



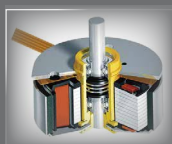
Quality

Appearance

Service



Delicate appearance
extremely long life span



High performance
brushless motor



Precision machining
technology



Industrial grade component



Precise transmission

Electric Actuator

TCR/TCN-0XXMT

Intelligent Multi-turn Electric Actuator Selection Guide

Made in China Global Service

CE ISO9001

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Product overview

- ◎ Install valves: 2way,3way ball valve and butterfly valve
 - ※ **Note: Please reserve torque safety factor when selecting**
- ◎ Control signal: 4-20mA、0-20mA、0-5V、1-5V、0-10V、2-10V (A: Alarm Output)
- ◎ Position feedback: 4-20mA、0-20mA、0-5V、1-5V、0-10V、2-10V
- ◎ Alarm output: A(Relay contact feedback)
- ◎ Position accuracy: $\pm 1\%$
- ◎ Adopted high-performance brushless motor, Overload protection of internal motor
- ◎ It can be used 20,000 times*1
- ◎ Two or more actuators can be used in parallel



Product features

- △ 1.3" OLED screen, it features no view restriction, high brightness, energy saving and environment protection, in real time to show valve opening angle and external control command. Enter sleeping state automatically after about 5 minutes, it could display location state and its control command during sleeping time.
- △ Original valve adjustment mode: cover-opening and interactive
 - step1: Press the button to control valve to the position of "counterclockwise full open", then save it.
 - step2: Press the button to control valve to the position of "clockwise full close", then save it to finish the valve adjustment.
 Thoroughly eliminate the complex and inconvenient factors caused by mechanical positioning.
- △ 16 bits high performance CPU, 12 bits high precision AD conversion chip are applied, built-in unique algorithm, thoroughly eliminate valve on/off inaccuracy caused by mechanical hysteresis, especially suitable for 3-way valve adjustment.
- △ Non-contact positioning, control unit modular design and potting processing are applied to guarantee components work reliable and greatly improve product service life; Interface uses standard connectors, convenient for installment, adjustment and replacement.
- △ Menu can report failure in real time (including stuck situation or other fails caused by actuator does not put valve on/off position in place) and output failure warning signal.
- △ Menu operation can realize exchange of valve control command.
- △ Menu operation can switch freely between remote control and local setting, press the button to realize opening/closing.
- △ Menu operation can set valve off position deviate to "On" or "Off" direction, to bring convenience to local valve adjustment compared with "Normal On/Off mechanical positioning".
- △ Menu operation can adjust valve running speed of the actuator in real time.
- △ Menu operation can restore factory default setting.

Purchase guide TCR-02TMT

Voltage	Torque	Power	Time	Wiring	Feedback	Fault signals ^{*2}	Rotation angle	Enclosure ^{*3}	Manual overrid ^{*4}	Position indicator	Housing material	Output shaft
DC24V	20Nm	85W	4s/360°	4-20mA 0-20mA	4-20mA 0-20mA	A Type	360°n (n≤5)	IP67 /F Type	Hexagon spanner /button	Mechanical indicator or OLED indicator	ABS/ Die casting aluminium	Female octagon or male square
AC/DC24V	15Nm	25W	24s/360°	0-5V 1-5V	0-5V 1-5V							
AC/DC95-265V				0-10V 2-10V	0-10V 2-10V							

※ TCN-02 Series: die casting aluminium; TCR-02 Series: ABS

Notice *1. Test condition: Test under rated load, 25℃ working temperature and 50% humidity, one test circle (two times switching cycle), which will be influenced by different load and working environment.

*2. Fault signals are selectable function, output by relay, factory defaults settings do not take this function.

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

*4. Use hexagon spanner when power-off, or use button when power-on.

Product overview

- ◎ Install valves: 2way,3way ball valve and butterfly valve
 - ※ **Note: Please reserve torque safety factor when selecting**
- ◎ Control signal: 4-20mA、0-20mA、0-5V、1-5V、0-10V、2-10V (A: Alarm Output)
- ◎ Position feedback: 4-20mA、0-20mA、0-5V、1-5V、0-10V、2-10V
- ◎ Alarm output: A(Relay contact feedback)
- ◎ Position accuracy: $\pm 1\%$
- ◎ Adopted high-performance brushless motor, Overload protection of internal motor
- ◎ It can be used 20,000 times*1
- ◎ Two or more actuators can be used in parallel



Product features

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 Thoroughly eliminate the complex and inconvenient factors caused by mechanical positioning.
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- △ Non-contact positioning, control unit modular design and potting processing are applied to guarantee components work reliable and greatly improve product service life; Interface uses standard connectors, convenient for installment, adjustment and replacement.
- △ Menu can report failure in real time (including stuck situation or other fails caused by actuator does not put valve on/off position in place) and output failure warning signal.
- △ Menu operation can realize exchange of valve control command.
- △ Menu operation can switch freely between remote control and local setting, press the button to realize opening/closing.
- △ Menu operation can set valve off position deviate to "On" or "Off" direction, to bring convenience to local valve adjustment compared with "Normal On/Off mechanical positioning".
- △ Menu operation can adjust valve running speed of the actuator in real time.
- △ Menu operation can restore factory default setting.

Purchase guide TCR-05TMT

Voltage	Torque	Power	Time	Wiring	Feedback	Fault signals ^{*2}	Rotation angle	Enclosure ^{*3}	Manual override ^{*4}	Position indicator	Housing material	Output shaft
DC24V	50Nm	100W	4s/360°	4-20mA	4-20mA	A Type	360°n (n≤15)	IP67 /F Type	Hexagon spanner /button	Mechanical indicator or OLED indicator	ABS/ Die casting aluminium	Female octagon
AC/DC24V		40W	20s/360°	0-20mA	0-20mA							
AC/DC95-265V				0-5V 1-5V 0-10V 2-10V	0-5V 1-5V 0-10V 2-10V							

※ TCN-05 Series: die casting aluminium ; TCR-05 Series : ABS

Notice *1. Test condition: Test under rated load, 25℃ working temperature and 50% humidity, one test circle (two times switching cycle), which will be influenced by different load and working environment.

*2. Fault signals are selectable function, output by relay, factory defaults settings do not take this function.

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

*4. Use hexagon spanner when power-off, or use button when power-on.

Product overview

- ◎ Install valves: 2way,3way ball valve and butterfly valve
 - ※ **Note: Please reserve torque safety factor when selecting**
- ◎ Control signal: 4-20mA、0-20mA、0-5V、1-5V、0-10V、2-10V (A: Alarm Output)
- ◎ Position feedback: 4-20mA、0-20mA、0-5V、1-5V、0-10V、2-10V
- ◎ Alarm output: A(Relay contact feedback)
- ◎ Position accuracy: $\pm 1\%$
- ◎ Adopted high-performance brushless motor, Overload protection of internal motor
- ◎ It can be used 20,000 times*1
- ◎ Two or more actuators can be used in parallel



Product features

- △ 1.3" OLED screen, it features no view restriction, high brightness, energy saving and environment protection, in real time to show valve opening angle and external control command. Enter sleeping state automatically after about 5 minutes, it could display location state and its control command during sleeping time.
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- △ Non-contact positioning, control unit modular design and potting processing are applied to guarantee components work reliable and greatly improve product service life; Interface uses standard connectors, convenient for installment, adjustment and replacement.
- △ Menu can report failure in real time (including stuck situation or other fails caused by actuator does not put valve on/off position in place) and **output failure warning signal**.
- △ Menu operation can realize exchange of valve control command.
- △ Menu operation can switch freely between remote control and local setting, press the button to realize opening/closing.
- △ Menu operation can set valve off position deviate to "On" or "Off" direction, to bring convenience to local valve adjustment compared with "Normal On/Off mechanical positioning".
- △ Menu operation can adjust valve running speed of the actuator in real time.
- △ Menu operation can restore factory default setting.

Purchase guide TCR-08TMT

Voltage	Torque	Power	Time	Wiring	Feedback	Fault signals ^{*2}	Rotation angle	Enclosure ^{*3}	Manual overrid ^{*4}	Position indicator	Housing material	Output shaft
AC/DC24V	80Nm	60W	20s/360°	4-20mA	4-20mA	A Type	360°n (n≤20)	IP67 /F Type	Hexagon spanner /button	Mechanical indicator or OLED indicator	ABS/ Die casting aluminium	Female octagon
AC/DC95-265V				0-20mA 0-5V 1-5V 0-10V 2-10V	0-20mA 0-5V 1-5V 0-10V 2-10V							

※ TCN-08 Series: die casting aluminium; TCR-08 Series: ABS

Notice *1. Test condition: Test under rated load, 25℃ working temperature and 50% humidity, one test circle (two times switching cycle), which will be influenced by different load and working environment.

*2. Fault signals are selectable function, output by relay, factory defaults settings do not take this function.

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

*4. Use hexagon spanner when power-off, or use button when power-on.

Product overview

- ◎ Install valves: 2way,3way ball valve and butterfly valve
 - ※ **Note: Please reserve torque safety factor when selecting**
- ◎ Control signal: 4-20mA、0-20mA、0-5V、1-5V、0-10V、2-10V (A: Alarm Output)
- ◎ Position feedback: 4-20mA、0-20mA、0-5V、1-5V、0-10V、2-10V
- ◎ Alarm output: A(Relay contact feedback)
- ◎ Position accuracy: $\pm 1\%$
- ◎ Adopted high-performance brushless motor, Overload protection of internal motor
- ◎ It can be used 20,000 times*1
- ◎ Two or more actuators can be used in parallel



Product features

- △ 1.3" OLED screen, it features no view restriction, high brightness, energy saving and environment protection, in real time to show valve opening angle and external control command. Enter sleeping state automatically after about 5 minutes, it could display location state and its control command during sleeping time.
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- △ Menu can report failure in real time (including stuck situation or other fails caused by actuator does not put valve on/off position in place) and output failure warning signal.
- △ Menu operation can realize exchange of valve control command.
- △ Menu operation can switch freely between remote control and local setting, press the button to realize opening/closing.
- △ Menu operation can set valve off position deviate to "On" or "Off" direction, to bring convenience to local valve adjustment compared with "Normal On/Off mechanical positioning".
- △ Menu operation can adjust valve running speed of the actuator in real time.
- △ Menu operation can restore factory default setting.

Purchase guide TCR-11TMT

Voltage	Torque	Power	Time	Wiring	Feedback	Fault signals ^{*2}	Rotation angle	Enclosure ^{*3}	Manual overrid ^{*4}	Position indicator	Housing material	Output shaft
AC/DC24V	110Nm	100W	20s/360°	4-20mA	4-20mA	A Type	360°n (n≤20)	IP67 /F Type	Hexagon spanner /button	Mechanical indicator or OLED indicator	ABS/ Die casting aluminium	Female octagon
AC/DC95-265V				0-20mA 0-5V 1-5V 0-10V 2-10V	0-20mA 0-5V 1-5V 0-10V 2-10V							

※ TCN-11 Series: die casting aluminium; TCR-11 Series: ABS

Notice *1. Test condition: Test under rated load, 25℃ working temperature and 50% humidity, one test circle (two times switching cycle), which will be influenced by different load and working environment.

*2. Fault signals are selectable function, output by relay, factory defaults settings do not take this function.

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

*4. Use hexagon spanner when power-off, or use button when power-on.

Product overview

- Install valves: 2way,3way ball valve and butterfly valve
 - ※ **Note: Please reserve torque safety factor when selecting**
- Wiring and feedback model: B3J、BD3J、BD3JA、B3JA、B43JA、B33JA、B44
- Alarm output: A(Relay contact feedback)
- Direction of rotation and angle of rotation: 2-way double acting 90°
3-way 2 positions 180°, 3-way 3 positions 2-way 4 positions
- Adopted high-performance brushless motor,Overload protection of internal motor
- It can be used 20,000 times.*1
- Two or more actuators can be used in parallel
- ※ Attention: Don't use in parallel with Normal on/off actuator under control of the same contactor.



Product features

- △ 1.3" OLED screen,it features no view restriction, high brightness,energy saving and environment protection,in real time to show valve opening angle and external control command.Enter sleeping state automatically after about 5 minutes,it could display location state and its control command during sleeping time.
- △ Original valve adjustment mode:cover-opening and interactive
 - step1:Press the button to control valve to the position of "counterclockwise full open", then save it .
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- △ Menu can report failure in real time(including stuck situation or other fails caused by actuator does not put valve on/off position in place)and **output failure warning signal**.
- △ Menu operation can realize exchange of valve control command .
- △ Menu operation can switch freely between remote control and local setting,press the button to realize opening/closing .
- △ Menu operation can set valve off position deviate to "On" or "Off" direction,to bring convenience to local valve adjustment compared with "Normal On/Off mechanical positioning".
- △ Menu operation can adjust valve running speed of the actuator in real time .
- △ Menu operation can restore factory default setting.

Purchase guide TCR-02CMT

Voltage	Torque	Power	Wiring	Feedback*2	Fault signals*3	Time	Speed regulation*4	Rotation angle	Enclosure*5	Manual override*6	Position indicator	Housing material	Output shaft							
DC24V	20Nm	85W	B3 / BD3	J Type	A Type	4s/360°	PUL /PWM	360°n (n≤5)	IP67 /F Type	Hexagon spanner /button	Mechanical indicator or OLED indicator	ABS/ Die casting aluminium	Female octagon or male square							
AC/DC24V	15Nm	25W	/B33 /B44 /B43			24s/360°														
AC/DC 95-265V																				

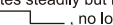
※ TCN-02 Series: die casting aluminium ;TCR-02 Series : ABS

Notice *1.Test condition:Test under rated load, 25℃ working temperature and 50% humidity,one test circle(two times switching cycle),which will be influenced by different load and working environment.

*2.S type is passive contact feedback,J type is relay feedback.

*3.Fault signals are selectable function,output by relay,factory defaults settings do not take this function.

*4.PWM mode belongs to continuous stepless speed regulation,operates steadily but has a slight impact on actuator torque output. Adjusting range is 30%-100%.

PUL mode belongs to intermittent start-stop speed regulation , no loss of actuator output torque. Adjusting range is 5%-100%.

Please refer to manual for more parameters.(Factory default maximum value is 100%).

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

*6.Use hexagon spanner when power-off,or use button when power-on.

Product overview

- Install valves: 2way,3way ball valve and butterfly valve
 - ※ **Note: Please reserve torque safety factor when selecting**
- Wiring and feedback model: B3J、BD3J、BD3JA、B3JA、B43JA、B33JA、B44
- Alarm output: A(Relay contact feedback)
- Direction of rotation and angle of rotation: 2-way double acting 90°
3-way 2 positions 180°, 3-way 3 positions 2-way 4 positions
- Adopted high-performance brushless motor, Overload protection of internal motor
- It can be used 20,000 times.*1
- Two or more actuators can be used in parallel
- ※ Attention: Don't use in parallel with Normal on/off actuator under control of the same contactor.



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- △ Menu operation can set valve off position deviate to "On" or "Off" direction, to bring convenience to local valve adjustment compared with "Normal On/Off mechanical positioning".
- △ Menu operation can adjust valve running speed of the actuator in real time.
- △ Menu operation can restore factory default setting.

Purchase guide TCR-05CMT

Voltage	Torque	Power	Wiring	Feedback ^{*2}	Fault signals ^{*3}	Time	Speed regulation ^{*4}	Rotation angle	Enclosure ^{*5}	Manual override ^{*6}	Position indicator	Housing material	Output shaft
DC24V	50Nm	100W	B3/BD3	J Type	A Type	4s/360°	PUL /PWM	360°n (n≤15)	IP67 /F Type	Hexagon spanner /button	Mechanical indicator or OLED indicator	ABS/ Die casting aluminium	Female octagon
AC/DC24V		40W	/B33 /B44 /B43			20s/360°							
AC/DC 95-265V													

※ TCN-05 Series: die casting aluminium; TCR-05 Series: ABS

Notice *1. Test condition: Test under rated load, 25℃ working temperature and 50% humidity, one test circle (two times switching cycle), which will be influenced by different load and working environment.

*2. S type is passive contact feedback, J type is relay feedback.

*3. Fault signals are selectable function, output by relay, factory default settings do not take this function.

*4. PWM mode belongs to continuous stepless speed regulation, operates steadily but has a slight impact on actuator torque output. Adjusting range is 30%-100%.

PUL mode belongs to intermittent start-stop speed regulation , no loss of actuator output torque. Adjusting range is 5%-100%.

Please refer to manual for more parameters. (Factory default maximum value is 100%).

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

*6. Use hexagon spanner when power-off, or use button when power-on.

Product overview

- ◎ Install valves: 2way,3way ball valve and butterfly valve
 - ※ **Note: Please reserve torque safety factor when selecting**
- ◎ Wiring and feedback model: B3J、BD3J、BD3JA、B3JA、B43JA、B33JA、B44
- ◎ Alarm output: A(Relay contact feedback)
- ◎ Direction of rotation and angle of rotation: 2-way double acting 90°
3-way 2 positions 180°, 3-way 3 positions 2-way 4 positions
- ◎ Adopted high-performance brushless motor,Overload protection of internal motor
- ◎ It can be used 20,000 times.*1
- ◎ Two or more actuators can be used in paralle
- ※ Attention: Don't use in paralle with Normal on/off actuator under control of the same contactor.



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- △ Menu operation can restore factory default setting.

Purchase guide TCR-08CMT

Voltage	Torque	Power	Wiring	Feedback ^{*2}	Fault signals ^{*3}	Time	Speed regulation ^{*4}	Rotation angle	Enclosure ^{*5}	Manual override ^{*6}	Position indicator	Housing material	Output shaft
AC/DC24V	80Nm	60W	B3/BD3	J Type	A Type	20s/360°	PUL /PWM	360°n (n≤20)	IP67 /F Type	Hexagon spanner /button	Mechanical indicator or OLED indicator	ABS/ Die casting aluminium	Female octagon
AC/DC 95-265V			/B33 /B44 /B43										

※ TCN-08 Series: die casting aluminium ;TCR-08 Series : ABS

Notice *1.Test condition:Test under rated load, 25℃ working temperature and 50% humidity,one test circle(two times switching cycle),which will be influenced by different load and working environment.

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*3.Fault signals are selectable function,output by relay,factory defaults settings do not take this function.

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PUL mode belongs to intermittent start-stop speed regulation , no loss of actuator output torque. Adjusting range is 5%-100%.

Please refer to manual for more parameters.(Factory default maximum value is 100%).

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

*6.Use hexagon spanner when power-off,or use button when power-on.

Product overview

- ◎ Install valves: 2way,3way ball valve and butterfly valve
 - ※ **Note: Please reserve torque safety factor when selecting**
- ◎ Wiring and feedback model: B3J、BD3J、BD3JA、B3JA、B43JA、B33JA、B44
- ◎ Alarm output: A(Relay contact feedback)
- ◎ Direction of rotation and angle of rotation: 2-way double acting 90°
3-way 2 positions 180°, 3-way 3 positions 2-way 4 positions
- ◎ Adopted high-performance brushless motor,Overload protection of internal motor
- ◎ It can be used 20,000 times.*1
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- △ Menu operation can restore factory default setting.

Purchase guide TCR-11CMT

Voltage	Torque	Power	Wiring	Feedback*2	Fault signals*3	Time	Speed regulation*4	Rotation angle	Enclosure*5	Manual override*6	Position indicator	Housing material	Output shaft
AC/DC24V	110Nm	100W	B3/BD3	J Type	A Type	20s/360°	PUL /PWM	360°n (n≤20)	IP67 /F Type	Hexagon spanner /button	Mechanical indicator or OLED indicator	ABS Die casting aluminium	Female octagon
AC/DC 95-265V			/B33 /B44 /B43										

※ TCN-11 Series: die casting aluminium ;TCR-11 Series : ABS

Notice *1.Test condition:Test under rated load, 25℃ working temperature and 50% humidity,one test circle(two times switching cycle),which will be influenced by different load and working environment.

*2. S type is passive contact feedback,J type is relay feedback.

*3.Fault signals are selectable function,output by relay,factory defaults settings do not take this function.

*4.PWM mode belongs to continuous stepless speed regulation,operates steadily but has a slight impact on actuator torque output. Adjusting range is 30%-100%.

PUL mode belongs to intermittent start-stop speed regulation, no loss of actuator output torque. Adjusting range is 5%-100%.

Please refer to manual for more parameters.(Factory default maximum value is 100%).

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

*6.Use hexagon spanner when power-off,or use button when power-on.

Product overview

- ◎ Install valves: 2way,3way ball valve and butterfly valve
 - ※ **Note: Please reserve torque safety factor when selecting**
- ◎ Control signal: 4-20mA、0-20mA、0-5V、1-5V、0-10V、2-10V (A: Alarm Output)
- ◎ Position feedback: 4-20mA、0-20mA、0-5V、1-5V、0-10V、2-10V
- ◎ Alarm output: A(Relay contact feedback)
- ◎ Position accuracy: $\pm 1\%$
- ◎ Adopted high-performance brushless motor,Overload protection of internal motor
- ◎ It can be used 20,000 times*1
- ◎ Two or more actuators can be used in paralle



Product features

- △ 1.3" OLED screen,it features no view restriction, high brightness,energy saving and environment protection,in real time to show valve opening angle and external control command.Enter sleeping state automatically after about 5 minutes,it could display location state and its control command during sleeping time.
- △ Original valve adjustment mode:cover-opening and interactive
 - step1:Press the button to control valve to the position of "counterclockwise full open", then save it .
 - step2:Press the button to control valve to the position of "clockwise full close",then save it to finish the valve adjustment.
 Thoroughly eliminate the complex and inconvenient factors caused by mechanical positioning.
- △ 16 bits high performance CPU,12 bits high precision AD conversion chip are applied,built-in unique algorithm,thoroughly eliminate valve on/off inaccuracy caused by mechanical hysteresis,espacially suitable for 3-way valve adjustment.
- △ Non-contact positioning,control unit modular design and potting processing are applied to guarentee components work reliable and greatly improve product service life;Interface uses standard connectors,convenient for installment,adjustment and replacement.
- △ Menu can report failure in real time(including stuck situation or other fails caused by actuator does not put valve on/off position in place)and **output failure warning signal**.
- △ Menu operation can realize exchange of valve control command .
- △ Menu operation can switch freely between remote control and local setting,press the button to realize opening/closing .
- △ Menu operation can set valve off position deviate to "On" or "Off" direction,to bring convenience to local valve adjustment compared with "Normal On/Off mechanical positioning".
- △ Menu operation can adjust valve running speed of the actuator in real time .
- △ Menu operation can restore factory default setting.

Purchase guide TCN-02TEXMT

Voltage	Torque	Power	Time	Wiring	Feedback	Fault signals ^{*2}	Rotation angle	Enclosure ^{*3}	Manual overrid ^{*4}	Position indicator	Housing material	Output shaft
DC24V	20Nm	85W	4s/360°	4-20mA	4-20mA	A Type	360°n (n≤5)	IP67 /F Type	Hexagon spanner /button	Mechanical indicator or OLED indicator	Die casting aluminium	Female octagon
AC/DC24V	15Nm	25W	24s/360°	0-20mA	0-20mA							
				0-5V	0-5V							
AC/DC95-265V				1-5V 0-10V 2-10V	1-5V 0-10V 2-10V							

Notice *1.Test condition:Test under rated load, 25℃ working temperature and 50% humidity,one test circle(two times switching cycle),which will be influenced by different load and working environment.

*2.Fault signals are selectable function,output by relay,factory defaults settings do not take this function.

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

*4.Use hexagon spanner when power-off,or use button when power-on.

Product overview

- ◎ Install valves: 2way,3way ball valve and butterfly valve
 - ※ **Note: Please reserve torque safety factor when selecting**
- ◎ Control signal: 4-20mA、0-20mA、0-5V、1-5V、0-10V、2-10V (A: Alarm Output)
- ◎ Position feedback: 4-20mA、0-20mA、0-5V、1-5V、0-10V、2-10V
- ◎ Alarm output: A(Relay contact feedback)
- ◎ Position accuracy: $\pm 1\%$
- ◎ Adopted high-performance brushless motor,Overload protection of internal motor
- ◎ It can be used 20,000 times*1
- ◎ Two or more actuators can be used in paralle



Product features

- △ 1.3" OLED screen,it features no view restriction, high brightness,energy saving and environment protection,in real time to show valve opening angle and external control command.Enter sleeping state automatically after about 5 minutes,it could display location state and its control command during sleeping time.
- △ Original valve adjustment mode:cover-opening and interactive
 - step1:Press the button to control valve to the position of "counterclockwise full open", then save it .
 - step2:Press the button to control valve to the position of "clockwise full close",then save it to finish the valve adjustment.
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- △ 16 bits high performance CPU,12 bits high precision AD conversion chip are applied,built-in unique algorithm,thoroughly eliminate valve on/off inaccuracy caused by mechanical hysteresis,espacially suitable for 3-way valve adjustment.
- △ Non-contact positioning,control unit modular design and potting processing are applied to guarentee components work reliable and greatly improve product service life;Interface uses standard connectors,convenient for installment,adjustment and replacement.
- △ Menu can report failure in real time(including stuck situation or other fails caused by actuator does not put valve on/off position in place)and **output failure warning signal**.
- △ Menu operation can realize exchange of valve control command .
- △ Menu operation can switch freely between remote control and local setting,press the button to realize opening/closing .
- △ Menu operation can set valve off position deviate to "On" or "Off" direction,to bring convenience to local valve adjustment compared with "Normal On/Off mechanical positioning".
- △ Menu operation can adjust valve running speed of the actuator in real time .
- △ Menu operation can restore factory default setting.

Purchase guide TCN-08TEXMT

Voltage	Torque	Power	Time	Wiring	Feedback	Fault signals ^{*2}	Rotation angle	Enclosure ^{*3}	Manual overrid ^{*4}	Position indicator	Housing material	Output shaft
AC/DC24V	80Nm	60W	20s/360°	4-20mA	4-20mA	A Type	360°n (n≤20)	IP67 /F Type	Hexagon spanner /button	Mechanical indicator or OLED indicator	Die casting aluminium	Female octagon
AC/DC95-265V				0-20mA 0-5V 1-5V 0-10V 2-10V	0-20mA 0-5V 1-5V 0-10V 2-10V							

Notice *1.Test condition:Test under rated load, 25℃ working temperature and 50% humidity,one test circle(two times switching cycle),which will be influenced by different load and working environment.

*2.Fault signals are selectable function,output by relay,factory defaults settings do not take this function.

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

*4.Use hexagon spanner when power-off,or use button when power-on.

Product overview

- ◎ Install valves: 2way,3way ball valve and butterfly valve
 - ※ **Note: Please reserve torque safety factor when selecting**
- ◎ Control signal: 4-20mA、0-20mA、0-5V、1-5V、0-10V、2-10V (A: Alarm Output)
- ◎ Position feedback: 4-20mA、0-20mA、0-5V、1-5V、0-10V、2-10V
- ◎ Alarm output: A(Relay contact feedback)
- ◎ Position accuracy: $\pm 1\%$
- ◎ Adopted high-performance brushless motor,Overload protection of internal motor
- ◎ It can be used 20,000 times*1
- ◎ Two or more actuators can be used in paralle



Product features

- △ 1.3" OLED screen,it features no view restriction, high brightness,energy saving and environment protection,in real time to show valve opening angle and external control command.Enter sleeping state automatically after about 5 minutes,it could display location state and its control command during sleeping time.
- △ Original valve adjustment mode:cover-opening and interactive
 - step1:Press the button to control valve to the position of "counterclockwise full open", then save it .
 - step2:Press the button to control valve to the position of "clockwise full close",then save it to finish the valve adjustment.
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- △ 16 bits high performance CPU,12 bits high precision AD conversion chip are applied,built-in unique algorithm,thoroughly eliminate valve on/off inaccuracy caused by mechanical hysteresis,espacially suitable for 3-way valve adjustment.
- △ Non-contact positioning,control unit modular design and potting processing are applied to guarentee components work reliable and greatly improve product service life;Interface uses standard connectors,convenient for installment,adjustment and replacement.
- △ Menu can report failure in real time(including stuck situation or other fails caused by actuator does not put valve on/off position in place)and **output failure warning signal**.
- △ Menu operation can realize exchange of valve control command .
- △ Menu operation can switch freely between remote control and local setting,press the button to realize opening/closing .
- △ Menu operation can set valve off position deviate to "On" or "Off" direction,to bring convenience to local valve adjustment compared with "Normal On/Off mechanical positioning".
- △ Menu operation can adjust valve running speed of the actuator in real time .
- △ Menu operation can restore factory default setting.

Purchase guide TCN-11TEXMT

Voltage	Torque	Power	Time	Wiring	Feedback	Fault signals ^{*2}	Rotation angle	Enclosure ^{*3}	Manual overrid ^{*4}	Position indicator	Housing material	Output shaft
AC/DC24V	110Nm	100W	20s/360°	4-20mA	4-20mA	A Type	360°n (n≤20)	IP67 /F Type	Hexagon spanner /button	Mechanical indicator or OLED indicator	Die casting aluminium	Female octagon
AC/DC95-265V				0-20mA 0-5V 1-5V 0-10V 2-10V	0-20mA 0-5V 1-5V 0-10V 2-10V							

Notice *1.Test condition:Test under rated load, 25℃ working temperature and 50% humidity,one test circle(two times switching cycle),which will be influenced by different load and working environment.

*2.Fault signals are selectable function,output by relay,factory defaults settings do not take this function.

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

*4.Use hexagon spanner when power-off,or use button when power-on.

Product overview

- Install valves: 2way,3way ball valve and butterfly valve
 - ※ **Note: Please reserve torque safety factor when selecting**
- Wiring and feedback model: B3J、BD3J、BD3JA、B3JA、B43JA、B33JA、B44
- Alarm output: A(Relay contact feedback)
- Direction of rotation and angle of rotation: 2-way double acting 90°
3-way 2 positions 180°, 3-way 3 positions 2-way 4 positions
- Adopted high-performance brushless motor,Overload protection of internal motor
- It can be used 20,000 times.*1
- Two or more actuators can be used in paralle
- ※ Attention: Don't use in paralle with Normal on/off actuator under control of the same contactor.



Product features

- △ 1.3" OLED screen,it features no view restriction, high brightness,energy saving and environment protection,in real time to show valve opening angle and external control command.Enter sleeping state automatically after about 5 minutes,it could display location state and its control command during sleeping time.
- △ Original valve adjustment mode:cover-opening and interactive
 - step1:Press the button to control valve to the position of "counterclockwise full open", then save it .
 - step2:Press the button to control valve to the position of "clockwise full close",then save it to finish the valve adjustment.
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- △ Non-contact positioning,control unit modular design and potting processing are applied to guarentee components work reliable and greatly improve product service life;Interface uses standard connectors,convenient for installment,adjustment and replacement.
- △ Menu can report failure in real time(including stuck situation or other fails caused by actuator does not put valve on/off position in place)and **output failure warning signal**.
- △ Menu operation can realize exchange of valve control command .
- △ Menu operation can switch freely between remote control and local setting,press the button to realize opening/closing .
- △ Menu operation can set valve off position deviate to "On" or "Off" direction,to bring convenience to local valve adjustment compared with "Normal On/Off mechanical positioning".
- △ Menu operation can adjust valve running speed of the actuator in real time .
- △ Menu operation can restore factory default setting.

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Voltage	Torque	Power	Wiring	Feedback ^{*2}	Fault signals ^{*3}	Time	Speed regulation ^{*4}	Rotation angle	Enclosure ^{*5}	Manual override ^{*6}	Position indicator	Housing material	Output shaft
DC24V	20Nm	85W	B3/BD3 /B33 /B44 /B43	J Type	A Type	4s/360°	PUL /PWM	360°n (n≤5)	IP67 /F Type	Hexagon spanner /button	Mechanical indicator or OLED indicator	Die casting aluminium	Female octagon
AC/DC24V	15Nm	25W				24s/360°							
AC/DC 95-265V													

Notice *1.Test condition:Test under rated load, 25℃ working temperature and 50% humidity,one test circle(two times switching cycle),which will be influenced by different load and working environment.

*2. S type is passive contact feedback,J type is relay feedback.

*3.Fault signals are selectable function,output by relay,factory defaults settings do not take this function.

*4.PWM mode belongs to continuous stepless speed regulation,operates steadily but has a slight impact on actuator torque output. Adjusting range is 30%-100%.

PUL mode belongs to intermittent start-stop speed regulation, no loss of actuator output torque. Adjusting range is 5%-100%.

Please refer to manual for more parameters.(Factory default maximum value is 100%).

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

*6.Use hexagon spanner when power-off,or use button when power-on.

Product overview

- ◎ Install valves: 2way,3way ball valve and butterfly valve
 - ※ **Note: Please reserve torque safety factor when selecting**
- ◎ Wiring and feedback model: B3J、BD3J、BD3JA、B3JA、B43JA、B33JA、B44
- ◎ Alarm output: A(Relay contact feedback)
- ◎ Direction of rotation and angle of rotation: 2-way double acting 90°
3-way 2 positions 180°, 3-way 3 positions 2-way 4 positions
- ◎ Adopted high-performance brushless motor,Overload protection of internal motor
- ◎ It can be used 20,000 times.*1
- ◎ Two or more actuators can be used in paralle
- ※ Attention: Don't use in paralle with Normal on/off actuator under control of the same contactor.



Product features

- △ 1.3" OLED screen,it features no view restriction, high brightness,energy saving and environment protection,in real time to show valve opening angle and external control command.Enter sleeping state automatically after about 5 minutes,it could display location state and its control command during sleeping time.
- △ Original valve adjustment mode:cover-opening and interactive
 - step1:Press the button to control valve to the position of "counterclockwise full open", then save it .
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- △ Menu can report failure in real time(including stuck situation or other fails caused by actuator does not put valve on/off position in place)and **output failure warning signal**.
- △ Menu operation can realize exchange of valve control command .
- △ Menu operation can switch freely between remote control and local setting,press the button to realize opening/closing .
- △ Menu operation can set valve off position deviate to "On" or "Off" direction,to bring convenience to local valve adjustment compared with "Normal On/Off mechanical positioning".
- △ Menu operation can adjust valve running speed of the actuator in real time .
- △ Menu operation can restore factory default setting.

Purchase guide TCN-08CEXMT

Voltage	Torque	Power	Wiring	Feedback*2	Fault signals*3	Time	Speed regulation*4	Rotation angle	Enclosure*5	Manual override*6	Position indicator	Housing material	Output shaft
AC/DC24V	80Nm	60W	B3/BD3	J Type	A Type	20s/360°	PUL /PWM	360°n (n≤20)	IP67 /F Type	Hexagon spanner /button	Mechanical indicator or OLED indicator	Die casting aluminium	Female octagon
AC/DC 95-265V			/B33 /B44 /B43										

Notice *1.Test condition:Test under rated load, 25℃ working temperature and 50% humidity,one test circle(two times switching cycle),which will be influenced by different load and working environment.

*2. S type is passive contact feedback,J type is relay feedback.

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PUL mode belongs to intermittent start-stop speed regulation, no loss of actuator output torque. Adjusting range is 5%-100%. Please refer to manual for more parameters.(Factory default maximum value is 100%).

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

*6.Use hexagon spanner when power-off,or use button when power-on.

Product overview

- ◎ Install valves: 2way,3way ball valve and butterfly valve
 - ※ **Note: Please reserve torque safety factor when selecting**
- ◎ Wiring and feedback model: B3J、BD3J、BD3JA、B3JA、B43JA、B33JA、B44
- ◎ Alarm output: A(Relay contact feedback)
- ◎ Direction of rotation and angle of rotation: 2-way double acting 90°
3-way 2 positions^{*1} 180°, 3-way 3 positions 2-way 4 positions
- ◎ Adopted high-performance brushless motor,Overload protection of internal motor
- ◎ It can be used 20,000 times.^{*1}
- ◎ Two or more actuators can be used in paralle
- ※ Attention: Don't use in paralle with Normal on/off actuator under control of the same contactor.



Product features

- △ 1.3" OLED screen,it features no view restriction, high brightness,energy saving and environment protection,in real time to show valve opening angle and external control command.Enter sleeping state automatically after about 5 minutes,it could display location state and its control command during sleeping time.
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- △ Menu operation can set valve off position deviate to "On" or "Off" direction,to bring convenience to local valve adjustment compared with "Normal On/Off mechanical positioning".
- △ Menu operation can adjust valve running speed of the actuator in real time .
- △ Menu operation can restore factory default setting.

Purchase guide TCN-11CEXMT

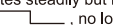
Voltage	Torque	Power	Wiring	Feedback ^{*2}	Fault signals ^{*3}	Time	Speed regulation ^{*4}	Rotation angle	Enclosure ^{*5}	Manual override ^{*6}	Position indicator	Housing material	Output shaft
AC/DC24V	110Nm	100W	B3/BD3	J Type	A Type	20s/360°	PUL /PWM	360°n (n≤20)	IP67 /F Type	Hexagon spanner /button	Mechanical indicator or OLED indicator	Die casting aluminium	Female octagon
AC/DC 95-265V			/B33 /B44 /B43										

Notice ^{*1}.Test condition:Test under rated load, 25℃ working temperature and 50% humidity,one test circle(two times switching cycle),which will be influenced by different load and working environment.

^{*2}. S type is passive contact feedback,J type is relay feedback.

^{*3}.Fault signals are selectable function,output by relay,factory defaults settings do not take this function.

^{*4}.PWM mode belongs to continuous stepless speed regulation,operates steadily but has a slight impact on actuator torque output. Adjusting range is 30%-100%.

PUL mode belongs to intermittent start-stop speed regulation , no loss of actuator output torque. Adjusting range is 5%-100%.

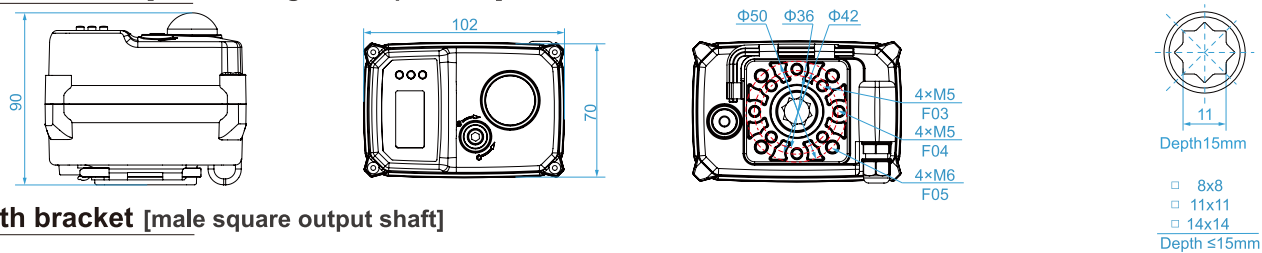
Please refer to manual for more parameters.(Factory default maximum value is 100%).

^{*5}.F type is suitable for the ambient of high humidity(≥90%) but without long-term rain.

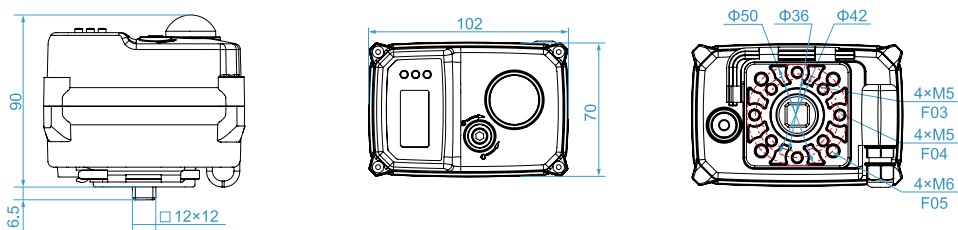
^{*6}.Use hexagon spanner when power-off,or use button when power-on.

TCR-02 Series dimensions drawing

Direct mount [female octagonal output shaft]



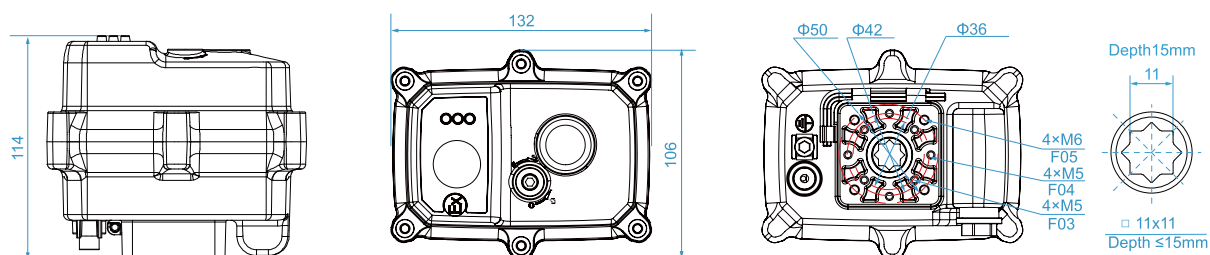
With bracket [male square output shaft]



TCN-02EX Series dimensions drawing

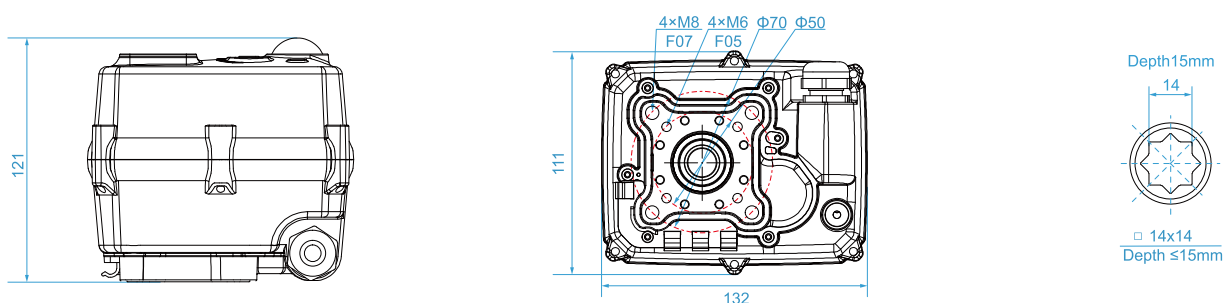
单位: mm

Direct mount [female octagonal output shaft]



TCR-05 Series dimensions drawing

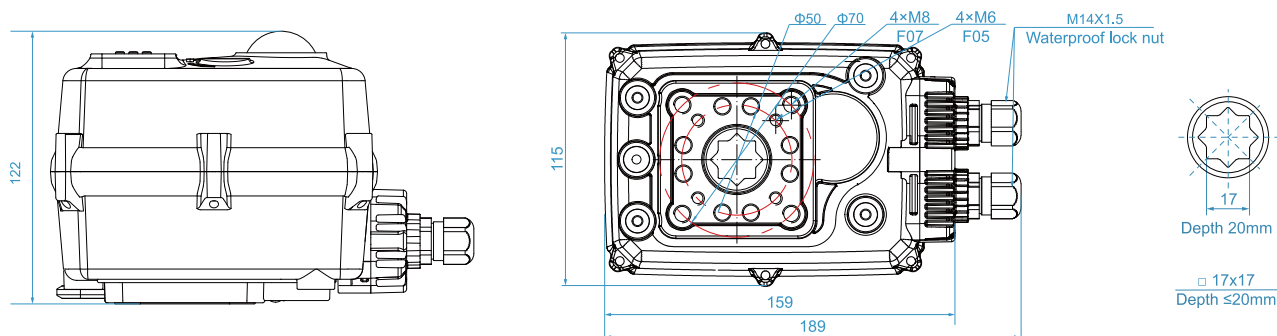
Direct mount [female octagonal output shaft]



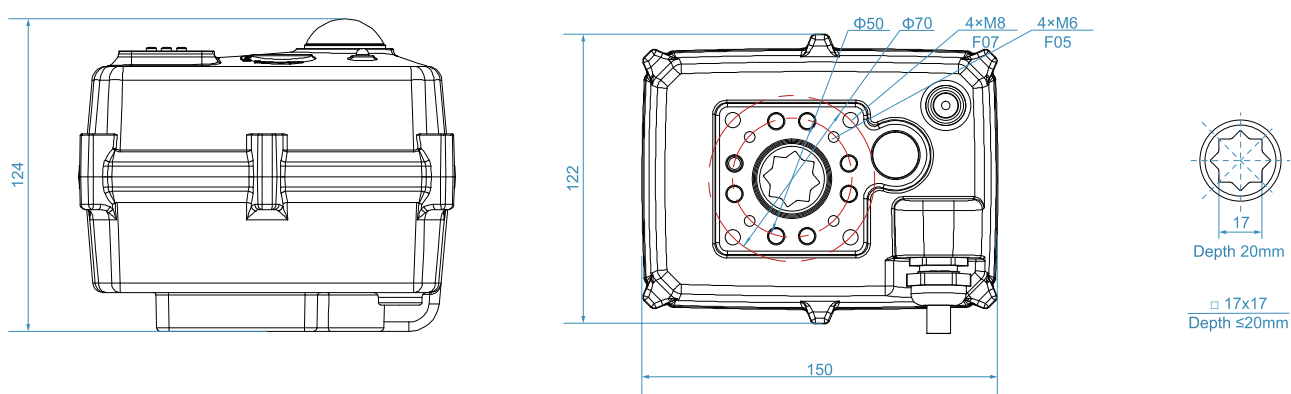
TCR-08/11 Series dimensions drawing

单位: mm

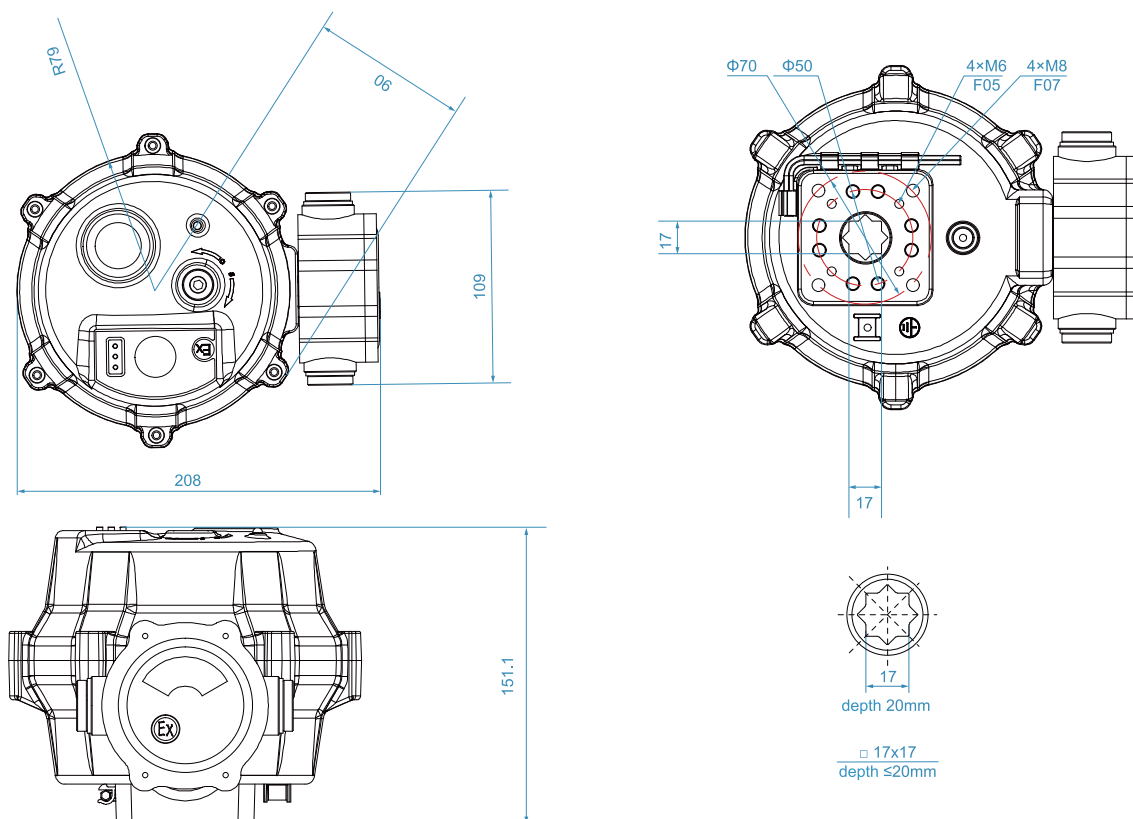
TCR-08/11



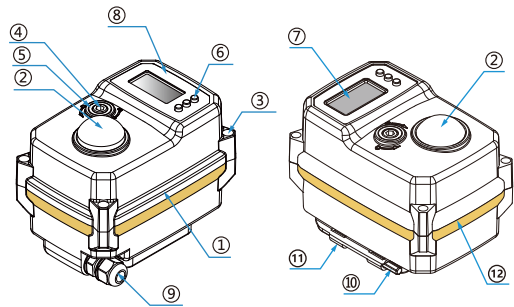
TCN-08/11



TCN-08EX/11EX Series dimensions drawing

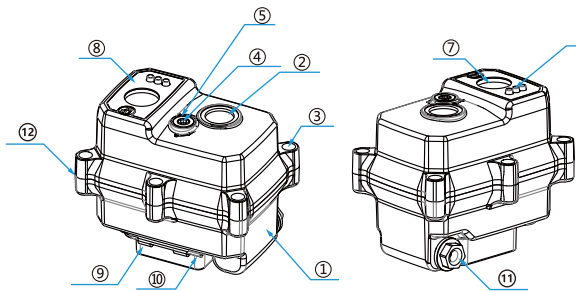


TCR-02 Main parts



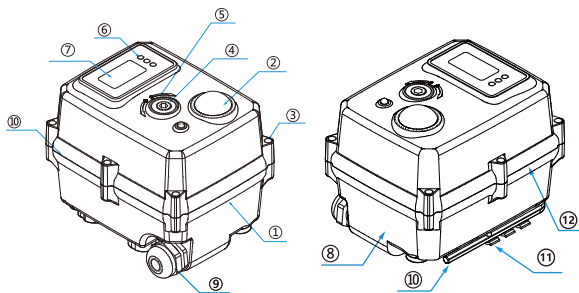
	Parts	Material		Parts	Material
1	Actuator	Heatproof ABS or Casting aluminum	7	1.3" LCD Screen	OLED
2	Indicator	Transparent AS	8	Label	PVC
3	Screw X 4	304	9	Waterproof wire nut	NiLon
4	Manual shaft	304	10	Hexagon spanner	304
5	Oil seal	NBR	11	Wrench fixed	ABS
6	Button	Rubber	12	Sealing	NBR

TCN-02EX Main parts



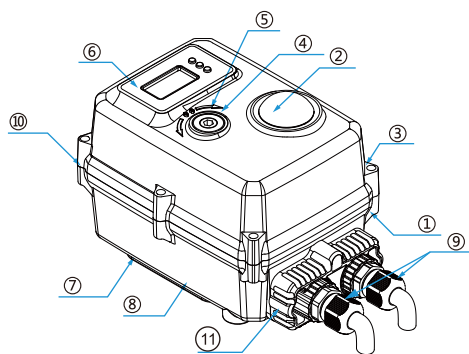
	部件	材料		部件	材料
1	执行器本体	耐热ABS/压铸铝	7	1.3寸液晶屏	OLED
2	指示窗	透明AS	8	标签	PVC
3	螺钉x4	304	9	六角扳手固定卡	耐热ABS
4	手动轴	304	10	六角扳手	工具钢
5	手动轴油封	NBR(丁腈)	11	防水电缆接头	NiLon(尼龙)
6	按键	橡胶	12	上下盖密封件	NBR(丁腈)

TCR-05 Main parts



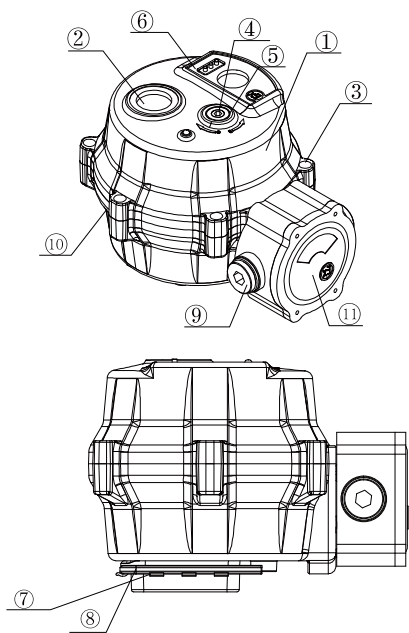
	Parts	Material		Parts	Material
1	Actuator	Heatproof ABS or Casting aluminum	7	1.3" LCD Screen	OLED
2	Indicator	PC	8	Label	PVC
3	Screw X 6	304	9	Waterproof cable connector	NiLon
4	Manual shaft	304	10	Hexagon wrench	CR-V
5	Oil seal	NBR	11	Wrench fixed	Heatproof_ABS
6	Button	Rubber	12	Lid seal	Silica gel

TCR-08/11 Main parts



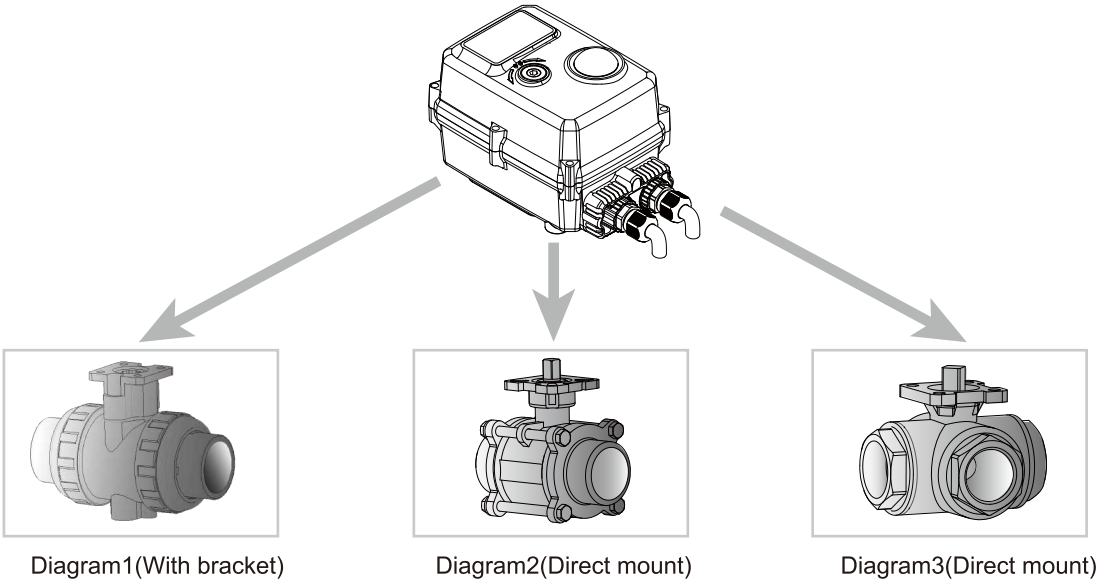
	Parts	Material		Parts	Material
1	Actuator	Heatproof ABS or Casting aluminum	8	Hexagon wrench	CR-V
2	Indicator	PC	9	Waterproof cable connector	NiLon
3	Screwx4	304	10	Lid seal	Silica gel
4	Manual shaft	304	11	Terminal cover	PC+PET
5	Oil seal	NBR			
6	Label	PVC			
7	Wrench fixed	Heatproof_ABS			

TCN-08/11EX Main parts



	Parts	Material		Parts	Material
1	Actuator	Aluminum	8	Hexagon wrench	CR-V
2	Indicator	Tempered glass	9	explosion-proof cable sealing connector	304
3	Screwx4	304	10	seal part between up and down cover	Silica gel
4	Manual shaft	304	11	Terminal cover	Aluminum
5	Oil seal	NBR			
6	Label	PVC			
7	Wrench fixed	ABS			

Assembling instructions



Assembly Diagram1 UPVC plastic ball valve added with bracket
Assembly Diagram2 3-piece stainless steel ball valve
Assembly Diagram3 Stainless steel 3-way ball valve

NOTICE:

- ※1.When assembling with valve,it's recommend to use spring washer and flat washer to fix screw nut.
- ※2.It's forbidden to use anaerobic glue or UV glue,if needed,please use 704 glue and adhere quickly.
- ※3.Casing is avoided to contact with organic solvent,such as kerosene, butanone and etc,or the casing will be damaged.

Matched valve technical requirements

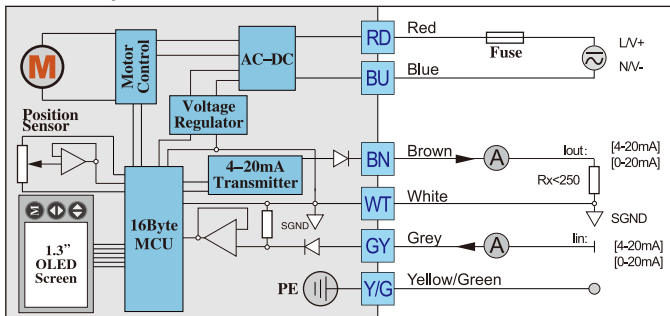
Valve type	Recommend install condition
wafer butterfly valve	actuator rate torque $\geq$ 2times valve max torque
flange butterfly valve	actuator rate torque $\geq$ 1.7times valve max torque
metal ball valve	actuator rate torque $\geq$ 1.7times valve max torque
plastic ball valve	actuator rate torque $\geq$ 1.5times valve max torque

- 1. 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.
- 2. When installing direct mount model valve, the hole deep $\leq$ 15mm. It requires cutting if the output shaft is longer than 17mm.
- 3. 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 $\leq$ 0.2mm in the process of on or off.
 - ※ The parallelism of bracket $\leq$ 0.5mm.
 - ※ 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°, otherwise it will cause the actuator unable to work.
- 4. Screw should be installed spring washer、flat washer, and we suggest you daub some glue cement around the screw in case of screw loosening.
- 5. 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.

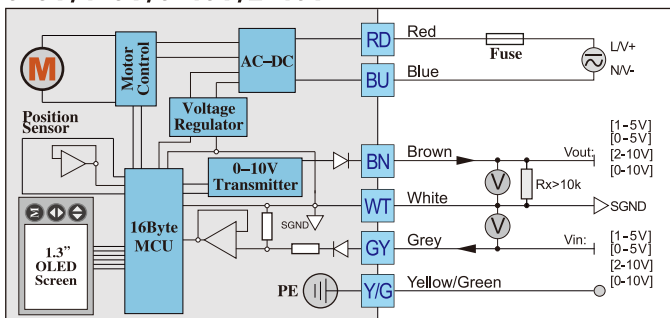
Intelligent Modulating Multi-turn type

Cable wiring diagram for TCR–02/05 series and TCN–02EX

4–20mA/0–20mA



0–5V/1–5V/0–10V/2–10V

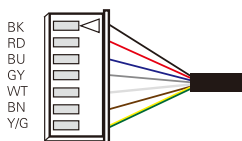


Control instructions - 【No Alarm/ 7-core】 :

1. **RD, BU** are used to connected with supply power. Please confirm the voltage before using.
 - ※ Otherwise, the wrong voltage will damage the control module.
2. **YG** is used to connected PE. Please ensure the actuator is connected with ground.
3. **GY, BN, WT** is the input and output end. These 3 lines are forbidden to short connect directly.
 - GY** is 0–20mA, 4–20mA, 0–5V, 0–10V, 2–10V, the signal input impedance refers to the corresponding wiring diagram.
 - BN** is 0–20mA, 4–20mA, 0–5V, 0–10V, 2–10V. User could set the output current/voltage range for the feedback output signal through menu.
5. Current output load RX:
 - $V_{OUT} = I_{OUT} \cdot R_X$
 - R_X is recommended to use resistor with low TCR.
 - $V_{OUT} \leq 8V$, so $R_X \leq 400 \Omega$ (recommended $V_{OUT} = 5V$, $R_X = 250 \Omega / 0.25W$)
6. ※ User could set the control mode (0–20mA/4–20mA/0–10V/2–10V) through the parameter 'control mode' in menu.
7. For the actuator with Failsafe function, user could set the action of the actuator when the power fails through the user menu. The available options are ON、OFF、KEEP、B33. The default option is OFF.
8. The Loading capacity of output signal 0–10V/2–10V/0–5V/1–5V is $\geq 10K \Omega$. We suggest use the littler wire resistor as The length of wire and resistor will affect the accuracy.

Test terminal for the cable end_wiring instruction

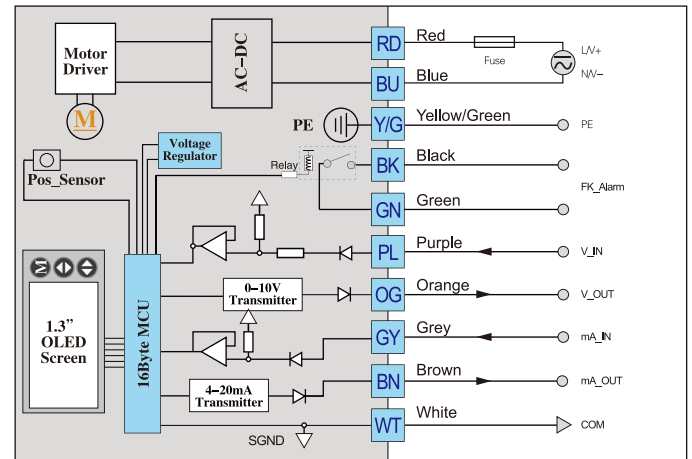
1. Fuse: Refer to the detail corresponding instruction.
2. Some products adopt fly cable, user could wiring according to cable colour.



(User could cut out the cable terminal as it is only used for factory test.)

Cable terminal for test(7pin)

4–20mA–A/0–20mA–A/0–5V–A/1–5V–A/0–10V–A/2–10V–A [Alarm Output]

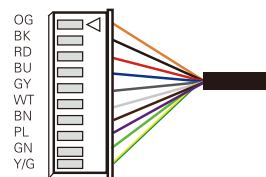


Alarm Output-Wiring instruction

1. **RD, BU** are used to connected with supply power. Please confirm the voltage before using.
 - ※ Otherwise, the wrong voltage will damage the control module.
2. **YG** is used to connected PE. Please ensure the actuator is connected with ground.
3. **BK, GN** will output alarm signal.
4. **PL, OG, GY, BN, WT** is the input and output end. These 5 lines are forbidden to short connect directly.
 - PL** is 1–5V, 2–10V, 0–5V, 0–10V input signal. Impedance refers to the corresponding wiring diagram.
 - OG** is 1–5V, 2–10V, 0–5V, 0–10V feedback output signal. User could set the output voltage range through menu.
 - GY** is 0–20mA, 4–20mA, the signal input impedance refers to the corresponding wiring diagram.
 - BN** is 0–20mA, 4–20mA. User could set the output current range for the feedback output signal through menu.
5. Current output load RX:
 - $V_{OUT} = I_{OUT} \cdot R_X$
 - R_X is recommended to use resistor with low TCR.
 - $V_{OUT} \leq 8V$, so $R_X \leq 400 \Omega$ (recommended $V_{OUT} = 5V$, $R_X = 250 \Omega / 0.25W$)
6. ※ User could set the control mode (0–20mA/4–20mA/0–10V/2–10V) through the parameter 'control mode' in menu.
7. Once actuator is struck or other working failures, the screen will show alarm information although not alarm signal. Notice the contactor loading capacity is :0.1A/DC24V, 50mA/230V
8. The Loading capacity of output signal 0–10V/2–10V/0–5V/1–5V is $\geq 10K \Omega$. We suggest use the littler wire resistor as The length of wire and resistor will affect the accuracy.

Test terminal for the cable end_wiring instruction

1. Fuse: Refer to the detail corresponding instruction.
2. Some products adopt fly cable, user could wiring according to cable colour.



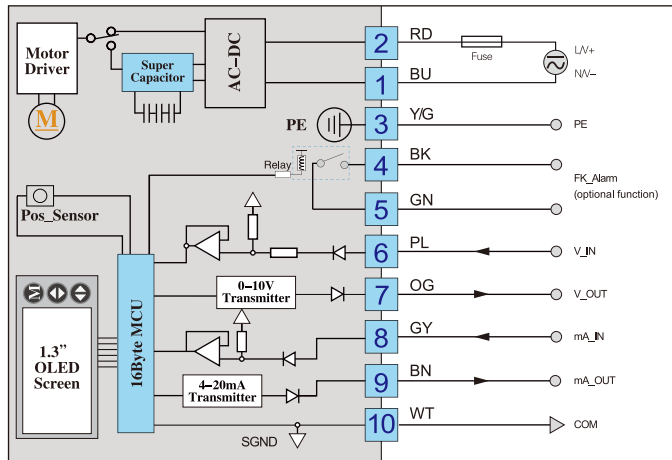
(User could cut out the cable terminal as it is only used for factory test.)

Cable terminal for test(10pin)

Intelligent Modulating Multi-turn type

Cable wiring diagram for TCR–08/11 series and TCN–08/11EX

4-20mA/0-10V



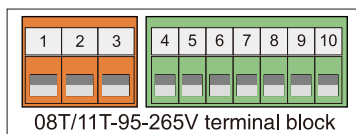
1. User could choose different of control signal voltage or current. The option available 0–5V,0–10V,2–10V,1–5V,0–20mA,4–20mA.
2. User should mark the alarm function on purchase order if need.

Wiring instruction

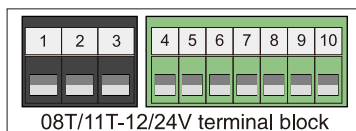
- 1、**1|2** are used to connected with supply power. Orange terminal is for the product in 95–265V(include 220V).Black terminal is for the product DC12V/DC24V. Please confirm the voltage before using.※Otherwise, the wrong voltage will damage the control module.
- 2、**3** is used to connected PE.Please ensure the actuator is connected with ground.
- 3、**4|5** will output alarm signal.This is optional function. Customer should mark this function on purchase order if need.
- 4、**6|7|8|9|10** is the input and output end. These 5 lines are forbidden to short connect directly.
 - 6** is 1–5V,2–10V,0–5V,0–10V input signal.Impedence refers to the corresponding wiring diagram.
 - 7** is 1–5V,2–10V,0–5V,0–10V feedback output signal. User could set the output voltage range through menu.
 - 8** is 0–20mA,4–20mA,the signal input impedance refers to the corresponding wiring diagram.
 - 9** is 0–20mA,4–20mA. User could set the output current range for the feedback output signal through menu.
- 5、Current output load RX:
 - $\Delta V_{OUT} = I_{OUT} \cdot R_x$
 - ΔR_x is recommended to use resistor with low TCR.
 - $\Delta V_{OUT} \leq 8V$,so $R_x \leq 400 \Omega$ (recommended $V_{OUT}=5V$, $R_x=250 \Omega/0.25W$)
- 6、※User could set the control mode(0–20mA/4–20mA/0–10V/2–10V) through the parameter “control mode” in menu.
- 7、Once actuator is struck or other working failures ,the screen will show alarm information although not alarm signal.Notice the contactor loading capacity is : 0.1A/DC24V,50mA/230V
- 8、The Loading capacity of output signal 0–10V/2–10V/0–5V/1–5V is $\geq 10K \Omega$. We suggest use the littler wire resistor as The length of wire and resistor will affect the accuracy.

Terminal block for product without cable_Wiring instruction

1. Fuse: Refer to the detail corresponding instnction.
2. Orange terminal is for the product in 95–265V (include 220V).Black terminal is for the product DC12V/DC24V.
3. Some products adopt wiring box ,user could wiring according to the order of number.

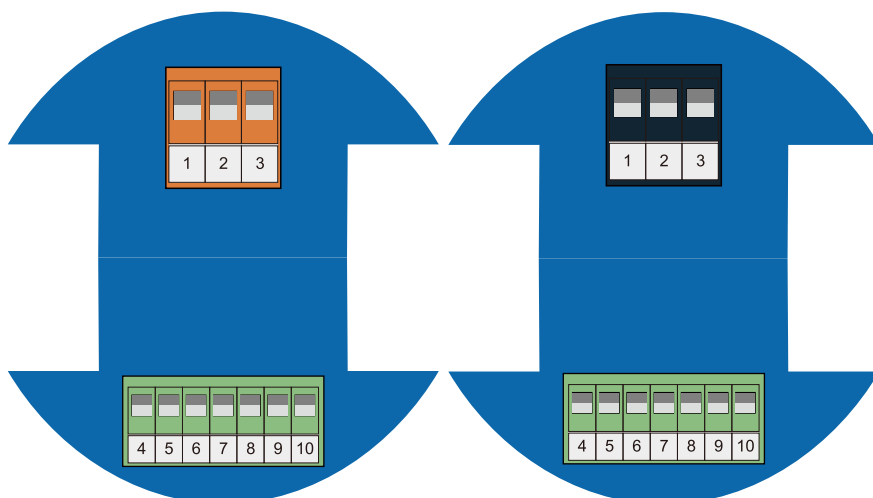


08T/11T-95-265V terminal block



08T/11T-12/24V terminal block

Terminal block of the product without cable.

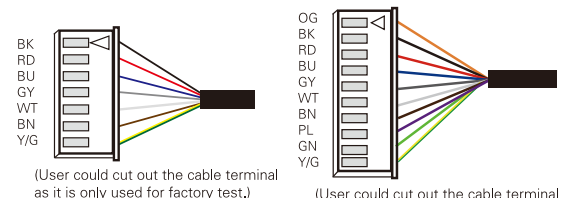


08TEX/11TEX-95-265V terminal block

08TEX/11TEX-12/24V terminal block

Test terminal for the cable end_wiring instruction

1. Fuse: Refer to the detail corresponding instnction.
2. Some products adopt fly cable ,user could wiring according to cable colour.



(User could cut out the cable terminal as it is only used for factory test.)

(User could cut out the cable terminal as it is only used for factory test.)

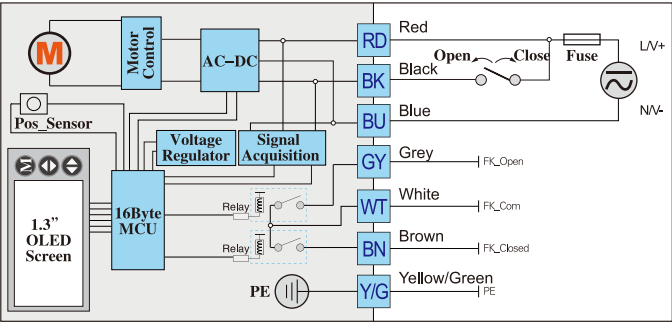
Cable terminal for test(7pin)

Cable terminal for test(10pin)

Intelligent ON/OFF Multi-turn type

Cable wiring diagram for TCR–02/05 series and TCN–02EX

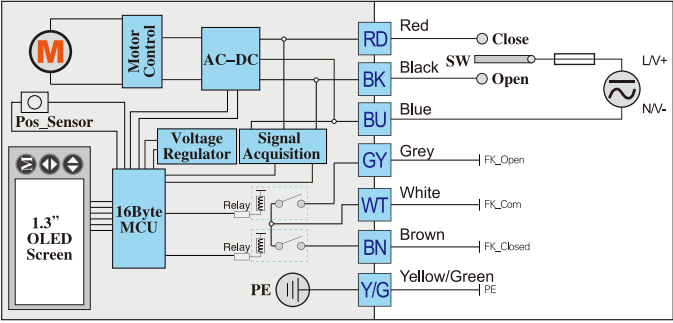
BD3J



Control instructions: [7–core]

- If SW is disconnected, the actuator will drive valve close clockwise. When the valve is closed completely, WT is connected with BN, send signal of full close.
- If SW is connected, the actuator will drive valve open anticlockwise. When the valve is open completely, WT is connected with GY, send signal of full open.
- ※ Note 1: WT is not connected with GY and BN, when the actuator is operating.
- ※ Note 2: After power cut, the feedback and fault signal will disappear, WT is not connected with GY and BN.

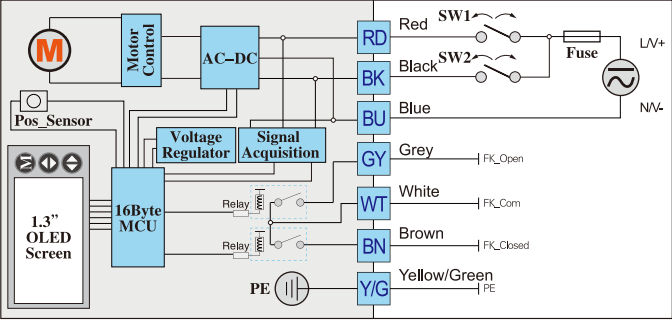
B3J



Control instructions: [7–core]

- SW is connected with RD, the actuator will rotate clockwise. When the valve is closed, WT is connect with BN, send signal of full close.
- SW is connected with BK, the actuator will rotate anticlockwise. When the valve is open, WT is connect with GY, send signal of full open.
- ※ Note 1: WT is not connected with GY and BN, when the actuator is operating.
- ※ Note 2: After power cut, the feedback and fault signal will disappear, WT is not connected with GY and BN.

B33J



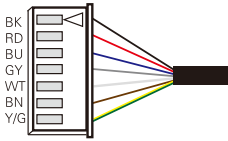
Control instructions: [7–core]

SW1	SW2	Flow direction	Feedback signal
connect	disconnect	0°	WT connect with BN
disconnect	connect	90°	WT connect with GY
connect	connect	user-defined	WT connect with GY BN

- ※ Note 1: WT is not connected with GY and BN, when the actuator is operating.
- ※ Note 2: After power cut, the feedback and fault signal will disappear, WT is not connected with GY and BN.
- ※ Note 3: User-defined position can be set by menu.

Test terminal for the cable end_wiring instruction

- 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
5. Some products adopt wiring box ,user could wiring according to the order of number.

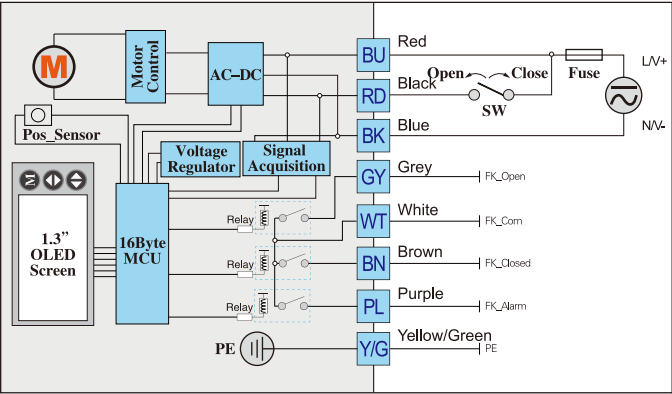


(User could cut out the cable terminal as it is only used for factory test)

Cable terminal for test(7pin)

Intelligent ON/OFF Multi-turn type

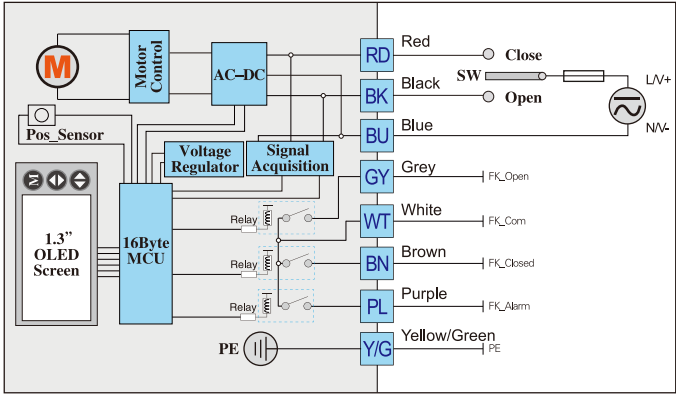
BD3JA [Alarm]



Control instructions: [9-core]

- If SW is disconnected, the actuator will drive valve close clockwise. When the valve is closed completely, WT is connected with BN, send signal of full close.
- If SW is connected, the actuator will drive valve open anticlockwise. When the valve is open completely, WT is connected with GY, send signal of full open.
- ※ Note 1: BN is not connected with WT YG, when the actuator is operating.
- ※ Note 2: When actuator is stuck or switch fails to arrive by other faults, WT connect with PL, send alarm signal.
- ※ Note 3: After power cut, the feedback and fault signal will disappear, WT is not connected with GY BN PL.

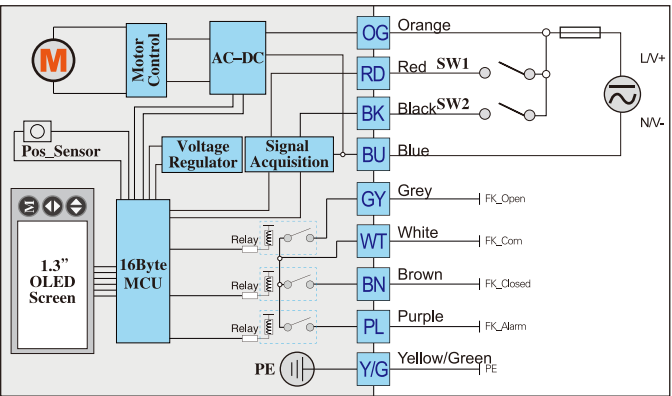
B3JA [Alarm]



Control instructions: [9-core]

- If SW is disconnected, the actuator will drive valve close clockwise. When the valve is closed completely, WT is connected with BN, send signal of full close.
- If SW is connected, the actuator will drive valve open anticlockwise. When the valve is open completely, WT is connected with GY, send signal of full open.
- ※ Note 1: WT is not connected with GY BN, when the actuator is operating.
- ※ Note 2: When actuator is stuck or switch fails to arrive by other faults, WT connect with PL, send alarm signal.
- ※ Note 3: After power cut, the feedback and fault signal will disappear, WT is not connected with GY BN PL.

B43JA [Alarm]

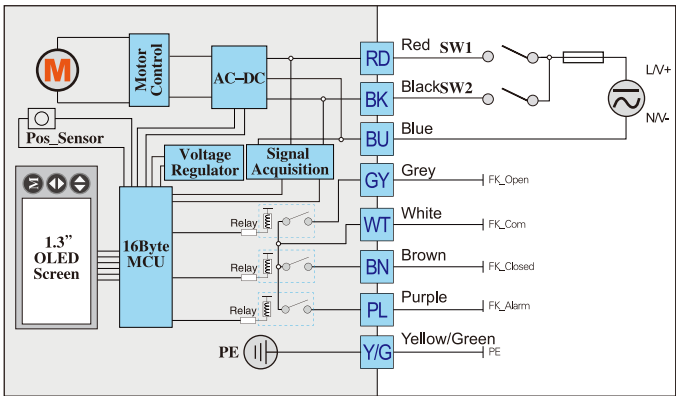


Control instructions: [9-core]

- ※ Note 1: WT is not connected with GY BN PL, when the actuator is running.
- ※ Note 2: When actuator was stuck or it has other faults, which lead valve unable to full-open or full-close, then WT connect with PL, send warning signal.
- ※ Note 3: After power cut, the feedback and fault signal will disappear, WT is not connected with GY BN PL.
- ※ Note 4: User-defined position can be set by menu.

SW1	SW2	Flow direction
connect	disconnect	0°
disconnect	connect	90°
connect	connect	user-defined
disconnect	disconnect	user-defined

B33JA [Alarm]



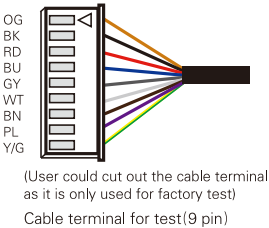
Control instructions: [9-core]

SW1	SW2	Flow direction	Feedback signal
connect	disconnect	0°	WT connect with BN
disconnect	connect	90°	WT connect with GY
connect	connect	user-defined	WT connect with GY BN

- ※ Note 1: WT is not connected with BN and GY, when the actuator is operating.
- ※ Note 2: After power cut, the feedback and fault signal will disappear, WT is not connected with BN and GY.
- ※ Note 3: When actuator was stuck or it has other faults, which lead valve unable to full-open or full-close, then WT connect with PL, send warning signal.
- ※ Note 4: User-defined positions can be set by menu.

Test terminal for the cable end_wiring instruction

- 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
5. Some products adopt wiring box ,user could wiring according to the order of number.

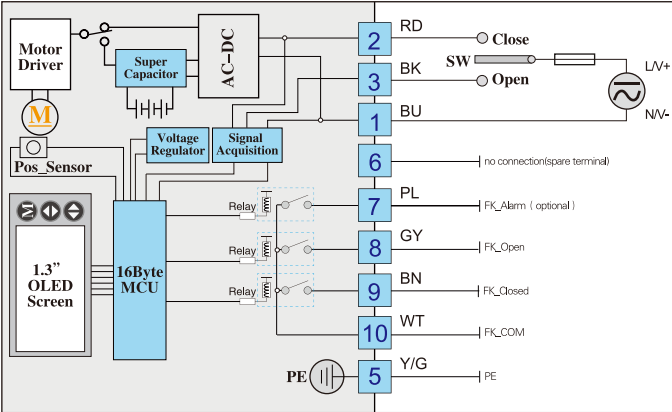


(User could cut out the cable terminal as it is only used for factory test)
Cable terminal for test(9 pin)

Intelligent ON/OFF Multi-turn type

Cable wiring diagram for TCR–08/11 series and TCN–08/11EX

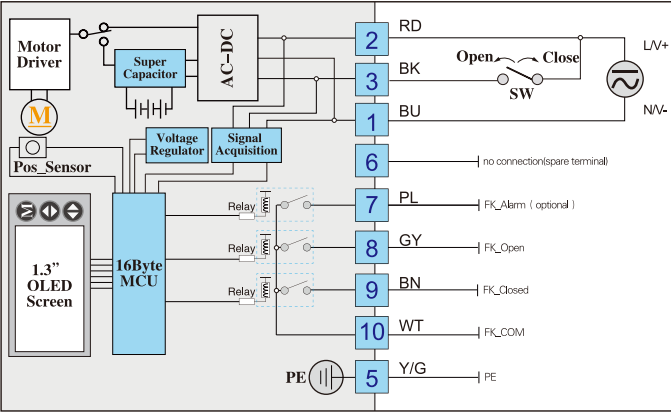
B3JA/B3JA(KT)



Control instructions:

- SW is connected with CLOSE, the actuator will rotate clockwise. When the valve is closed, 10 is connect with 9, send signal of closing.
- SW is connected with OPEN, the actuator will rotate anticlockwise. When the valve is open, 10 is connect with 8, send signal of opening.
- Notice 1: 10 is not connected with 9 and 8, when the actuator is rotating.
- Notice 2: After power cut, the feedback and fault signal will disappear, 10 is not connected with 9 and 8.

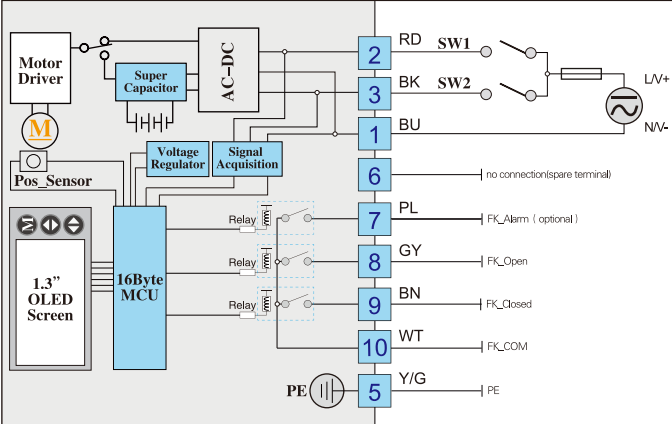
BD3JA/BD3JA(KT)



Control instructions:

- SW is connected with CLOSE, the actuator will rotate clockwise. When the valve is closed, 10 is connect with 9, send signal of closing.
- SW is connected with OPEN, the actuator will rotate anticlockwise. When the valve is open, 10 is connect with 8, send signal of opening.
- Notice 1: 10 is not connected with 9 and 8, when the actuator is rotating.
- Notice 2: After power cut, the feedback and fault signal will disappear, 10 is not connected with 9 and 8.
- Notice 3: For the actuator with failsafe function, the actuator will rotate forward to the set direction after supply power fails and it will stop automatically when it arrive set position.

B33JA/B33JA(KT)

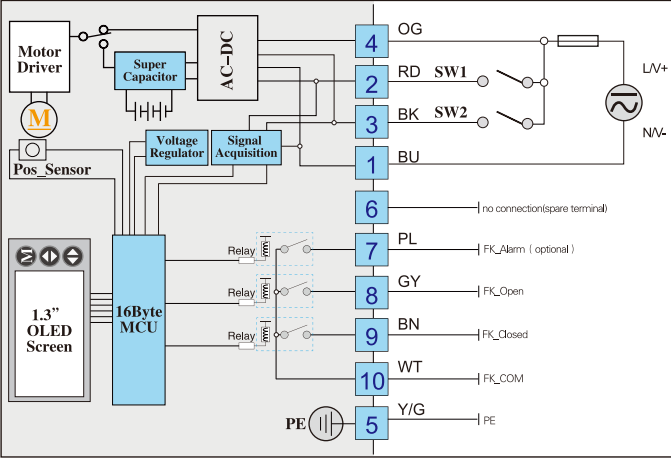


Control instructions:

SW1	SW2	Flow direction	Feedback signal
connect	disconnect	0°	10 connect with 9
disconnect	connect	90°	10 connect with 8
connect	connect	User-defined	10 connect with 9 8

- Notice 1: 10 is not connected with 9 and 8, when the actuator is operating.
- Notice 2: After power cut, the feedback and fault signal will disappear, 10 is not connected with 9 and 8.
- Notice 3: When actuator was stuck or it has other faults, which lead valve unable to full-open or full-close, then 10 connect with 7, send warning signal.
- Notice 4: User-defined positions can be set by menu.

B43JA/B43JA(KT)



Control instructions:

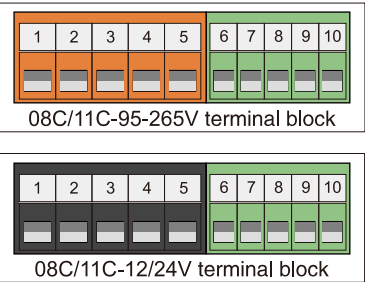
- Notice 1: 10 is not connected with 7 8 9, when the actuator is running.
- Notice 2: When actuator was stuck or it has other faults, which lead valve unable to full-open or full-close, then 10 connect with 7, send warning signal.
- Notice 3: After power cut, the feedback and fault signal will disappear, 10 is not connected with 7 8 9.
- Notice 4: User-defined positions can be set by menu.

SW1	SW2	Flow direction
connect	disconnect	0°
disconnect	connect	90°
connect	connect	User-defined
disconnect	disconnect	User-defined

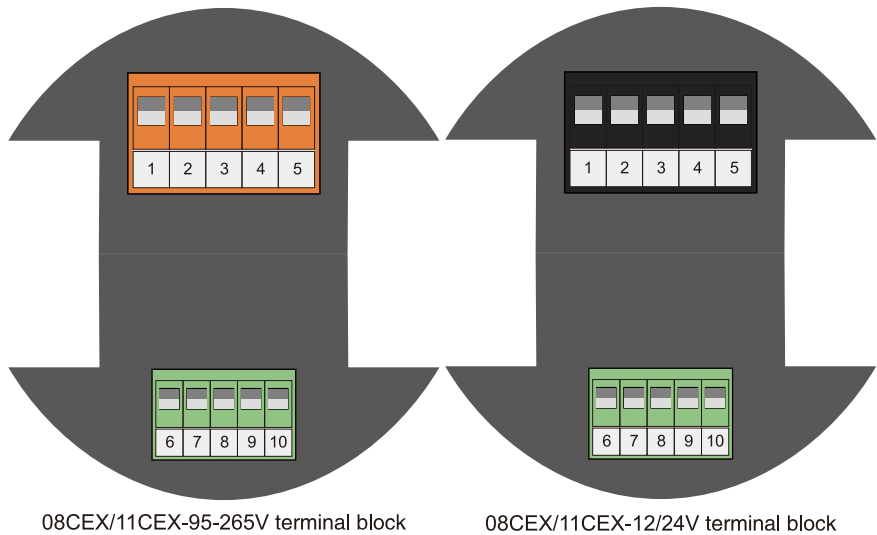
Intelligent ON/OFF Multi-turn type

Terminal block for product without cable
 _Wiring instruction

- 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.
5. Orange terminal is for the product in 95–265V (include 220V) .
Black terminal is for the product DC12V/DC24V.
6. Some products adopt wiring box ,user could wiring according to the order of number.

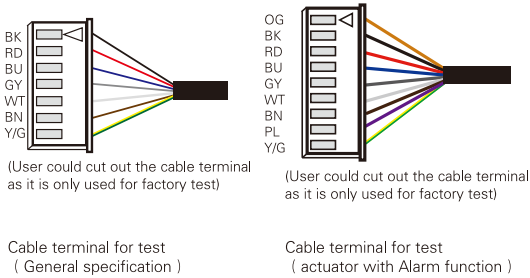


Terminal block of the product without cable.



Test terminal for the cable end
 _wiring instruction

- 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
- 5.Some products adopt wiring box ,user could wiring according to the order of number.



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 the dropped thing hit the device and lead to improper operation.
- ☐ ✖ Forbid 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 notice

- ☐ 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 danger 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-08/11 series assemble with valve real photos



Made in china Global service

Innovate Technology

Realize costumer greatest value

Success comes from our persistent pursue of perfect details

Excellence originates from our persistence of win-win philosophy