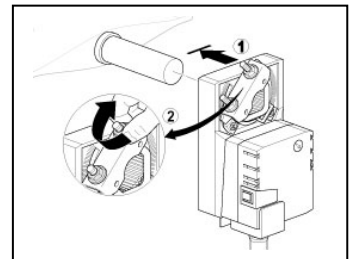


Fig A-1

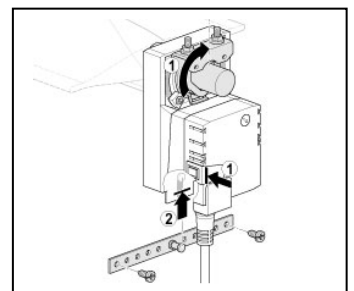


Fig A-2

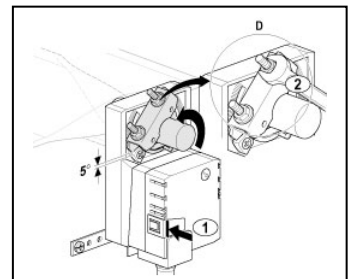


Fig A-3

B. Retrofit obsolete California Economizer STMPD VVHC 101AMPD round dampers with white drive gears and double-stack gold Synchron motor assemblies. **See Fig. B**
Tools: 6" adj wrench, pliers, pocket screwdriver (1/8"), Allen wrenches (1/8" & 1/16"), standard flat blade screwdriver, drill with 1/8" bit, 1/4" nut driver, and felt tip marking pen.

1. De-energize the control system; disconnect the wires from the damper motor to the thermostat or relay board (if applicable).
2. Remove the 4 screws, which hold the top segment of the damper hat section; and remove the upper section including the actuator motor, terminal board, relay board (if applicable) and round white Drive Gear with bushing. **NOTE:** If the damper has a potentiometer on the wire terminal board, you must loosen a 1/16" Allen set screw through a slot on the top of the white Half Gear, as viewed from the end of the hat section.
3. Rotate the damper shaft CW to OPEN the damper and mark a line on the top of the shaft, parallel with the damper shell to indicate damper blade position (open).
4. Loosen the Allen set screw on the white plastic Half Gear to damper shaft. Drill out the four (4) rivets, which attach the lower segment of the hat section to the damper shell.
5. Remove the hat section including the Half Gear, leaving just the damper shell with the shaft protruding.
6. Remove the reflective damper position indicator on the new actuator.
7. Place the new 5/8" spacer washer onto the damper shaft, rotate the shaft to open the damper, and place the new 101AHDM actuator over the shaft.
8. Press the release button on the actuator and rotate the shaft clamp so that the line on the top of the shaft is perpendicular to the right hand side of the clamp viewed from the damper inlet. Tighten the shaft clamp nuts. **See Fig. 1**
9. Press the manual release button and rotate the shaft clamp until centered; and slide the anti-rotation strap under the actuator (bend strap to fit contour of round damper). **See Fig. 2**
10. Place the anti-rotation strap halfway into the cutout and secure with two self-tapping sheet metal screws.
11. Press the manual release button and rotate the clamp CCW to CLOSE the damper. Loosen the close stop screw and adjust the close stop to approximately 1/16" to 1/8" from the clamp stop (5); and re-tighten the stop screw. **See Fig. 3**
12. Press the manual release button and rotate shaft clamp to set the damper to OPEN position (refer to the mark made on the end of the shaft; it should be parallel to damper shell when open).
13. Adjust the OPEN stop against the clamp and secure. Re-install the reflective damper position indicator and adjust to match damper position.
14. Install the white wiring sticker on the actuator and reconnect the wires. **See Fig 4**
 Test operation. **NOTE:** The 101ARLY Damper Relay board on the AMPD dampers will not mount on hat section; just move aside from the damper shell.

C. Retrozone – Retrofit existing generic dampers and VAVs for current Zonex control systems. (GEN II – GEN II X2 – ZonexCommander Plus – ModCom)

Tools: 6" adj wrench, pocket screwdriver (1/8"), standard Phillips screwdriver, felt marking pen.

1. Place the damper or VAV into the OPEN position, and mark the end of the shaft to indicate the open blade position.
2. De-energize the control system; remove wires and the existing actuator.
3. Place the 3/4" spacer washer onto the damper shaft, rotate the shaft to close the damper, and place the new 101AHDM actuator over the shaft. Hand tighten the clamp nuts. **See Fig. 1**
4. Remove the reflective damper position indicator on the new actuator.
5. Press the manual release button and rotate the shaft clamp until centered.
6. Slide the anti-rotation strap under the actuator (bend strap to fit contour of round damper). Place the strap halfway into the cutout, and secure with two self-tapping sheet metal screws. **See Fig. 2**
7. With damper in CLOSED position, loosen the shaft clamp nuts and press the manual release button and rotate the clamp to approximately 1/16" to 1/8" from the close stop. Tighten both clamp nuts.
8. Press the manual release button and rotate shaft clamp to set the damper to OPEN position (refer to the mark made on the end of the shaft; it should be parallel to damper shell when open).
9. Adjust the open stop against the clamp and secure. Install the reflective damper position indicator. **See Fig. 3**
10. Install the corresponding wiring sticker (Yellow or White) to indicate the correct polarity on the actuator, and connect the wires from the actuator to the thermostat. Test operation. **See Fig. 4**

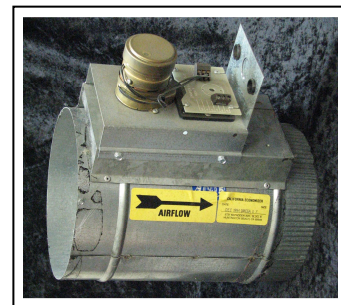


Fig B
Obsolete California Economizer Round Damper

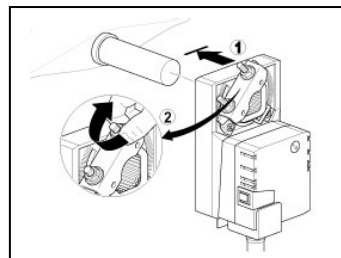


Fig 1

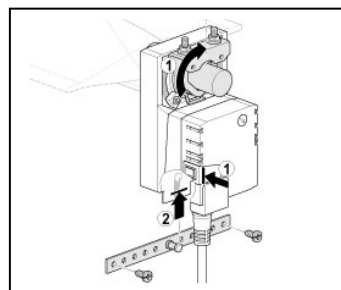


Fig 2

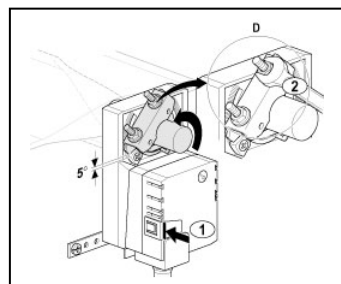


Fig 3

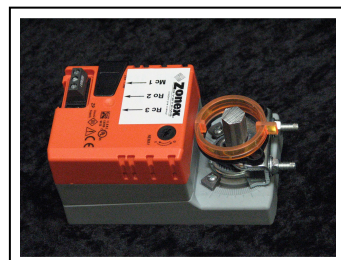


Fig 4