Soke® 索克热流道

工程塑料　索克有道

Dongguan SOKE Hot Runner Technology LTD.

MANUAL

M Series Hot Runner Temperature Controller

PRECISE CONTROL

SIMPLE DESIGN

EXTENSIVE DIAGNOSTICS

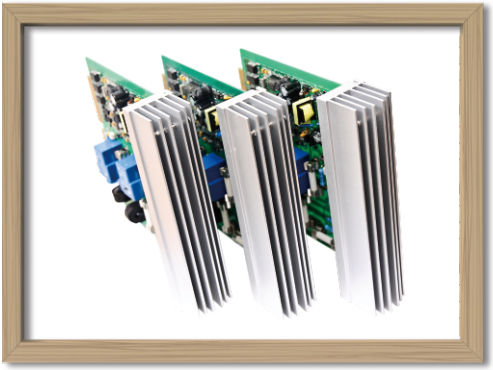
POWERFUL COOLING

FAST DELIVERY

ABUNDANT ALARM MESSAGES

LONG WORKING LIFE

EASY MAINTENANCE



M series Hot Runner Controller

Manual

1 SPECIFICATION

(1) Input Voltage: 110/220V AC±10%, 50/60HZ
(2) Output: 15A(50W–1650W(110V), 100W–3300W(220V))
(3) Contro Mode: Phase Ange Contol / Zero Cross Control
(4) Thermocouple Type: J / K
(5) Temperature Range: 45°C-450°C
(6) Measurement Accuracy: ±0.5%
(7) Operating Temperature: -1O°C~+50°C
(8) Operating Humidity: 10%~80% RH, No-Condensing

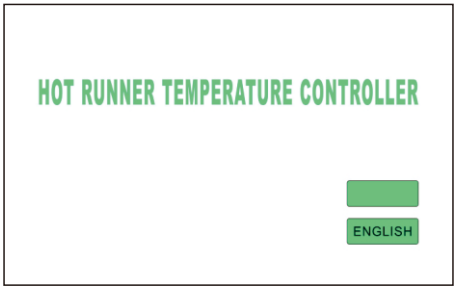
2 Prior to Start Up

(1) Check that the system is completely disconnected from the power source.
(2) Clean up any water, oil, dirt, cleaning fluid etc. That may have spilled during a mold change or since the last production run.
(3) Check all of the cables connections between the system and the mold (if required). Make sure all of cables are free from wear or damage.
(4) Check the earth/ground connection is in good condition. Verify the system and the mold have the same ground reference.
(5) Connect the thermocouple and power output cables (if required).
(6) Using an Ohmmeter, touch one test lead to the mold and the other to the mold ground terminal on the system. Resistance must be less than 1 ohm.
(7) Check the main input power disconnect and make sure it is in the OFF position prior to connection of the controller to the power source.

3 Operation

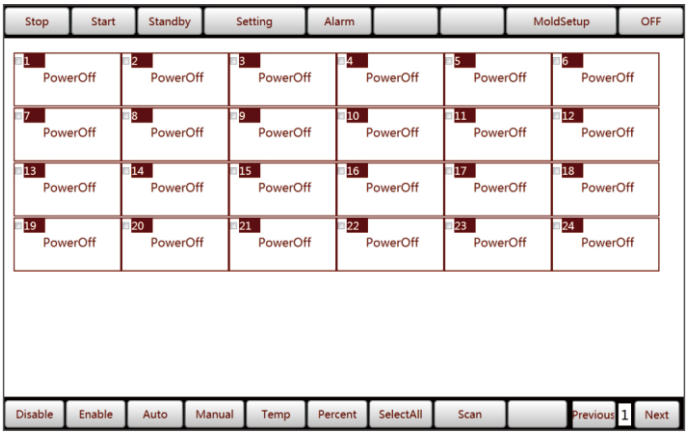
3.1 Once the system is powered up, the following display will appear on your screen.

3.2 Choose the language



3.3 After the language is selected, enter into home page

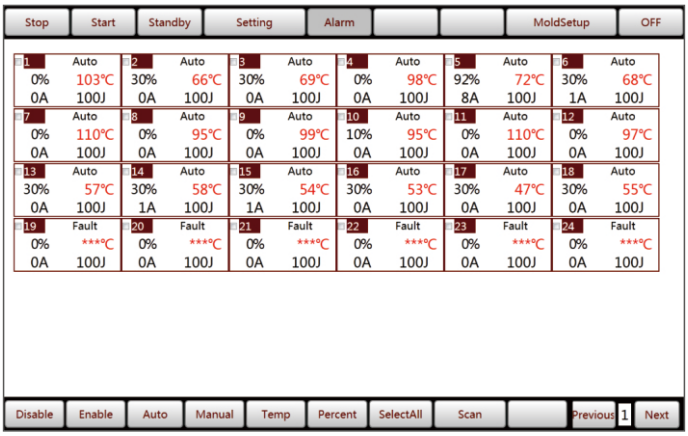
Example: 24 zones controller home page



3.4 press “start” key to enter working mode

press “start” key

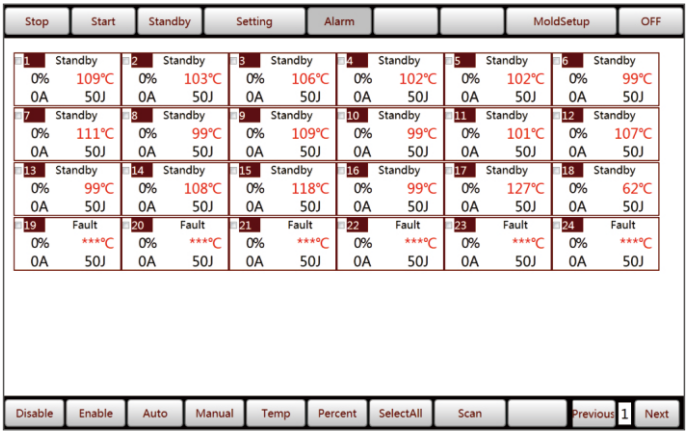
Enter working mode
(example, 24 zones controller, all setpoints are 100 centigrade)



3.5 It may be necessary to lower the temperature in the mold for a period of time, press ”standby” key to do it, without having to change the normal setpoint.

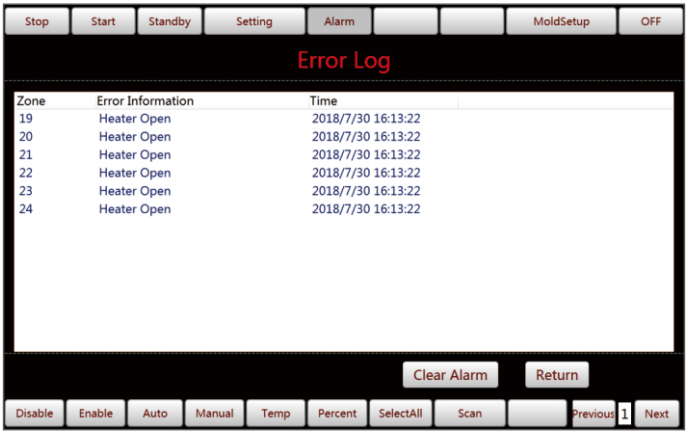
Press “standby” key

To enter standby mode
(example, all setpoints are 100 centigrade, standby percentage is 50%, the percentage can be adjusted in setting menu)



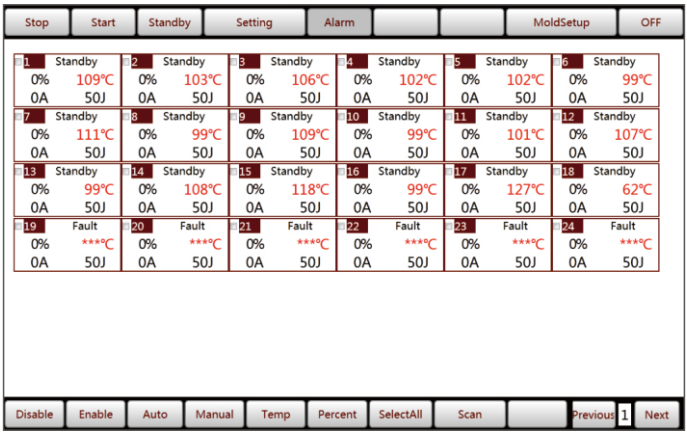
3.6 Alarm

In the event of an error, malfunction or failure, the controller will turn on the audible and visual alarms, press “alarm” key to silence the audible alarm and display the alarm information .
(example, zone 19 to 24 display heater open alarm)



When return home page, the corresponding zone or zones with errors will display “fault” to remind the operator until the problem has been solved.

(example, zone 19 to 24 display fault)



Alarm information include: 1. over temp 2. low temp 3. thermocouple open
4. heater open 5. thermocouple reversed
6. triac shorten 7 wrong wiring 8 fuse open

3.7 parameter setting

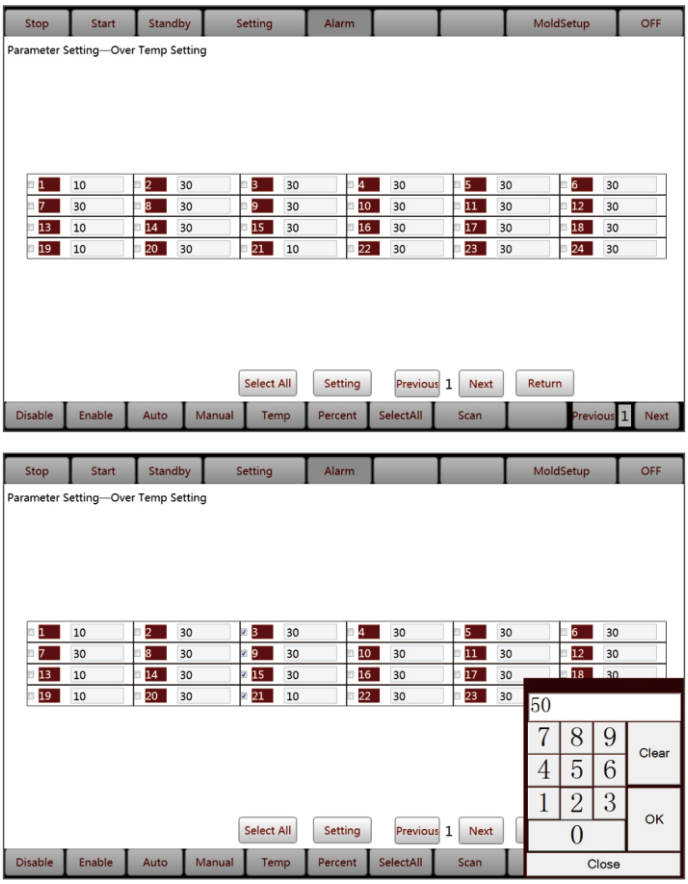
press “setting” key to enter parameter setting

setting page as the following

1. thermocouple type: type J/ type K
2. temperature unit: Centigrade/ Fahrenheit
3. T/C wiring detect: choose ON, if the thermocouple wire is connected with power output port on the board, the board will detect the wrong wiring, then alarm, choose Off, no alarm.

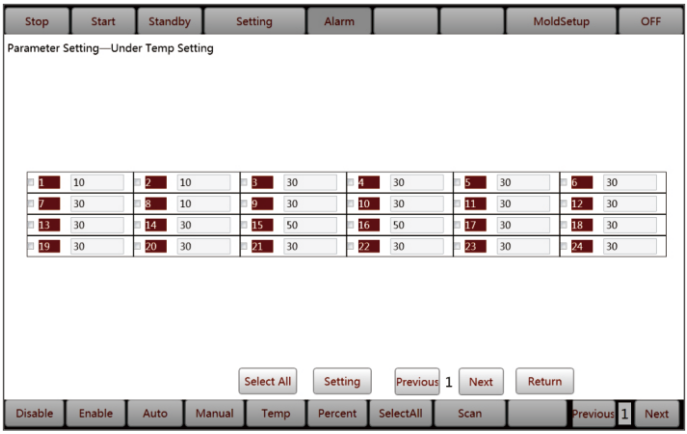
4. Injection signal delay time (optional): control board connect with the injection machine by signal line, when the machine stopped, a signal to start Delay Standby could be sent to the board, when the delay time is up, the boards moved to standby mode, if the machine resume working before the delay time has elapsed, the board will not enter standby, the board goes to auto mode from standby mode when the machine is activate or the standby time expires.
5. timer (optional): press on, the controller include temperature control and sequential control.
6. over temp setting: function to enter temperature for alarm limit high. Alarm activates if the present temperature is higher than setpoint+set temperature, each zone alarm limit can be set independently.

Example: 24 zones controller, choose zone 3.9.15,21 together, over temp setting is 50 centigrade.



7. Low temp setting: function to enter temperature for alarm limit low. Alarm activates if the present temperature is lower than setpoint-set temperature, each zone alarm limit can be set independently.

Example: 24 zones controller low temp setting page



8. Standby time

   Standby mode finished after standby timer finishes, and the controller moves to auto mode, the temperature will return to the set temperature.

9. Standby output percent

   The temperature percent is set, when in standby mode, the present value will be kept as the set percent of setpoint, for example, the setpoint is 200C, standby percent is 50%, when in standby mode, the temperature will be 100C.

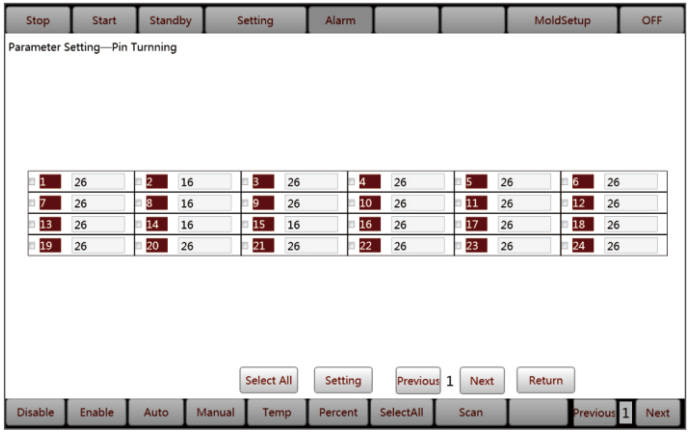
10. Soft start time

    Soft start feature to extend the life of the heaters and the mould, the soft start allows slow dissipation of moisture in heaters by gradually applying power to the heaters, the board will go into auto mode when soft start time finishes.

11. Manual PID tuning

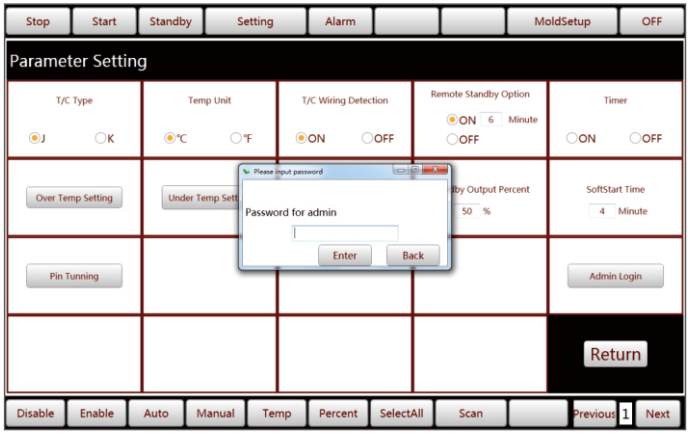
    anual PID control is a function to control by manual input of PID constant in case that temperature can not be controlled by auto tuning, because the condition of heaters is no controllable, basically, for large power heater, apply small number, for small power heater, apply large number.

Example: 24 zones controller, Manual PID tuning page, each zone's PID can be set independently.



12. Default setting

The default setting need enter administrator password, the setting includes communication ports selection, zones quantity etc. Normally, we strongly recommend do not change the default setting by operator.

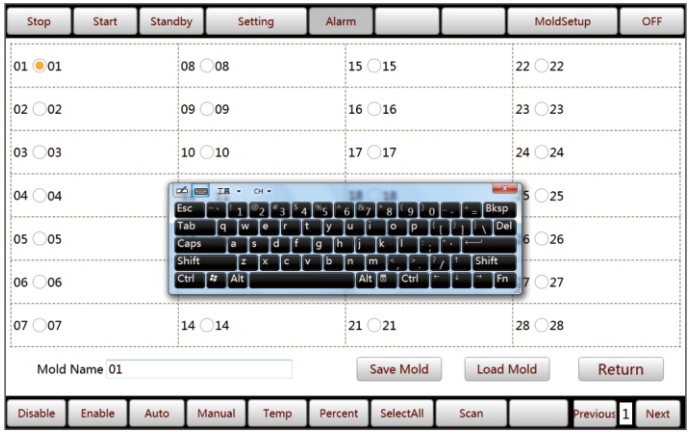


3.8 Mold setups

The controller can store up 28 different mold setups. To help in identifying different mold setups, the controller allows you to assign them a name.

Press “moldsetup” to enter the page

Example: No.1 mold's name is “01”, select 01 mold setup file which you want to rename, enter new name in mold name dialog box, press “save mold”, the new name will be now stored.

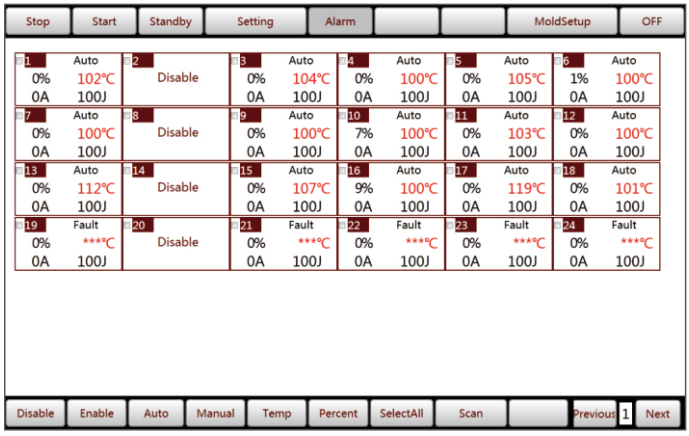


Example: select 01 mold setup file which you want to load, press “load mold”, the selected mold setup will be loaded, the whole loading process will be displayed, then press “return”to go back to homepage.

3.9 Disable and enable function

The controller zones are fixed, but different hot runner systems have different zone quantities, for example, the controller zones are 24, the system need 20 zones, each time, the controller will alarm heater open on 4 zones, for avoiding this situation, we can disable these 4 zones, if we want to use these 4 zones controller in future, we can select the corresponding zones, then press “enable”.

Example: select zone 2,8,14,20 together, press”disable”, zone 2,8,14,20 display disable.

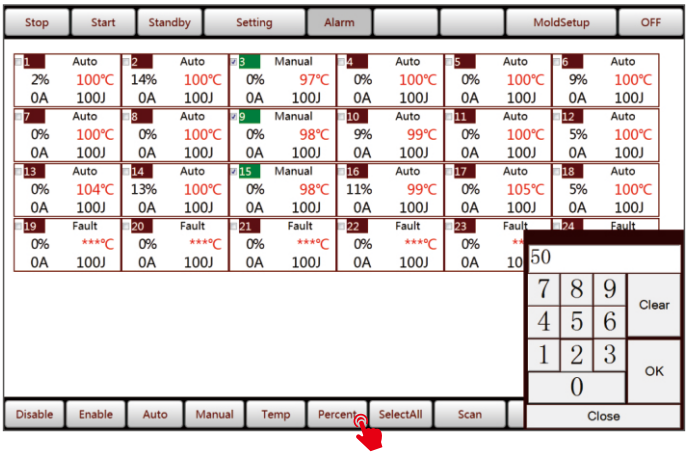


3.10 Auto mode and manual mode

Auto mode:normal operation mode in which the temperature is controlled and maintained automatically in accordance with the setpoint.

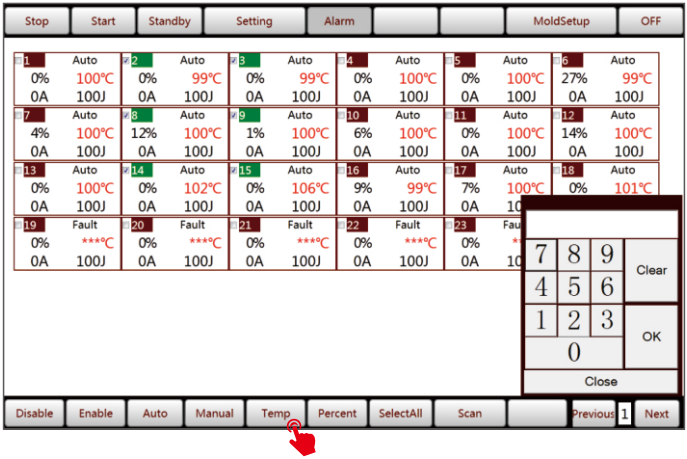
Manual mode:if the thermocouple fails or no thermocouple,set a manual power output percent, the controller will keep the output percent during manual mode.

Example: select zone 3,9,15 together, touch “percent”, then number dialog box will display, input 50, it means 50% output, press “OK” to save and exit.



3.11 Temp setting

During auto mode, select one zone or some zones together, or press “select all”, press “Temp”, then number dialog box will display, input the temp number, press “OK” to save and exit.



3.12 Scan

If new board is inserted into the cabinet, press “scan”, the computer will detect new board.

3.13 Previous page and next page

If the controller information can not be displayed totally in one page, press “previous”or “next”to view more.