



HG-TC150/100B/100C

染色机控制电脑

HG-TC150/100B/100C CONTROLLER

FOR

DYEING MACHINE

使用说明书

USER' S MANUAL

佛山市华高自动化设备有限公司

FOSHAN HUAGAO AUTOMATION CO. LTD.

USER'S CARD

Dear customer:

Thanks for your accepting our product. For better service, please fill in this customer card and send to us. We are always at your service.

Thanks for your cooperation!

COMPANY	
DATE	
TYPE OF CONTROLLER	
QTY	
CONTACT WITH	
TEL	
P.C	
ADDRESS	
ADVICE	

ADDRESS: THIRD FLOOR NO.41 SHIDONGXIA ROAD

CHANCHENG DISTRICT, FOSHAN CITY,

GUANGDONG, CHINA

TEL: 0757-83273176

FAX: 0757-83273179

P.C : 538000

I .PANEL DISPLAY OF CONTROLLER DISCRIPTION

- 1) 4 digit red LED display temperature: measurement result and set-up value displayed alternate.
- 2) The second row 4 digit red LED display, first 2 digit: up-gradient/down-gradient of temperature (degrees per min), last 2 digit: isotherm phase (unit: minute).
- 3) HEAT red LED: starting heating relay.
HOLD red LED: isotherm phase state.
COOL red LED: starting cooling relay.
ALM red LED: alarm for end.
RUN red LED: system in running state.

II. PANEL KEY DEFINITION AND OPERATION

RST key: Make the computer return the main interface, the first bit display the flash “P”. Press “STOP” key first under running state.

PROG key: Make the computer enter programming state.

RUN key: Press “RUN” key under restoration state, display “F_L_”, it’s stand for the ready technology number and step number; after entering the data, press “RUN” key, the computer will enter into running state. Press “RUN” key during running state,

display the running technology number and step number, it will return back three seconds later.

STOP key: Press “ STOP” key to make the process pause under running state.

"0-9" key: Used for enter 0-9 number.

△ Key: Use it to store the programmed data and page up.

▽ key: Use it to page down and can be used as backward.

▷ key: Make the flash cursor to move right circulate.

III. MAIN TECHNIQUE SPECIFICATIONS

1. Temperature measurement specification:

Temperature measurement component:

PT100 platinum heat sensitive resistor.

Temperature measurement range: 000 to 153 °C.

Temperature control range: 030 to 150 °C.

Temperature control accuracy: +/- 0.2 °C.

Temperature control method: ambiguous control.

2. Programming function:

10 programmable process curves (0~9), 10 step per curve (0~9).

3. Data keep saving for power down

After power resume, all data in memory will be kept its original state as before.

4. Power supply:

AC180~ 240 V 50 Hz\60Hz

Power consumption \leq 6 W

5. Operating environment:

Temperature $<$ 60 °C

Relative of humidity $<$ 95 %.

6. Dimension of apparatus and its installation:

Dimension of apparatus: 96×96×120

Installing bore dimension: 92×92

Installing method: nestling down

IV. SYSTEM OPERATION

1) Programming operation:

Press “RST” key display P state

Press “PROG” key display F0L0

Enter F2 press \triangleright key enter L1

Press Δ key to store and page down

Enter the first step data

Press Δ key to store and page

Finish 00000000

Press “RST” key to exit, P is flashing

2) Checking the program

Press “RST” key display P state

Press “0—9” key display F0L0

Enter the need check technology and step number

Press Δ key to forward or backward check

Press ‘RST’ key to exit

3) Running the program

Press “RST” key display P state

Press “RUN” key display F0L0

Enter the need run technology and step number

Press “RUN” key

4) program leap operation

Running state

Press “STOP” key

Press Δ key to the object program

Press “RUN” key

5). Program rerunning operation after stop

Running state

Press “STOP” key

Press “RUN” key

6) Parameters modify operation

Display P state

Press “PROG” key display F0L0

Enter technology and step number

Press Δ key to store

Modify the parameter

Press Δ key to store

Press “RST” key to escape

7) Subprogram function

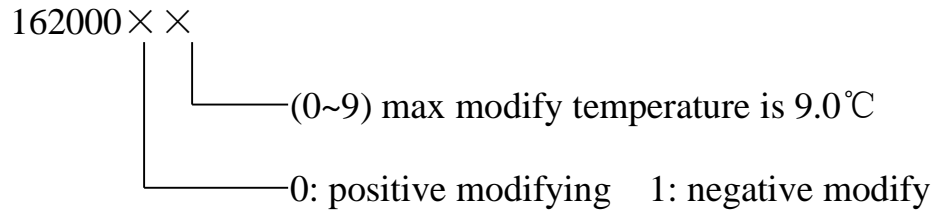
- (1) Subprogram pause 16100000, program “16100000” in one step of technology, the computer will stop running and alarm if when run this program. Press “RUN” key to go on running.

- (2) Subprogram temperature modifying 162000 $\times\times$

Temperature modifying should be carried out in ninth step of

ninth process (F9L9).

Modify definition is as following:



Specific method is as following:

(take negative modify 6°C as example)

Display P state

Press “PROG” key display F0L0

Enter F9L9

Press Δ key to store

Enter 16200016

Press Δ key to store

Press “RST” key to exit

Notice:

1. The modified temperature will be 6°C lower than before.
2. Press “0~9” key during running can display modified temperature.
3. To modify the temperature, the right way is to use 6 bits resistance box

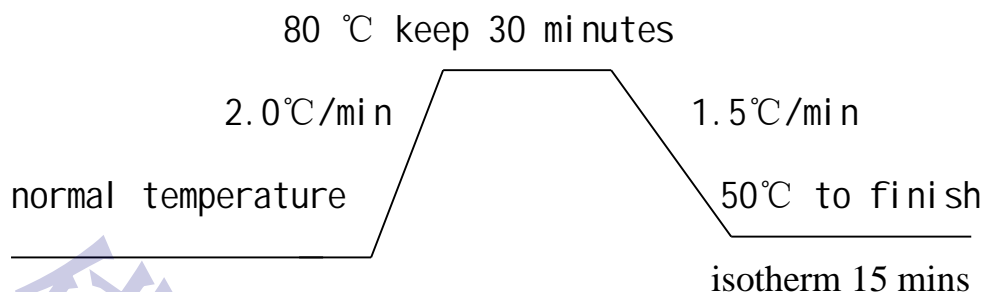
according to the table of standard temperature and resistance. Any other way of using common mercury thermometer is not correct.

V. Attentions

1. During isotherm the last digit is flashing, up-gradient temperature is not flashing. This is in order to make out if it is under normal state when object temperature equals to test temperature.
2. “F” in operation system stands for technology number, “L” stands for step number, which can make the computer program or run from any step.
3. If there is any abnormal situations, please cut off power for 5 seconds
4. The interval between pressing the key should be 1 second. If too fast, it will cause mistakes. “△”, “▽”, “▷” and “0~9” four keys have operation function of once move and continuous progression numbers.
5. Under running state, press “STOP” key only display the temperature of dyeing container.
6. Up and down-gradient temperature can't be set as “00”, fast up and down-gradient temperature should be set as “99”.
7. The computer will call when the temperature over 150 °C , and stop working.

VI. Program examples

(Take technology number as 2#, subroutine number from 0 (F2 L0))



Programming table (编程表)

Step No	Action	Digital display			Note
		Temp (°C)	Temp Gradient (°C)	Isotherm Phase (min.)	
1	RST key	P			1. Press “STOP” key first under running state, then press “RST” key. 2. “×××” is the data pristine last time. 3. When set data, the flash digit is the ready to be set digit.
2	PROG key	F0L0			
3	Number key	F2L0			
4	Press Δ key	×××	××	××	
5	Setting parameter	080.0	2.0	30	
6	Press Δ key	F2L1			
7	Display two seconds later	×××	××	××	
8	Setting parameter	050.0	1.5	15	
9	Press Δ key	F2L2			
10	Display two seconds later	×××	××	××	
11	End fill “0”	00. 0	00	00	
12	Press Δ key	×××	××	××	
13	RST key	P			

VII Temperature checking methods

Use standard six bits resistance box to replace PT100 output

Temperature	Pt100	Temperature	Pt100
0℃	100.000 Ω	50℃	119.400 Ω
10℃	103.900 Ω	100℃	138.500 Ω
20℃	107.790 Ω	130℃	149.820 Ω
30℃	111.678 Ω	150℃	157.370 Ω

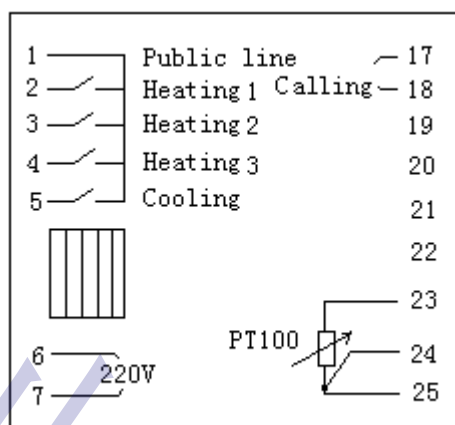
Three minutes pre-heating after the computer working, the bottom side choose 50℃, high end choose 130℃ as checking point. First check these two points, if they are ok, then check the others. The deflection of each check point $\leq 0.6^{\circ}\text{C}$. Usually check the two points is ok.

VIII. troubleshooting

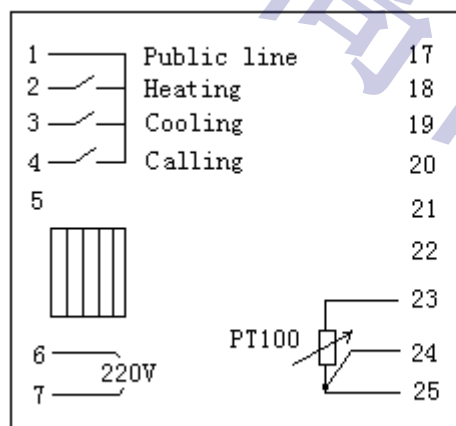
（常见故障及处理方法）

Problem		Reason	troubleshooting
Probe circuit	Display 000 °C or 153 °C	Probe circuit is short or cut probe flex connected wrongly	Check probe and lines
	Obvious instable temp during up-gradient phase	Joins in probe line or three-core insulating line can't be connected or bad to ground. Probe wet.	Check and connect probe line again. Blow out water in probe, then seal and fix it. If necessary, change new one.
	Inaccurate temp	Joins in probe line connected badly. Probe line oxidized	
	Temp inaccurate which is up to 95°C	Water come into probe and become vapor at high temp, influences probe	
AC contactor	Can't increase or decrease temp when controller runs, but lights are on.	AC contactor can't run or abnormal vapor feed.	Check and maintain the out electronic appliance
	Increase temp slowly	Heating thread is broken or AC contact doesn't work	Change a new one with big power
	Increase temp rapidly .temp continually rise in isothermal phase	Ac contactor thread power is not enough	change a new AC contact
Operation error	Can't program	(1)No press RST.(2)No plug the connector(3)No press PROG(4)No enter finish code	Program again
	Display is wrong jumping and wrong control	During programming, is program up-gradient temp as "00" or no program "000000000" at the last step	
	Can't exit from running state when press "RST" during running state	Press "stop" key first then press "RST"	

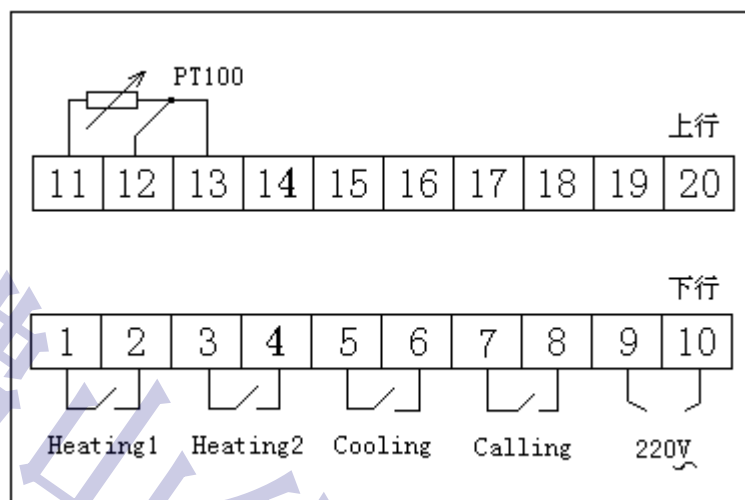
IX. The Diagram of Output Connection (TC150)



X. The Diagram of Output Connection (TC100B)



XI. The Diagram of Output Connection (TC100C)



Remarks: TC 100B, TC100C normal temperature controller need keep temperature for long time, program “99” into time sector during programming.

佛山市华高自动化设备有限公司

咨询热线：400-800-7812

官方网站：www.fshg88.com

电话：0757-81631133/0757-83273176

传真：0757-83273179

邮编：528200

E-mail：hg@fshuagao.com

地址：佛山市南海区桂城天安数码城 5 栋 B 座 1008



扫描二维码
直接访问官网
获得更多资讯