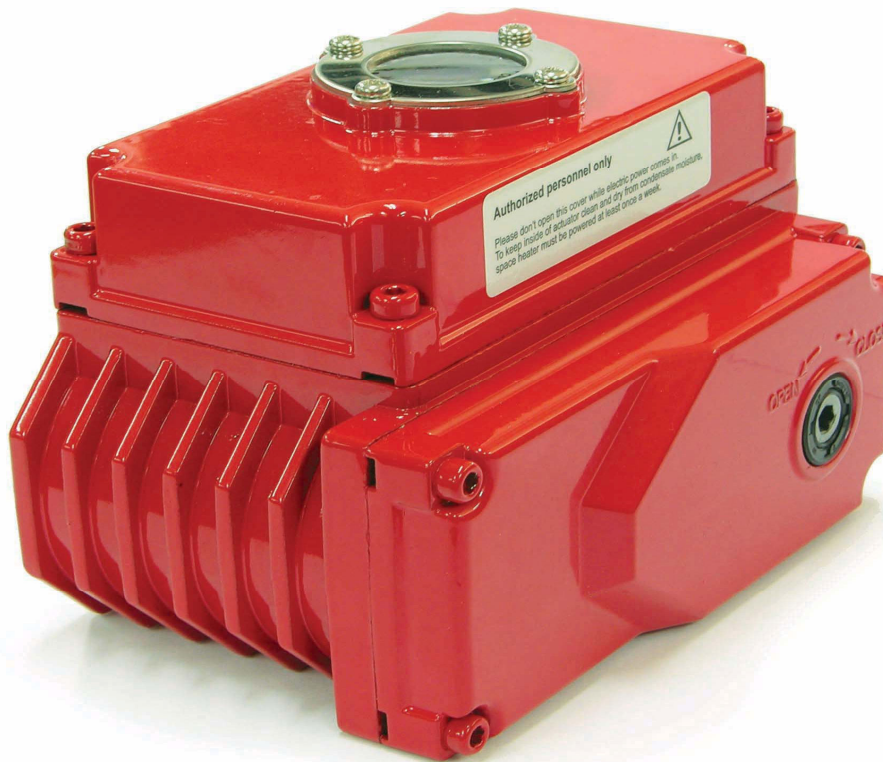


# **ELECTRIC QUARTER TURN ACTUATOR 'ITQ' SERIES INSTRUCTION AND MAINTENANCE MANUAL**



**ITQ-0080**

**Doc No: ITQ-M0101-0080**

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**ITQ ELECTRIC QUARTER TURN ACTUATOR  
Installation and operating manual (ITQ-M-0101-0080)**

# ITQ 0080 actuator Instruction and maintenance manual

Many thanks for purchasing our ITQ series electric actuator!

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

**Important Notice: The contents in this manual are subject to change due to the quality improvement without individual notice.**

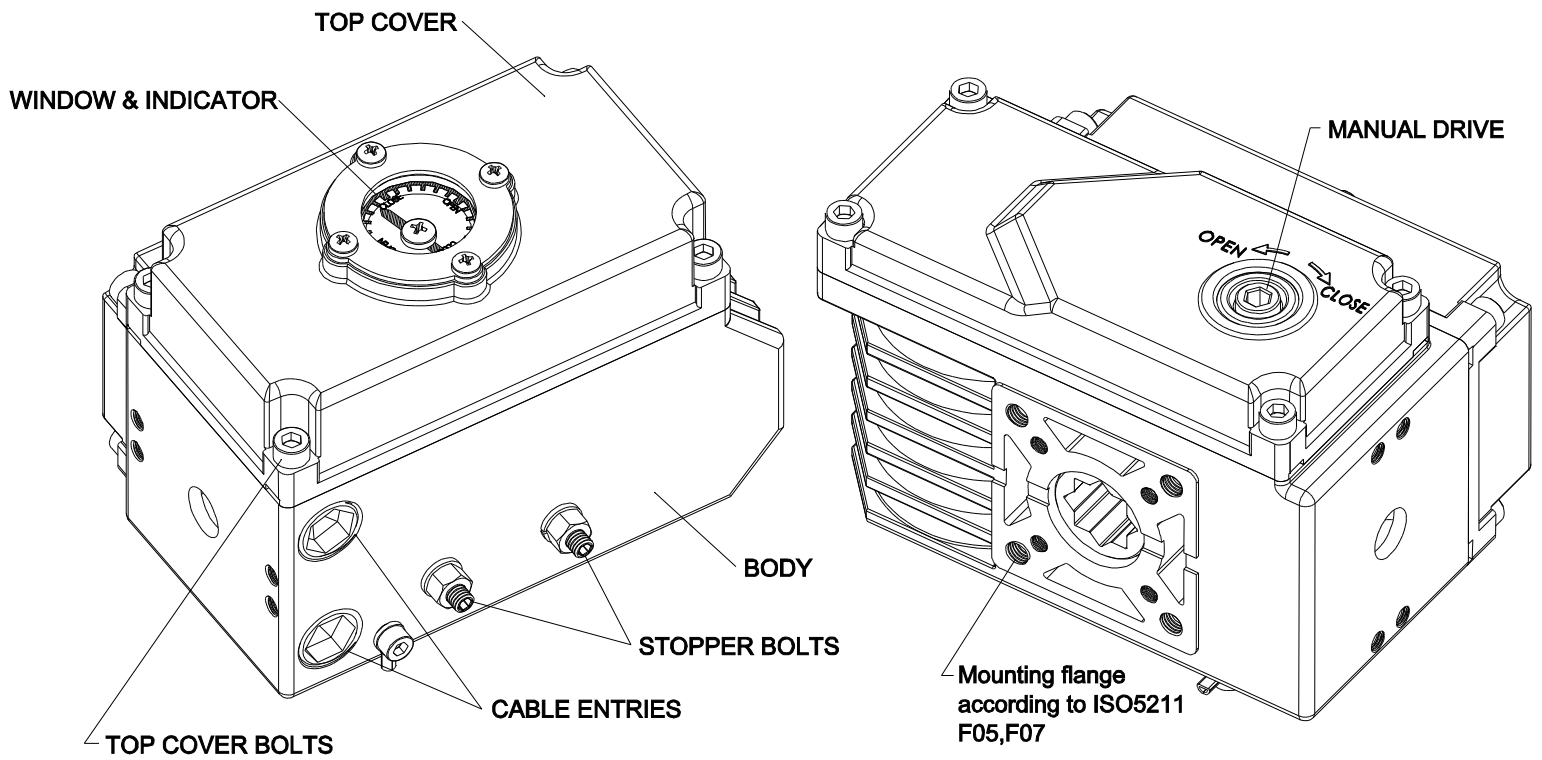
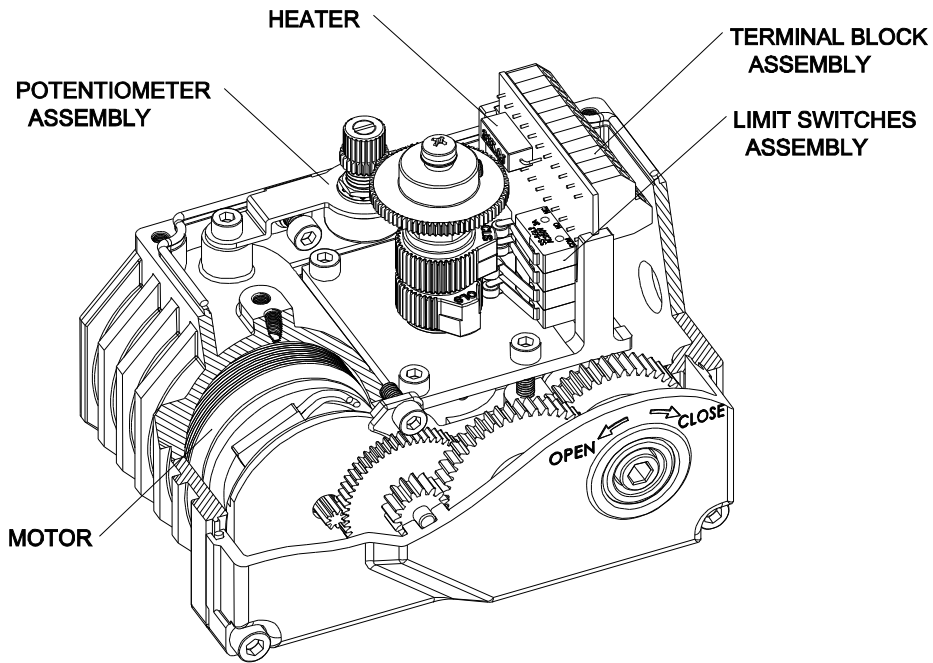
After receiving actuator, please check the following matters.

- 1) Individual test report, electrical wiring (inside of actuator) is provided together with actuator.
- 2) Visual check : Painting, indicator & etc
- 3) Specification: Check the test report and name plate with your required specifications of the application.
- 4) Optional items : check if all optional items are correct .

## 1. Pre-caution

- 1) Selection of the valve and actuator: Review all specifications of valve and actuator carefully before making the selection and reserve about 30% torque of the actuator for the safety purpose.
- 2) Before necessary setting such as limit switch, please don't make actuator work either fully open or fully closed position.
- 3) After electrical wiring, make sure to secure the sealing of cable entries.
- 4) Please be careful at especially temperature, humidity, vibration, voltage drop.
- 5) Storage: Keep actuator dry, clean and cool.
- 6) Trouble: Please refer to the enclosed trouble shooting, 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 to inform to the factory.

## 2. Part Name



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### 3. Sizing and mounting

ITQ actuator is suitable for the direct mount on ISO standard flanged valve and damper, and with proper mounting bracket and adaptor, ITQ 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#)
ITQ-0080	80	100A	50A

Note : 1 - Above table just show reference under no responsibility!

- 2 - Sizing should be done after carefully reviewing the valve , temperature, characteristics of fluid and etc.
- 3 - Having application under abnormal condition such as high and low temperature, seawater, severe corrosion and high vibration, please consult with our technical dept before selecting actuator.
- 4 - Decisions by user ignoring our recommendation, we are not responsible for it.

#### 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 the valve, following procedure is recommended.

- 1- Watching the indicator, put actuator at fully closed position (Clockwise).
- 2- Valve stem must be properly machined to match the female drive shaft of actuator (17mm double square).
- 3- Close the valve and mount actuator on the valve (Some amount of lubrication oil can be used for easier adaption)
- 4- Both mounting holes of the actuator and valve flange must be properly aligned each other.
- 5- If both are not properly aligned, make actuator move by manual in order for making both aligned well.

### 4. Setting

#### 1) Required tools for setting

- Long nose, L-Wrench 1 set (M6, Metric)

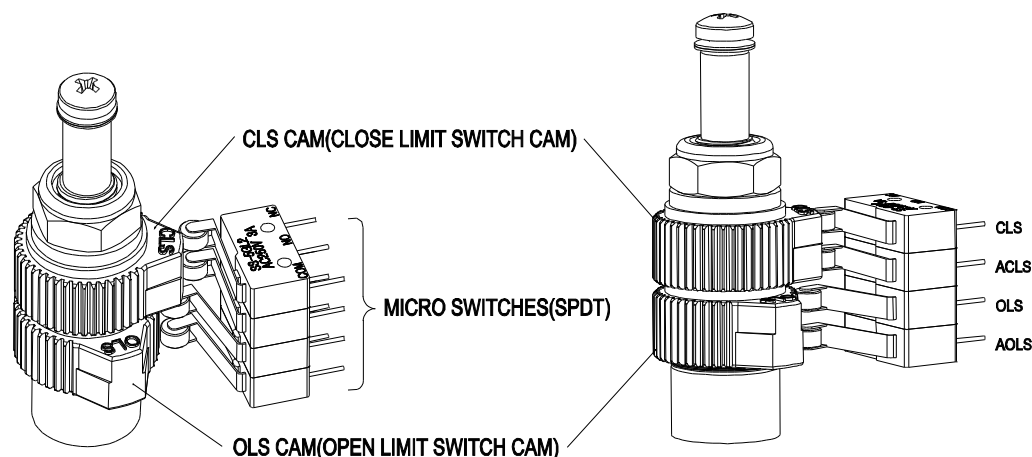
#### 2) Manual operation

- ① Manual drive shaft located at side of actuator housing (M6 Wrench).
- ② Clockwise direction is close, Counter-clockwise is open.
- ③ From fully close position to fully open position requires about 7 turns.
- ④ Please set the limit switches (full close/open) by the manual operation not to pass the limit ranges of the full Close and Open.

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### 3) Limit switch setting

- 1- Set the actuator at the fully close position watching indicator of actuator or valve disc.
- 2- Turning the Close cam until the cam activate the lever of the limit switch and make sound " Click" two times.
- 3- Do the same way for the open position



## 5. Electrical wiring

### 1) Before wiring

- ① Cable entries are machined with 2-M20X1.5 and sealed by Plug before delivery.
- ② Please remain the plug as it is if user doesn't use both cable entries.
- 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 the electrical specification like as power, wiring & etc are correct.
- 2- Wiring diagram is to be supplied together with the actuator (In plastic bag 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 the electric power to the heater to keep inside of the actuator clean and dry for anti-condensation.
- 5- Make sure to check if wiring to the terminal is strong enough.
- 6- Make sure that one relay operates one actuator only (Can't operate two or more actuators).
- 7- Make sure to clean inside of the 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 are 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 already done by factory and generally no need to refill it again.

But in the places such as very dry condition below R.H 15% or high temperature higher than 60°C, it is required to do lubrication once two year.

### 2) Regular operation :

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

### 3) Maintenance :

In order to use the actuator for a long time, regular maintenance once a year is required.

Please check operating condition, corrosion, painting & etc.

### 4) Others : Should you have any further queries, please contact us through Phone, fax and E-mail