XMT*608 series Intelligent Temperature Controller

Operation Instruction

Ⅰ、Survey

Thanks for your selection of our XMT*608 series intelligent temperature controller.

XMT*608 series intelligent temperature controller,is double row 3-LED display, respectively display temperature measurement value (PV) and temperature set value (SV) under normal mode;When it is time temperature control, respectively display temperature measurement value (PV) and running time count down (SV),and also provide kinds of time control method selection;The controller can input kinds of signal which are used interchangeably,it adopt ON/OFF（P=0时）、PID control,allowing an easy parameter setting and convenient inputting,is widely used over temperature automatic control systems of machinery、chemical、ceramics、light industrial、metallurgy、petrifaction and heat treatment and so on.

Ⅱ、Main technical Indexes

1、 Measurement deviation：±0.5F・S±1，additional cold end compensating deviation±1℃

2、 Input(can be selected)：CU50(-50～150)、PT100（-80～600）、K（-30～999）、E（-30～700）、J（-30～900）、T（199～400）

3、 Relay output (passive) contact capacity：240VAC 3A / 30VDC 1A(resistance load)
period 2～120s can be adjusted.

4、 Time range：0～999s or 0～999m（can be selected）

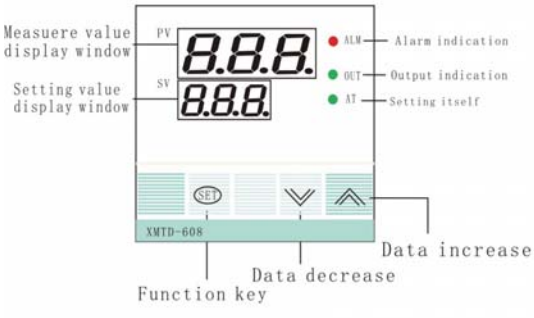
5、 Driving solid relay signal output：Driving electric current ＞15mA no-load voltage＞12V，period is about 2S.

6、 Work power：110V～242V，50HZ Power consumption＜3W

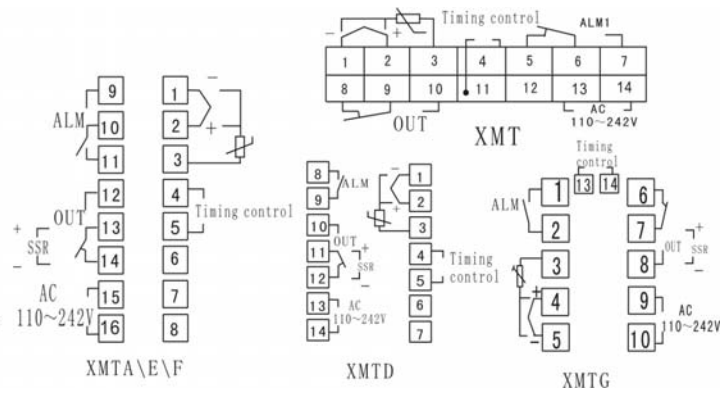
7、 Work environment：0～50℃，relative humidity≤85%，without corrode and strong electric radiation.

Ⅲ、Controller panel

1、Controller panel（for reference）



2、Connection（for reference）



★Controller's specific connection should be confirm to the case's connection

Ⅳ、Meaning of the model code

XMT □—6 □ 8 □

1 2 3 4 5

1: the external dimension

Blank: 160×80×85 Installation hole 156×76

A: 96×96×80 Installation hole 92×92

D: 72×72×80 Installation hole 68×68

E: 48×96×75 Installation hole 44×92

F: 96×48×75 Installation hole 92×44

G: 48×48×110 Installation hole 44×44

S: 80×160×85 Installation hole 76×156

B：60×120×90 Installation hole 56×116

L：Standard DIN35mm guide way installation

C：80×120×35 wall set installation

2: Operation display method：‘6’ 3-key gentle push-switch setting，double row 3-LED digital display，PID control.

3:Additional alarm：

‘0’ no alarm；

‘1’ upper limit alarm（**upper deviation alarm when it is time temperature control**）

4：**Input:** ‘8’ input signal can interchange free（**no voltage and current input**）

5：**Suffix** Blank：relay output G：solid relay output T：Time control function

Ⅴ、Inner parameter

Sheet 5-1

Series		Attention	Name	Setting range	Description	Ex-factory
First Menu	0	★SP	Temperature Appointed Data	Determined by dIL、dIH	Press▲for 3s can modify the appointed value directly（Press▲ or ▼ for 3s to modify the appointed value under common temperature control）	Random
	1	★tE	Timing setting	0～999	Press▼ for 3s can directly modify appointed value	Random
Second menu	2	◆AL	Upper limit alarm（temperature upper deviation alarm）	0～100	The contact conversion output when exceeding alarm point, and alarm light is on（it used as temperature upper deviation alarm, when it is time temperature control ，it makes sense till Int=0）.	Random
	3	SC	Measurement deviation amendment	-20～20	Increasing or decreasing this data can modify Measurement value.	0
	4	P	Proportion band	0 ～ 99.9 ～ 200	When P↑, proportion function↓, clash ↓, but too little will add the heating time When P=0, the instrument is ON/OFF control.	8
	5	I	Integral time	0～999	Set integral time so as to unchain residual Deflection caused by proportion control. To increase it, the static difference will be reduced, but when it is too high ,thestatic difference will drift instability.	240

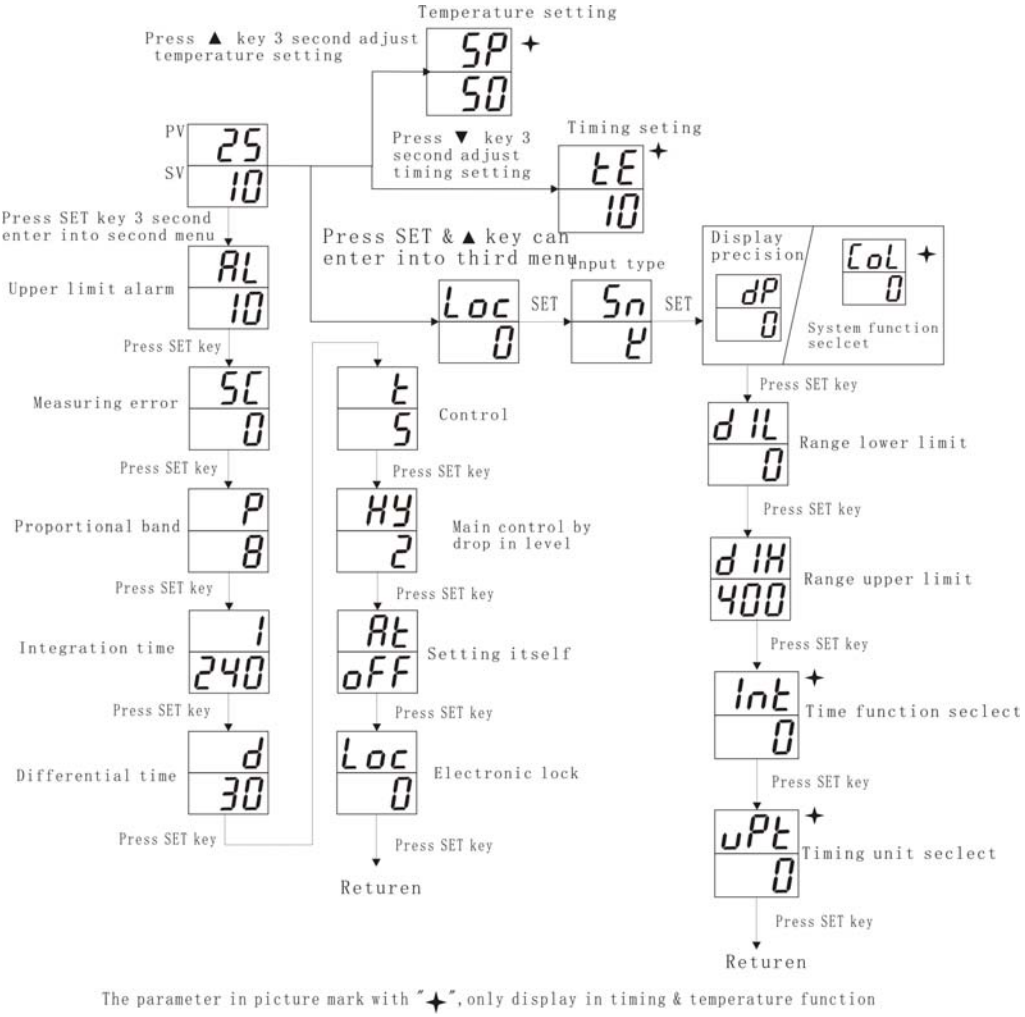
	6	d	Differential time	0～200	Set differential time to avoid fluctuation of output so as to improve the steady of control.	30
	7	t	Control period	2～ 120S	When it leaves factory, SSR is 2s；Relay is 10s.	10
	8	HY	Main control by drop in level	0.1～50.0	It makes sense when ON/OFF control.	1.0
	9	AT	Setting itself	on/oFF	oFF—close setting itself function ； on—turn on setting itself function. When choose on, it will do setting itself for one time when the controller is under this working condition, and then automatically switch back oFF	0
	10	Loc	Lock	0～50	When Loc=0，can modify all the parameter；	0
Third	11	Loc	lock	0～50	When Loc=0，can modify all the parameter；	0
	12	Sn	Input	—	CU50（Cu）、PT100（Pt）、K（K）、E（E）、J（J）、T（t）；	Random
	13	dP	Display Precision	0～1	dP=0, no decimal point， dP=1 have decimal point **（this parameter will be inexistent when it is time temperature control ）**	0
		★CoL	System function selection	0～1	CoL=0 heating control； CoL=1 cooling control	0
	14	d IL	Range lower limit	Starting point to d IH	—	Random
	15	d IH	Range upper limit	d IL to full range		
	16	★Int	Time function selection	0～3 **(Time control side be switched on)**	0：common temperature control 1：start timing when it reaches the temperature ，and the alarm relay output after reaching the time, the controller keep on heating； 2：start timing when it reaches the temperature ，and the alarm relay output after reaching the time, the controller stop heating；	0

					3： regular temperature control （ no alarm）＋time relay function： start timing when the power is on, alarm relay attracting after reaching the time .	0
	17	★uPt	Time unit selection	0～1	0：unit is second（S） 1：unit is minute（Min）	0

Attention

Inner parameter sheet（Sheet5－1）,the parameter with mark★ should be exit only when it with time control function .Common 608 temperature controller without this function; The parameter with mark◆have different definition when it is under different control mode, details refer to explanation.

Flow chart：



Ⅵ、Operation

1、 Make the controller link with power supply, sensor and control loop , and make the power on, the controller will start setting itself for 1S.

2、 After completing setting itself ,the controller will enter into normal measuring state，the upper row PV

window display measuring value ,the lower row SV window display set value.

3、 The first menu

A、Time set value modification

Common temperature control mode: Press▲or▼for 3s to modify set value ,the upper row PV window display measurement value ,the lower row SV window display set value , press▲ or▼ to modify，long time to press can accelerate plus or minus. After modification，press SET to save and exit. If don't press any key, it will save and exit automatically after 10s.

Time control mode： Press▲for 3s to enter into temperature set value modification state ,the upper row PV window display parameter attention "SP"，the lower row SV window display parameter value，press▲ or ▼ to modify，long time to press can accelerate plus or minus. After modification，press SET to save and exit. If don't press any key, it will save and exit automatically after 10s.

★B、Time set value modification（when it is time &temperature control）

Press▼for 3s to enter into time set value modification state，the upper row PV window display parameter attention "tE"，the lower row SV window display parameter value, press▲ or ▼to modify，long time to press can accelerate plus or minus. After modification，press SET to save and exit. If don't press any key, it will save and exit automatically after 10s.

Inner parameter setting（detailed refer to Sheet5－1）

(1) The second menu

Press SET for 3s to enter into the second menu，the upper row window display parameter code, the lower row window display parameter value，press▲ or▼to modify，long time to press can accelerate plus or minus. After modification，press SET to save and exit. If don't press any key, it will save and exit automatically after 10s.

（2）The third menu

Press SET +▲to enter into the third menu，setting method is the same as above.

4、 Setting itself

First set the fixed value, and then enter the menu ,set AT to on，At light is on，the controller enter into setting itself state, **set return difference about 0.5～1**，here the controller is ON/OFF control，after three times oscillation，new parameter P、I、d can be confirmed and saved，AT light goes out，the controller be reset and enter into the control state.

★6、Time control function（when it is time& temperature control）:

Cut time control side at any time，time will get back to the initial state；When getting time control side, the controller will run according to setting time count down.

Attention

When it is time& temperature control ,it provides multifarious time control method to select,，time function detailed refer to inner parameter sheet（Sheet 5－1）,Int time function selection part，will not give unnecessary details here.

Ⅶ、Fault Analysis and Clearance

XMT*608 adopt advanced production process, and have the strict test before leaving factory, it improve the reliability of the meter .The usual fault caused by the wrong operation or parameter setting .If you find the fault couldn't be cope with, please record it, and contact with the agent or us. Sheet 7-1 is the usual fault of XMT*608 in the daily application：

Sheet7-1 Common fault disposal

Fault symptom	Analysis of causes	Disposal measurement
Abnormal power	1、poor contact of power cord 2、power switch without lose	Check the power
Signal display do not correlate with the facts.（display ‘HH’ or ‘L’）	1、Sensor model mismatch 2、wrong signal connect ion	1、check sensor model and meter interior input parameter 2、check signal wire
Abnormal control output	wrong connection of output wire	Check output connection

★Remark：Our company will improve product technology, design and specification, it is confirm to the object.

Attached 1：Statement of meter’s parameter attention letter and English letter

A	B	C	D	E	F	G	H	I	J	K	L	M
												

N	O	P	Q	R	S	T	U	Y