Manual

K2-K3 is a control button, in which K3 is a state switch key, K1 is a control value - and K2 is a control value +. Press K3 to cycle the circuit in 4 states. The last digit of the digital tube is the status display. Different symbols will be displayed in different states. K1 and K2 can adjust the values in different states respectively. The adjusted value will be saved to the chip EEPROM, ensure that it is not lost after power off.

Adjustment of function and control parameters: The specific functions are shown in the table. Pressing K3 at any time can add 1 to the status and so on.

State number	Function	The end of the digital display symbol	System initial value
State 1	Normal temperature or voltage monitoring and display	$^\circ$ C or U (K1, K2 can be changed)	Measured value
State 2	Temperature alarm value setting	P	40° C
State 3	Voltage display and accuracy calibration	E	Corrected measurement
State 4	Overvoltage protection value setting	F	5V

Explanation:

The power-on circuit automatically enters state 1, and there are two display modes in this state, namely temperature and voltage, which can be switched by K1 or K2, and can automatically memorize and maintain the display mode, even if the power is turned off. Automatic alarm when the temperature or voltage exceeds a certain value. Press K1 and K2 in state 2 to set the alarm temperature value. The initial system temperature is 40 ° C. State 3 is used to calibrate the voltmeter measurement error. The initial use of voltage divider resistance error will affect the accuracy, you can use a multimeter to monitor an actual value adjustment (press K1, K2), so that the displayed value is consistent with the multimeter, the adjustment of the relevant parameters will It is automatically memorized by the single-chip microcomputer, and the various voltages will be accurately measured afterwards. Press K1 and K2 in state 4 to set the alarm voltage value. The system is initially set to 5V.

Component Name	Specifications	Quantity	Serial Number
Electrolytic capacitor	Support 100-220uF/10V (100uF matching)	1	C1
Ceramic capacitors	104	1	C2
2P pin		2	DC2, JP2
Small DC seat	DC002-1.3	1	DC1
4-bit digital tube	6412	1	DS1
IC seat	20P	1	U1
Programmed microcontroller	STC15W404AS	1	U1

Touch switch	6*6*5	3	K1, K2, K3
Active buzzer	12mm active buzzer	1	LS1
1/4W resistance	10K	2	R5, R6
1/4W resistance	1K	3	R1, R2, R3
1/4W resistance	200K	1	R4
Thermistor		1	RT1
PCB		1	
DuPont Line	5cm	2	
Wire	3cm	1	