



Quality

Appearance

Service



Delicate appearance
extremely long life span



High performance
brushless motor



Precision machining
technology



Industrial grade component



Precise transmission

Electric Actuator

TCR06/TCR11

PSI TCR06/TCR11 Actuator Selection Guide

Product overview

- ⊙ Install valves: 2-way,3-way ball valve and butterfly valve
- ⊙ Rated voltage: DC12V,DC24V, AC24V/110V/230V
- ⊙ Control feedback mode: B3S,B3P,B3R,B3SR,BD3S
- ⊙ High performance brushless motor,overheat protection
- ⊙ It can be used up to 20,000^{*1} times
- ※ For AC series,it is forbidden to use two or more actuators in parallel



Purchase guide

Model	Torque	Voltage	Wiring	Feedback ^{*2}	Time	Speed regulation	Rotation angle	Enclosure ^{*3}	Manual override	Position indicator	Housing material	Output shaft
TCR-06N	60Nm	DC24V	B3/BD3	S Type P Type R Type	10s	None	90°/180° ≤330°	IP67 or F Type	Hexagon spanner	Mechanical indicator	ABS	Female octagon
		AC24V			15s							
		AC110V										
		AC230V										
TCR-11N	110Nm	DC24V	B3/BD3	S Type P Type R Type	15s	None	90°/180° ≤330°	IP67 or F Type	Hexagon spanner	Mechanical indicator	ABS	Female octagon
		10s										
		AC24V			15s							
		AC110V										
		AC230V										

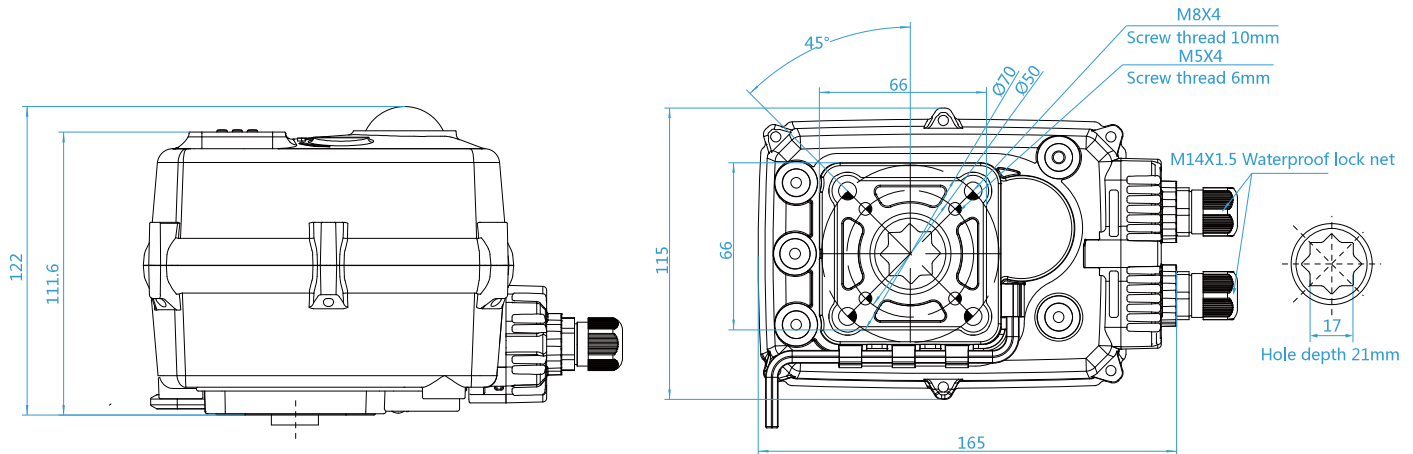
Notice ^{*1}. Test condition:Rated load,testing at factory environment where temperature is 25℃,humidity is 50%,lead the result from 2 times switching cycle,which will be influenced by different load and working environment.

^{*2}. S type is passive contact feedback,P type is active feedback,while R type is potentiometer feedback,SR type need customize.

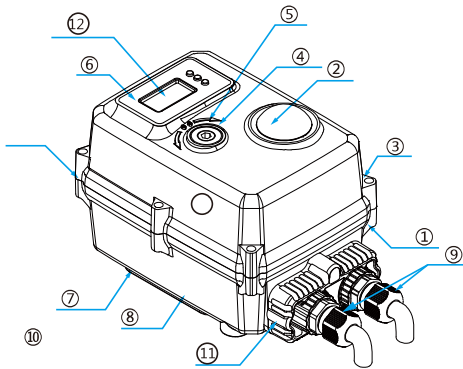
^{*3}. F type is suitable for the ambient of high humidity(≥90%) but without long-term rain.

Direct mount [female octagonal output shaft]

unit: mm



Main parts



	Parts	Material		Parts	Material
1	Actuator	Heatproof ABS or Casting aluminum	7	Wrench fixed	Heatproof_ABS
2	Indicator	Transparent AS	8	Hexagon wrench	Tool steel
3	Screw X 6	304	9	Waterproof cable connector	NiLon
4	Manual shaft	304	10	Lid seal	NBR
5	Oil seal	NBR	11	Lid seal	NBR
6	Label	PVC	12	Screen	OLED

TCR-06/11 series assembling instructions

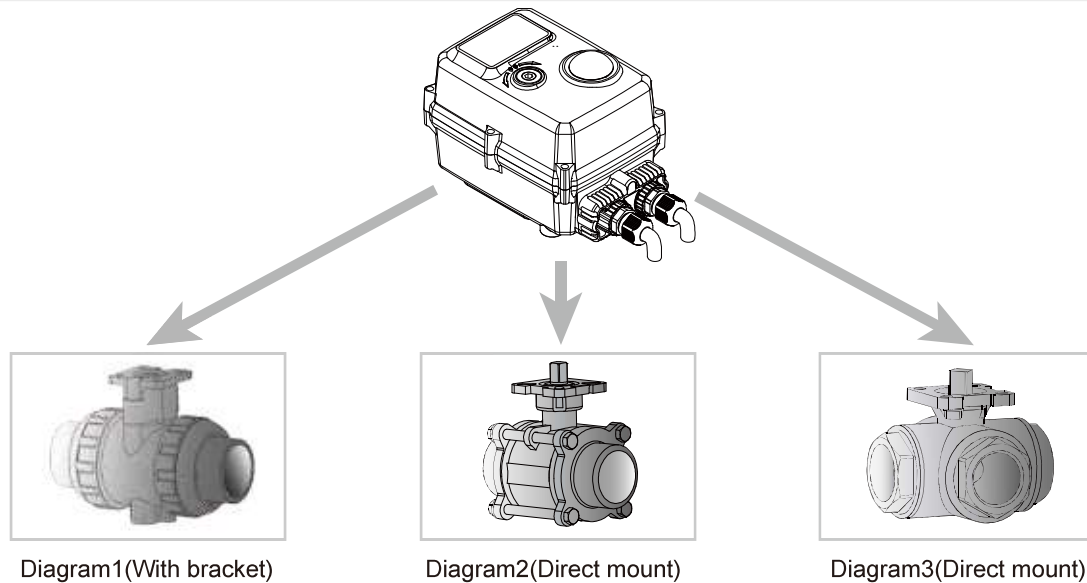


Diagram1 UPVC plastic ball valve add bracket assembly

Diagram2 3-piece stainless steel ball valve assembly

Diagram3 Stainless steel 3-way ball valve assembly

NOTICE

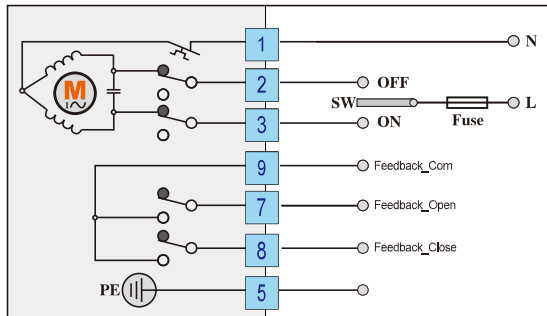
- * 1. When assembly with valve, it's recommend to use Spring Washer add flat washer to fix Screw nut.
- * 2. It's forbidden to use Anaerobic glue or UV glue, if in need, please use 704 glue and quick adhesive.
- * 3. Casing is avoid contacting with organic solvent, such as kerosene, butanone and so on, or the casing will be damaged.

Installed valve technical requirements

- 1. When installing ball valve, the max torque $\leq 45\text{Nm}/75\text{Nm}$. If the ball valve is out of operation for a long time, and the torque value of first on or off is the max torque. Or you can choose ball valve with elastic sealing.
- 2. When installing butterfly valve, the max torque $\leq 40\text{Nm}/70\text{Nm}$. Because the torque value will increased by 10-20% after installing.
- 3. When installing direct mount mode valve, the hole deep $\leq 20\text{mm}$. It requires cutting if the output shaft is longer than 20mm.
- 4. Pls pay attention to the following items if you install the bracket and coupling by yourself:
 - ※ The intensity of bracket should meet the using requirements: the bracket twisting extent $\leq 0.2\text{mm}$ in the process of on or off.
 - ※ The parallelism of bracket $\leq 0.5\text{mm}$.
 - ※ When processing the shaft hole at both end of the coupling, it is necessary to ensure the accuracy and concentricity. The purpose is to make sure the mechanical hysteresis $\leq 10^\circ$, otherwise it will cause the actuator unable to work.
- 5. Screw should be installed spring washer、flat washer, and we suggest you daub some glue cement around the screw in case of screw loosening.
- 6. After installation, user should switch the valve on and off one time with handle device first. Modifying the valve after make sure it works well.

Simple on/off type 【TCR-06/11N】

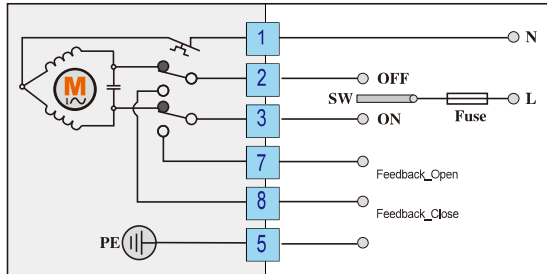
B3S



Control instructions:

- ☐ SW is connected with [2], the actuator will rotate clockwise ↻. When the valve is closed, [9] is connect with [8], giving signal of closing.
- ☐ SW is connected with [3], the actuator will rotate anticlockwise ↻. When the valve is open, [9] is connect with [7], giving signal of opening.
- ※ Notice 1: [9] is not connected with [8] and [7], when the actuator is rotating.
- ※ Notice 2: The feedback signal is a little earlier than the actual position, so please do not cut power when you get the feedback signal.

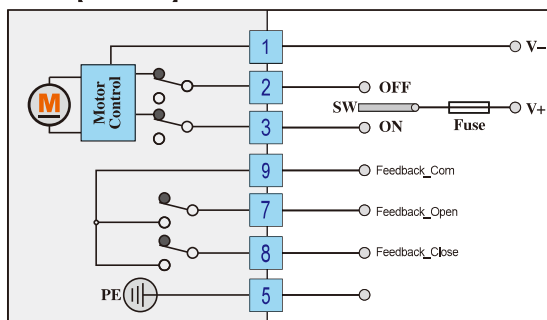
B3P



Control instructions:

- ☐ SW is connected with [2], the actuator will rotate clockwise ↻. When the valve is closed, [2] is connect with [8], giving signal of closing.
- ☐ SW is connected with [3], the actuator will rotate anticlockwise ↻. When the valve is open, [3] is connect with [7], giving signal of opening.
- ※ Notice 1: [2] is not connected with [8], [3] is not connected with [7] when the actuator is rotating.
- ※ Notice 2: The feedback signal is synchronous with valve position.

B3S- [DC series]



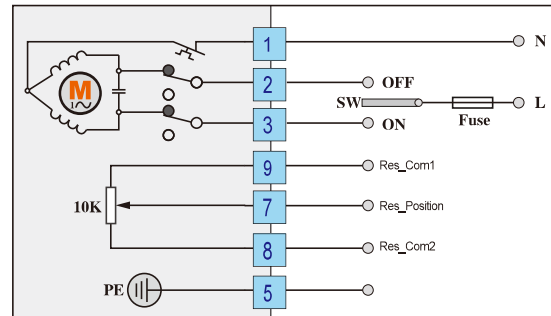
Control instructions:

- ☐ SW is connected with [2], the actuator will rotate clockwise ↻. When the valve is closed, [9] is connect with [8], giving signal of closing.
- ☐ SW is connected with [3], the actuator will rotate anticlockwise ↻. When the valve is open, [9] is connect with [7], giving signal of opening.
- ※ Notice 1: [9] is not connected with [8] and [7], when the actuator is rotating.
- ※ Notice 2: The feedback signal is a little earlier than the actual position, so please do not cut power when you get the feedback signal.

Wiring instructions:

1. Fuse: please refer to manual for more parameters.
2. SW switching capability: please refer to manual for more parameters.
3. Feedback signal contact load capacity: 0.1A/250VAC 0.5A/30VDC.
4. Please make sure actuator connect ground reliably (only KT32S).

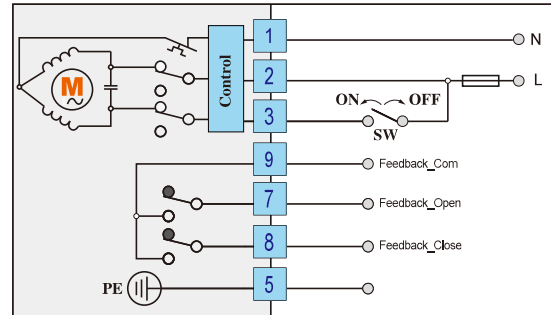
B3R



Control instructions:

- ☐ SW is connected with [2], the actuator will rotate clockwise ↻. The resistance value between [9] and [7] will decrease, the actuator will stop when the valve is closed.
- ☐ SW is connected with [3], the actuator will rotate anticlockwise ↻. The resistance value between [9] and [7] will increase, the actuator will stop when the valve is open.

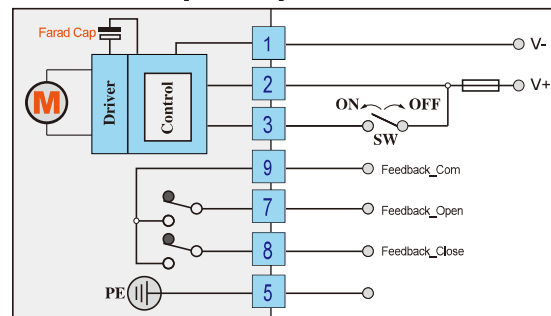
BD3S



Control instructions:

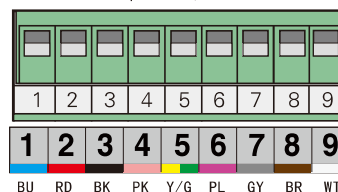
- ☐ If SW is disconnected, the actuator will drive valve close clockwise ↻. When the valve is closed completely, [9] is connected with [8], giving signal of closing.
- ☐ If SW is connected, the actuator will drive valve open anticlockwise ↻. When the valve is open completely, [9] is connected with [7], giving signal of opening.
- ※ Notice 1: [9] is not connected with [8] [7], when the actuator is running.
- ※ Notice 2: The feedback signal is a little earlier than the actual position, so please do not cut power, when you get the feedback signal.

KT32S/BD3S- [DC series]



Control instructions:

- ☐ If SW is disconnected, the actuator will drive valve close clockwise ↻. When the valve is closed completely, [9] is connected with [8], giving signal of closing.
- ☐ If SW is connected, the actuator will drive valve open anticlockwise ↻. When the valve is open completely, [9] is connected with [7], giving signal of opening.
- ※ Notice 1: [9] is not connected with [8] [7], when the actuator is running.
- ※ Notice 2: The feedback signal is a little earlier than the actual position, so please do not cut power, when you get the feedback signal.
- ※ Notice 3: When power cut, actuator will drive valve to close.



Working Environment

- ☐ This product can be used indoor and outdoor.
- ☐ This product is not explosion proof, ⚠ do not use them in flammable and explosive environment.
- ☐ You need to install protective device for the actuator if it is exposed to the rain or sunshine.
- ☐ Please pay attention to the ambient temp.
- ☐ When installing, you need to consider the reserved space for wiring and repairing.
- ☐ When power on, ⚠ it is not allowed to dismantle actuator and valve.
- ☐ When power on, ⚠ it is not allowed to do wiring.
- ☐ ✖ Forbid dropped things hit the device and lead to improper operation.
- ☐ ✖ Forbid to step on it which will cause device malfunction or personal accident.
- ☐ ✖ It is forbidden to do wiring project in rainy day or when there is water splash.

Safety Precautions

- ☐ In order to use the device safely for a long time, please pre-read the manual carefully to ensure correct use.
- ☐ Notice item: Please understand the product specification and using method clearly to ensure personal safety or prevent device from damage
- ☐ In order to indicate damage and danger, here we classify them as “warning ” and “notice ✖ ”.
- ☐ Both of contents are very important, which should be obeyed strictly.
- ☐ “Warning ⚠ ”: It will cause death or serious injury if not obeyed.
- ☐ “Notice ✖ ”: It will cause slight injury or device damage if not obeyed.
- ☐ Subject to technical changes.

TCR series assemble with valve real photos