

Installation Instructions

Introduction

The E-Series electric actuator is a rotary valve actuator with outputs from 300 to 30,000 in-lbs. It has been designed for NEMA 4, 4X and can come with an optional 4-20mA card for modulating service.

Storage

1. Keep conduit entries plugged.
2. Store in a dry environment.
3. Periodically cycle the actuator if possible.

Maintenance

E Series actuators contain a permanently lubricated precision cut, heat treated gear train for long, reliable cycle life. There is no need to change gear train grease.

Permanent split capacitor gearmotors have been equipped with thermal protectors. To guard the motor against overheating, the thermal protector opens the circuit to the motor and maintains this state until the temperature of the motor drops to a satisfactory level.

Installation

1. This section of the instruction sheet applies to the on-off units. For instructions on modulating units, please see IOM5004 (TMC2) or IOM5003 (TMC1).
2. Manually open and close valve to ensure freeness of operation. Make sure valve and Triac actuator rotate in the same direction and are in the same position (i.e. valve closed, actuator closed). If not sure, electrically operate the actuator to determine its operating range. The Triac electric actuators are factory set for 90 degree operation.

3. Mount Triac actuator to valve with Triac provided mounting hardware to ensure proper alignment. (Note: Some valves have manual stops; remove if appropriate or set actuator to operate within those travel stops.
4. Care should be taken to align valve stem properly and Triac actuator output shaft. (Note: Misalignment will cause premature failure of assembly)
5. Connect power to terminal strip according to schematic diagram. The actuator should be wired and grounded in accordance with local and National Electrical Codes.
6. Before replacing cover, actuate valve and check to see if it opens and closes to preferred positions. If valve does not perform correctly, adjust cams to set actuator travel properly.
7. Drive actuator to desired open position. The cams are adjusted by simply loosening the set screw and rotating cam to desired position. When open position is set, tighten the set screw to maintain position.
8. To adjust closed position, repeat step 9 with actuator in desired closed position.
9. Operate the unit several times and recheck position. If unit is still out of adjustment, reset the cams by following steps 8 and 9.
10. The ET Series comes standard with mechanical travel stops. Adjust the mechanical stops to allow the limit switches to stop the actuator.

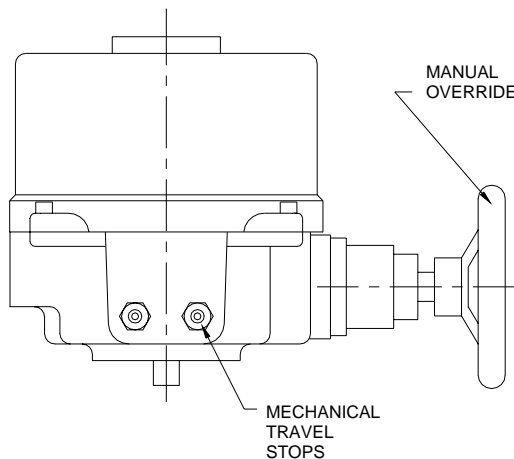
Note: Make sure the limit switches stop the actuator, not the mechanical stops.

Torque Switches (optional)

Torque switches are preset at the factory to disconnect the power from the motor when the required torque exceeds the torque rating of the actuator. There are no adjustments to increase or decrease the torque setting.

Manual Override Operation

1. Manual override can be operated at any time without "declutching handwheel"; Handwheel will not turn as actuator operates unless manually turned. We recommend, however, that the electric power be disabled when operating manualoverride in order to prevent damage to the motor.



2. Turn the manual override handwheel clockwise for clockwise output.
3. Turn the manual override handwheel counter-clockwise for counter-clockwise output.
4. The mechanical stops on the actuator will stop the user at the full open and closed position.
5. Reconnect the electric to actuator for automatic operation.
6. The manual override handwheel will freewheel.

Trouble Shooting Guide

Problem:

- There is power to the unit, but it does not repond.

Solution:

- Check the nameplate to see that the correct voltage has been applied.
- Check the wiring to see that it is per the wiring schematic.
- Check the limit switches to see if they are in the normal operating position.

Problem:

- Power is getting to the motor, but it merely hums.

Solution:

- Check to see that the proper voltage is applied.
- Make sure all the connections are tight.
- Check to see that CW and CCW power connections are not powered at the same time.
- Make sure the limit switches stop the actuator, not the mechanical stops.

Problem:

- The actuator performs erratically.

Solution:

- Check the ambient temperature rating. The permanet split capacitor units are equipped with thermal cut-outs. Excessive temperatures and cycle frequencies may heat the motor up and the thermal cut-out turns off the motor.

Wiring Diagrams

- Caution: Electric operation of each actuator must be through an individual single pole control switch, in order to isolate the unused motor winding.
- Wiring diagrams show internal wiring connections and customer connections
- For additional voltages & control options please consult factory.