



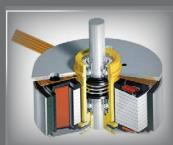
Quality

Appearance

Service



Delicate appearance
extremely long lifespan



High performance
brushless motor



Precision machining
technology



Industrial grade component



Precise transmission

Electric Actuator

Ex db IIC T6 Gb; Ex tb IIIC T80°C Db

TCN 08EX/TCN 11EX Actuator Selection Guide

Made in China Global Service

CE ISO9001

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Product overview

- ◎ Install valves: 2-way,3-way ball valve and butterfly valve
- ◎ Rated voltage: DC12V、DC24V、AC24V、AC/DC24V、AC110V
AC230V、AC/DC95~265V
- ◎ Control feedback mode: B2、B3、BD3
- ◎ High performance brushless motor,overheat protection
- ◎ It can be used up to 20,000 times^{*1}
- ※ Two or more actuators can be used in parallel



Purchase guide TCN-08NEX/TCN-11NEX

Voltage	Torque	Power	Wiring	Feedback ^{*2}	Time	Speed regulation	Rotation angle	Enclosure	Manual override	Position indicator	Housing material	Output shaft
DC12V	80Nm	60W	B2/B3 BD3	S Type P Type R Type C Type	10s	None	$\frac{90^{\circ}/180^{\circ}}{\leq 330^{\circ}}$	IP68	Hexagon spanner	Mechanical indicator	Aluminum	Female octagon
DC24V			B3/BD3		20s							
AC24V												
AV230V												
AC110V												
AC/DC24V												
AC/DC 95~265V	110Nm	100W	B3/BD3	S Type P Type R Type C Type	10s	None	$\frac{90^{\circ}/180^{\circ}}{\leq 330^{\circ}}$	IP68	Hexagon spanner	Mechanical indicator	Aluminum	Female octagon
DC12V					20s							
AC24V												
AC110V												
AV230V												
AC/DC24V												
AC/DC 95~265V												

※ TCN-08/11EX Series: die casting aluminium

Notice ^{*1}. Test condition:Rated load,testing at factory environment where temperature is 25°C,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.

Product overview [Highspeed Series]

- ◎ Install valves: 2-way,3-way ball valve and butterfly valve
- ◎ Rated voltage: AC/DC24V、AC/DC95~265V
- ◎ Control feedback mode: B3、BD3
- ◎ High performance brushless motor,overheat protection
- ◎ It can be used up to 20,000 times^{*1}
- ※ Two or more actuators can be used in parallel



Purchase guide TCN-08NEXH/TCN-11NEXH

Voltage	Torque	Power	Wiring	Feedback ^{*2}	Time	Speed regulation	Rotation angle	Enclosure	Manual override	Position indicator	Housing material	Output shaft
AC/DC24V	80Nm	60W	B3 BD3	S Type P Type R Type C Type	5s	None	$\frac{90^{\circ}/180^{\circ}}{\leq 330^{\circ}}$	IP68	Hexagon spanner	Mechanical indicator	Aluminum	Female octagon
AC/DC 95~265V												
AC/DC24V	110Nm	100W	B3 BD3	S Type P Type R Type C Type	5s	None	$\frac{90^{\circ}/180^{\circ}}{\leq 330^{\circ}}$	IP68	Hexagon spanner	Mechanical indicator	Aluminum	Female octagon
AC/DC 95~265V												

※ TCN-08/11EX Series: die casting aluminium

Product overview [Fail safe Series]

- ◎ Install valves: 2-way,3-way ball valve and butterfly valve
- ◎ Rated voltage: AC/DC95V-265V, AC/DC24V
- ◎ Control feedback mode: B3S、BD3S、KT32S
- ◎ KT32S: Valve close at power-cut
- ◎ High performance brushless motor,overheat protection
- ◎ It can be used up to 20,000 times^{*1}
- ※ Two or more actuators can be used in parallel



Purchase guide TCN-08NEX-KT/TCN-11NEX-KT

Voltage	Torque	Power	Wiring	Feedback ^{*2}	Time	Speed regulation	Rotation angle	Enclosure	Manual override	Position indicator	Housing material	Output shaft
AC/DC24V	80Nm	60W	KT32	S Type P Type R Type C Type	10s	None	$\frac{90^{\circ}/180^{\circ}}{\leq 330^{\circ}}$	IP68	Hexagon spanner	Mechanical indicator	Aluminum	Female octagon
AC/DC 95-265V												
AC/DC24V	110Nm	100W	KT32	S Type P Type R Type C Type	10s	None	$\frac{90^{\circ}/180^{\circ}}{\leq 330^{\circ}}$	IP68	Hexagon spanner	Mechanical indicator	Aluminum	Female octagon
AC/DC 95-265V												

※ TCN-08/11EX Series: die casting aluminium

Notice ^{*1}. Test condition: Rated load, testing at factory environment where temperature is 25°C, 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 dry contact feedback, P type is wet feedback, while R type is potentiometer feedback, SR type need customized.

Product overview

- Install valves: 2-way, 3-way ball valve and butterfly valve
- Rated voltage: AC/DC95V-265V, AC/DC24V
- Control feedback mode: B3J、BD3J、B43J、B44J、B33J(synchronous)
- Alarm output: A(Relay contact feedback)
- Be achievable: 2 way mode/3 way mode
- High performance brushless motor, overload protection with motor self-lock unit of internal
- It can be used up to 20,000 times *1
- Two or more actuators can be used in parallel



Product features

- △ 1.3" OLED screen, no visual dead angle, highly bright, energy saving and eco-friendly, real time to show valve opening angle and external control command. Enter sleeping state automatically after about 5 minutes, while it could prompt location state and its control command at sleeping time.
- △ Original valve adjustment mode-free cover-opening and interactive:
 - step1: saving "anticlockwise full open position" by using the button to control valve;
 - step2: saving "clockwise full close position" by using the button to control valve; it makes valve adjustment easier.
 Thoroughly eliminate the complex and inconvenience caused by mechanical positioning.
- △ Adopt 16 High-performance microcontrollers, 12 high-precision AD conversion, built-in unique algorithm, thoroughly eliminate valve on/off inaccuracy caused by mechanical hysteresis, especially suitable for 3-way valve adjustment.
- △ Adopt non contact positioning, control unit modularize design and potting processing, greatly improve product service life; Interface uses standard connectors, convenient for installment, adjustment and replacement.
- △ Menu can report real time failure, including stuck or other reasons which lead actuator fail to realize valve on/off integrally, and output failure warning signal.
- △ Menu can realize valve control command exchange.
- △ Menu can switch freely between remote control and local setting, and adopt button to realize valve on/off locally.
- △ Menu can set valve close position deviation to on or off direction, thoroughly eliminate the complex and inconvenience bring by "Simple On/Off mechanical positioning" to local valve adjustment.
- △ Menu can real-time adjust valve running speed of the actuator.
- △ Menu can restore factory default setting.

Purchase guide TCN-08CEX/TCN-11CEX

Voltage	Torque	Power	Wiring	Feedback ^{*2}	Fault signals ^{*3}	Time	speed regulation ^{*4}	Rotation angle	Enclosure	Manual override ^{*5}	Position indicator	Housing material	Output shaft
AC/DC 24V	80Nm	60W	B3/ BD3 /B33/B44 /B43	J Type	A Type	10s	PUL/PWM	90°/180° ≤330°	IP68	Hexagon spanner /button	Mechanical indicator or OLED indicator	Aluminum	Female octagon
AC/DC 95-265V													
AC/DC 24V	110Nm	100W	B3/ BD3 /B33/B44 /B43	J Type	A Type	10s	PUL/PWM	90°/180° ≤330°	IP68	Hexagon spanner /button	Mechanical indicator or OLED indicator	Aluminum	Female octagon
AC/DC 95-265V													

※ TCN-08/11EX Series: die casting aluminium

Notice *1. Test condition :Rated load, testing at factory environment where temperature is 25°C, humidity is 50%, the results will be influenced by different load and working environment.

*2. J type is relay feedback.

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

*4. PWM mode belongs to continuous stepless speed regulation, transit smoothly, having a slight impact on actuator torque. Adjusting range is 30%-100%.

PUL mode belongs to intermittent start-stop speed regulation , lossless actuator output torque. Adjusting range is 5%-100%.

Please refer to manual for more parameters. (Factory default is high speed 100%).

*5. Use hexagon spanner at power-cut, or use button at power-on.

Product overview

- ◎ Install valves: 2-way, 3-way ball valve and butterfly valve
- ◎ Rated voltage: AC/DC24V、AC/DC95~265V
- ◎ Control feedback mode: B3J、BD3J、B43J、B44J、B33J(synchronous)
- ◎ Alarm output: A(Relay contact feedback)
- ◎ Be achievable: 2 way mode/3 way mode
- ◎ High performance brushless motor, overload protection with motor self-clock unit of internal
- ◎ It can be used up to 20,000 times*1
- ◎ Two or more actuators can be used in parallel



Product features

- △ 1.3" OLED screen, no visual dead angle, highly bright, energy saving and eco-friendly, real time to show valve opening angle and external control command. Enter sleeping state automatically after about 5 minutes, while it could prompt location state and its control command at sleeping time.
- △ Original valve adjustment mode-free cover-opening and interactive:
 - step1:saving "anticlockwise full open position" by using the button to control valve;
 - step2:saving "clockwise full close position" by using the button to control valve; it makes valve adjustment easier.
 Thoroughly eliminate the complex and inconvenience caused by mechanical positioning.
- △ Adopt 16 High-performance microcontrollers, 12 high-precision AD conversion, built-in unique algorithm, thoroughly eliminate valve on/off inaccuracy caused by mechanical hysteresis, especially suitable for 3-way valve adjustment.
- △ Adopt non contact positioning, control unit modularize design and potting processing, greatly improve product service life; Interface uses standard connectors, convenient for installment, adjustment and replacement.
- △ Menu can report real time failure, including stuck or other reasons which lead actuator fail to realize valve on/off integrally, and output failure warning signal.
- △ Menu can realize valve control command exchange.
- △ Menu can switch freely between remote control and local setting, and adopt button to realize valve on/off locally.
- △ Menu can set valve close position deviation to on or off direction, thoroughly eliminate the complex and inconvenience bring by "Simple On/Off mechanical positioning" to local valve adjustment.
- △ Menu can real-time adjust valve running speed of the actuator.
- △ Menu can restore factory default setting.

Purchase guide TCN-08CEXH/TCN-11CEXH

Voltage	Torque	Power	Wiring	Feedback*2	Fault signals*3	Time	speed regulation*4	Rotation angle	Enclosure	Manual override*5	Position indicator	Housing material	Output shaft
AC/DC24V	80Nm	60W	B3/ BD3	J Type	A Type	5s	PUL/PWM	90°/180° ≤330°	IP68	Hexagon spanner /button	Mechanical indicator or OLED indicator	Aluminum	Female octagon
AC/DC 95~265V			/B33/B44 /B43										
AC/DC24V	110Nm	100W	B3/ BD3	J Type	A Type	5s	PUL/PWM	90°/180° ≤330°	IP68	Hexagon spanner /button	Mechanical indicator or OLED indicator	Aluminum	Female octagon
AC/DC 95~265V			/B33/B44 /B43										

※ TCN-08/11EX Series: die casting aluminium

Notice *1. Test condition :Rated load, testing at factory environment where temperature is 25°C, humidity is 50%, the results will be influenced by different load and working environment.

*2. J type is relay feedback.

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

*4. PWM mode belongs to continuous stepless speed regulation, transit smoothly, having a slight impact on actuator torque. Adjusting range is 30%-100%.

PUL mode belongs to intermittent start-stop speed regulation, lossless actuator output torque. Adjusting range is 5%-100%.

Please refer to manual for more parameters. (Factory default is high speed 100%).

*5. Use hexagon spanner at power-cut, or use button at power-on.

Product overview

- ⊙ Install valves: 2-way, 3-way ball valve and butterfly valve
- ⊙ Rated voltage: AC/DC95V-265V, AC/DC24V
- ⊙ Control feedback mode: KT32
- ⊙ Alarm output: A(Relay contact feedback)
- ⊙ Be achievable: 2 way mode/3 way mode
- ⊙ High performance brushless motor, overload protection with motor self-clock unit of internal
- ⊙ It can be used up to 20,000 times^{*1}
- ⊙ Two or more actuators can be used in parallel



Product features

- △ 1.3" OLED screen, no visual dead angle, highly bright, energy saving and eco-friendly, real time to show valve opening angle and external control command. Enter sleeping state automatically after about 5 minutes, while it could prompt location state and its control command at sleeping time.
- △ Original valve adjustment mode-free cover-opening and interactive:
 - step1: saving "anticlockwise full open position" by using the button to control valve;
 - step2: saving "clockwise full close position" by using the button to control valve; it makes valve adjustment easier.
 Thoroughly eliminate the complex and inconvenience caused by mechanical positioning.
- △ Adopt 16 High-performance microcontrollers, 12 high-precision AD conversion, built-in unique algorithm, thoroughly eliminate valve on/off inaccuracy caused by mechanical hysteresis, especially suitable for 3-way valve adjustment.
- △ Adopt non contact positioning, control unit modularize design and potting processing, greatly improve product service life; Interface uses standard connectors, convenient for installment, adjustment and replacement.
- △ Menu can report real time failure, including stuck or other reasons which lead actuator fail to realize valve on/off integrally, and output failure warning signal.
- △ Menu can realize valve control command exchange.
- △ Menu can switch freely between remote control and local setting, and adopt button to realize valve on/off locally.
- △ Menu can set valve close position deviation to on or off direction, thoroughly eliminate the complex and inconvenience bring by "Simple On/Off mechanical positioning" to local valve adjustment.
- △ Menu can real-time adjust valve running speed of the actuator.
- △ Menu can restore factory default setting.

Purchase guide TCN-08CEX-KT/TCN-11CEX-KT

Voltage	Torque	Power	Wiring	Feedback ^{*2}	Fault signals ^{*3}	Time	speed regulation ^{*4}	Rotation angle	Enclosure	Manual override ^{*5}	Position indicator	Housing material	Output shaft
AC/DC24V	80Nm	60W	KT32J	J Type	A Type	10s	PUL/PWM	90°/180° ≤330°	IP68	Hexagon spanner /button	Mechanical indicator or OLED indicator	Aluminum	Female octagon
AC/DC 95-265V													
AC/DC24V	110Nm	100W	KT32J	J Type	A Type	10s	PUL/PWM	90°/180° ≤330°	IP68	Hexagon spanner /button	Mechanical indicator or OLED indicator	Aluminum	Female octagon
AC/DC 95-265V													

※ TCN-08/11EX Series: die casting aluminium

Notice ^{*1}. Test condition :Rated load, testing at factory environment where temperature is 25°C, humidity is 50%, the results will be influenced by different load and working environment.

^{*2}. J type is relay feedback.

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

^{*4}. PWM mode belongs to continuous stepless speed regulation, transit smoothly, having a slight impact on actuator torque. Adjusting range is 30%-100%.

PUL mode belongs to intermittent start-stop speed regulation , lossless actuator output torque. Adjusting range is 5%-100%.

Please refer to manual for more parameters. (Factory default is high speed 100%).

^{*5}. Use hexagon spanner at power-cut, or use button at power-on.

Product overview

- ◎ Install valves: 2-way,3-way ball valve and butterfly valve
- ◎ Rated voltage: AC/DC95V-265V, AC/DC24V,DC12V
- ◎ Control signal: 4-20mA,0-20mA,0-10V,0-5V,1-5V,2-10V
- ◎ Position feedback: 4-20mA,0-20mA,0-10V,0-5V,1-5V,2-10V
- ◎ Position accuracy: $\pm 1\%$
- ◎ Alarm output: A(Relay contact feedback)
- ◎ High performance brushless motor, overload protection and motor self-clock unit of internal
- ◎ It can be used up to 20,000 times ^{*1}



Product features

- △ 1.3" OLED screen, no visual dead angle, highly bright, energy saving and eco-friendly, real time to show valve opening angle and external control command. Enter sleeping state automatically after about 5 minutes, while it could prompt location state and its control command at sleeping time.
- △ Original valve adjustment mode--free cover-opening and interactive:
 - step1: saving "anticlockwise full open position" by using the button to control valve;
 - step2: saving "clockwise full close position" by using the button to control valve; it makes valve adjustment easier.
 Thoroughly eliminate the complex and inconvenience caused by mechanical positioning.
- △ Adopt 16 High-performance microcontrollers, 12 high-precision AD conversion, built-in unique algorithm, thoroughly eliminate mechanical hysteresis, greatly reduce valve position control error.
- △ ※TCR-08/11 total series and other DC24V series: built-in motor control module, motor frequency speed control can realize accurate positioning.
- △ Adopt non contact positioning, control unit module design and potting processing, guarantee components reliability and greatly improve product service life; Interface use standard connectors, convenient for installment, adjustment and replacement.
- △ Menu can report real-time failure, including stuck or other reasons which lead actuator fail to realize valve on/off integrally, and output failure warning signal.
- △ Menu can realize valve control command exchange.
- △ Menu can switch freely between remote control and local setting, by pressing the button to adjust valve position locally, built in position limit and show limit status.
- △ Menu can set valve close position deviation to on or off direction, thoroughly eliminate the complex and inconvenience bring by "Simple On/Off mechanical positioning" to local valve adjustment.
- △ Menu can restore factory default setting.

Purchase guideTCN-08TEX/TCN-11TEX

Voltage	Torque	Power	Time	Wiring	Feedback	Fault signals ^{*2}	Rotation angle	Enclosure	Manual override ^{*3}	Position indicator	Housing material	Output shaft
DC12V	80Nm	60W	10s	4-20mA	4-20mA	A Type	$\frac{90^\circ/180^\circ}{\leq 330^\circ}$	IP68	Hexagon spanner /button	Mechanical indicator or OLED indicator	Aluminum	Female octagon
AC/DC24V				0-20mA	0-20mA							
AC/DC 95-265V				0-5V 1-5V 0-10V 2-10V	0-5V 1-5V 0-10V 2-10V							
DC12V	110Nm	100W	10s	4-20mA	4-20mA	A Type	$\frac{90^\circ/180^\circ}{\leq 330^\circ}$	IP68	Hexagon spanner /button	Mechanical indicator or OLED indicator	Aluminum	Female octagon
AC/DC24V				0-20mA	0-20mA							
AC/DC 95-265V				0-5V 1-5V 0-10V 2-10V	0-5V 1-5V 0-10V 2-10V							

※ TCN-08/11EX Series: die casting aluminium

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

^{*2}. Faults signals are selectable function, relay output, factory defaults do not take this function.

^{*3}. Use hexagon spanner at power-cut, or use button at power-on.

Product overview

- ◎ Install valves: 2-way,3-way ball valve and butterfly valve
- ◎ Rated voltage: AC/DC24V、AC/DC95V-265V
- ◎ Running time: 5s
- ◎ Control signal: 4-20mA,0-20mA,0-10V,0-5V,1-5V,2-10V
- ◎ Position feedback: 4-20mA,0-20mA,0-10V,0-5V,1-5V,2-10V
- ◎ Position accuracy: $\pm 1\%$
- ◎ Alarm output: A(Relay contact feedback)
- ◎ High performance brushless motor, overload protection and motor self-clock unit of internal
- ◎ It can be used up to 20,000 times ^{*1}



Product features

- △ 1.3" OLED screen, no visual dead angle, highly bright, energy saving and eco-friendly, real time to show valve opening angle and external control command. Enter sleeping state automatically after about 5 minutes, while it could prompt location state and its control command at sleeping time.
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 - step2: saving "clockwise full close position" by using the button to control valve; it makes valve adjustment easier.
 Thoroughly eliminate the complex and inconvenience caused by mechanical positioning.
- △ Adopt 16 High-performance microcontrollers, 12 high-precision AD conversion, built-in unique algorithm, thoroughly eliminate mechanical hysteresis, greatly reduce valve position control error.
- △ ※TCR-08/11 total series and other DC24V series: built-in motor control module, motor frequency speed control can realize accurate positioning.
- △ Adopt non contact positioning, control unit module design and potting processing, guarantee components reliability and greatly improve product service life; Interface use standard connectors, convenient for installment, adjustment and replacement.
- △ Menu can report real-time failure, including stuck or other reasons which lead actuator fail to realize valve on/off integrally, and output failure warning signal.
- △ Menu can realize valve control command exchange.
- △ Menu can switch freely between remote control and local setting, by pressing the button to adjust valve position locally, built in position limit and show limit status.
- △ Menu can set valve close position deviation to on or off direction, thoroughly eliminate the complex and inconvenience bring by "Simple On/Off mechanical positioning" to local valve adjustment.
- △ Menu can restore factory default setting.

Purchase guideTCN-08TEXH/TCN-11TEXH

Voltage	Torque	Power	Time	Wiring	Feedback	Fault signals ^{*2}	Rotation angle	Enclosure	Manual override ^{*3}	Position indicator	Housing material	Output shaft
AC/DC24V	80Nm	60W	5s	4-20mA 0-20mA 0-5V 1-5V 0-10V 2-10V	4-20mA 0-20mA 0-5V 1-5V 0-10V 2-10V	A Type	90°/180° ≤330°	IP68	Hexagon spanner /button	Mechanical indicator or OLED indicator	Aluminum	Female octagon
AC/DC 95~265V												
AC/DC24V	110Nm	100W	5s	4-20mA 0-20mA 0-5V 1-5V 0-10V 2-10V	4-20mA 0-20mA 0-5V 1-5V 0-10V 2-10V	A Type	90°/180° ≤330°	IP68	Hexagon spanner /button	Mechanical indicator or OLED indicator	Aluminum	Female octagon
AC/DC 95~265V												

※ TCN-08/11EX Series: die casting aluminium

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

^{*2}. Faults signals are selectable function, relay output, factory defaults do not take this function.

^{*3}. Use hexagon spanner at power-cut, or use button at power-on.

Product overview

- ◎ Install valves: 2-way,3-way ball valve and butterfly valve
- ◎ Rated voltage: AC/DC95V-265V, AC/DC24V
- ◎ Control signal: 4-20mA、0-20mA、0-5V、1-5V、0-10V、2-10V
- ◎ Position feedback: 4-20mA、0-20mA、0-5V、1-5V、0-10V、2-10V
- ◎ Position accuracy: ±1%
- ◎ Alarm output: A(Relay contact feedback)
- ◎ High performance brushless motor, overload protection and motor self-clock unit of internal
- ◎ It can be used up to 20,000 times^{*1}



Product features

- △ 1.3" OLED screen, no visual dead angle, highly bright, energy saving and eco-friendly, real time to show valve opening angle and external control command. Enter sleeping state automatically after about 5 minutes, while it could prompt location state and its control command at sleeping time.
- △ Original valve adjustment mode--free cover-opening and interactive:
 - step1: saving "anticlockwise full open position" by using the button to control valve;
 - step2: saving "clockwise full close position" by using the button to control valve; it makes valve adjustment easier.
 Thoroughly eliminate the complex and inconvenience caused by mechanical positioning.
- △ Adopt 16 High-performance microcontrollers, 12 high-precision AD conversion, built-in unique algorithm, thoroughly eliminate mechanical hysteresis, greatly reduce valve position control error.
- △ ✖ TCR-08/11 total series and other DC24V series: built-in motor control module, motor frequency speed control can realize accurate positioning.
- △ Adopt non contact positioning, control unit module design and potting processing, guarantee components reliability and greatly improve product service life; Interface use standard connectors, convenient for installment, adjustment and replacement.
- △ Menu can report real-time failure, including stuck or other reasons which lead actuator fail to realize valve on/off integrally, and output failure warning signal.
- △ Menu can realize valve control command exchange.
- △ Menu can switch freely between remote control and local setting, by pressing the button to adjust valve position locally, built in position limit and show limit status.
- △ Menu can set valve close position deviation to on or off direction, thoroughly eliminate the complex and inconvenience bring by "Simple On/Off mechanical positioning" to local valve adjustment.
- △ Menu can restore factory default setting.

Purchase guide TCN-08TEX-KT/TCN-11TEX-KT

Voltage	Torque	Power	Time	Wiring	Feedback	Fault signals ^{*2}	Rotation angle	Enclosure	Manual override ^{*3}	Position indicator	Housing material	Output shaft
AC/DC24V	80Nm	60W	10s	4-20mA	4-20mA	A Type	90°/180° ≤330°	IP68	Hexagon spanner /button	Mechanical indicator or OLED indicator	Aluminum	Female octagon
AC/DC 95-265V				0-20mA 0-5V 1-5V 0-10V 2-10V	0-20mA 0-5V 1-5V 0-10V 2-10V							
AC/DC24V	110Nm	100W	10s	4-20mA	4-20mA	A Type	90°/180° ≤330°	IP68	Hexagon spanner /button	Mechanical indicator or OLED indicator	Aluminum	Female octagon
AC/DC 95-265V				0-20mA 0-5V 1-5V 0-10V 2-10V	0-20mA 0-5V 1-5V 0-10V 2-10V							

✖ TCN-08/11EX Series: die casting aluminium

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

^{*2}. Faults signals are selectable function, relay output, factory defaults do not take this function.

^{*3}. Use hexagon spanner at power-cut, or use button at power-on.

Product overview

- ◎ Install valves: 2-way,3-way ball valve and butterfly valve
- ◎ Rated voltage:AC/DC95V-265V, AC/DC24V
- ◎ Control feedback mode: RS485(Modbus),CANBus 2.0B(customized),Mbus(customized)
- ◎ Be achievable: 2 way mode /3 way mode^{*1}
- ◎ High performance brushless motor,overload protection and motor self-clock unit of internal
- ◎ It can be used up to 20,000 times^{*2}
- ◎ Tow or more actuators can be used in parallel
(※RS485 could parallel 32/64/256 actuators in max,while CANBus parallels 110 actuators)



Product features

- △ 1.3" OLED screen,no visual dead angle,highly bright,energy saving and eco-friendly,real time to show baud rate valve,ID address,opening angle and external control command.Enter sleeping state automatically after about 5 minutes,while it could prompt location state and its control command at sleeping time.
- △ Original valve adjustment mode-free cover-opening and interactive:
step1:saving "anticlockwise full open position" by using the button to control valve;
step2:saving "clockwise full close position" by using the button to control valve;it makes valve adjustment easier.
Thoroughly eliminate the complex and inconvenience caused by mechanical positioning.
- △ Adopt 16 High-performance microcontrollers,12 high-precision AD conversion,built-in unique algorithm,thoroughly eliminate mechanical hysteresis,realize valve on/off precisely,especially suitable for 3-way valve.
- △ Adopt non contact positioning,control unit module design and potting processing,guarantee components reliability and greatly improve product service life;Interface uses standard connectors,convenient for installment,adjustment and replacement.
- △ Menu can report real-time failure,including stuck or other reasons which lead actuator fail to realize valve on /off integrally, and output failure warning signal.
- △ Menu can modify Modbus ID address and baud ratedy namicly.
- △ Menu can switch freely between remote control and local setting,by pressing button to realize valve on/off locally.
- △ Menu can set valve close position deviation to on or off direction,thoroughly eliminate the complex and inconvenience bring by "Simple On/Off mechanical positioning" to local valve adjustment.
- △ Menu can real-time adjust valve running speed of the actuator.
- △ Menu can restore factory default setting.

Purchase guideTCN-08BEX/TCN-11BEX

Voltage	Torque	Power	Time	Communication	Rotation angle	Enclosure	Manual override ^{*3}	Position indicator	Housing material	Output shaft
AC/DC24V	80Nm	60W	10s	RS485/CANBUS2.0B Compatible Mobus /Mbus	90°/180° ≤330°	IP68	Hexagon spanner /button	Mechanical indicator or OLED indicator	Aluminum	Female octagon
AC/DC 95-265V										
AC/DC24V	110Nm	100W	10s	RS485/CANBUS2.0B Compatible Mobus /Mbus	90°/180° ≤330°	IP68	Hexagon spanner /button	Mechanical indicator or OLED indicator	Aluminum	Female octagon
AC/DC 95-265V										

※ TCN-08/11EX Series: die casting aluminium

Notice ^{*1}.The third position can be set by menu.

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

^{*3}.Use hexagon spanner at power-cut,or use button at power-on.

Product overview

- Install valves: 2-way,3-way ball valve and butterfly valve
- Rated voltage: AC/DC24V、AC/DC95~265V
- Running time: about 3-5s
- Control feedback mode: RS485(Modbus),CANBus 2.0B,Mbus
- Be achievable: 2 way mode /3 way mode^{*1}
- High performance brushless motor, overload protection and motor self-clock unit of internal
- It can be used up to 20,000 times^{*2}
- Two or more actuators can be used in parallel
(※RS485 could parallel 32/64/256 actuators in max,while CANBus parallels 110 actuators)



Product features

- △ 1.3" OLED screen, no visual dead angle, highly bright, energy saving and eco-friendly, real time to show baud rate, valve, ID address, opening angle and external control command. Enter sleeping state automatically after about 5 minutes, while it could prompt location state and its control command at sleeping time.
- △ Original valve adjustment mode-free cover-opening and interactive:
step1:saving "anticlockwise full open position" by using the button to control valve;
step2:saving "clockwise full close position" by using the button to control valve; it makes valve adjustment easier.
Thoroughly eliminate the complex and inconvenience caused by mechanical positioning.
- △ Adopt 16 High-performance microcontrollers, 12 high-precision AD conversion, built-in unique algorithm, thoroughly eliminate mechanical hysteresis, realize valve on/off precisely, especially suitable for 3-way valve.
- △ Adopt non contact positioning, control unit module design and potting processing, guarantee components reliability and greatly improve product service life; Interface uses standard connectors, convenient for installment, adjustment and replacement.
- △ Menu can report real-time failure, including stuck or other reasons which lead actuator fail to realize valve on /off integrally, and output failure warning signal.
- △ Menu can modify Modbus ID address and baud rate dynamically.
- △ Menu can switch freely between remote control and local setting, by pressing button to realize valve on/off locally.
- △ Menu can set valve close position deviation to on or off direction, thoroughly eliminate the complex and inconvenience brought by "Simple On/Off mechanical positioning" to local valve adjustment.
- △ Menu can real-time adjust valve running speed of the actuator.
- △ Menu can restore factory default setting.

Purchase guide TCN-08BEXH/TCN-11BEXH

Voltage	Torque	Power	Time	Communication	Rotation angle	Enclosure	Manual override ^{*3}	Position indicator	Housing material	Output shaft
AC/DC24V	80Nm	60W	5s	RS485/CANBUS2.0B Compatible Modbus/ Mbus	90°/180° ≤330°	IP68	Hexagon spanner /button	Mechanical indicator or OLED indicator	Aluminum	Female octagon
AC/DC 95~265V										
AC/DC24V	110Nm	100W	5s	RS485/CANBUS2.0B Compatible Modbus/ Mbus	90°/180° ≤330°	IP68	Hexagon spanner /button	Mechanical indicator or OLED indicator	Aluminum	Female octagon
AC/DC 95~265V										

※ TCN-08/11EX Series: die casting aluminium

Notice ^{*1}.The third position can be set by menu.

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

^{*3}.Use hexagon spanner at power-cut,or use button at power-on.

Product overview

- ⊙ Install valves: 2-way,3-way ball valve and butterfly valve
- ⊙ Rated voltage: AC/DC95V-265V, AC/DC24V
- ⊙ Control feedback model: RS485(Modbus),CANBus 2.0B,Mbus
- ⊙ Be achievable: 2 way mode /3 way mode^{*1}
- ⊙ High performance brushless motor,overload protection and motor self-clock unit of internal
- ⊙ It can be used up to 20,000 times^{*2}
- ⊙ Tow or more actuators can be used in parallel
(※RS485 could parallel 32/64/256 actuators in max,while CANBus parallels 110 actuators)



Product features

- △ 1.3" OLED screen,no visual dead angle,highly bright,energy saving and eco-friendly,real time to show baud rate valve,ID address,opening angle and external control command.Enter sleeping state automatically after about 5 minutes,while it could prompt location state and its control command at sleeping time.
- △ Original valve adjustment mode-free cover-opening and interactive:
step1:saving "anticlockwise full open position " by using the button to control valve;
step2:saving "clockwise full close position " by using the button to control valve;it makes valve adjustment easier.
Thoroughly eliminate the complex and inconvenience caused by mechanical positioning.
- △ Adopt 16 High-performance microcontrollers,12 high-precision AD conversion,built-in unique algorithm,thoroughly eliminate mechanical hysteresis,realize valve on/off precisely,especially suitable for 3-way valve.
- △ Adopt non contact positioning,control unit module design and potting processing,guarantee components reliability and greatly improve product service life;Interface uses standard connectors,convenient for installment,adjustment and replacement.
- △ Menu can report real-time failure,including stuck or other reasons which lead actuator fail to realize valve on /off integrally, and output failure warning signal.
- △ Menu can modify Modbus ID address and baud ratedy namically.
- △ Menu can switch freely between remote control and local setting,by pressing button to realize valve on/off locally.
- △ Menu can set valve close position deviation to on or off direction,thoroughly eliminate the complex and inconvenience bring by "Simple On/Off mechanical positioning" to local valve adjustment.
- △ Menu can real-time adjust valve running speed of the actuator.
- △ Menu can restore factory default setting.

Purchase guideTCN-08BEX-KT/TCN-11BEX-KT

Voltage	Torque	Power	Time	Communication	Rotation angle	Enclosure	Manual override ^{*3}	Position indicator	Housing material	Output shaft
AC/DC24V	80Nm	60W	10s	RS485/CANBUS2.0B Compatible Modbus /Mbus	90°/180° ≤330°	IP68	Hexagon spanner /button	Mechanical indicator or OLED indicator	Aluminum	Female octagon
AC/DC95-265V										
AC/DC24V	110Nm	100W	10s	RS485/CANBUS2.0B Compatible Modbus /Mbus	90°/180° ≤330°	IP68	Hexagon spanner /button	Mechanical indicator or OLED indicator	Aluminum	Female octagon
AC/DC95-265V										

※ TCN-08/11EX Series: die casting aluminium

Notice ^{*1}.The third position can be set by menu.

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

^{*3}.Use hexagon spanner at power-cut,or use button at power-on.

Product overview

- Install valves: 2-way,3-way ball valve and butterfly valve
- Rated voltage: AC/DC95V-265V, AC/DC24V
- Timer mode: pulse mode , time mode
- Loop mode : loop by days , loop by weeks
- High performance brushless motor, overload protection and motor self-clock unit of internal
- It can be used up to 20,000 times. ¹



Product features

- △ 1.3" OLED screen, no visual dead angle, highly bright, energy saving and eco-friendly, real time to show valve opening angle and external control command. Enter sleeping state automatically after about 5 minutes, while it could prompt location state and its control command at sleeping time.
- △ Original valve adjustment mode-free cover-opening and interactive:
 - step1: saving "anticlockwise full open position" by using the button to control valve;
 - step2: saving "clockwise full close position" by using the button to control valve; it makes valve adjustment easier. Thoroughly eliminate the complex and inconvenience caused by mechanical positioning.
- △ Adopt 16 High-performance microcontrollers, 12 high-precision AD conversion, built-in unique algorithm, thoroughly eliminate mechanical hysteresis, realize valve on/off precisely, especially suitable for 3-way valve.
- △ Adopt non contact positioning, control unit module design and potting processing, guarantee components reliability and greatly improve product service life; Interface uses standard connectors, convenient for installment, adjustment and replacement.
- △ Menu can report real-time failure, including stuck or other reasons which lead actuator fail to realize valve on /off integrally, and output failure warning signal.
- △ Menu can switch freely between remote control and local setting, by pressing button to realize valve on/off locally.
- △ Menu can set valve close position deviation to on or off direction, thoroughly eliminate the complex and inconvenience bring by "Simple On/Off mechanical positioning" to local valve adjustment.
- △ Menu can real-time adjust valve running speed of the actuator.
- △ Menu can restore factory default setting.

Purchase guide TCN-08DEX/TCN-11DEX

Voltage	Torque	Power	Time	Timer model	Rotation angle	Enclosure	Manual override ^{*2}	Position indicator	Housing material	Output shaft
AC/DC24V	80Nm	60W	10s	Pulse mode	$\frac{90^{\circ}/180^{\circ}}{\leq 330^{\circ}}$	IP68	Hexagon spanner /button	Mechanical indicator or OLED indicator	Aluminum	Female octagon
AC/DC 95-265V				Time mode Loop by days Loop by weeks						
AC/DC24V	110Nm	100W	10s	Pulse mode	$\frac{90^{\circ}/180^{\circ}}{\leq 330^{\circ}}$	IP68	Hexagon spanner /button	Mechanical indicator or OLED indicator	Aluminum	Female octagon
AC/DC 95-265V				Time mode Loop by days Loop by weeks						

※ TCN-08/11EX Series: die casting aluminium

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

^{*2}. Use hexagon spanner at power-cut, or use button at power-on.

Product overview

- ◎ Install valves: 2-way,3-way ball valve and butterfly valve
- ◎ Rated voltage: AC/DC24V、AC/DC95~265V
- ◎ Running time: about 3-5s
- ◎ Timer mode: pulse mode , time mode
- ◎ Loop mode : loop by days , loop by weeks
- ◎ High performance brushless motor, overload protection and motor self-clock unit of internal
- ◎ It can be used up to 20,000 times.*1



Product features

- △ 1.3" OLED screen, no visual dead angle, highly bright, energy saving and eco-friendly, real time to show valve opening angle and external control command. Enter sleeping state automatically after about 5 minutes, while it could prompt location state and its control command at sleeping time.
- △ Original valve adjustment mode-free cover-opening and interactive:
 - step1: saving "anticlockwise full open position" by using the button to control valve;
 - step2: saving "clockwise full close position" by using the button to control valve; it makes valve adjustment easier.
 Thoroughly eliminate the complex and inconvenience caused by mechanical positioning.
- △ Adopt 16 High-performance microcontrollers, 12 high-precision AD conversion, built-in unique algorithm, thoroughly eliminate mechanical hysteresis, realize valve on/off precisely, especially suitable for 3-way valve.
- △ Adopt non contact positioning, control unit module design and potting processing, guarantee components reliability and greatly improve product service life; Interface uses standard connectors, convenient for installment, adjustment and replacement.
- △ Menu can report real-time failure, including stuck or other reasons which lead actuator fail to realize valve on /off integrally, and output failure warning signal.
- △ Menu can switch freely between remote control and local setting, by pressing button to realize valve on/off locally.
- △ Menu can set valve close position deviation to on or off direction, thoroughly eliminate the complex and inconvenience bring by "Simple On/Off mechanical positioning" to local valve adjustment.
- △ Menu can real-time adjust valve running speed of the actuator.
- △ Menu can restore factory default setting.

Purchase guide TCN-08DEXH/TCN-11DEXH

Voltage	Torque	Power	Time	Timer model	Rotation angle	Enclosure	Manual override*2	Position indicator	Housing material	Output shaft
AC/DC24V	80Nm	60W	5s	Pluse mode Time mode	90°/180° ≤330°	IP68	Hexagon spanner /button	Mechanical indicator or OLED indicator	Aluminum	Female octagon
AC/DC 95~265V				Loop by days Loop by weeks						
AC/DC24V	110Nm	100W	5s	Pluse mode Time mode	90°/180° ≤330°	IP68	Hexagon spanner /button	Mechanical indicator or OLED indicator	Aluminum	Female octagon
AC/DC 95~265V				Loop by days Loop by weeks						

※ TCN-08/11EX Series: die casting aluminium

*1. Test condition: Rated load, test at factory environment where temperature is 25°C, humidity is 50%, lead the result from 2 times switching cycle, which will be influenced by different load and working environment.

*2. Use hexagon spanner at power-cut, or use button at power-on.

Product overview

- Install valves: 2-way,3-way ball valve and butterfly valve
- Rated voltage: AC/DC95V-265V, AC/DC24V
- Timer mode: pulse mode , time mode
- Loop mode : loop by days , loop by weeks
- High performance brushless motor,overload protection and motor self-clock unit of internal
- It can be used up to 20,000 times.*1



Product features

- △ 1.3" OLED screen,no visual dead angle,highly bright,energy saving and eco-friendly,real time to show valve opening angle and external control command.Enter sleeping state automatically after about 5 minutes,while it could prompt location state and its control command at sleeping time.
- △ Original valve adjustment mode-free cover-opening and interactive:
step1:saving "anticlockwise full open position" by using the button to control valve;
step2:saving "clockwise full close position" by using the button to control valve;it makes valve adjustment easier.
Thoroughly eliminate the complex and inconvenience caused by mechanical positioning.
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- △ Adopt non contact positioning,control unit module design and potting processing,guarantee components reliability and greatly improve product service life;Interface uses standard connectors,convenient for installment,adjustment and replacement.
- △ Menu can report real-time failure,including stuck or other reasons which lead actuator fail to realize valve on /off integrally, and output failure warning signal.
- △ Menu can switch freely between remote control and local setting,by pressing button to realize valve on/off locally.
- △ Menu can set valve close position deviation to on or off direction,thoroughly eliminate the complex and inconvenience bring by "Simple On/Off mechanical positioning" to local valve adjustment.
- △ Menu can real-time adjust valve running speed of the actuator.
- △ Menu can restore factory default setting.

Purchase guideTCN-08DEX-KT/TCN-11DEX-KT

Voltage	Torque	Power	Time	Timer model	Rotation angle	Enclosure	Manual override ^{*2}	Position indicator	Housing material	Output shaft
AC/DC24V	80Nm	60W	10s	Pluse mode Time mode	$\frac{90^{\circ}/180^{\circ}}{\leq 330^{\circ}}$	IP68	Hexagon spanner /button	Mechanical indicator or OLED indicator	Aluminum	Female octagon
AC/DC 95-265V				Loop by days Loop by weeks						
AC/DC24V	110Nm	100W	10s	Pluse mode Time mode	$\frac{90^{\circ}/180^{\circ}}{\leq 330^{\circ}}$	IP68	Hexagon spanner /button	Mechanical indicator or OLED indicator	Aluminum	Female octagon
AC/DC 95-265V				Loop by days Loop by weeks						

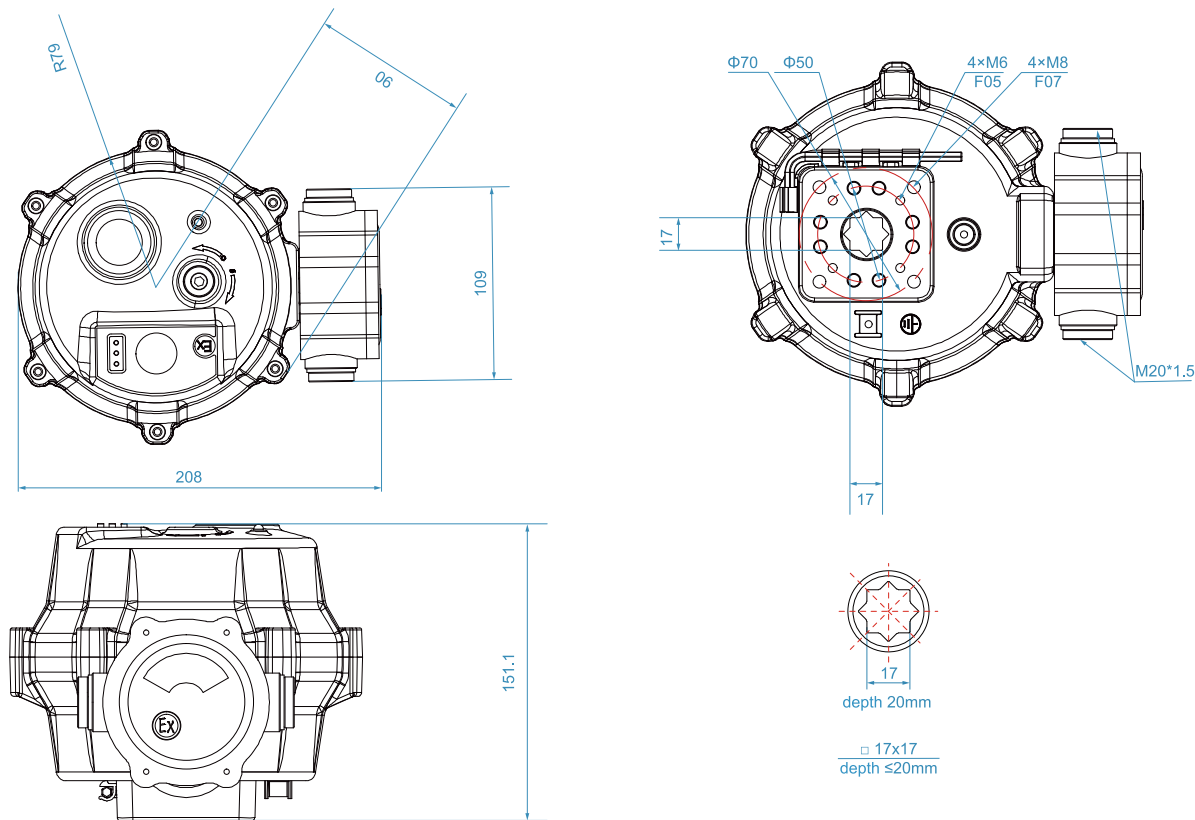
※ TCN-08/11EX Series: die casting aluminium

*1.Test condition:Rated load,test at factory environment where temperature is 25°C , humidity is 50%, lead the result from 2 times switching cycle,which will be influenced by different load and working environment.

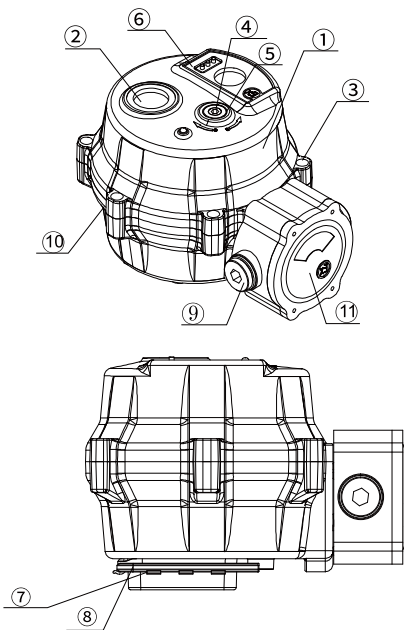
*2.Use hexagon spanner at power-cut,or use button at power-on.

Dimension [Female octagonal]

Unit:mm



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			

TCN-08/11EX series assembling instructions

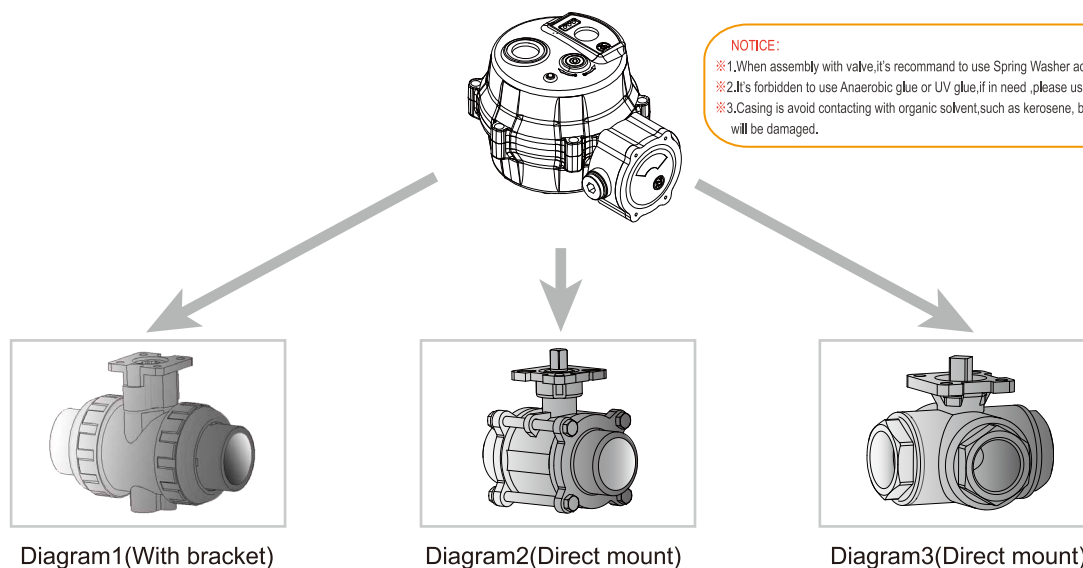


Diagram1 UPVC plastic ball valve add bracket assembly

Diagram2 3-piece stainless steel ball valve assembly

Diagram3 Stainless steel 3-way ball valve assembly

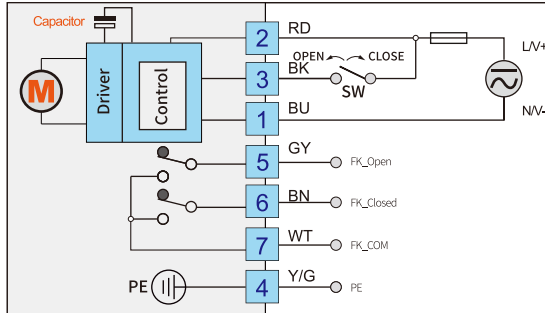
Installed valve technical requirements

Valve type	Recommend install condition
wafer butterfly valve	actuator rate torque ≥ 2 times valve max torque
flange butterfly valve	actuator rate torque ≥ 1.7 times valve max torque
metal ball valve	actuator rate torque ≥ 1.7 times valve max torque
plastic ball valve	actuator rate torque ≥ 1.5 times 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 ≤ 20 mm. It requires cutting if the output shaft is longer than 20mm.
- 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 ≤ 0.2 mm in the process of on or off.
 - ※ The parallelism of bracket ≤ 0.5 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.
- 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.

Simple on/off type [TCN-08/11NEX]

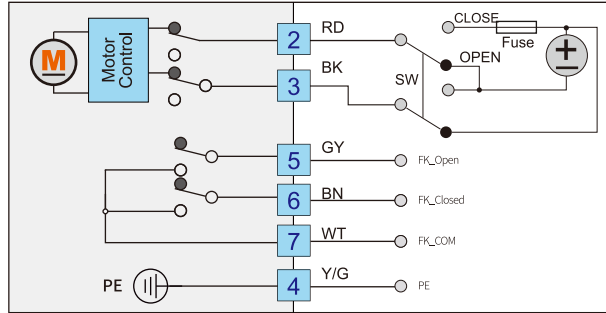
KT32S/BD3S-General Voltage



Control instructions:

- If SW is disconnected, the actuator will drive valve close clockwise. When the valve is closed completely, [7] is connected with [6], giving signal of closing.
- If SW is connected, the actuator will drive valve open anticlockwise. When the valve is open completely, [7] is connected with [5], giving signal of opening.
- ※ Notice 1: [7] is not connected with [6] [5], when the actuator is running.
- ※ Notice 2: The feedback signal is a little earlier than the actual position, so please do not cut power immediately, when you get the feedback signal.
- ※ Notice 3: When power cut, actuator will drive valve to close.

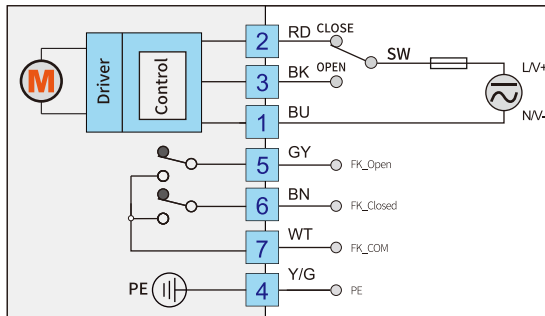
B2S-DC24V/DC12V



Control instructions:

- If SW is connected with CLOSE, the actuator will drive valve close clockwise. When the valve is closed completely, [7] is connected with [6], giving signal of closing.
- If SW is connected with OPEN, the actuator will drive valve open anticlockwise. When the valve is open completely, [7] is connected with [5], giving signal of opening.
- ※ Notice 1: [7] is not connected with [6] [5], when the actuator is running.
- ※ Notice 2: The feedback signal is a little earlier than the actual position, so please do not cut power immediately, when you get the feedback signal.

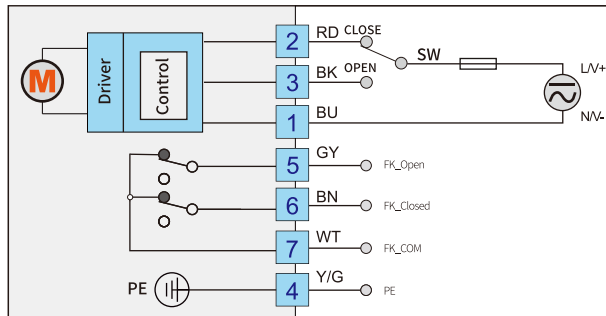
B3S-General Voltage



Control instructions:

- SW is connected with CLOSE, the actuator will rotate clockwise. When the valve is closed, [7] is connect with [6], giving signal of closing.
- SW is connected with OPEN, the actuator will rotate anticlockwise. When the valve is open, [7] is connect with [5], giving signal of opening.
- ※ Notice 1: [7] is disconnected with [6] and [5], when the actuator is rotating.
- ※ Notice 2: The feedback signal is a little earlier than the actual position, so please do not cut power immediately, when you get the feedback signal.

B3C-General Voltage

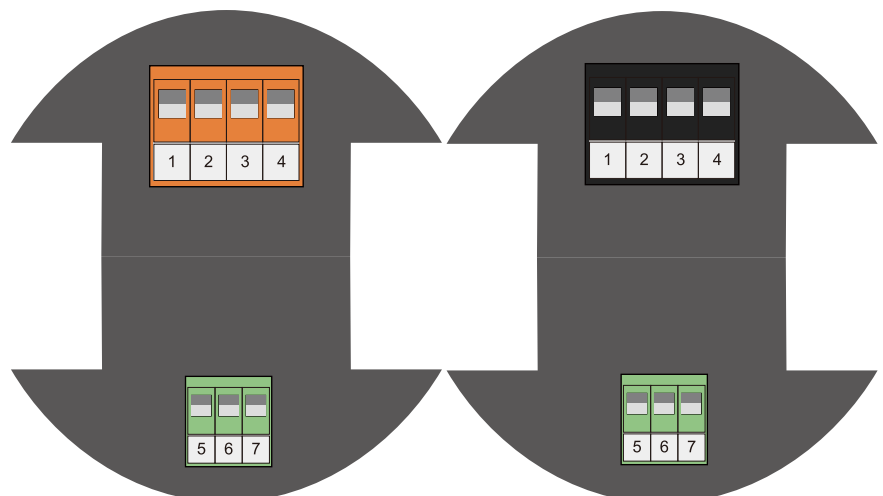


Control instructions:

- SW is connected with CLOSE, the actuator will rotate clockwise. When the valve is closed, [7] is connect with [6], giving signal of closing.
- SW is connected with OPEN, the actuator will rotate anticlockwise. When the valve is open, [7] is connect with [5], giving signal of opening.
- ※ Notice 1: [7] is connected with [6] and [5], when the actuator is rotating.
- ※ Notice 2: The feedback signal is a little earlier than the actual position, so please do not cut power immediately, when you get the feedback signal.

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.

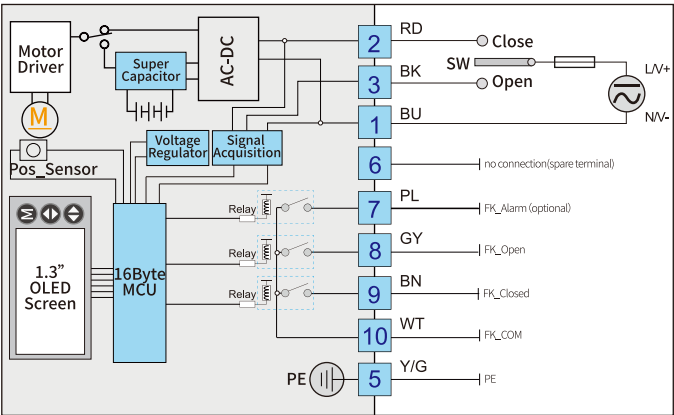


08NEX/11NEX-95-265V terminal block

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

Intelligent on/off type [TCN-08/11CEX]

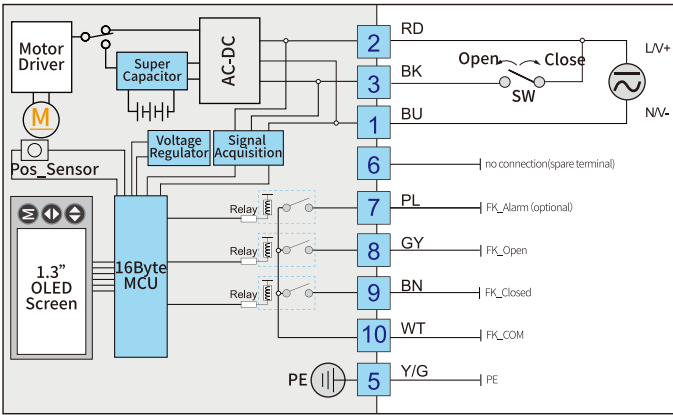
B3JA/B3JA(KT)



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.

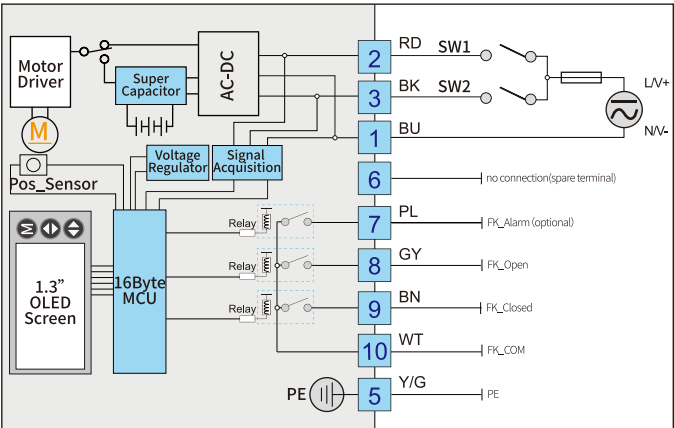
BD3JA/BD3JA(KT)



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)

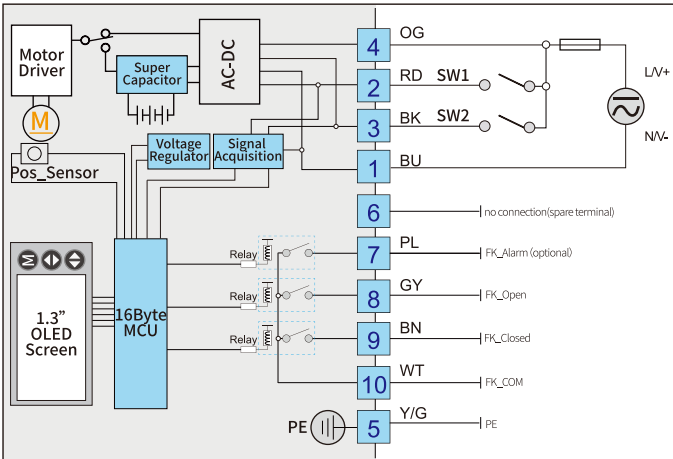


Control instructions:

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

- ※ Note 1: 10 is not connected with 9 and 8, when the actuator is operating.
- ※ Note 2: After power cut, the feedback and fault signal will disappear, 10 is not connected with 9 and 8.
- ※ Note 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.
- ※ Note 4: User-defined positions can be set by menu.

B43JA/B43JA(KT)



Control instructions:

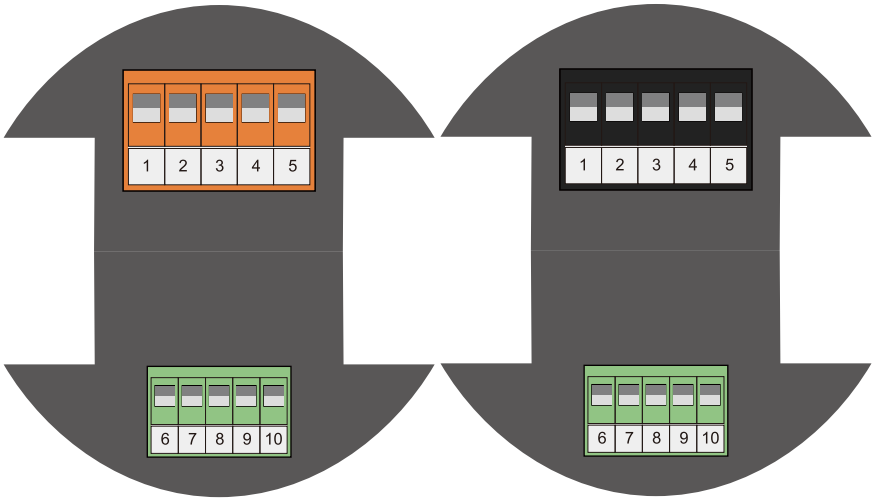
- ※ Note 1: 10 is not connected with 7 & 8 & 9, when the actuator is running.
- ※ Note 2: When actuator was stuck or it has other faults, which lead valve unable to full-open or full-close, then 10 connect with 7, send warning signal.
- ※ Note 3: After power cut, the feedback and fault signal will disappear, 10 is not connected with 7 & 8 & 9.
- ※ Note 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 type [TCN-08/11CEX]

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.

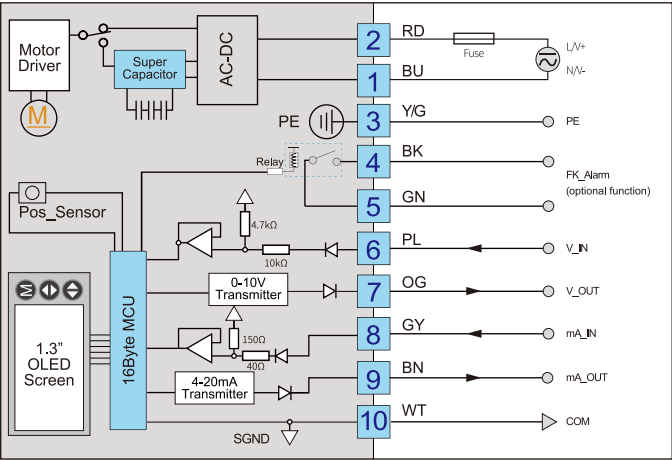


08CEX/11CEX-95-265V terminal block

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

Intelligent modulating type[TCN-08/11TEX]

4-20mA/0-10V

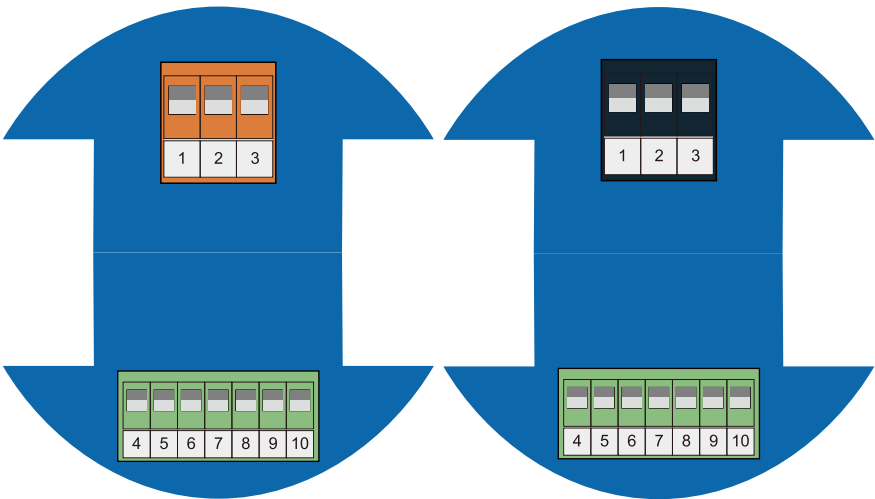


- Wiring instruction
- 1. [1][2] are used to connected with supply power. Orange terminal is for the product in 95-265V(include 220V). Black terminal is for the product DC12V/DC24V. Please confirm the voltage before using. Otherwise, the wrong voltage will damage the control module.
 - 2. [3] is used 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:
 - $V_{OUT} = I_{OUT} \cdot R_x$
 - 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 $\geq 100K\Omega$. We suggest use the littler wire resistor as The length of wire and resistor will affect the accuracy.

- 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.

Terminal block for product without cable_Wiring instruction

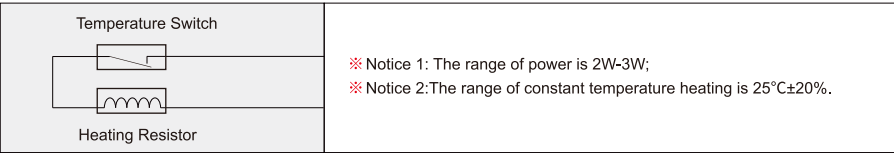
- 1. Fuse: Refer to the detail corresponding instnction.
- 2. Orange terminal is for the product in 95-265V (include 220V). Black terminal is for the product DC12V/DC24V.
- 3. Some products adopt wiring box, user could wiring according to the order of number.



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

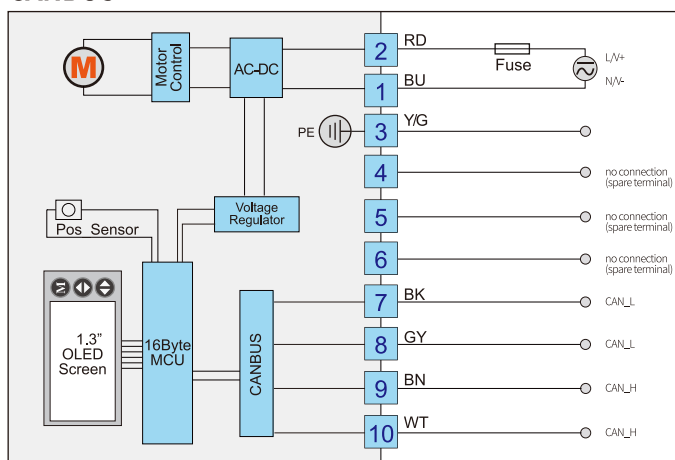
08TEX/11TEX-12/24V terminal block

Anti-condensation heater [Accessory]

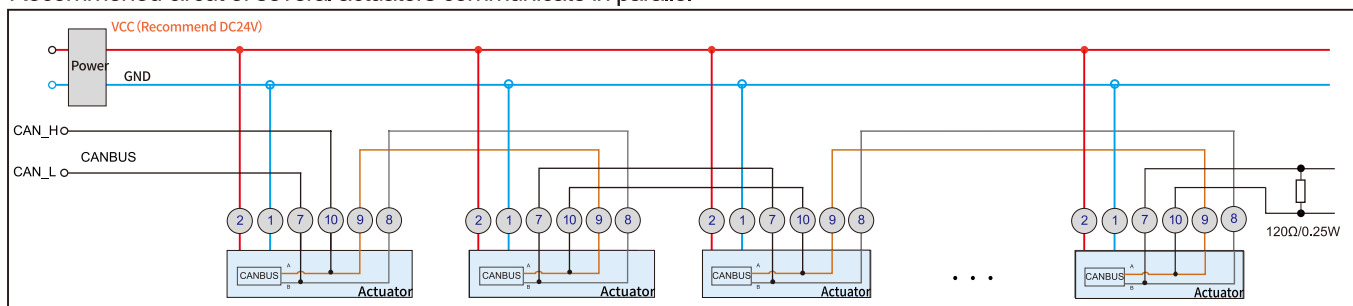


Intelligent Bus type 【TCN-08/11BEX】

CANBUS

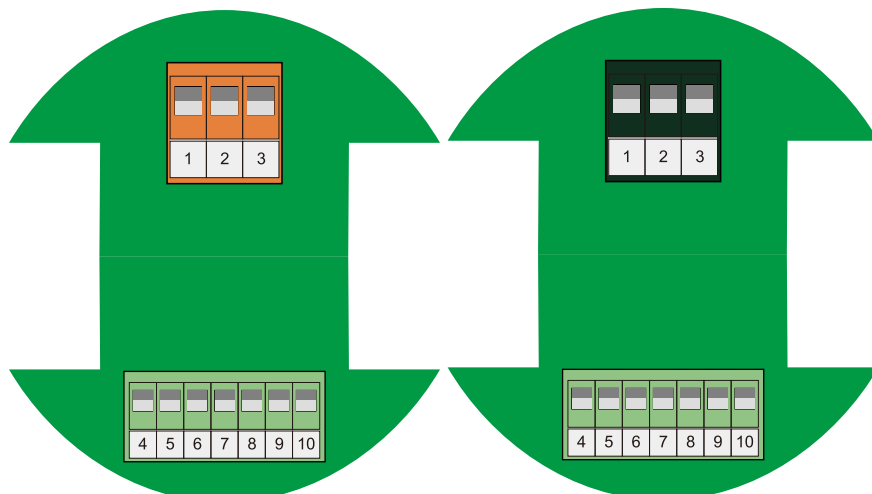


Recommended circuit of several actuators communicate in parallel



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.

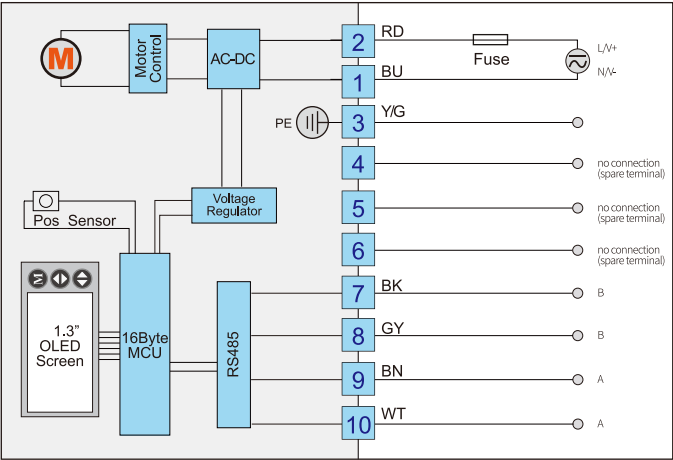


08BEX/11BEX-95-265V terminal block

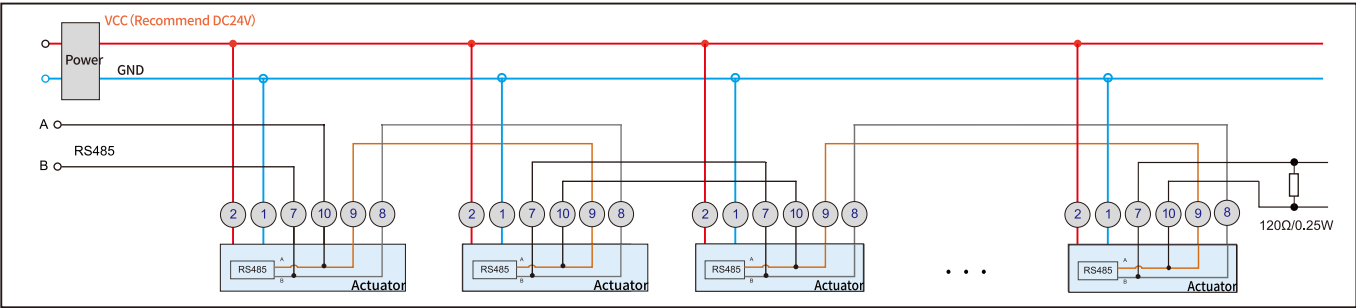
08BEX/11BEX-12/24V terminal block

Intelligent Bus type [TCN-08/11BEX]

RS485

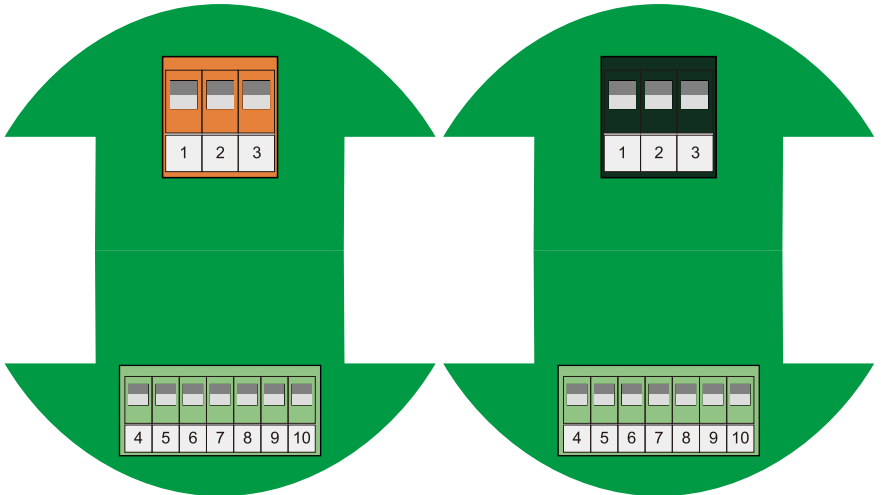


Recommended circuit of several actuators communicate in parallel



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.

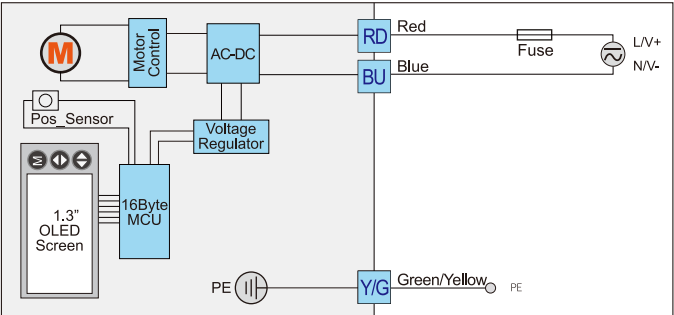


08BEX/11BEX-95-265V terminal block

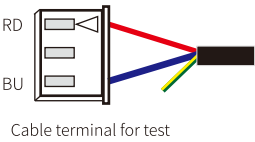
08BEX/11BEX-12/24V terminal block

Intelligent Timer type-->Wiring Diagrams

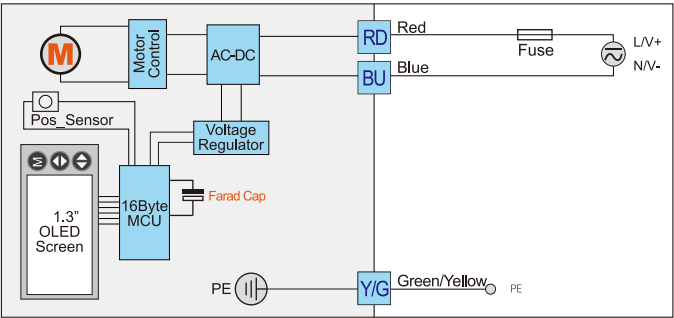
Timer



Test terminal for the cable end_wiring instruction
1.Fuse:please refer to manual for more parameters.



Timer-KT (Failsafe series)



Working Environment

- ☐ This product can be used indoor and outdoor.
- ☐ 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.

TCN-08/11EX series actuator explosion-proof certificate



TCN-08/11EX 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