TH- 2000 Series Intelligent Temperature and Time Controller
Operating Instruction

First of all, Thanks for your choosing our products. TH-2000 series is a kind of temperature and time combination meter developed by our company with great effort. It takes single chip machine as the main control element, adopts multiple digital filter circuit, PID control and self-setting function, and the product has high measurement and precision, accurate and stable temperature control and strong anti-interference ability. The advantages of simple operation with wide applicability, competitive price.

■ Technical Indicators

Voltage range: AC85-265V, 50Hz
Working environment: temperature 0℃-50℃,
relative humidity 35%-85% (non-condensing)
Power consumption: ≤5W
Wiring mode: wiring terminal
Insulation resistance: input power supply:; ,20M
input sensor: thermocouple;
Thermal resistance sting
range: 0-999 (adjustable)
Resolution: 1℃
Basic deviation: ±0.5%FS

■ Model Description

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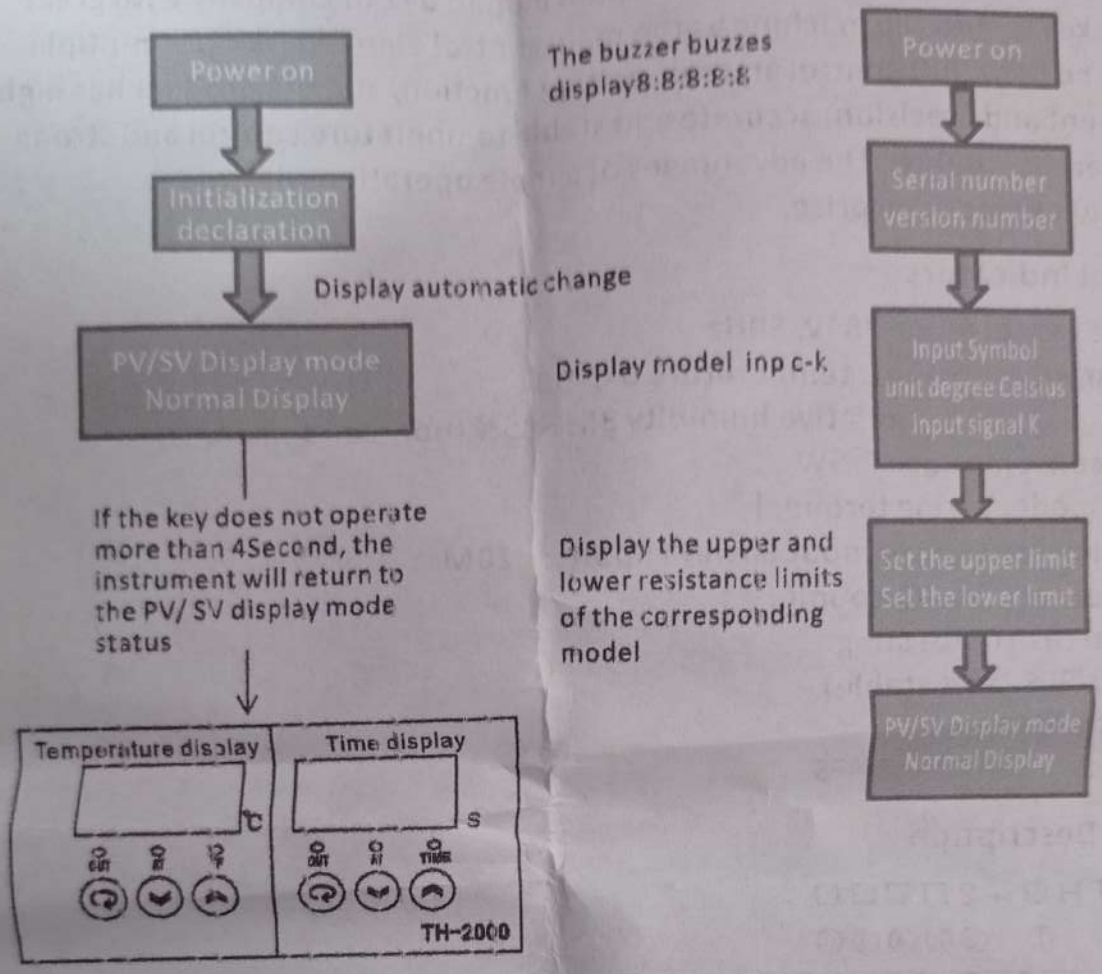
NO	Name	Specification
1	Outline dimension	E:48X96X75mm F:96X48X75mm D:72X72X75mm
2	Product series	THE/F-2000 Series intelligent Temperature Time all-in-one instrument
3	Master output mode	4: Relay contact output 5: Voltage pulse output (SS R) 6: relay contact output (high current 30A) 7: SCR zero trigger output.
4	Time Output Mode	0: none output 1: with the output
5	Input type	1. thermocouple input 2. thermal resistance input
6	Timing Module Selection	CHN=0 switch starts the countdown, and the main control relay is disconnected when the time is up CHN=1: when the temperature reaches the set temperature, the main control is disconnected when the time is up CHN=2 switch start countdown, the alarm relay suction when the time is up CHN=3 switch starts the countdown, the alarm relay is disconnected when the time is up

一、Setting

1、Enter the program of each function mode



2. Change Set Value

2.1 Change the temperature control Value

Under normal display state, Shot press the SET key , the temperature display area flashes, enter the temperature setting mode, and the temperature control area displays the SV SET value. At this time Press plus key or minus key to set. After setting, press SET key to save and exit.

2.2 Change the time setting

Under normal display state, press the SET button in the time area once, and the time display window flashes into the time setting mode. The temperature control area displays the measured temperature, and the time area displays the SET time. At this time, press the plus or minus key to SET. After setting, press SET key to save and exit.

3. Set parameters other than the set value

Press and hold SET button for 4 seconds, enter menu 1, use "plus" or "minus" key in temperature control area to adjust parameter value.

4. Instrument self-setting function:

When starting self-tuning, the heating system shall be in working state and the temperature measured shall be lower than the set temperature. Press the temperature plus key for about 4 seconds, AT lights up and blinks, and the instrument starts to set itself .

二、Menu

Hold down the SET key for 4 seconds to enter the menu to modify the value of each parameter, using the "plus" or "minus" key in the temperature control area to adjust The following parameter symbols will be displayed in a cycle after each press the SET key (not more than 3 seconds) and automatically save the setting parameters. In this process, When no parameters are required to be SET, press SET key for 4 seconds to exit.

Symbol	Description	Range	Default	Specification
AL1	Alarm value 1	Set Value	10	Set alarm value 1 (not displayed when ALCI ==0)
AL2	Alarm value 2	Set Value	10	Set alarm value 2 (not displayed when ALC2==0)
SC	Measurement value correction	-199~999	0.0	Used to correct the error caused by sensor
P	proportional band	0~999s	30	P= O it is bitwise control, OH and CHH are the heating return difference, Turn off heat when PV > =(SV+OHH), PV < (SV-oh) Turn on the heating
I	integral time	0~999s	240	Integral time, when 1= 0, the integral is closed,The smaller the integral, the more it works Strong, but prone to fluctuations
d	derivative time	0~999s	60	Differential time, when d = O, differential off, apporopriately increased to help reduce system overshoot
T	control period	1~999s	20	The control period during control is suggested to be 20 seconds when the relay outputs, Contact solid state relay output time 2 seconds
CF	Temperature switch	0~1	0	0 -degree Celsius 1 -Fahrenheit degree
TLO	Time Unit Switch	0~2	0	0- second 1- minute 2- hours
CH O	Timing ways	0~5	0	0-Start Switch and timing ends.The Main control relay is disconnected 1- Temperature start, start the timer when the temperature reaches the set temperature value, and close the main control output when the timer ends. 2- Switch start countdown, after the end of the timer alarm relay is sucked and closed. 3.Switch start countdown, the alarm relay is disconnected after the timing ends. 4- Press the key to start click time plus key start and close 5- TK timing for start and stop, after the end of the timing, alarm relay is sucked and closed
SVL	SV can be set to the lowest arrow range		0	
SVH	SV can be set to the highest range		400	
Lck	Parameter Lock	0-2	000	LCK= 0: All parameters can be modified LCK= 1: Only the main control setting and self-tuning can be modified LCK= 2: Only self-tuning can be changed

Timing mode Description

0- When TK is on and on, start timing and heating. When the timing is over, the main control will disconnect the output and the buzzer will start. All are sucked and closed. The external input is disconnected.

1- When the temperature reaches the set value, the timer starts. When the timer ends, the main control disconnects the output and the buzzer starts. Press the temperature plus key to resume.

2- When TK is connected and on hold, the timer starts. When the timer ends, All closes and the buzzer turns on. The external input is disconnected.

3- Switch start, click time plus key start and close.

4- Under normal condition, long press the temperature plus key for more than 4 seconds to start and exit self-setting.

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