TRIAC
VALVES & ACTUATORS

Division of A-T Controls Inc.
9955 International Blvd.
Cincinnati, Ohio 45246
(513) 247-5465 Fax (513)247-5462

INSTALLATION & MAINTENANCE MANUAL

WE-500 Series Electric Actuator
On/Off Control

WE-500 Series ¼ Turn Electric Actuator

Operation and Installation Manual

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INSTALLATION & MAINTENANCE MANUAL

WE-500 Series Electric Actuator
On/Off Control

1.0 General

WE-500 Series electric actuators are designed to provide reliable and efficient operation of 90º quarter turn valves and dampers.

Warning: Use caution when working in, with, or around valves and actuators. High pressures, forces, voltages and flammable media can be present.

Warning: Failure to follow instructions for proper electrical wiring, storage, set-up and maintenance may cause serious injury, damage equipment, or void warranty.

Pre-Installation Inspection

Verify the actuator nameplate to ensure correct model number, torque, operating speed, voltage and enclosure type before installation or use.

It is important to verify that the output torque of the actuator is appropriate for the torque requirements of the valve and that the actuator duty cycle is appropriate for the intended application.

2.0 Actuator Mounting

The actuator may be mounted in any position.

WE-500 Series actuators are supplied with a female drive output. ISO5211 bolt patterns are provided for the actuator mounting.

It is mandatory that the actuator be firmly secured to a sturdy mounting bracket or directly mounted to the valves ISO mounting pad. High tensile bolts or studs with spring locking washers must be used.

The valve output stem must be in line with the actuator output drive to avoid side loading of the stem.

To prevent backlash, no flexibility in the mounting bracket arrangement should be present.

2.0 Power Requirements

Consult the nameplate of the actuator (or product data sheet / catalogue) for duty cycle, voltage and current draw information.

4.0 Duty Cycle

Duty cycle rated IEC34 - S2 (35%)

Exceeding the actuator's rated duty cycle may cause thermal overload.

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5.0 Manual Override

The WE-500 actuators are supplied with a 'spanner type' manual override. This is located on the bottom of the unit and can be operated with an adjustable wrench.

Please Note:

Because the actuator does not have mechanical limit stops, be careful not to rotate past the valves full open or closed position.

6.0 Electrical Connection

- Manually move valve to mid-position. This will allow sufficient time to stop actuator in case of improper hook-up or reversed power phases.
- Identify means of removing power during hookup.
- Be sure no erroneous remote control signals can be received causing actuator to energize.
- Electrically operate the valve in the open direction. If the valve closes, actuator must be stopped and the power leads reversed to correct voltage phasing or improper field wiring.

Please Note:

Improper power voltage phasing eliminates protection of the position limit switch, risking valve damage.

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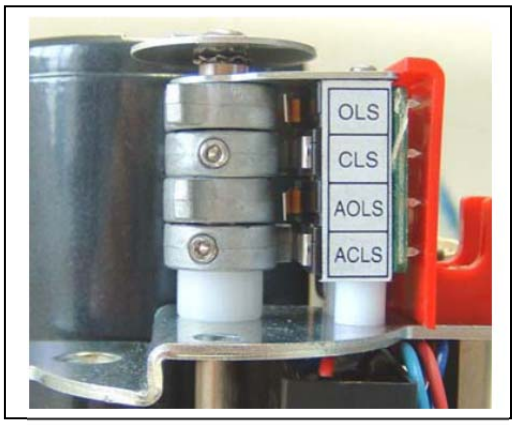
7.0 Limit Switch Settings



- Operate the actuator manually to closed position.
- Using an allen key, loosen the cam adjustment screw in the CLOSE limit switch cam.
- Rotate the CLS cam CW towards the limit switch lever until the switch 'clicks'. Tighten setscrew with allen key.
- Operate the actuator manually to open position.
- Using an allen key, loosen the cam adjustment screw in the OPEN limit switch cam.
- Rotate the OLS cam CCW towards the limit switch lever until the switch 'clicks'. Tighten setscrew with allen key.

8.0 Lubrication

The WE-500 series actuators are totally enclosed units with permanently lubricated gear trains (Moly EP Grease). Once installed lubrication should not be required.

9.0 Mechanical Position Indicator

- Manually rotate actuator to fully closed position.
- Remove actuator cover.
- Loosen the indicator screw.
- Rotate indicator to the correct orientation.
- Tighten indicator screw, replace cover and check alignment.

10.0 Maintenance

- At least once a year a check should be made of your WE-500 Series Actuator.
- Disconnect all power to actuator.
- Check that all external bolting and mounting to the valve is secure.
- Open Electrical Enclosure.
- Visually inspect for any electrical or mechanical damage. Inspect for excess moisture and condensation inside the electrical enclosure.

11.0 Storage

Actuators must be stored in a clean, cool and dry area. The unit shall be stored with the cover installed. If the actuator is mechanically installed but waiting for electrical connections, please ensure suitably rated cable glands or cable entry blanking plugs are fitted.

12.0 Trouble Shooting

The following instructions are offered for the most common difficulties encountered during installation and set-up.

SYMPTON	PROBABLE CAUSE	CORRECTIVE ACTION
Motor will not run.	Open in control circuit	Refer to appropriate wiring diagram and check for continuity.
No power available to actuator.	Tripped circuit breaker	Reset breaker and check for correct rating. Refer to catalogue data.
Manual Override is hard to turn.	Incorrectly sized actuator Jammed valve Damaged or bent valve stem. Valve gland packing too tight.	Refer to catalogue data and compare valve torque requirements with actuator (torque) output. Check for obstacles in the pipeline. Check for mechanical damage
Valve only opens or closes partially with motor.	Limit switch incorrectly set Over torque: Incorrectly sized actuator Jammed valve Damaged or bent valve stem.	Check setting and reset if necessary. Check to see if motor runs when disconnected from the valve. If so, refer to catalogue data and compare valve torque requirements with actuator (torque) output. Check for obstacles in the pipeline. Check for mechanical damage
Manual Override does not operate valve.	Damaged manual override mechanism	Check for mechanical damage, replace parts as necessary.
Motor runs but does not operate valve.	Stripped gearing Damaged actuator / valve linkage.	Check for mechanical damage, replace parts as necessary. Check for mechanical damage, replace parts as necessary.

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13.0 Standard Specifications

Enclosure Rating	Weatherproof IP67
Enclosure	High-grade aluminum alloy, hard anodized
Power Supply	110/220VAC 1 PH 50/60Hz, 24v AC/DC
Duty Cycle Motor	EC 34 S2 (35%)
Motor	Squirrel caged induction motor
Limit Switches	2 x open/close SPDT, 250VAC 10A rating
Auxiliary Limit Switches	2 x open/close SPDT, 250VAC 10A rating
Stall Protection	Built -in thermal protection
Travel Angle	320-degree +/- 10%
Indicator	Continuous position indicator
Manual Override	'Spanner type' manual override
Space Heater	2W ceramic housed
Conduit Entries	2 x M20
Lubrication	Grease Moly EP
Ambient Temperature	-20 ºC to + 70 ºC
External Coating	Dry Polyester powder.

14.0 Contact Information

For technical support, please contact the Triac office.