MYPIN

TD Series Temperature Controller

Instruction Manual

Thank you for selecting our controller!

Before operating this instrument, please carefully read this manual and fully understand its contents. If any probroms, please contact our sales or distributors whom you buy from. This manual is subject to change without prior notice.

Warning

Please do not connect your controller to main power until all of your wiring is complete and checked.Otherwise electrical shock, fire or malfunction may result.

Do not wire when the power is on. Do not turn on the power supply when cleaning this instrument. Do not disassemble, repair or modify the instrument. This may cause electrical shock, fire or malfunction.Use this instrument in the scope of its specifications. Otherwise fire or malfunction may result. The internal relay's service life is greatly dependent on the current and voltage switched by its contacts. Over-stressing the contacts with too much current or switching vltage above the contact rating will greatly shorten the life of the relay.

Caution

This instrument is not rated foroutdoor use and should be used in a climate controlled environment.

Installing in an environment heavy laden with dust or containing corrosive gasses will cause your controller to fail.

Do not install near water spray, oil spray, or in an environment where water can condense inside the unit.

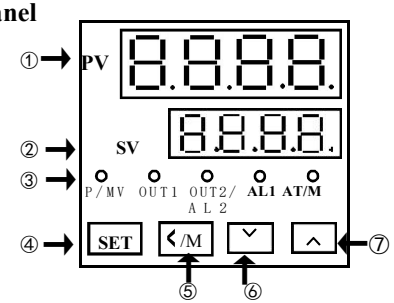
Avoid running power leads in parallel with high voltage or heavy current carrying conductors that may induce high voltages into the unit. If you must run incoming power near high voltage or heavy current carrying conductors, we suggest that you run the power inside metal conduit that is grounded on one end only.

If installing in an electrically noisy environment, we sug- gest that you protect the unit with a current suppressor or noise filter.

Applications

TA series of temperature controller is available for many TC or RTD input, adopt some advanced techonology such multi digital filter circuit, autotune PID, fuzzy PID that make it is very precise, stable, strong anti-interference and simple operation. The instrument is widely applied to automation systems of mechanism, chemical industrial, chinaware, light industrial, metallurgy and petroleum chemical industrial. It is also applied to the production line of foodstuff, packing, printing, dry machine, metal heat process equipment to control the temperature.

Panel



①. PV / parameter symbols

②. SV / parameters preset value

③. Indication lamps

OUT1: Heating/Main control output lamp

On: Output Off: No output

OUT2/AL2: Colling/Alarm 2 output lamp

On: Output Off: No output

AT/M: On: manual operation Off: auto operation

Flash: under autotuning estate

P/MV: SV/MV display setting

On: MV manual output Off: SV setting

AL1: Alarm 1 lamp On: Alarm Off: No Alarm

AL2: Alarm 2 lamp On: Alarm Off: No Alarm

④. Set key Parameter Setting/Changing

⑤.Shift/Autotune key Press this key to shift digit of parameter value setting. Or hold this key for more than 3 seconds can enter/quit autotune estate. When enter autotune estate, AT lamp on. When quit autotune estate, AT lamp off.

⑥. Up key ⑦. Down key

Models

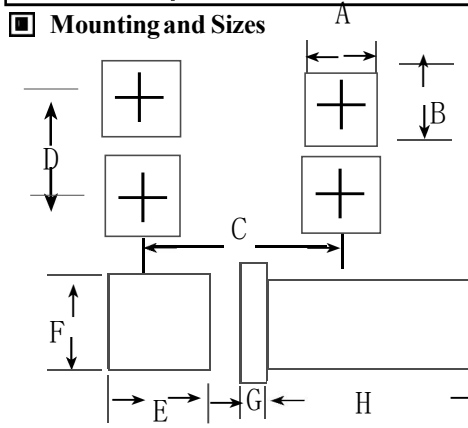
TD□□-□□□□

- Input signals:Default: K,J,T,S,Pt100/mA,LN
- AL1:R:RELAY S:SSR/Logic T:SCR OUT2/AL2: R:RELAY S:SSR/Logic -T:SCR N:Non
- OUT1: I:4-20mA R:RELAY S:SSR/Logic T:SCR
- Power supply:Default:90-260V AC/DC E:24VDC or 18-30V AC/DC
- Sizes: 4:48H × 48W 6:48H × 96W 7:72H × 72W 8:96H × 48W 9:96H × 96W
- TA series of temperature controller

Specifications

Power supply	90-260V AC/DC 50/60Hz		
Consumption	≤ 5VA		
Display range	-199～1800℃		
Accuracy	0.3%F.S ± 2digit		
Sampling cycle	≤ 300ms		
Main output	RELAY: normal open AC 250V/3A DC 30V/3A COSΦ=1 SSR/LOGIC : 24V DC ± 2V/ 20mA		
Alarm	RELAY: normal open AC 250V/3A DC 30V/3A COSΦ=1 SSR/LOGIC:24V DC 12V/ 30mA		
Input	T/C	K	0～999℃/0～1200℃
		J	0～999℃ /0～1200℃
		T	-150～400℃ (Special order)
		S	0～1600℃
		E	0～1000℃
	Rt	Pt100	-199～600℃
		Cu50	-50～150℃
	mV	mV	0-75mV
	mA	mA	4-20mA /0-10V
Withstand voltage strength	1500V Rms (Between power terminal and the housing)		
Insulation resistance	Min 50MΩ (500V DC) (Between power terminal and the housing)		
Environment temperature	0～50℃		
Save temperature	-10～60℃		
Environment humidity	35～85%RH		
Weight	≤ 350g		

Mounting and Sizes



Sizes / Model	A	B	C	D	E	F	G	H
TD4	44.5+0.5	45+0.5	65	65	48	48	8	80
TD6	43.5+0.5	91+0.5	65	115	48	96	12	80
TD7	67.5+0.5	67.5+0.5	95	95	72	72	12	80
TD8	91+0.5	43.5+0.5	65	115	96	48	12	80
TD9	91+0.5	91+0.5	115	115	96	96	12	80

Parameter Setting &Autotuning

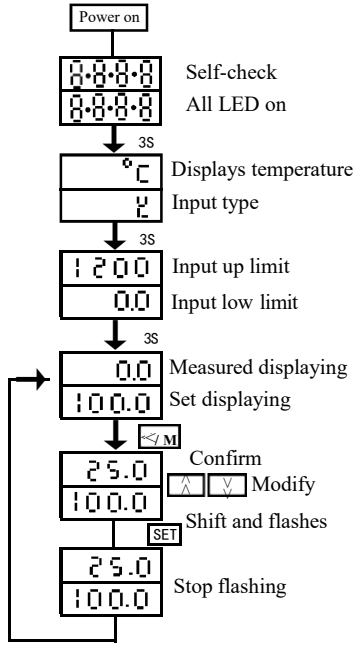
☆ Parameters setting:

A: In display estate,press SET,P/MV lamp on means SV setting, while off means MV manual output setting,but only on manual operation & input connect do MV settable. B: Press the <</M key to select the digit you want to modify; C: Press ∧ and ∨ key to modify the numerals; D: Press SET key to confirm.

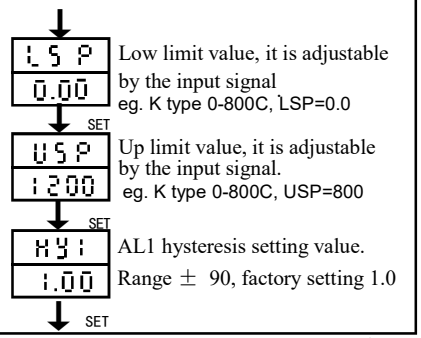
☆ In autotuning estate,output value modification is impossible.

☆Antotuning operation.

In display estate,press SET and <</M key at the same time until AT/M lamp flahses.Then ithe instrument is under autotuning estate.Press again to quite.



In Manual operation/Non-autotune estate, press and hold ∧/∨ key for more than 3 seconds to enter/quit the below menu for display range settings.



HY2 / 1.00 — AL2 hysteresis setting value.
Range ± 90, factory setting 1.0

SET

dP / 0 — Decimal point setting:
0:INT dispaly, 1: 1 decimal display

SET

ScY / 015 — Password setting.
Factory setting 015

HOLD SET >3 S

AL1 / 900.0 — AL1 set range: –1999-9999

SET

AG1 / 2 — AL1 mode: 0: Deviation HI alarm,
1: Deviation LO alarm 2: PV HI alarm
3: PV LOW alarm 4: SV-PV>/=AL1 alarm
5:SV-VP<AL1 alarm 6: TC break alarm
The factory setting is 2

SET

AL2 / 900 — AL2 set range: –1999-9999.

SET

① AG2 / 3 — AL2 mode: The same as AL1.

SET

PVF / 0.00 — Range: ± 100.Display value
PV = Measured value - PVF

SET

InP / Y — Input signal selection TC: K, J, E, S
RTD: Pt100, Cu50 The factory setting i

SET

P / 300 — Proportional band (%) range 0.1-3600.
If P=OFF, it means ON/OFF control

SET

I / 2400 — Integral time range 0.1-3600. I=OFF mea
cancel integral time.

SET

d / oFF — Derivative time range 0.1-3600. D=OFF means
cancel derivative time.

SET

oUd / HEAt — Control directions: HEAt: heating
COOL: cooling

SET

HYS / 1.00 — Control hysteresis, range: ± 100.
It is not available when P ≠ OFF

SET

CtL / 020 — Control Cycle Time(adjust to best fit your process)
Recommended starting settings: Relaly= 020sec
SSR =001sec. 4-20mA = 000 sec.

SET

tr_ / 0.00 — Low analogue output (when active)
eg. 10-100C range, trL=10

SET

tr4 / 100.0 — High analogue output (when active)
eg. 10-100C range, trH=100

SET

bSL / tPY — Only for 4-20mA
bS_ =PID,control; bS_ =tPV 4-20mA, transmit;

SET

C-F / C — Temperature unit. C means C degree,
F means F degree.

SET

LcY / 000 — Parameter lock code setting. LcK=000 means unlocked. LcK=010 means locked.

Note:

Mamual/Auto Convertion:

◇ In display estate,press <</M to shift. AT/M lamp on means manual operation, while off means autotuning.

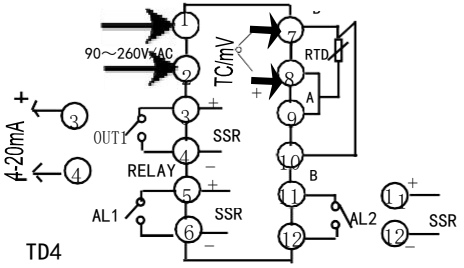
◇ In display estate press SET and <</M key until AT/M lamp flash to enter autotuning estate.

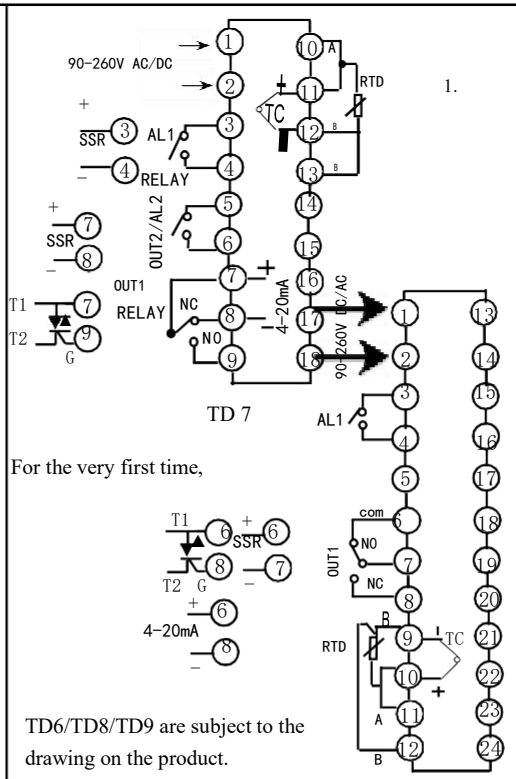
In most cases you should start-out by placing your con troller in auto-tune mode. Once auto-tuned, your con trollers should not require additional auto-tune cycle if the environment its working in changes little. If your controllers is being used to heat or cool a load with a large thermal mass, then the auto-tuned values need to be re duced by 5% -10%.

The CtL setting.In most cases our control cycle should be set to 10-20 seconds. For heating or coolin a load with a large thermal mass, the value should be set to 30-40 seconds. If you are using a controller with a relay, setting longer values will help to extend the life of your relay contacts. Unless your process dictates longer cycle times, the value should be set to 1-3 seconds to non-relay(SSR) controls.The value should be set to 000 if 4-20mA cur rent controls.

Terminal configurations

(If any changed, please refer to the product showing.)

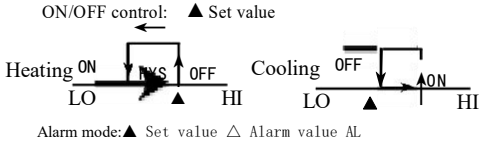


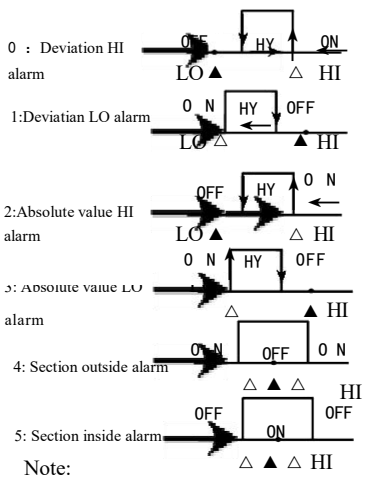


1.

For the very first time,

TD6/TD8/TD9 are subject to the drawing on the product.



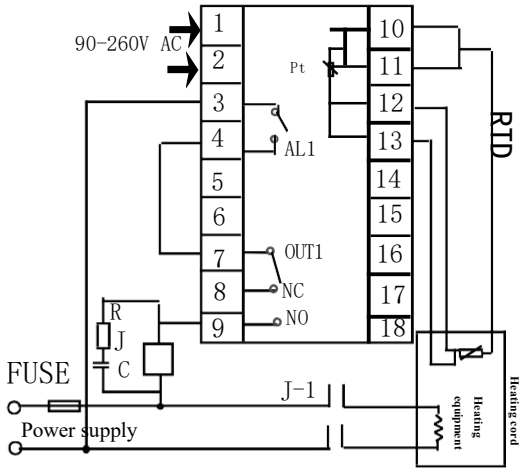


Note:

All the factory setting value of deviation alarm is 1.0.

Application examples

Relay output control (for TD7)



Malfunction estimate

① No Display : Check all the connection and wiring if it is all correct. Specially pay attention to the power supply terminals and signal input ternimals.

② Incorrect Didplay: Check if the input signal is conformity with the selected symbol.
For TC input, please use the relative compensation cable.
For RTD input, please use low impedence cable. The 3 wires should at the same length.
If all above mentioned is collect , pleaase use parameter PVF to modify.

③ Incorrect Control : If the instrument has been used for a long time, the user find the temperature is hard to rise up to the set value, meanwhile the outsidesystem running well, there must be something wrong with the parameters of the instrument.
The user need to re-autotuning the instrument. If the instrument lost control, please check if the connection of the control is correct.
If external load is shorted, broken, wrong connection or compo-nents is damaged, it will cause lost control as well.

④ Display malfunction : “UUUU”: The input signal exeed the measured range, check USP" setting.