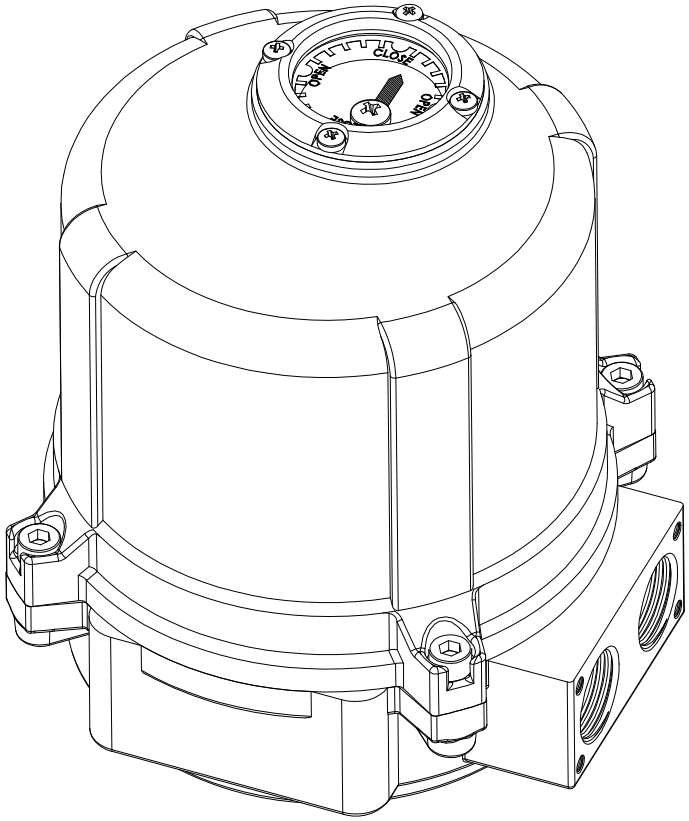

# EW 350 ELECTRIC ACTUATOR

# INSTALLATION, MAINTENANCE

# AND OPERATION MANUAL

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# Instruction Manual

Thank you for purchasing our EW series electric actuator!

For safe and proper operation, please carefully read this manual before using and save it for reference

**Important note: Radius reserves the right to change the content of this document without prior notification.**

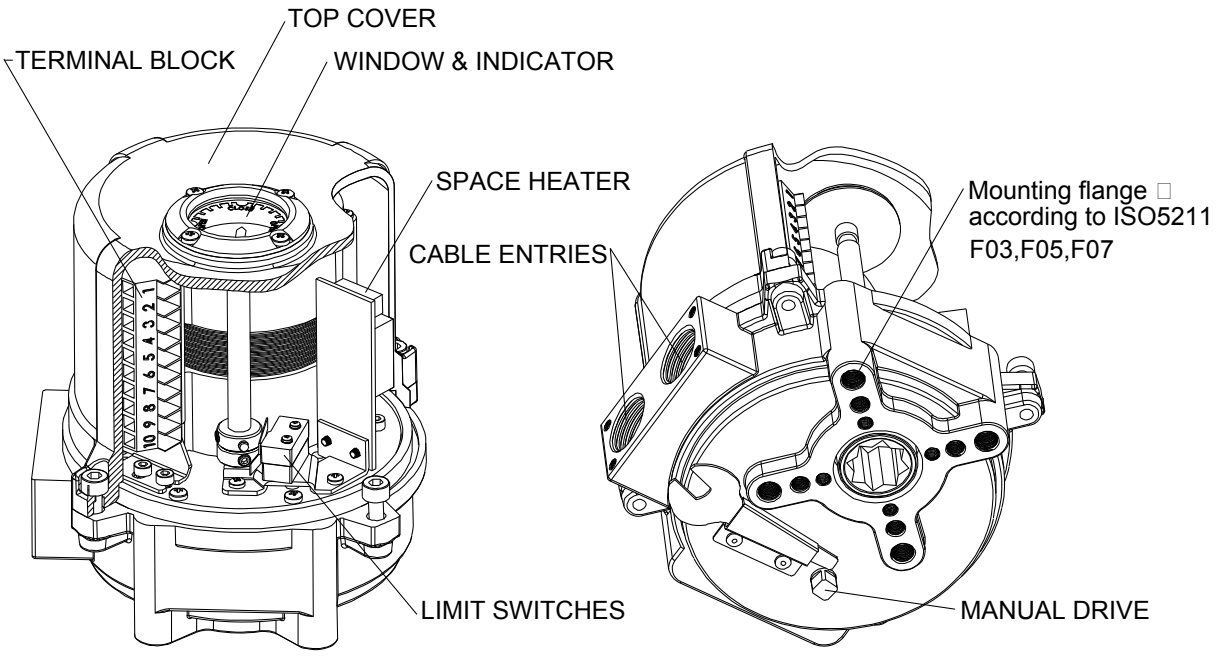
After receiving actuator, please check the followings.

1) Individual test report, electrical wiring (inside of actuator).
2) Visual check : Painting, indicator & etc
3) Specification: Check the name plate to assure you have selected the proper actuator.
4) Optional items: check to see if any options ordered are included with the unit.

## 1. Pre-caution

1) Selection of valve and actuator: Review all specification of valve and actuator carefully before making selection and reserve about 30% torque of actuator for safety purpose.
2) Check the proper limit switch setting prior to putting the actuator in to use.
3) Make sure to secure the sealing of cable entries.
4) Please consult with the factory if there are any temperature, humidity, shock or voltage drop conditions.
5) Storage: Keep actuator dry, clean and cool.
6) Trouble: Please refer to enclosed trouble shooting guide, but please don't dismantle the actuator without consulting with factory.
7) If repair or maintenance is required, please check the model, electrical condition, serial Number and current situation before contacting the factory.

## 2. Actuator Over view




## 3. Sizing and mounting

EW actuator is suitable for direct mount on ISO standard flanged valve and damper, and with proper mounting bracket and adaptor, EW can be mounted on any type of quarter-turn equipment.

1) Sizing

| VALVE / ACTUATOR | Rated torque(Nm) | BUTTERFLY (ANSI 150#) | 2-WAY BALL (ANSI 150#) |
|---|---|---|---|
| EW-350 | 350 | Usually to 3” size | Usually to 1 1/2” size |

Note: 1> The above table is a general guide for the proper selection of actuator

2>Sizing should be done after careful reviewing the valve type, temperature/ pressure, characteristics of fluid, etc.

3> Applications under abnormal condition such as high and low temperature, seawater, severe corrosion and high vibration, consult with our technical dept before selecting actuator.

2) Mounting

Basically there is no limitation in orientation of mounting of actuator on valve, but in the vertical pipeline, cable conduit of actuator is recommended to be oriented toward ground in order to avoid water flow in through cable entry. When actuator is mounted on valve, following procedure is recommended.

1> Noting the indicator, position actuator at fully closed position (Clockwise).

2> Valve stem must be properly machined to match the female drive shaft of actuator.

3> Close the valve and mount actuator on valve

4> Both the mounting holes of the actuator and valve flange must be properly aligned with each other.

5> If both are not properly aligned, make manually operate the actuator until aligned.

## 4. Setting

1) Tools required

- L-Wrench 1 set(M2, Metric)

2) Manual operation

- Manual drive shaft located at bottom of actuator.
- Clock wise direction is close, counter clockwise is open.
- The fully closed position to fully open position requires about 9 turns.
- Be careful not to operate the actuator past the setting of the limit switch.

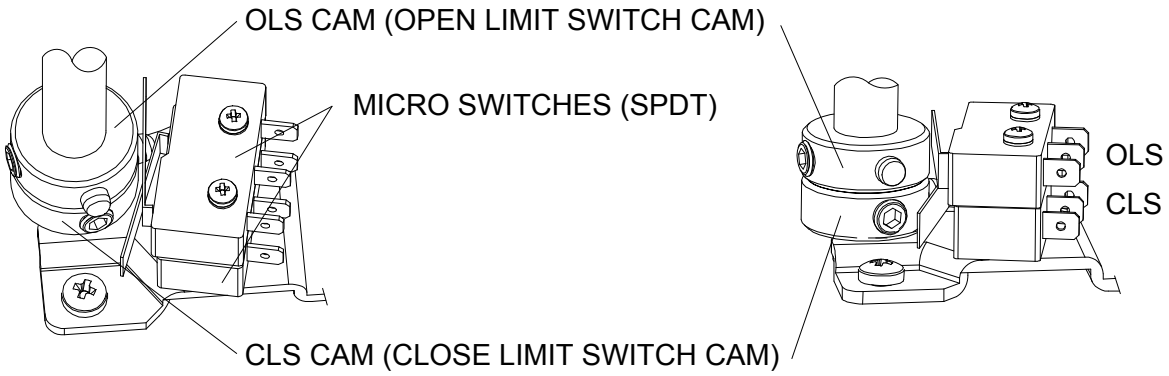
3) Limit switch setting

1> Position actuator at fully close position while watching indicator.

2> Turn the Close cam until cam activate the lever of limit switch and makes a “click” sound.

3> Tighten cam set screw (M2) to fix cam position.

4> Do the same way for open position



# 5. Electrical wiring

1) Before wring

1> Cable entries are machined with PG13.5 tap and sealed by Plug before delivery.

2> Please retain the plug to seal any unused entry.

3> Please make sure to seal the entries by using rubber or metallic packing after wiring, so that water or other foreign material may not come in.

4> If suitable cable connection is not used for wiring, factory won't guaranty the performance.

2) Electrical wiring

1> Check if electrical specification like as power, wiring & etc are correct or not.

2> Wiring diagram is to be supplied together with actuator (In vinyl pack or inside of top cover).

3> Do the wiring as per the given wiring diagram, such as power, control power, internal wiring and ground.

4> Make sure to supply electric power to heater for keeping inside of actuator clean and dry for anti-condensation.

5> Make sure to check wiring to the terminal is strong enough.

6> Make sure that one relay operates one actuator only (Can not operate two or more actuators).

7> Make sure to clean inside of actuator and no foreign material inside.

# 6. Simple trouble shooting

1) 110/220VAC 1Ph

| Trouble | Cause | Counter plan |
|---|---|---|
| Actuator doesn't work at all | Check if power is on | Power on |
| | Check if voltage is too low | Check power |
| | Motor and supplied power is different | Check motor power and supplied power |
| | Wiring is not correct and tight or loosen | Do wiring again tightly |
| | Coil of motor is damaged | Change the motor |
| | Capacitor is damaged | Change the capacitor |
| | Setting of limit and torque switch is not correct | Do setting switches again |

## 7. Maintenance

1) Lubrication :

Lubrication is provided by the factory and there is no need to re lubricate.

2) Regular operation :

Electrical power always should be supplied to actuator and operating actuator once a week is recommended.

3) Maintenance :

Long service life can be achieved if a yearly inspection of the actuator is performed.

Pleas check operating condition, corrosion, painting & etc.

4) Others :

Should you have any further queries, please contact us through Phone, fax and E-mail without hesitation.