

A) Caution

Electrical shock and/or explosion hazard. To avoid serious personal injury, death, or property damage due to electrical shock and/or ignition of hazardous atmospheres, **turn off all power to the actuator before removing the actuator cover.**

B) Inspection

Because many models look alike, verify the actuator's nameplate to ensure correct model number, torque, operating speed, voltage, and enclosure type before installation or use.

C) Storage

The actuator must be stored in a clean, dry, temperature controlled area. The unit shall be stored with the cover installed and with the conduit openings sealed. Storage must be off the floor, covered with an unsealed dust protector that will allow side and bottom ventilation. Care must be taken to guard the actuator from condensation in extreme temperature variations. If Actuators sit for an extended period of time it is recommended that the heaters be hooked up.

D) Moisture Warning

Electra actuators are rated NEMA 4. The only way moisture can enter the actuator is through the conduit entrance. Extra precaution should be used to stop moisture from entering the actuator. Seal tight fittings as well as drip legs should be installed to protect the actuator against condensation. If moisture migrates up through the conduit entrance and damages components, the parts are not covered under warranty.

E) Wiring Instructions

Caution: Operation of each actuator must be through an individual single pole switch to isolate the unused motor winding. Parallel power circuits will not isolate noise in the line and the actuators will operate sporadically even when they are in the "Off" position..

- Each actuator is provided with the latest revision wiring diagram. Should the diagram get separated from the valve assembly please call Valve Teck Inc. for another copy.
- Route all wiring through the actuator's conduit connections and wire to the provided diagram.
- All wiring, conduit connections, and materials should be made in accordance with local and national codes. securely tighten all screws and check all other connections.
- Modulating actuators using **Shielded Cable** can use **one** common conduit entrance.
- Modulating actuators using **Non-Shielded Cable** must use **two** separate conduit entrances, to separate power and signal.

F) Maintenance

Each electric actuator is a totally enclosed unit with a permanently lubricated gear train. Once installed, formal maintenance should not be required. However, periodic preventative maintenance will extend the operating life of the actuator. Pm checks include:

- Ensure that alignment relative to the load on the actuator is proper. Mis-alignment is a major cause of premature actuator failure.
- Ensure all wiring is insulated, connected, and terminated properly.
- Ensure all screws are present and tight, including set screws for the cams.
- Ensure cleanliness of the internal electrical devices.
- Ensure conduit connections are installed properly and are dry. No signs of condensation or water infiltration should be present inside the conduit or conduit ports on the actuator.
- Check internal devices for condensation or corrosion.
- Upon installation of cover, insure proper seal and verify that o-ring is not pinched between the flange.
- Verify declutch mechanism and manual override operates properly.
- Inspect label to verify model number, serial number, and electrical ratings are readable.
- Verify operator is operating in the proper quadrant.
- During operation, perform a visual inspection during an open and close cycle. Also, listen for any abnormal noises or sounds, try and operate once a week.

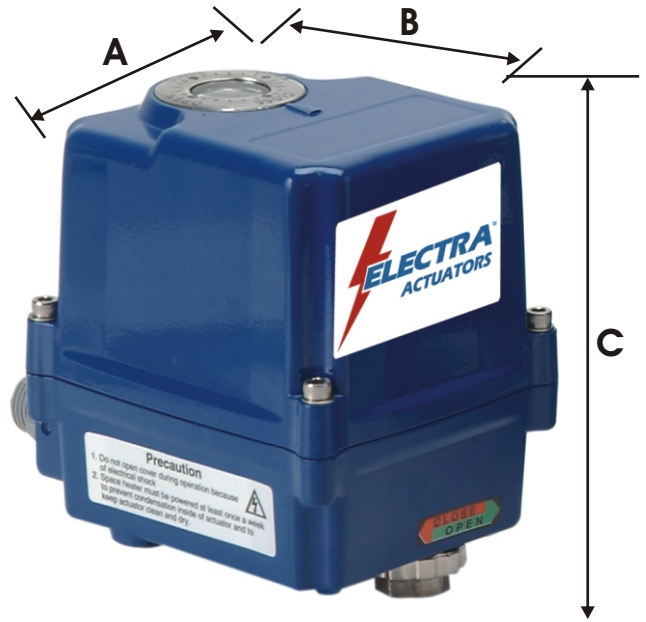
Under normal conditions, this inspection is recommended at six month intervals. But where conditions are more severe, more frequent inspection may be advisable.

Model 600



Standard Features

- Enclosure is water tight NEMA 4 and 6, IP 67
- Operating temperatures:
-40°F with heater activated, to +140°F
- Self locking worm gear is permanently lubricated
- Single phase capacitor run motor with thermal overload protection
- Single pole double throw open and closed auxiliary limit switches with adjustable cam
- Squirrel cage induction motor
- ISO mount pad for direct mounting
- Manual override standard
- Heater and Thermostat standard
- Dual 1/2" NPT conduit entrances
- Can be mounted in any orientation
- Two year warranty



Dimensions below

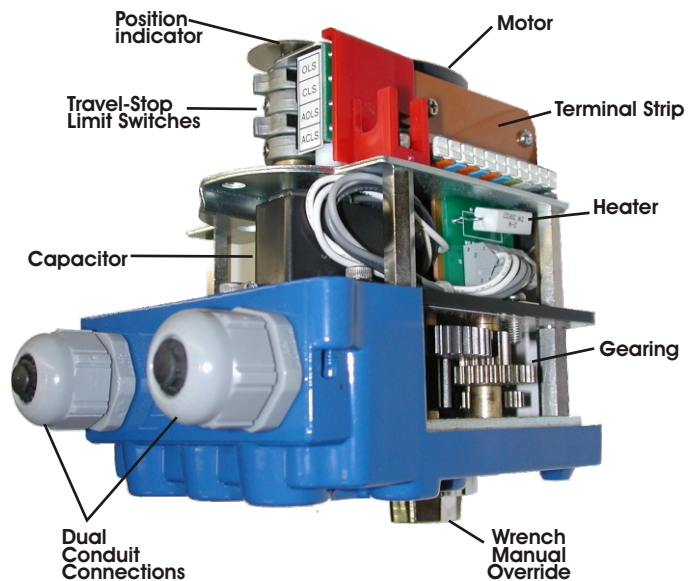
Optional Features

- Servo board to accept 4-20 ma or 0-10 VDC input signal
- Feedback 4-20 ma or 0-10 VDC

Modulating Actuator



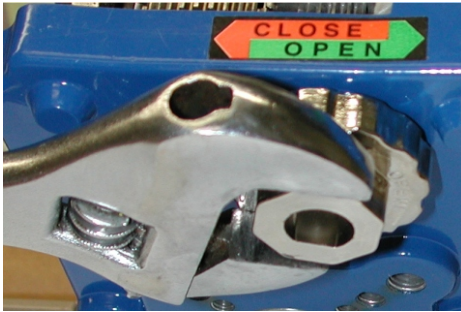
Note: Allow 3 1/2" for cover removal



Model 600 Performance

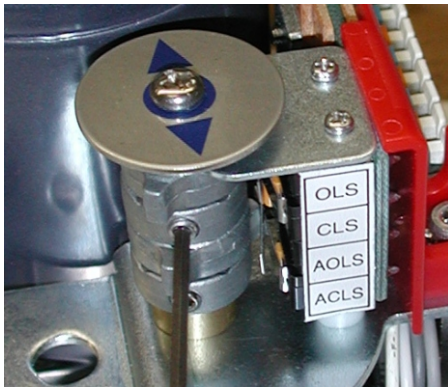
Torque		Speed 90° On/Off/Mod.	Model	Locked Rotor 115 VAC	Motor Duty	Dimensions (Inch)			
IN/LB	NM					A	B	C	Wt.
600	68	12	720-00	.4 AMP	Extended Duty	5"	4 1/8"	5 1/4"	8

1.0 Manual Operation



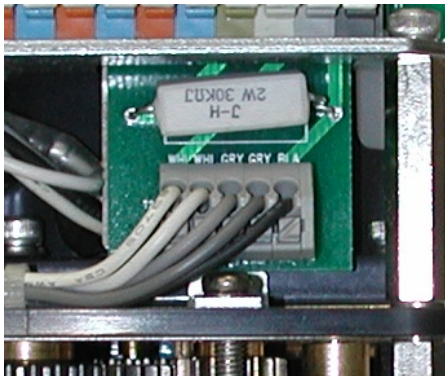
Caution: (1) Keep manual override knob clear, when power is applied the knob rotates.
(2) Do not over apply force to the manual override.

- The manual override only works when power is not present.
- First Look at the indicator to determine if the valve is open or closed.
- To move the valve manually to the open position rotate the knob counter clockwise 90°.
- To move the valve manually to the closed position rotate the knob clockwise 90°.
- If the manual override is rotated past 90° the actuator will be out of the normal operating quadrant and will not operate.



2.0 Limit Switch Setting

- Loosen the set screws on the cam with an L-Wrench, adjust the CLS or OLS cam clockwise or counterclockwise to set the open or closed limit switch.
- Loosen the set screws on the cam with an L-Wrench, adjust the ACLS or AOLS cam clockwise or counterclockwise to set the open or closed auxiliary limit switch.
- Rotate the proper cam to the position which toggles the limit switch.
- Tighten the set screw on the cam.
- Operate the actuator to verify proper cam setting.



3.0 Heater and Thermostat

The space heater is installed in every actuator to prevent damage caused by condensation inside the actuator. The heater is equipped with a thermostat to prevent overheating.

- **On/Off actuators** need to be wired to supply power to the heater and thermostat.
- **Modulating actuators** are pre-jumpered so when power is hooked up to the actuator the heater and thermostat will function properly.



4.0 Indicator Setting

- Move the actuator to the full closed position, then un-tighten the screw that holds the indicator to the stem. Turn the indicator by hand until the orientation of the indicator is aligned to the figure of the window. Once the correct orientation is achieved then tighten down on the screw.
(Be careful not to be injured by the cutting edge of the indicator or the electricity if the power is on)

Model 600 Wiring Diagrams

