TX3 SERIES THRUMB SMALL TEMPERATURE CONTROLLER
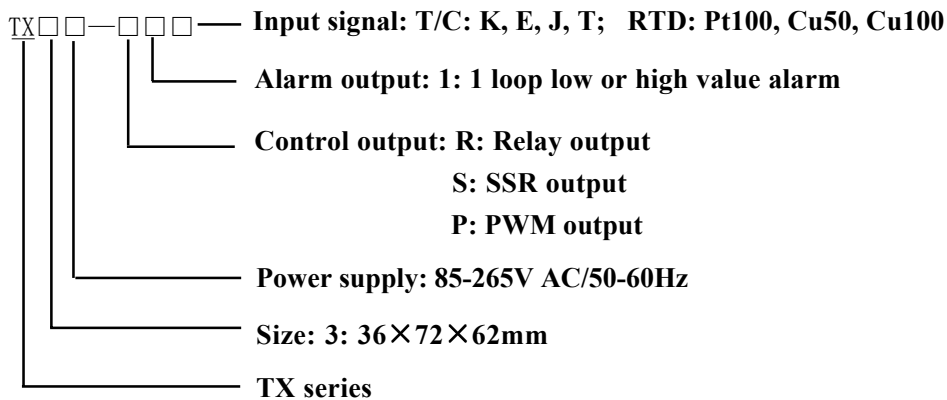
Features:

◎ Small case design

◎ T/C and RTD universal input, wide range for application.

◎ ON/OFF, normal PID, auto-turn PID control

◎ Relay, SSR, SCR output for option.

◎ Usage for temperature control that widely applied to chemical industrial, Mechanism, light industrial…etc.

No	Panel	Specifications
1	LED	Measuring value/parameter code display, display range: -199-999：
2	AL lamp	Alarm output lamp: ON/ OFF
3	OUT lamp	Control output lamp: ON /OFF
4	AT lamp	Auto-turn indication lamp: ON: auto-turn OFF: no auto-turn
5	SET key	Parameter select/set key
6	▼	Decrease key
7	▲	Increase key
8	SET+▲	Modify and shift key
9	AT key	In the parameter setting estate, press AT key for once, to read the parameters or restore the value.In the measuring estate, press AT key for 2 seconds to enter/quit auto-turn

1、Ordering code

TX□□—□□□ —— Input signal: T/C: K, E, J, T; RTD: Pt100, Cu50, Cu100

Alarm output: 1: 1 loop low or high value alarm

Control output: R: Relay output
S: SSR output
P: PWM output

Power supply: 85-265V AC/50-60Hz

Size: 3: 36×72×62mm

TX series

2、Modes and Parameters

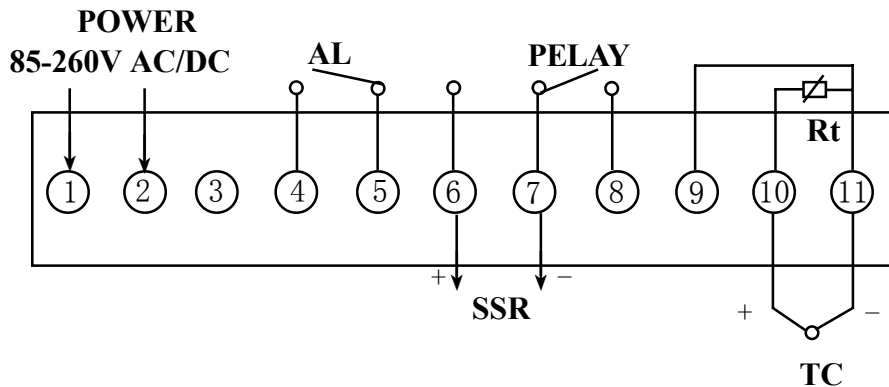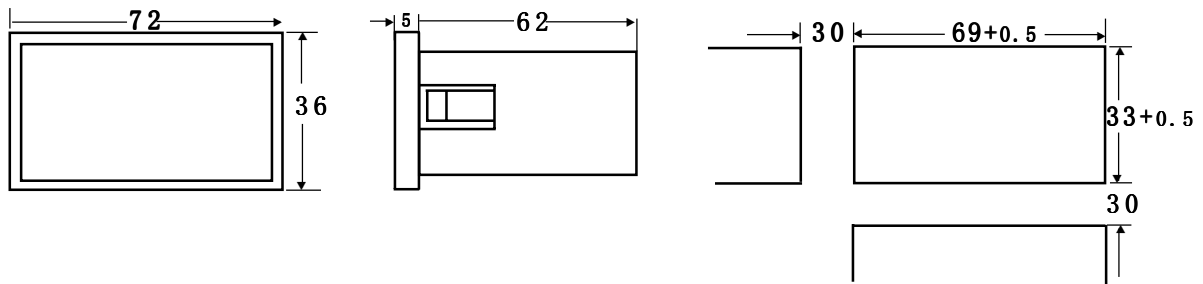| Mode	TX3-R10	TX3-S10	TX3-P10
Input signal	T/C or RTD	T/C or RTD	T/C or RTD
Control output	Relay	SSR	PWM
Alarm	Low or high	Low or high	Low or high
Accuracy	±0.5%FS	±0.5%FS	±0.5%FS
Power	85-260V AC/DC	85-260V AC/DC	85-260V AC/DC

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3、Specifications:

3.1 Input signals:

Input signal	Range	Impedance	Adjust Range	
			Zero	Full
T/C K	0～999℃	≥2MΩ	0.00	50.00mV
T/C E	0～999℃	≥2MΩ	0.00	50.00mV
T/C J	0～999℃	≥2MΩ	0.00	50.00mV
T/C T	0～400℃	≥2MΩ	0.00	50.00mV
RTD Cu50	−50～150℃	0.2mA	39.24Ω	82.13Ω
RTD Cu100	−50～150℃	0.2mA	78.49Ω	164.27Ω
RTD Pt100	−199～800℃	0.2mA	0.00Ω	313.59Ω

3.2 Display: 3 digit LED display, range: -199-999℃. When the temperature is –10-100 deg ℃, it remains displaying 00.0, the control setting range: -99-950℃

3.3 Control output: R: Relay; S: SSR; K: SCR; P: PWM. Selected by software.

4、Dimensions and connections

5、Key operation :

5.1 Press SET key for more than 3 seconds, can enter PID parameter adjust menu.

5.2 Parameter modification

A: Press SET key to select the parameter you want to modify.

B: Press SET＋▲ key at the same time, the LED flashes, and the value are ready for modification.

C: Press ▲/▼ key can modify the value as you want.
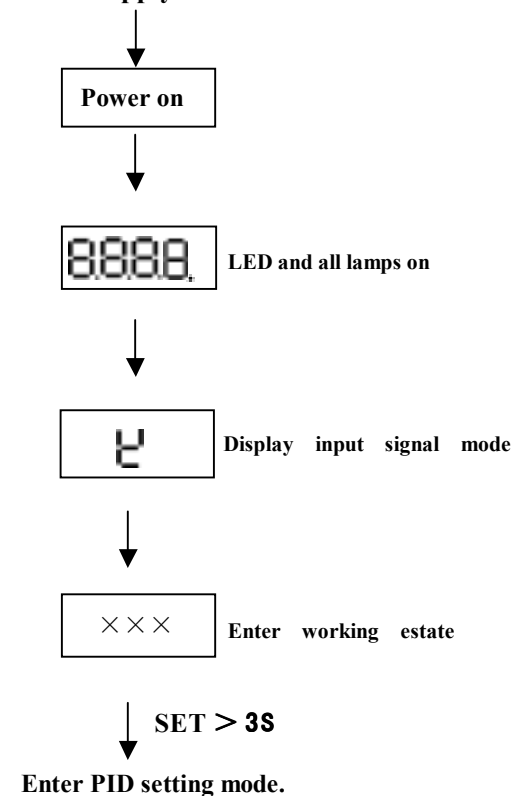
D: Press SET key to confirm.

6、Control value setting and auto-turn operations:

Control value setting: In the estate of measuring, press SET key, the unit displays ⊔××× (means setting value and means the code of setting value). Press SET＋▲ key at the same time, LED flashes. Hold SET Key,press ▲ to shift.Press ▲/▼ key to modify the value as you want. Then press SET key to confirm.
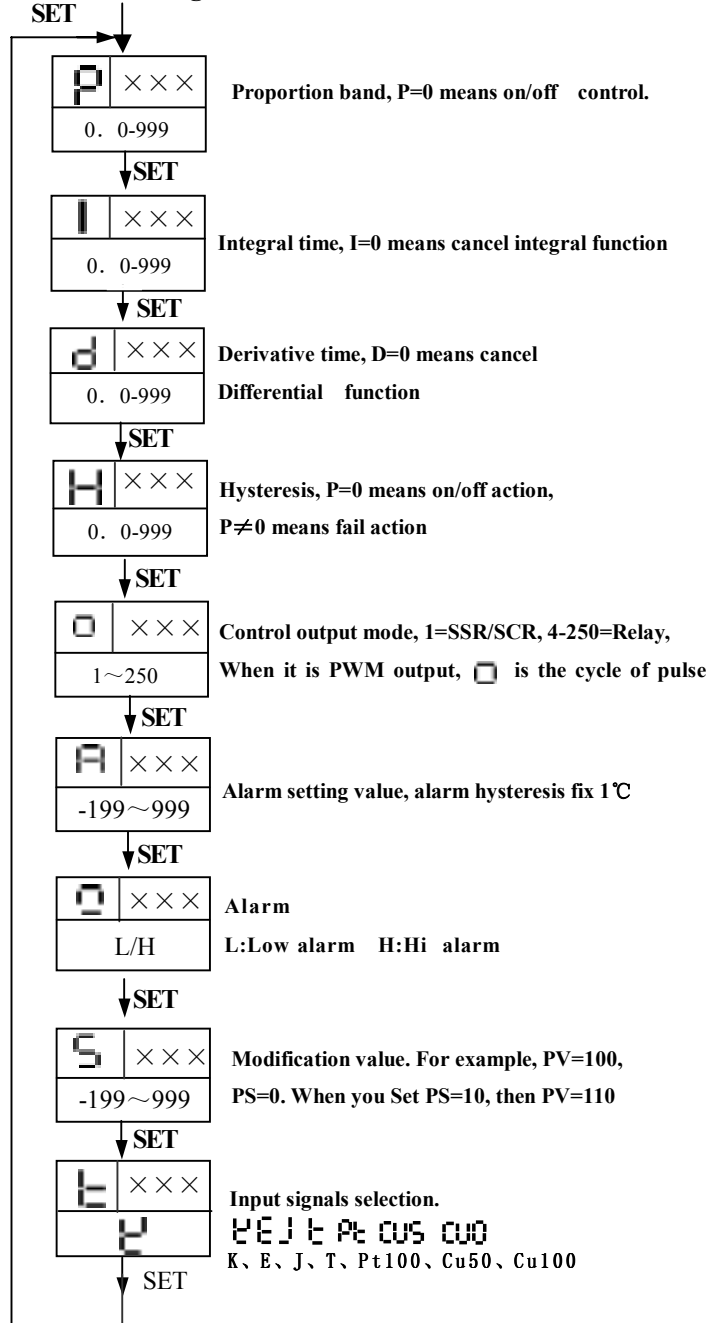
Auto-turn operations: When the system is ready for running,(in case the accuracy of the instrument can not reach your requirement and you don't know how to adjust, please let it run by itself). Parameter P=/0 (PID work), press AT key for 3 seconds, AT lamp on, the instrument will begin to PID auto-turn. Please don't modify the instrument and the system at this moment. Waiting for auto-turn finished, AT lamp off. The instrument will refresh and auto turn to adjust estate. In case you want to quit during the course of auto-turn, please press AT key for 3 seconds and then AT lamp off. If necessary, the user can modify the P, I, D parameters by himself, the result would be better.

7、Operation procession

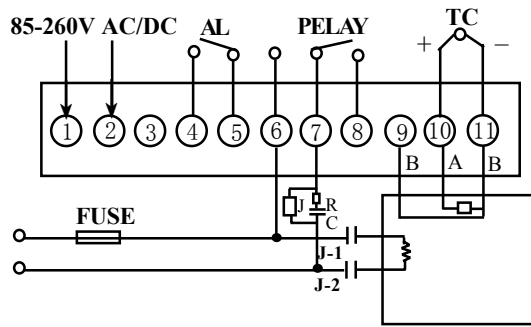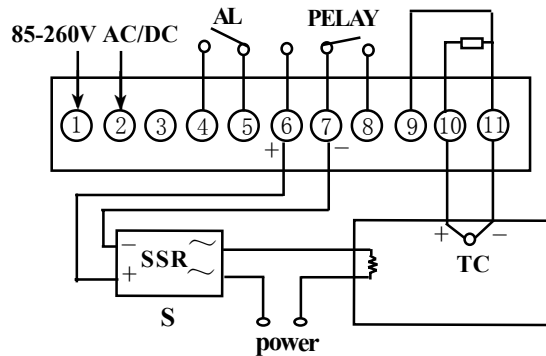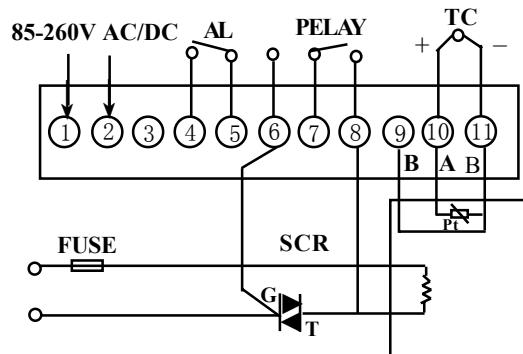**Power supply and self-examination**

Parameter setting mode

Power on

8.8.8.8. LED and all lamps on

Display input signal mode

××× Enter working estate

SET ＞ 3S

Enter PID setting mode.

| P | ××× | Proportion band, P=0 means on/off control. |
| 0. 0-999 | | |

| I | ××× | Integral time, I=0 means cancel integral function |
| 0. 0-999 | | |

| d | ××× | Derivative time, D=0 means cancel Differential function |
| 0. 0-999 | | |

| H | ××× | Hysteresis, P=0 means on/off action, P≠0 means fail action |
| 0. 0-999 | | |

| ⊐ | ××× | Control output mode, 1=SSR/SCR, 4-250=Relay, When it is PWM output, ⊐ is the cycle of pulse |
| 1～250 | | |

| A | ××× | Alarm setting value, alarm hysteresis fix 1℃ |
| -199～999 | | |

| ⊓ | ××× | Alarm |
| L/H | | L:Low alarm H:Hi alarm |

| S | ××× | Modification value. For example, PV=100, PS=0. When you Set PS=10, then PV=110 |
| -199～999 | | |

| t | ××× | Input signals selection. |
| ⊔ | | K E J t Pt CU5 CU0 K、E、J、T、Pt100、Cu50、Cu100 |

SET

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8、Examples for usage:

1) Relay control

85-260V AC/DC   AL   PELAY   TC

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

B   A   B

FUSE   J   R   C   J-1   J-2

2) Heating control

85-260V AC/DC   AL   PELAY

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

SSR   S   power   TC   +   −

3) SSR connection

85-260V AC/DC   AL   PELAY   TC   +   −

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

B   A   B   Pt

FUSE   SCR   G   T

9、Malfunction information indicate:

Information	Specifications	Eliminate method
⌐⌐⌐	No sensor connected or input signal lower than low SV	Check sensor connection or modify low SV
⌐⌐⌐	No sensor connected or input signal higher than high SV	Check sensor connection or modify high SV
⌐⌐⌐	TC compensation off or overload	Check if connection of compensation diode is correct

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