

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



**ITQ-0040**  
**Doc No: ITQ-M0101/0040**

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**ITQ ELECTRIC QUARTER TURN ACTUATOR ITQ0040**  
**Installation and operating manual (ITQ-M0101/0040)**

## Instruction 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 Note : The contents of this manual are subject to change without individual notice .**

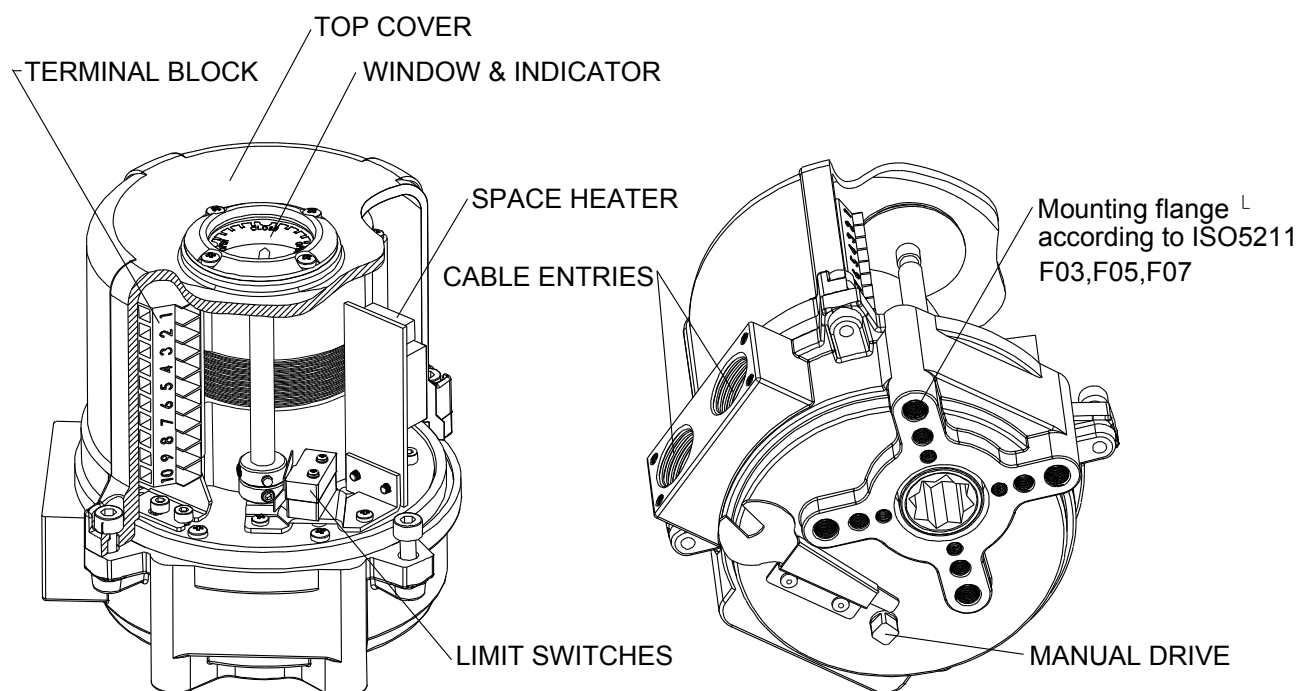
After receiving actuator, please check the followings.

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

### 1. Pre-caution

- 1) Selection of the valve and actuator : Review all specification of the valve and actuator carefully before making the selection and reserve about 30% torque of the actuator for safety purpose.
- 2) Before necessary setting such as limit switch, please don't make the actuator work either Full open or Full closed position.
- 3) After electrical wiring, make sure to secure the sealing of the cable entries.
- 4) Please be careful at especially temperature, humidity, vibration, voltage drop.
- 5) Storage: Keep the actuator dry, clean and cool.
- 6) Trouble: Please refer to the enclosed trouble shooting, but please don't dismantle the actuator without consulting with the 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 of actuator



## 3. Sizing and mounting

ITQ actuator is suitable for direct mount on ISO standard flanged valve/ 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-0040	40	50A	25A

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

2>Sizing should be done after careful reviewing about valve factory, 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>Decision by user ignoring our recommendation, we have right to avoid any responsibility.

## 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> Watching the indicator, put actuator at fully closed position (Clockwise).
- 2> Valve stem must be properly machined to match with female drive shaft of actuator.
- 3> Close the valve and mount actuator on valve (Some amount of lubrication oil can be used for easier adaption)
- 4> Both mounting hole of 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 well aligned.

## 4. Setting

### 1) Required tools for setting

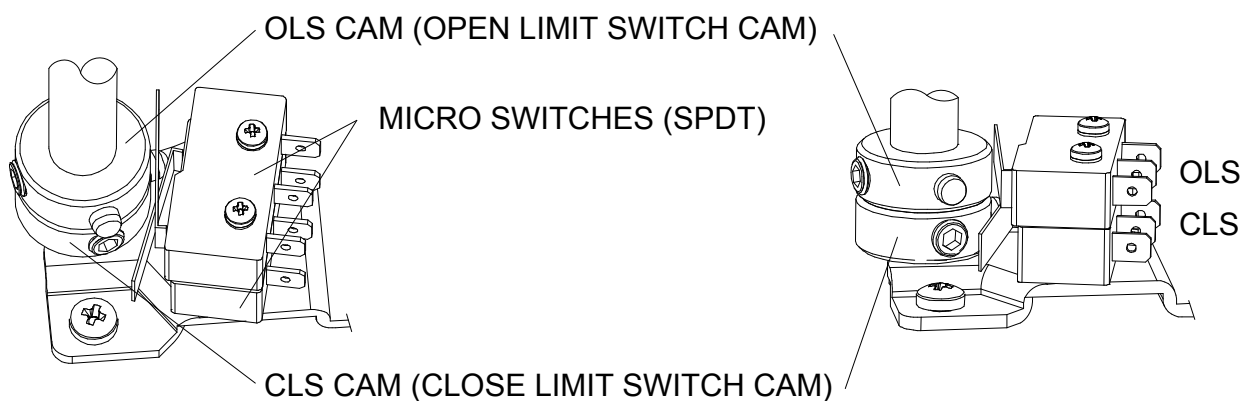
- L-Wrench 1 set(M2, Metric)

### 2) Manual operation

- ① Manual drive shaft located at bottom of actuator.
- ② Clock wise direction is close, Counter clockwise is open.
- ③ From fully close position to fully open position requires about 9 turns.
- ④ Be careful not to operate the actuator over the setting of limit switch by manual.

### 3) Limit switch setting

- 1- Put actuator at fully close position watching indicator.
- 2- Turning Close cam until cam activate the lever of limit switch and make sound " Click".
- 3- Tighten cam set screw(M2) to fix cam position.
- 4- Do same way for open position



## 5. Electrical wiring

### 1) Before wiring

- 1> Cable entries are machined with PG13.5 tap 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 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 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, the regular maintenance once a year is required.

Please check the operating condition, corrosion, painting etc.

### 4) Others :

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