Welcome to use Our Injection Molding Machine Control System

Safety Cautions

（Please read it before installation）

 Danger	1.In order to ensure the secure operation of the whole system in case of the abnormal external power and the control system's failing to function, please set up the external safe circuit for the control system. 2.Upon its failure to detect the abnormal conditions of input and output, the control system cannot control the output. Therefore, please design the external circuit and frameworkto ensure the safe operation of the system.

 Cautions	1.Please read this User's Guidance carefully before installation. 2.Do not dismantle the host computer shell and keyboard without permission. 3.In case of any questions, please dial the after-service service hotline of PORCHESON.

 Prompt	1.with the update of the system ,any changesabout its products and services at any time will be without notice. 2.welcome to comment it if there is any defects about it。

Declaration

Please read this manual before you use the system.PORCHESON assumes liability for the problems from the system itself. As a result of improper operation ,maintenance without authorization , natural disasters ,as well as the failure caused by natual disasters, or other unusual circumstance ,the system is damaged or the data is lost , PORCHESON is not responsible for it .

PORCHESON reserves the right to make corrections ,modifications, enhancements,and other changes to its products and services at any time and to discontinue any product or service without notice.

The contents of this maual is only for reference as we may have different understanding,we won't be liable for any losses cause by misuse of this manual.As reference to the graphic description,there may be some discrepancy and error ,but its function is shown in the match.

PORCHESON

TECHNOLOGY CO.,LTD

TB 108

Operator's Manual

Software Version: V2.0

2008.10 Version

Contents

Chapter 1 System Configuration & Installation

1. System Configuration & Remarks

No.	Mode	Configuration	Quantity	Remarks
1.Host computer	PS660BM	24/24+7 +3 path electronic rule	1 set	Optional
	PS860BM	31/28+10 +3 elecrronic rule	1 set	Optional
2.Keyboard	TB 108	LCD 7.0" TFT	1 set	Optional
	TC 108	LCD 7.0" TFT (Touch panel)	1 set	Optional
3.Power	PW 600	600W	1 set	
4.Communication Cable	DB-15F	1M- 8M optional	1 set	

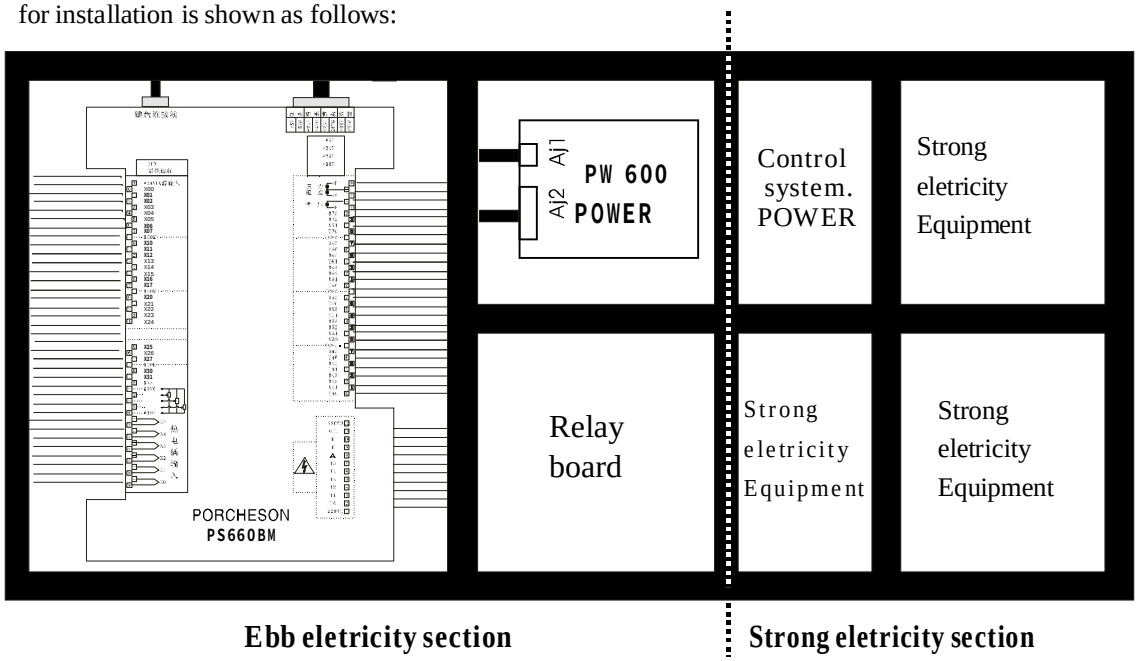
2. Characteristics of PS860BM Control System

- ► The system has bright LCD display and 800*480 Dot 7" colorful
- ► The system adopts double 32bit CPU design with fast operating speed, precise control and high stability.
- ► It has the real time function to display time and date in real time.
- ► With 999 groups of mode data storage, it may enter the model description and real-time operating help in Chinese and English.
- ► The password setting and data locking can prevent the operators from changing the established data arbitrarily to influence the quality of products.
- ► There are multiple languages for your choice that display dynamically in real time.
- ► Packing modulus setting function for 8-digit output may set the packing modulus.
- ► PID (Proportional Integral Derivative) with self temperature control has 6 +1 sections of temperatures.
- ► Temperature may be preset a week in advance to enable more convenient operation.
- ► Input and output have overloaded and short circuit protection.
- ► Failure Self-detection functions, alarm display and voice prompt
- ► Input and output are done by the optically coupled circuit to isolate the interference of the external circuitry.
- ► LED indicators for output and input may it convenient to inspect and maintain the system.
- ► In the inspection window, you can inspect all input and output points and the moving states of key.
- ► 3-path standard D/A proportional output, the maximum current output 3A (PS610 is 2-path).
- ► The output of pressure, speed, current can be monitored real time.
- ► Presetting of the voltage ,flow and pressure, proportional valve available for the products in all brands and better linear proportion.
- ► With remote communication functions, it can let you do the programming and upgrading softwares easily and remotely.
- ► The management of 255 vertical machine production is by a host networking computer , It can accurate statistics each machine production state and produce data type ,so ,it is convenient to manage.

3. Installation and Debugging of Computer Control System

3.1Cautions upon Installing the Control System

The design of control system is simple and easy, only one 15-core shielding cable connecting the keyboard and host computer shell with flexible and handy installation and connection. The sketch map for installation is shown as follows:



control box equipment;outfit (for reference only)

(1)Upon installing the host control box, adopt the enclosed distribution cabinet at the first choice. It shall be fixed in the well-ventilized, greaseproof and dustproof conditions equipped with a fan and The distribution box shall be stored under 60℃.

(2)Upon fixing the host computer and power pack, please keep the interconnecting parts such as all AC connectors and transformers as far away from each other as possible to prevent the electric wave interference from the electronic grid.

(3)All electric wires and shielding wires shall not be cut off, lengthened or curtailed arbitrarily. You should use the electric wires and shielding wires provided by this company to prevent from influencing the reliability and normal operation of the control system.

(4)The shell of flame couple shall adopt the shielding wire. When the outer shielding of all flame couples adopts the thermal couple reticles, the reticle and machines shall be well grounded and connected to the ground with the earthing resistance below 10 Ω.

(5)Upon wiring, separate the high and low pressure line from the computer control line as much as possible, do not bind all electrical wires together to prevent the interference from affecting the reliable operation of control system.

(6)Upon fixing the keyboard and 15-core communication connections of the host computer, you shall press and tweak with force to prevent the poor connection from affecting the reliable operation of control system.

(7)Pay special attention to the oil valve outlet public port YCOM, it shall be connected well to prevent the computer from inputting while having the phenomenon of oil valve having no motion.

3.2 the examine of controlling system

(1) After finishing installing, check in an all-round way, ensure all such lines including switch power, host computer case, electric heat output circuit , keyboard electric thermocouple ,etc. join firmly .

(2) After Finish circuit checking , it should check electify , output direct current source namely switch power line plug take out first, then check to set up an electric circuit , measure every voltage see that it is the same as the standard value , should observe if switch power output indicator lamp normal.

(3) Cut out the electric after finish the measurement, insert DC8 location input the host computer case plug , process electrify check-up .when checking again.the keyboard LCD show in main page in normal condition,turn on park switch and check if the host computer case RUN light is on, if the light is on, prove the system has already worked normally.

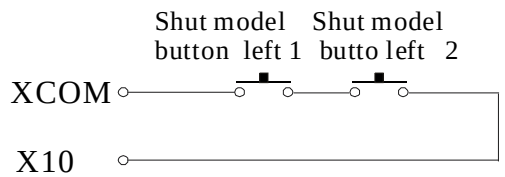
3.3 control systems debugging

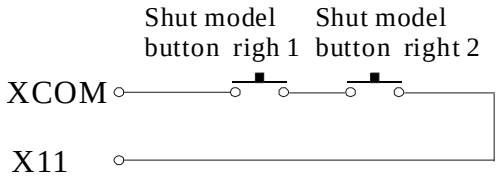
(1) After System show the normal work , press 1 STU Key,the model button under supervise page, choosea groupof mould number , then establish in every page.

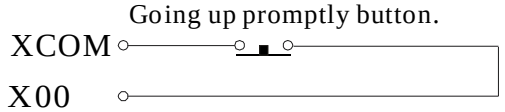
(2) Carry on the parameter establish memory test, press 資 料 DATUM Key , the button on the data, press 輸 入 ENTER Key, then store the data, cut off the power , put power on after a while , the system will access the model number materials that you store in automatically , if correct, show memory is normal.

(3) Go on establish of every relevant page materials, (particular oprating refer to the parameter enactment instruction of the third charper .while establishing for the first time, the pressure , speed have better be a bit more low , strengthen normally progressively after every movement is normal, so as not to damage the performance of the machine.

(4) After finished relevant parameters established, you should enter the store and check carefully whether it is normal to each input / export point, checks the warning system in an all-round way, including the electric eye , going up promptly; the wiring diagram of shut model button going up promptly as follows promptly.







(5) Left and right shut model button push time difference exceed 2 second , system will alarm, stop all outputting at the same time; Push the system of going up promptly and stop exporting immediately, output the open model movements at the same time , operate model chang to by hand .

Chapter 2 Explanation of the Key Operations

1. Figure of Keyboard on the Operation Panel (See the figure below)

2. Explanation of the Functional Keys

Keys	Usage
開鎖模 M.PLT	Enter into the screen to set the mold opening & locking movement
射 出 INJECTION	Enter into the screen to set the Glue Shot and pressure-preserving movement
儲 料 FEEDING	Enter into the screen to set the feeding, glue taking and automatic material removal movement
座臺/托模 NOZZ/EJE.	Enter the page of seat platform, thimble, page slippery model, and releasing core and releasing gas.
滑模/中子 TABLE/CORE	Enter the page of slide module .location neutron cutter teeth
時 間 TIME	Enter the page of setting up temperature, preheating
温 度 TEMP.	Enter the page of setting up time, counting
資 料 DATUM	Enter setting up and modification page of mould and production material
快速設定 CELERITY SET	Enter the page of Fast setting page I and II
監 視 MONITOR	Return to monitor pages at any moment
幫 助 HELP	Entering online-help pages at present

Keys	Usage
PC連接 PC LINK	Enter into the USB setting page
診斷 DIAGNOSE	Enter into the alarming page
曲綫 CURVE	Enter into the Pressure-Speed curve ,Temperature tracing curve page
生產管理 FLOW CHART	Enter into Production data modification setting ,SPC tracing record page

3. Instruction of Parameter setting mode

The numerical key from0 to 9 in data setting page is used for data importing, when the electronic lock is in " OFF " state, this ten numerical keys are locked, guarantee the materials not to be altered at will . There are 26 English letters and special symbols separately on 0 to 9 numerical keys for the mould name inputting in Chinese or English, the inputting machine serial number. [Remove key] you can press this key to remove the wrong when the parameter or the serial number name have been wrongly written[Input] key serve as function selection key if there are functions to be select and as confirm key if there are items to confirm.

4. Vernier key

Keys	Usage
	Jump rank key, cursor goes the previous line after pressing this key
	Change arrange key, cursor goes the left arranging after pressing this key
	Change arrange key, cursor goes the right arranging after pressing this key
	Jump rank key, cursor goes the previous line after pressing this key

5.the options button of operating mode

Keys	Usage	Remarks
	System enter the manual operation state after press the button.	There is an indicator at the upper left corner of every key,after pressing one of these key,this indicator is on, that showthe system is in the just state. The default mode is manual operation. If temperature hasnot reached the establishing value , the system is unable to operate semi-automatically, when pressing buttons as semi-autom atically, the indicator lamp is not on. Untiltemperature reaches the establ ishing value, the set can run semi-automatically .
	S Press this key and system enters the semi-automatically operation	
	Press this key and s system to enter the full-automatically operation	

6. Electrothermal ON/OFF key  and Motor ON/OFF key 

In the manual mode, press a button the indicator in the left up is on which indicates this function has already been on; the indicator lamp left above is off when press the button once again ,shows this function state has already been closed , continue press the key, this function will be opened or closed in turn. When the emergency switch stops, the motor cuts out rapidly, but does not influence the electric heat work.

7. Manual operation key

Keys	Usage	Operation Conditions
	Open mould operate	1 . turning on mould don't reach stop position;
	jet operate ion	1. press keeping time has not ended; 2. the temperature of the material tube must reach to the establishing value range;
	Jet back operation	1. the temperature of material tube already reached the establishing value range;
	Tip out operation	1. if using the journey, the journey has not reached the position of stopping; 2. If using time, the time of appearing and has not ended; 3. the opened-mould already got the position of stopping; 4. if using releasing core /entangling, produce /already; Core retreat tooth finish 5. if using slippery mould, Left or right slippery mould has already got to make a reservation;
	Retreating operation	1. if using the journey, the journey has not reached the position of stopping ; 2. if using time, the time of retreating has not ended ;
	The operation of seat move forward	1 . unconditional;
	The operation of seat move back	1 . unconditional;
	The operating of adjusting mould	1. the speed of t adjusting he mould to slow down after pressing this key bright;
	The blowing operation	1. chooses for blowing; 2. Blow time has not ended;

Keys	Usage	Operation Conditions
	The operation of adding material	1 . not reach end position for adding raw material 2.The temperature of the material tube must reach in the establishing value range;
	The automatic operation for clearing material	1. chooses for clearing material; 2. The times of clearing material has not ended; 3. the temperature of the material tube must reach in the establishing value range;
	Left slipping operation	1. stop opening mould 2.stop retreating; 3. left slipping model has not got the end location
	Right Slipping operation	1. stop opening mould 2. stop retreating; 3. right slipping model has not got the end location
	The pressure adjusting operation in advance	1 .after pressing this bright key, you can enter the pressure adjusting operation
	Back orientation/ pressure increasing	1. not choose the pressure-reservation ; realize the advance orientation operation 2. already choose the pressure-reservation; Realize the increasing-pressure operation
	Back orientation/ pressure minishing	1.not choose the pressure-reservation ; realize the advance orientation operation 2. already choose the pressure-reservation; Realize the monishing-pressure operation
	wringing tooth operation	1.choose to use 2.advance-time not end 3.stop retreating
	Retreat wringing tooth operation	1. Choose to use 2. advance-time not end 3. Stop retreating

Keys	Usage	Operation Conditions
	Enter core operation	1. choose to .releases the core 2. the entering- core not to ending position or; Time has not finished 3. stop retreating
	Output core operation	1. choose to .take out the core 2. the outputting- core not to ending position or; Time has not finished 3.stop retreating
	Ejection lubrication	1、the operation condition is same as ejection; 2、the setting time of ejection is not up; 3、lubrication count is not zero;
	Mold close	1、X00 input normal; 2、electronical eye input normal; 3、ejection retreat or the time is up; 4、mold close is not in the terminate or the time is not up; 5、L or R sliding mold are oriented 6、orientionin is stoped

8. Setting Scope of Numeric Items

Number	Setting Items	Setting Scope	Unit
1	Establishing the pressure	Digita≤1999.9	Second
2	Establish the speed	Digital≤140	Bar
3	Establish temperature	Digital≤99	%
4	The mould materials storing	Digital≤999Max700C for actual use Centigarade	℃
5	Establish jet out position	Digital≤999.9	mm
6	If the establishing value beyond thescope of the above,	Digital≤999.9	mm
7	Storage of mold data	Digital≤5999.9	mm
8	Book the output	Digital≤80	Number
9	Establish Lock mould position	Digital≤999999	PC

In case of the set values exceed the above-mentioned scopes, the system will not accept the numbers set and keep the original set values. For the habit of data input, the data input of this system is display from right to left.

Chapter three: parameter / function enactment explaining.

1.the machine-start main page of ordinary machine,

Urn on the power ,turn round red urgent switch , computer operate light RUN light on ,you can see the following pictures on the screen, the control system has already worked normally at this moment, you can begin to operate the machine . The ready machine runs normally.

You can enter the picture of the machine 

when push any time after starting the machine again. This page offer temperature monitor and machine movement monitor. Mould nameand mould number is establishing by the materials picture of the mould. Temperature arranges and present oil temperature shows actual value of every sections. You can't alter the materials. Every functionof the picture stated as follows:

The descriptions on mode:

Mode	Meanings
	Show the motor has already operated;
	Show the electric heat has already been opened;
	Show lubricate-pump that is pump oil;
	Show the electric eye is imported normally;

2.C Type machine machine-start main page

Urn on the power ,turn round red urgent switch , computer operate light RUN light on ,you can see the following pictures on the screen, the control system has already worked normally at this moment, you can begin to operate the machine . The ready machine runs normally.

You can enter the picture of the machine 

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The descriptions on mode:

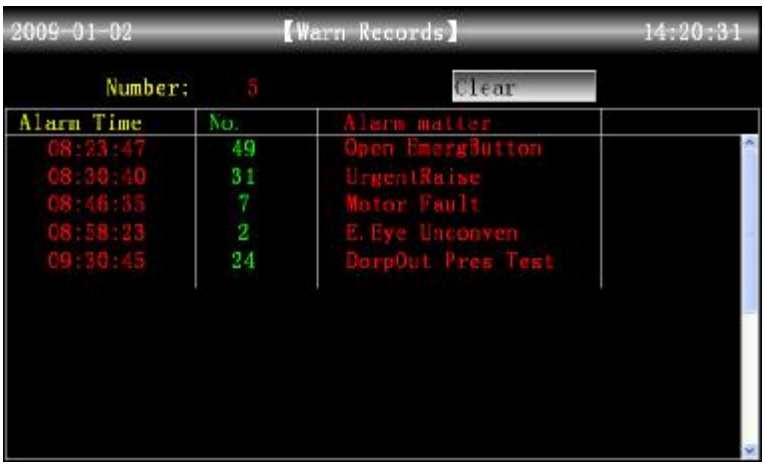
Mode	Meanings
	Show the motor has already operated;
	Show the electric heat has already been opened;
	Show lubricate-pump that is pump oil;
	Show the electric eye is imported normally;

The descriptions on display:

Display	Meanings and descriptions
Manual	The running mode of the machine;
Second	sections it express this section is being heated;
Mould	number it express the using-model Serial number at present;
Produce	in advance; it expresses setting value of the times mould-opening at present ;
At present	Remember g the mould-making times of the mould at present in the course of operating automatically;
Whole	process the system operates cycle-time actually;
Operation	When carrying have established time value, data will increase to it, then carry on next movement, if number established is times number. Shows will go on until reaching value of times number ;
Settlement	the time value or counter value of operating ;
Pressure	pressure-established evalue of operating ;
Flo the flow-	established value of operating ;
Lock mould	show locking mould position at present, the unit is mm ;
Slippery mould	shows slippery model's position at present, the unit is mm ;
Spiral shell's pole	shows the present spiral shell's pole position, the unit is mm ;
The machine runs normally	Show the warning content now ;
Ready	Show the movements of the machine operates now ;

Re-press 

key to show the following menus



Descriptions on alarm mode

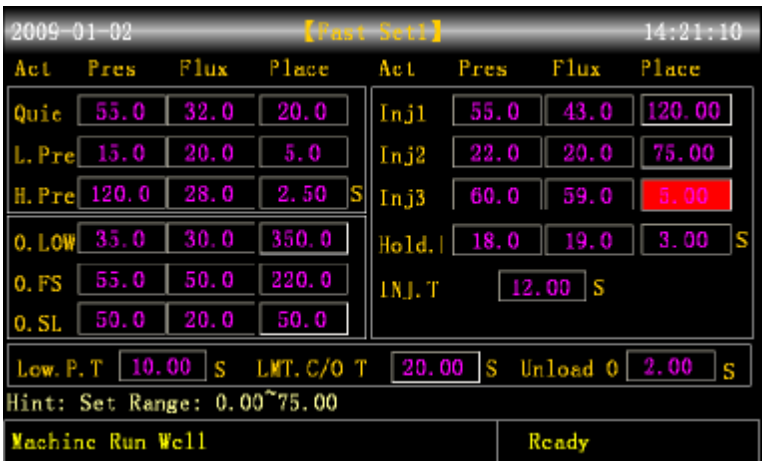
Alarm	Source	Solution
The electric eye is unusual	ThisX04 terms message show When electric eye Input have no signal; But the alarm is being only made only when shutting the mould .	Check whether the electricity is correct and electric eye is hidden or lost efficiency long.
Shut the mould has not finished regularly	Fail to finish shutting mould movem ents in “shut the mould to prescribe a time limit” .	check whether unusual in shutting mould course, if normal you should transfer longer the “ shut mould prescribes a time limit”.
Protect-mould time in low-voltagly arrive,	If low-voltage time arrives, warning not transferred high-voltage yet.	Check whether mould have incidental, you can transfer longer “ low-voltage time ” if possible.
the safely Input trouble	Warning when X00 has no signal input in the course of shutting the mould:	Please check whether the safety lock is put through normally and input end X00.is correct connection.
The button trouble of Shutting mould (one pair of slippery moulds have not this warning)	As only one X10 and X11 warning	Please check whether left and right shutting mould button connect correctly to the input end and press normally side to side.
Storing the material has not finished regularly	At storing material, in “store material prescribe a time limit in time”. Fail to finish storing material movements:	Check Whether process is unusual and the material in the storage bucket has been used up , if usual, you can proper to transfer longer “ store material prescribe a time limit ”.
Open mould has not finished regularly	Fail to open mould to put in place in “open the mould to prescribe a time limit”.	Check mould-open , if no unusual, you can proper to transfer longer “open the mould to prescribe a time limit” .
Trouble of the motor	Warning when the motor-protect point has signals input	Check whether oil pressure motor causes the hot relay to produce movements of protecting because the overload work.
Cycle has already ended	Automatic production cycle goes beyond setting for [cycle].	Check automatic process, if have no unusual, can proper to transfer [cycle time] established longer .
The output has already got schedule	Launch output park and modulus-opening time has reach output value established in advance, the machine stops turning round.	Solution: If make machine run continually after got output, you can put the {Shut down after warning}in management page {No}: Or make the total amount of present no number mould-opening as zero.
Opening mould has not got to reservation position	When manual tip our , opening mould have not got to the stopping position	Operate lock movements of the mould again, or check whether the stopping X12 of opening mould put through.

Operation/clewing state explaining

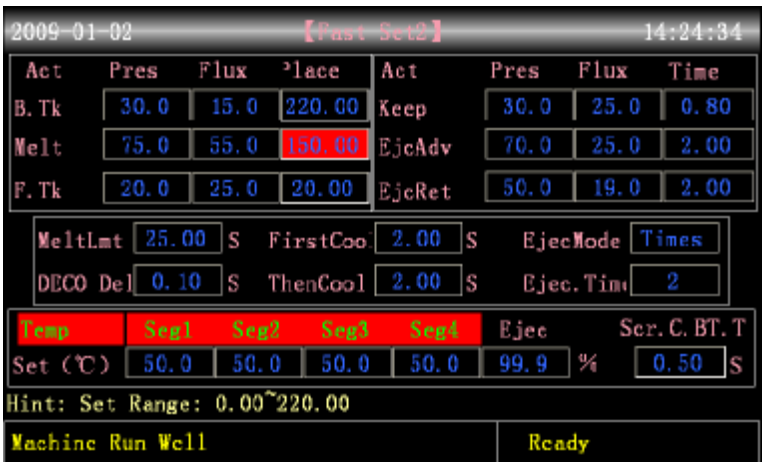
Alarm	Source
The temperature of Eject, Seg1,Seg2,Seg3 is high	The machine material actual temperature tube is higher than the establishing value of upper limit .
The temperature of Eject, Seg1,Seg2,Seg3 is low	The machine material actual temperature tube is lower than the establishing value of upper limit .
Eject, Seg1,Seg2,Seg3 are break	Machine material tube corresponding temperature sensing line break or temperature sensing line have trouble.
Retreating not reach the position	when operating the slippery-mould or shutting-mould , Retreating not reach the position.
The slippery mould has not got to the reservation.	When operating the thimble or shutting-mould, the slippery-mould has not got to the reservation .
Orientation is not up	When sliding mold ,but the orientation is not up
Ejection in out limit unnormal	Input when ejection in out
Tooth out neutron out have not finished	Tooth out /neutron out havenot up when ejection in
Operation limited time is up	The operation time exceed the setting time
Unbutton close mold	Operate auto, half_auto and other operation key when close mold button pressed
The automatic clear material is finished	when using the automatic clear material , according to the number of times.established movements.
The function has not been selected	When press a certain function key , but this function has not been for use .
Please turn on motor,	if choose to use motor ,registering motor is not start when press half / full-automatic key
Withdraw from and press-showing state first	When choose the pressure adjustment, operation is not increase , reduce buttons .
Enters pressing showing-the state firstly	No pressure adjustment choose, whenpress the key of operation increasing or reducing

3 Fast setting page

Press 快速设定 CELERITY SET Key,It will enter the first Fast setting page, pictures shows as follows at this monment:



Press 快速设定 CELERITY SET Key again,It will enter the second Fast setting page ,pictures shows as follows at this monment:



The two pages gather all the common parameters information of the machine, It includes the important parameters for debugging,such as :open mold ,close mold, ejecting pressure-keepping ,stuff-storing,and temperature.

4. Mold open and close setting

Press 開鎖模 M.PLT key,will enter Open /Close mold setting page , picture shows as follows at this moment.

The parameter established / movement procedure / the function way explaining

shut fast ———→ Low-pressure ———→ High pressure ———→ Finish locking

20.0mm 5.0mm High-pressure time

├————————→ (**X03**)

Low-pressure Protection time 6. 0sec

(1) **Close mold:** enter the locking mould fast, walk to 20. 0mm , enter low-voltage locking mould , walk to 5 .0mm more . Enter high pressure locking mould , wait high-pressure time get to end or X03 input point is ON , then locking moulds have finished . warning [Low-voltagly Protection time have arrived] when low-voltage time arrive but does not transfer to high pressure yet, and opened the mould automatically.

(2) **low-pressure time limit :** low-voltagly Protection time of shutting mold, please don't establish too big as much as possible , it should be suitable , otherwise the situation of protecting the muld will not appear.

slow opening ———→ fast Opening———→ low opening———→ Finish opening

50.0mm 220.0mm 350.0mm

(3) **Open mold :**carry throughopen mould unload firstly, the time enter the mould-opening slow speed , when walking to 50.0mm ,Switch to turn on mould fast ,when walking to 220 .0mm., Switch to turning on mould's low-speed , when walking to 350.0mm more ,switch is over. at the.

(4) **Open and Close the mold limit time:** Show the restriction time to turning on the mold or locking the mold, please don't establish too small as much as possible , should suitable , otherwise systemwill warning [turn on / shut mould not finished timing].

(5) **Manipulator:** If need to use the manipulator , please choose [use], after choosing to use, at the full-automatic mode, output manipulator signal after machine turn on mold, lock mold enter the next circulation after ensure received mechanical signa and expire manipulator signal export at the same time .

5.Injecting /Blowing setting

Press 射 出 INJECTION Key,It will enter the Injecting/Blowing setting page,picture shows as follows:

The parameter established / movement procedure / the function way explaining

One seg ———→ two seg———→ three seg———→ Pressure-keeping

120.00mm 70.00mm 5.00mm

Total injection time 12.00 sec

(1)**Movement procedure:** After one seg walking to 120.00mm ,it switchs to two seg ,then To 70.00mm switching to three seg,then to 5.00mm switching to pressure-keeping.

(2)**Total Injection time:** monitor the normal injecting procedure,it will count when enter Injecting, until the time is up ,no matter whether it has switched to the pressure-keeping , so the total injecting time should be above the actual time.

(3) **Inspecting Injection :** Can choose [use]and [no use], when choosing to use under half / full-automatic mode, The computer fetches shooting the average number value of terminal point of 20 the first moulds as jetting our check-point automatically, users can establish the allowing error number value range . If after the 21st mold , find that shoots not reaching this check point or exceeding this check point , then warning [jetting fail], management regard this mold as the bad product in output at the same time .

(4) **Blowing state:** can choose [no use],[left blowing],[right blowing]and [left and right blowing], It can use on the mold which need to blowing.

(5) **Beginning position:** can choose [before mold open] [after mold close] to blow

(6) **Delay time:** runing to the beginning postion,it will delay firstly.then it will blow when the time is up.

(7) **Inject mode :** can choose [time] or [route] ,if choose [time],it means it will terminate after all the setting time of each seg is up,if choose [route],it is controlled by the route and the total injection time.

6.Storing material / Cleaning materials setting

If press 储 料 FEEDING key once , you will enter establish pages of storing material / releasing the glue , the picture shows as follows at this moment:

The parameter established / movement procedure / the function way explaining

Fron Release———→material———→post release———→relsased

20.0mm 150.0mm 220.0mm

├———————→

Melt time limit 25.0 sec

(1) **Movement procedure:** after finished pressure-Protection , walking to 20. 0 mm switch to store material , then to 150 0mm. switch to back releasing . To 220.0mm.more . Store material eject back finished

(2) **Storing material delay time:** delay time in order to storing material, changing over to storing the material through delayed after pressure pretection.

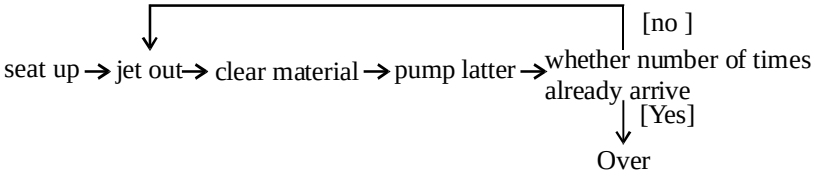
(3) **limiting time of Store material:** For lack material warning time ,when reach to time ,if store material is immature .then regard as lack the material, so the time of the limit time is established longer than to store material time actually, otherwise warning .

(4) **Cooling time before storing:** when the cooling time is up ,it will store material and jet gule.

(5) **Cooling time after storing:**wehen the cooling time is up,it will do the next.

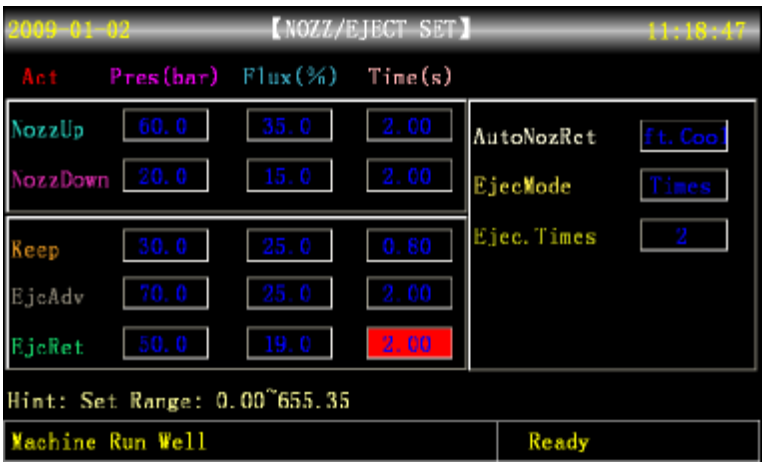
(6) **The number of times of clear material:** repeated to make clear material , the times of movements that jet movement.

(7) **Automatic clear material method:**The automatic clear material function is had [uses] in the manual mode, press the automatic clear material key, the system begins to carry out automatic clearing material movements, the movement procedure is as follows:



7.The seat platform / the thimble materials setting

If press 座臺/托模 NOZZ/EJE. key, you will enter a platform / the thimble and set pages, the picture displays as follows at this moment:



The parameter established / movement procedure / the function way explaining

(1) **The seat rises automatically:** Can choose [no use] or [finish storing] or [cooling over]; if choose [finish storing] after storing material ,make rising movement when operating auto matically; if choose [cooling over], after finishing, make a rising movement when operating automatically.

(2) **Seat platform enter delay:** While operating automatically, delay time is up ,and then the seat platform enter

(3) **Seat platform retreat delay:** While operating automatically , delay time is up,and then the seat platform retreat

(4) **Thimble way:** Can choose [order] or [stay]; if choose [stay], then on semi-automatic state, enter movement reach terminal then stop to carry, make and carry retreating until the next circulation before imprison mould.

(5) **The times of the thimble:** Set the times of thimble movement

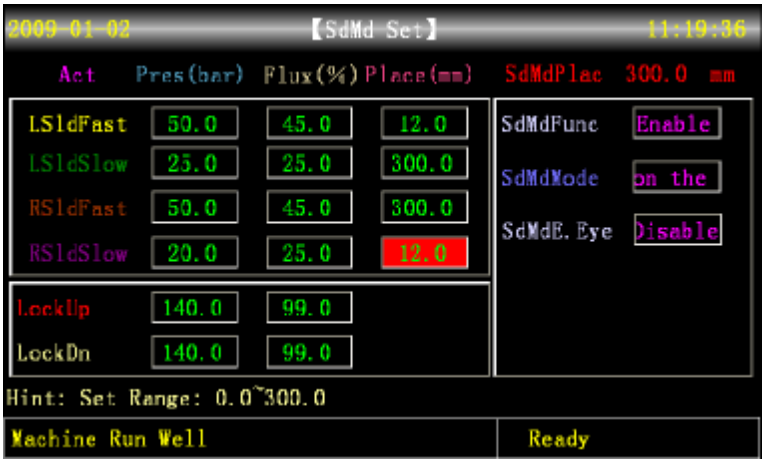
(6) **Thimble enter delay:** While operating automatically, delay time after finishing opening the mould and then carry enter.

(7) **Thimble retreat delay :** While operating automatically , delay time after finishing carrying into enter and then carry and retreat again.

(8) **[The note]:** while manually , it is not limited by the times (but can't be 0000) .

8..slippery Mould /orienting material setting

If press 滑模/中子 TABLE/CORE key , you will enter the page of slippery mould / orienting setting, the picture displays as follows at this moment:



The parameter established / movement procedure / the function way explaining

(1) **Slippery model function:** Can press the input key to choose [Not Use] or [Use], when choose [Use]. the set way of slippery model is effectively.

(2) **Slippery model way:** Can press the input key to choose [slip on the left], [Slip in right] or [Pair slips].

(3) **Choose slip on the left:** Open mould ---Do left slippery movements ---- Slip on the left ----Thimble ----- Thimble finished ---- Wait ----- Press the left / right shut mould button -----Slip in right ----- finish Slipping in right -----Shut the mould ----- Begin the second circulation.

(4) **Choose slip in right:** Open mould ---- Do slippery movements in right ---- Slip in right ----Thimble ---- Thimble finished--- Wait --- Press the left / rignt shut the mould button --- Slip on the left -----finish Slipping on the left ----Shut the mould ----- Begin the second circulation

(5) **Choose pair slip:** Open mould ---Wait ---Press the left / right shut the mould button, if the model does slippery movements in right as above -----Then slippery movements on the left -----finish Slipping on the left ------Shut the mould -------Begin the second circulation.

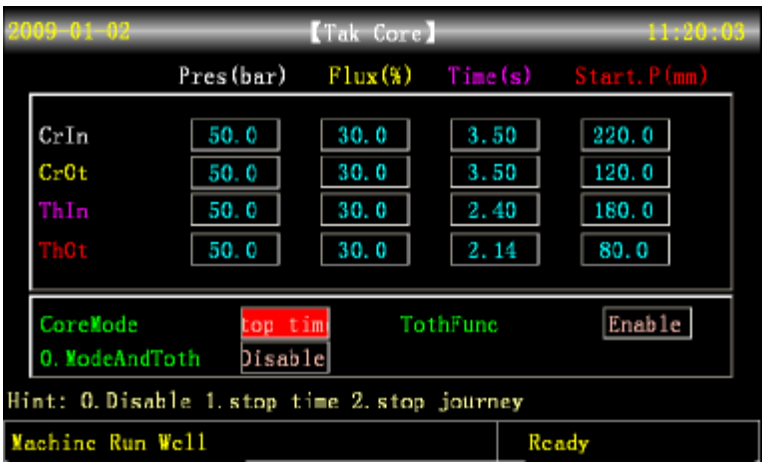
(6) **Single slide machine :** slip out if Slip on the left, slip into if slip in right.

(7) **The delay slipping on the left:** the time from open the mould to the time of beginning slipping left.

(8) **The delay slipping on the right:** the time from open the mould to the time of beginning slipping right

9 Neutron / entangle tooth setting

If press 滑模/中子 TABLE/CORE key two times, you will enter the page of release core/ entangle tooth setting , the picture displays as follows at this moment:



The parameter established / the function way explaining

(1) **pump core shape:** You can choose [stop time], [stop journey], [entangle tooth count], [no use], choose [stop time], set time to stop pumping core movements; choose [stop journey], stop pumping core movements when inputting some breaks alarms [ON]; if choose [entangle tooth count] , you can control the entangle tooth , stopping determined by the pulse number of inputting entangle tooth.

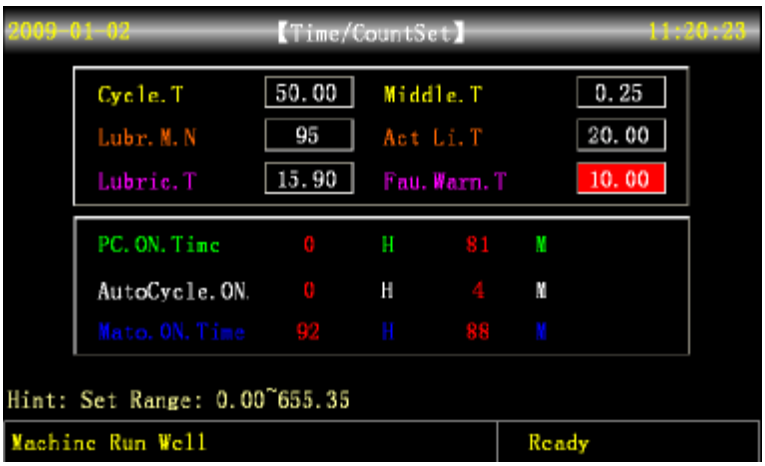
(2) **Initial position:** the begin position of Enter Core and Produce Core , namely where stop template , the settlement value that pumping core A , B.

(3) **The delay of entering the core :** delay first after run automatically enter the core B initial position , when delay-time end, then make procedure movements of entering core B.

(4) **The delay of output Core B:** delay first after run automatically enter the core B initial position , When delay-time end , then make procedure movements of output core B.

10 time / count setting

If press 時 間 TIME key, you will enter time / count setting pages, the picture displays as follows at this moment:



The parameter setting instruction

(1) **Lubricating time:** Display that single running time of oil pump.

(2) **Lubricate moduluses:** calculate the times of opening mould .When the times reach the setting value, oil pump begin to work.

(3) **Middle time:** In the full-automatic course, the time is from thimble work finished to the next circulation lock ,

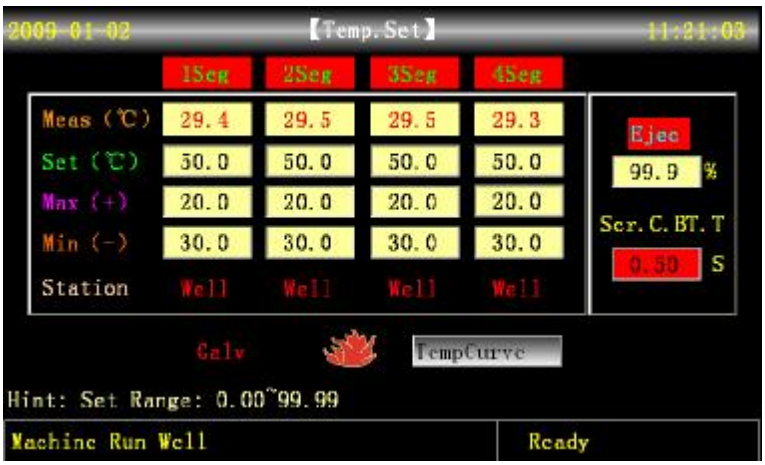
(4) **Movements limited time:** The permission longest time that movements are outputted

(5) **Cycle time:** The limited time of operation cycle in the automatic course, if the time that circulation operates actually exceeds cycle, the system warn [cycle time is up].

(6) **Warning signal of the trouble:** from trouble beginning to the stopping of warning avoid a long time warning.

11 The temperature setting

If press 温 度 TEMP. key, you will enter temperature setting pages, the picture displays as follows at this moment:



Parameter setting instruction

Temperature setting unit is 0.1 [degrees Centigrade], vertical machine material tube temperature is feedback to the ring control of control system by K , J Model electric thermocouple line.

System altogether offer five sections temperature controls and a sections of oil temperature measure.

Dozzle can choose [opening ring] /[closing ring] control. Except controlling temperature, the system also controls the temperature of every district, see whether it surmounted the upper and lower limit set, temperature lower than lower limit can not jet glue and melt glue which hinder cold spiral shell's pole start; temperature is higher than upper limit then warning .Each section temperature states display in the main picture .

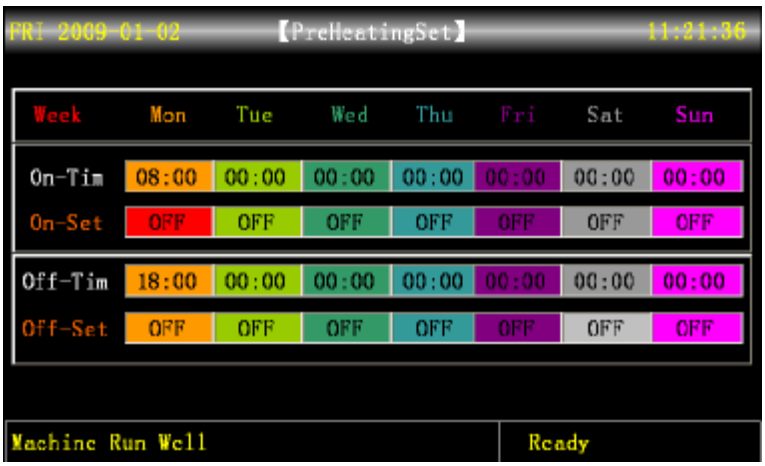
Screw rod cold start: Each segment real temperature will reach the setting scope first time after machine start, and will keep the setting time.

Part plastic density and tube heated temperature for reference

Name	Desity	Temperature℃		Name	Desity	Temperature℃
A.B.S	1.01-1.05	190-270		PMMA	1.17-1.20	180-260
PS	1.05	190-240		PPO	1.08-1.09	260-330
A.S	1.06-1.07	180-250		PA/NYLON	1.08-1.17	230-290
H.P.S	1.05-1.08	220-280		NYLON66	1.03-1.15	280-330
L.P.S	0.91-0.93	150-260		PVC/S	1.20-1.40	150-180
H.P.E	0.94-0.96	190-260		PVC/H	1.30-1.58	160-200
P.P	0.98-0.90	200-290		P.E.T	1.38-1.41	280-310
P.C	1.2-1.22	280-320		P.T	1.41-1.52	220-280
P.O.M	1.41-1.42	190-230				

12 Preheat materials setting

If press 温 度 TEMP. key Two times, you will enter the preheat setting pages, the picture displays as follows at this moment:



parameter setting instruction

Preheating Function: make an appointment in seven days of one week. This system offers the function that whether some day use the heating in advance or not. You will not use preheat function by choosing [OFF]. If you chose [ON], the system will control the heating of the heating system, according to the setting value of turning on / off time in the day. The machine will heat the material tube to working temp erature automatically before the operator works, reduce the time of waiting for .

***[The note]: The time inputting value adopts 24 hours.It is expressing 12:00 at night if input 00:00**

13.The mould materials establishing

Press 資 料 DATUM key, will enter the mould materials establishing pages, the picture shows as follows at this moment:

The parameter establishing explaining

(1) **Mould serial number:** This control system can store 80 groups of mould symbols , after altering the mould serial number, the system output the materials of symbol of the mould automatically.

(2) **The mould stores method:** Cursor move to the mould serial number colume , import the numberl of the mould , and then move the cursor to the mould name column, after input the mould name, move cursor to store column.press the store key to store. this system offer inputting way in English and spelling.

(3) **The mould fetches method:** in mould serial number fence , input mould number which will be read , move the cursor to ourput column and press the import key to read .this will change the number ar present and the whole page materials . For prevent from in half / full-automatic mode, page establish sudden change of parameter will cause harmful effects to product quality and cause contingency acciden , the mould fetches function is only limited to the manual mode.

(4) **Delete method:** move the cursor to mould serial number fence , input mould number which will bedeleted , then import import key to delete in delete fence . the present mould can't be deleted.

(5) **the Method that refer the mould:** move the cursor to the scanning fenceand utilize upper and lower key move the picture refer .

14. Data modification record

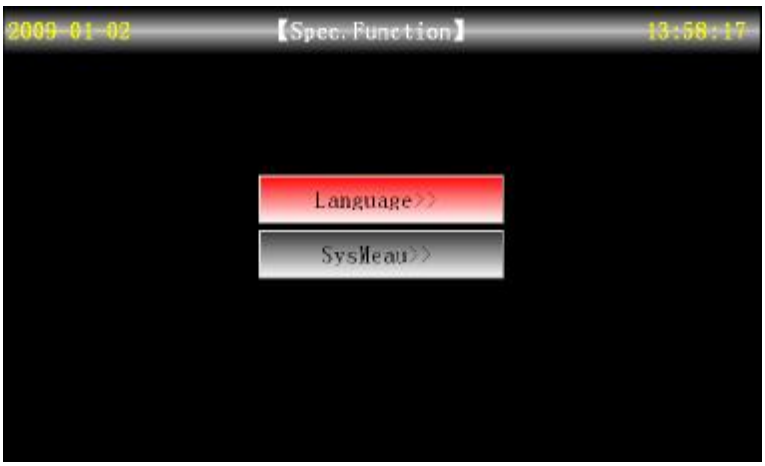
Press 資 料 DATUM Key twice ,It will enter the data modification record page , picture shows as follows at this moment:

Parameters setting explaining

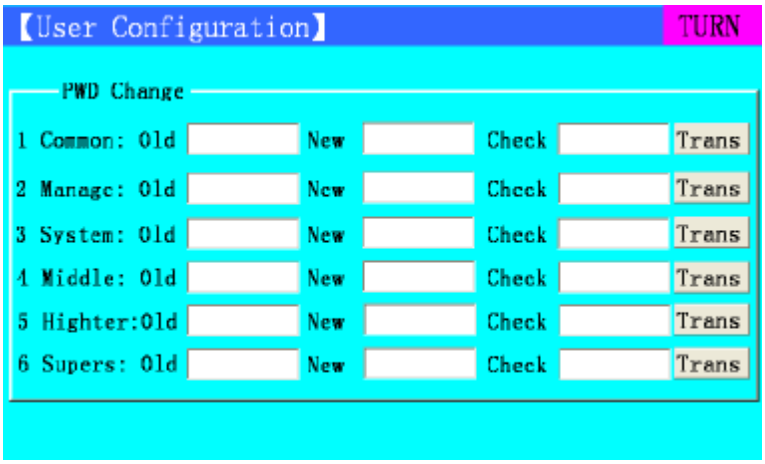
(1) **print list**： open the print list of the printer.

15. Special parameters setting

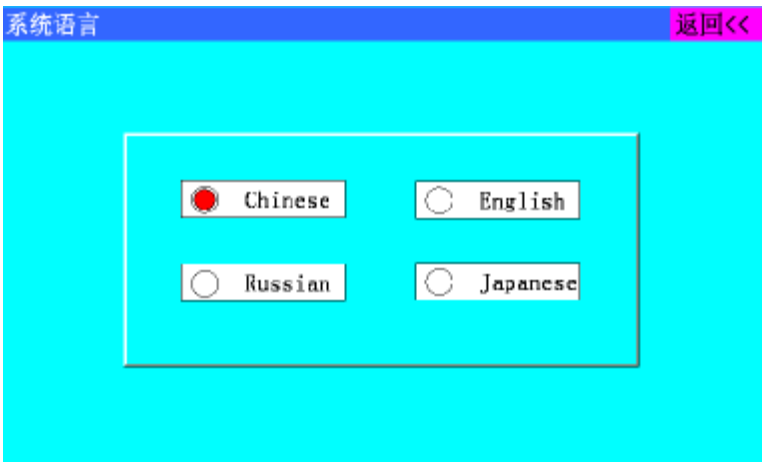
Press 1 STU key, you will enter the special parameter adjusting / establishing pages, the picture shows as follows at this moment:



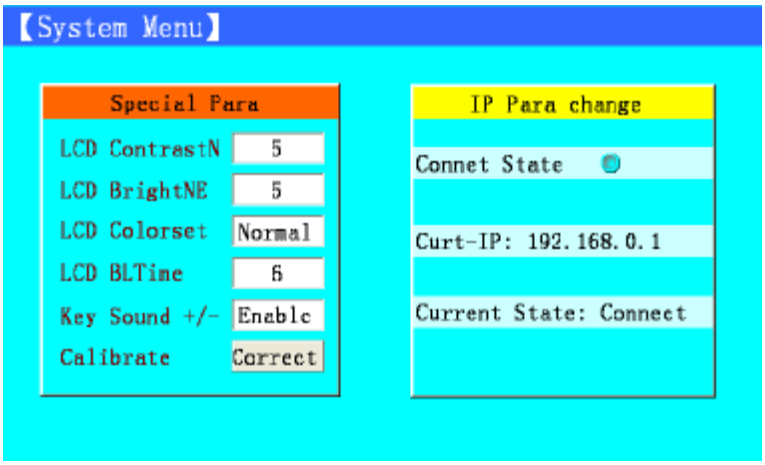
(1) Modify the password: move the curso to the “assword modification”. Press 输入 ENTER key ,I t will enter the password modificaion page .



(2) Move the cursor to the [system language] button , then press 输 入 ENTER key ,a new page will popup,picture shows as follows:



(3) System menu: Move the cursor to the [System menu],then press 输 入 ENTER key ,It will enter into the system menu page:



(3a) **LCD Contrast adjusting:** It means adjust the brightness ratio, at a certain brightness ,The contrst is greater ,the color is more plentiful. Adjust scope (0-100%) [note :This is only for STN screen]

(3b) **LCD brightness adusting:** move the cursor to there ,enter the number [adjusting scope (0-100%)], the brightness of the screen will changed according to the input number.

(3c) **LCD color setting :**The system offer [the normal, against color] two kinds of choice, move cursor to that ,then prss [enter] key to exchange each other ,

(3d) **LCD background light time setting :** The system possesses the screen protection function, background light time can be established, establish the range for 1-6 minutes, if establishing has not operated the keybo ard in timing, then the background light automatic OFF.

(3e) **keyvoice :** The system offer [use/nouse] two choice,move the cursor to that ,then press [enter] key to exchange each other.

(3f) **keyvoice up and down :** move the cursor to that ,input number [scope (0-10)grade], the volume will changed according to the input number

(3g) **IP address modification:** Set the IP address when you use network,move cursor to that then prss [enter] key the IP address will changed sucessfully

(3h) **State of the network:**display the state of the network by color

(3i) **Current IP:** display the IP of the machine

(3j) **Current connected state :**display the connected state of the network :disconnected/connected.

Chapter four: Product Management

1、Product data setting

Press 

key once, you will enter production materials establishing pages, the picture shows as follows at this moment:

The parameter establishing explaining

(1) **Good product:** the good product is equal to the moduluses has already been made multiply by the quantity of a mould and deduct the bad . The bad product is controlled by the function of shotting and measure ,when jetting measuring is in use, n the course , if excessive or insufficient state taking place , bad product increase one mould quantity value, and warning [measure to the bad product].

(2) **Establishing moduluses:** establishing produce Modulus in advance, system automatic reach the frirst 5 moulds of already opening modulus established, the alarming until the modulus arrives.

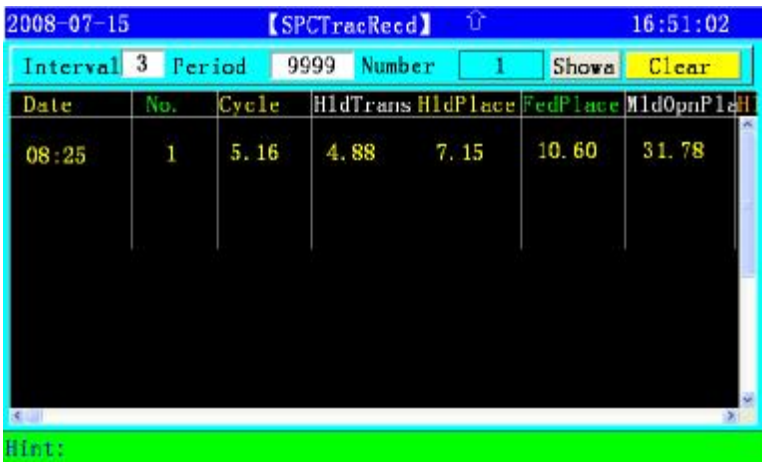
(3) **Shut down warning :** Can choose [use] , [not need], after establishing moduluses reaching if choosing no, machine continued producing, did not shut down until after the operator shuts down.

(4) **Method that the production record refer:** move the cursor to production record fence and utilize upper and lower key to look out .

2、SPC tracing record

Press 

key twice, you will enter SPC tracing record page , the picture shows as follows at this moment:



The parameter establishing explaining

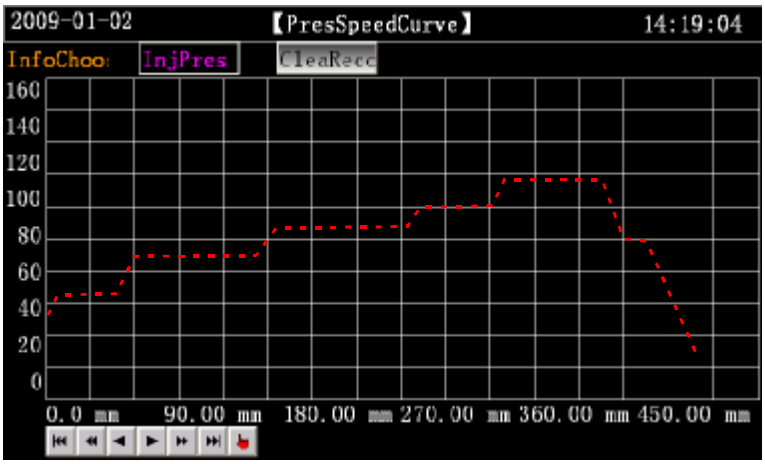
(1) **Pages:** 999 modulus continual data in tota,The SPC tracing record offers 6 important parameters of latest 999 modulus for production management. Let the operator know better the changes of real tested parameters in every production cycle,and adjust corresponding changes.and then increase the quanlity of the product.

(2) **Print lis:** start the print list of the printer

3 Pressure-speed curve

Press 

key once ,It will enter into the Pressure -speed curve page ,picture shows as follows at this monment:



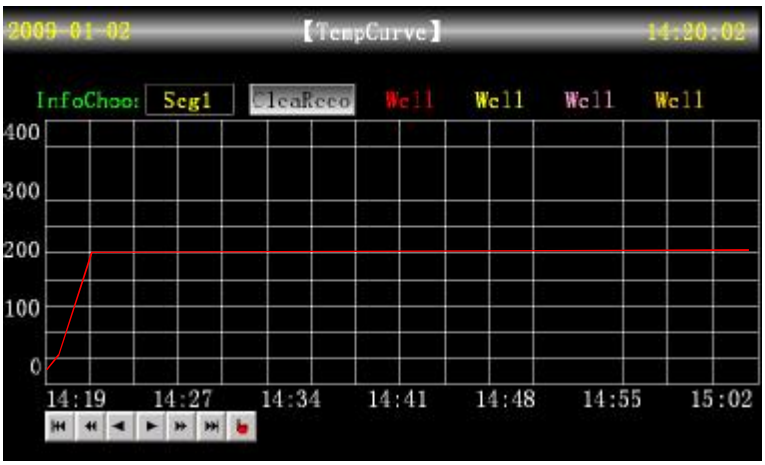
The parameter establishing explaining

(1) **Choose display:** Choose the curve you what to display ,can choose [ejection speed],[pressure keeping] [mold close pressure], pressing enter key is ok.

3 Temperature tracing curve page

Press 

key twice ,It will enter into the temperature tracing curve page , picture shows as follows at this monment:



The parameter establishing explaining

(1) **Choose display:** that is ,choose which segment to display its tracing record curve.this function offers parameters about 6 hr in advance of 6 segments ’temperature.Let the operator know better the changes of the real temperature, compare and analyse the influence on the quanlity of the product.

(2) **The interval of sampling record:** that is ,the interval time of sampling record is 5minutes.

5. Warning record page

Press 

key once ,it will enter the warning record page ,piture shows as follows at this monment:

The parameter establishing explaining

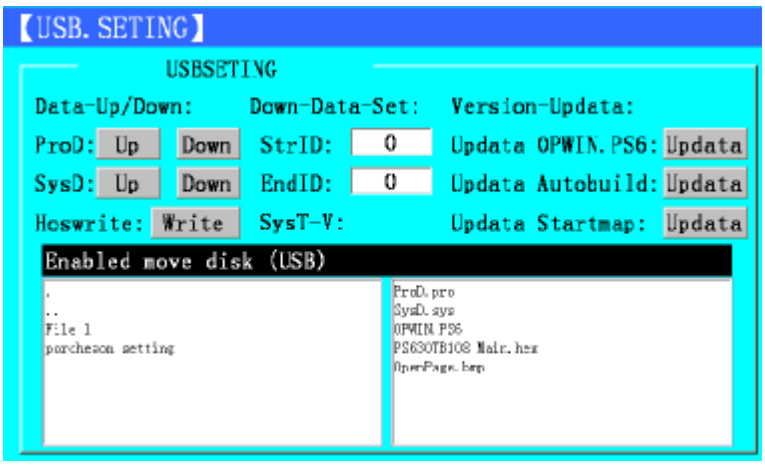
(1) **Lists**: The system offers 999 warnings for inquery at most ,gives maintenance more convenience.

(2) **Print lists**: start the print list of the printer.

6. USB setting page

Press 

Key once,It will enter USB setting page ,picture shows as follows at this monment:



The parameter establishing explaining

(1) **Data download:** That's ,download mold data to usb

(2) **Materials upload**: upload mold materials to system from usb
(3) **System material download :** download system material to usb
(4) **System material upload:** upload material to system from usb
(5) **Begin/End D:** setting data scope when download materials
(6) **program the main machine**: update main machine ,press stop key first and then move the cursor to [program],press enter key,.move the cursor to the [.hex] file which is you want to update
(7) **update OPWIN.PS6**: update program of the keyboard ,move cursor to [update],press enter key and then move the cursor to the file [.PS6] you want to update
(8) **update start file:** update the start page ,move cursor to [update],press enter key ,and then move the cursor to the file [.bmp] you want to update

Chapter five: System Debug Setting

1.Engineer setting page

Press 0_ Key,button In the main picture, you will enter engineer's setting page, the picture displays as follows at this moment:

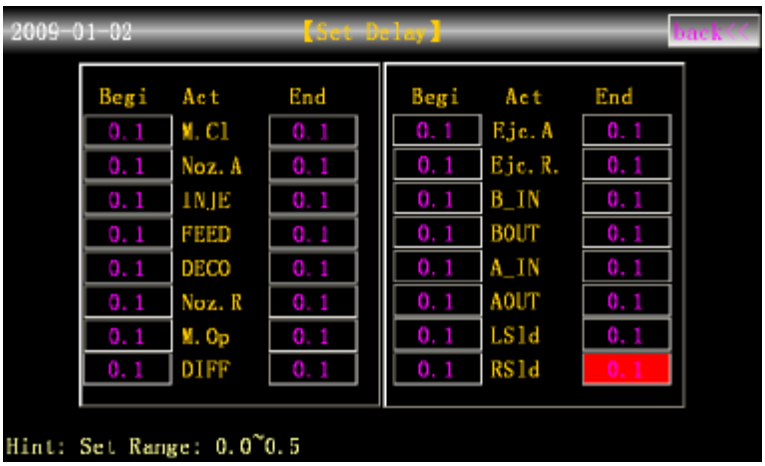
Input the password * * **And then if the password is correct then your can enter ☑ if incorrect ☒ , you can enter until the correct password is entered. Then you can enter the systematic parameter setting pages after. If you are the end user of the machine, you need not to adjust the systematic parameter please contact supplier if there is doubt, otherwise the parameter is adjusted messily, may damage the performance of the lathe and cause unstable or unable to run.

After the password is input correctly, the cursor will jump to the first column on the right automatically , can choose every column content again with the ▲ ▼ key ,press, the buttonto enter. Or press buttons the following and enter the corresponding page directly: 輸 入 ENTER press. The button enters the page.

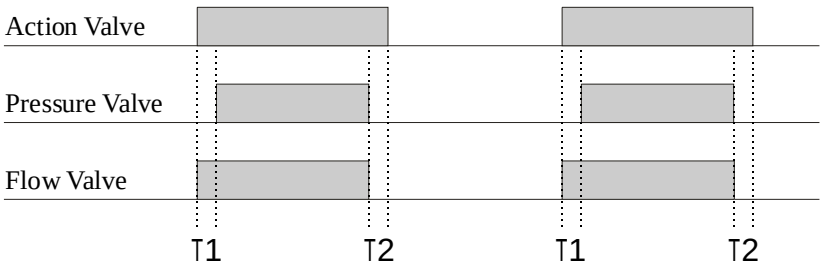
Key	Entering Page	Key	Entering Page
開鎖模 M.PLT	<Delay Setting>	滑模/中子 TABLE /CORE	<Special Function Options>
射 出 INJECTION	<Pressure/Flow Setting I> <Pressure/Flow Setting II>	時 間 TIME	<Standby Function Setting> <Programmable Standby Points>
儲 料 FEEDING	<Pressure Pre-Adjustment> <Flow Pre-Adjustment> <Back Pressure Adjustment>	温 度 TEMP.	<Temperature Parameter/ Time Setting>
座臺/托模 NOZZ/EJE.	<Electronic Ruler Setting>	資 料 DATUM	<Machine No./Ex-Factory Value Setting>

2. Delay Setting Page

After entering the correct password, press 開鎖模 M.PLT Key to enter the Delay Setting Page. The following is displayed:



Description on setting parameters



(1) The meaning of Start Delay: the corresponding action valve ON → [delay time T1 → pressure output ON ; flow output ON]

(2) The meaning of End Delay: the corresponding action valve → [pressure output OFF ; flow output OFF] → delay time T2? action valve OFF

(3) The setting ranges for the Start [T1] and the End [T2] are 0.0-0.5 seconds.

3. Pressure/Flow Slope Setting Page

After entering the correct password, press 射 出 INJECTION Key once to enter Pressure/Flow Slope Page I. The following is displayed:

After entering the correct password, press 射 出 INJECTION Key twice to enter Pressure/Flow Slope Page II. The following is displayed:

Description on setting parameters

The Pressure/Flow Slope refers to the steep degree of rise or fall when the pressure/flow changes from one value to the next value. “1” stands for the slowest change and “16” stands for the fastest change. The setting range is [1-16].

4. Pressure Pre-Adjustment Page

After entering the correct password, press 储 料 FEEDING Key once to enter the Pressure Pre-Adjustment Page. The following is displayed:

Description on setting parameters

The pressure pre-adjustment is the linear adjustment of pressure output. In general, the standard pressure is 0-800mA and the standard output impedance is 10-20 Ω,unless the manufacturer has specific requirements since different manufactures' overall oil piping designs and the capabilities of the pressure proportional valve being used are different.

Pressure Adjustment Method:

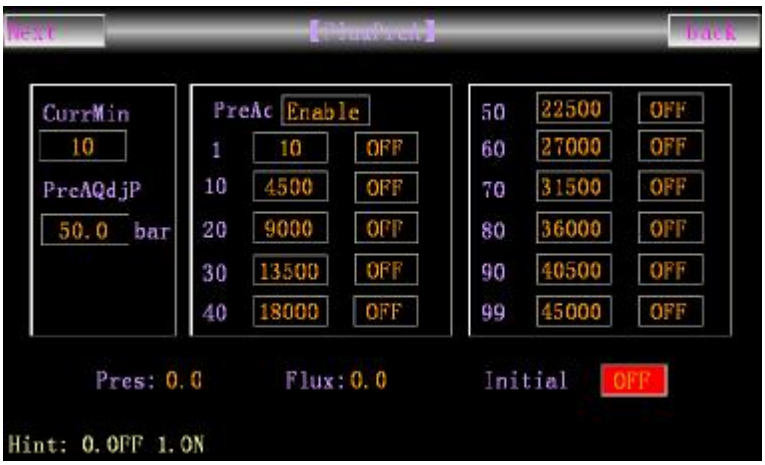
The parameters on this page have been set before ex-factory. If the capability of the proportional valves being used by the user is different, and the normal proportion and linear proportion cannot be achieved, the parameters on this page can be adjusted. First set the pre-adjustment to be [Activated], and then set the pre-adjustment item to be [ON]. For example, for the 50 bar pressure position of Item 50, if the reading on the pressure meter is 45 bar, the parameter of this item should be increased until the pressuremeter reading reaches 50 bar. Make adjustments on all parameters which need adjusting and make the0-140 bar pressures being set correspond to the pressures being shown on the oil pressure meter respectively.After the adjustments are completed, the computer executes automatically linear processing and takes theprocessing results as the subsequent normal D/A proportional output values.

Press linear pre-adjust:

Enter the number in the 160bar pre-adjustment firstly , then move the cursor to the [pressure linear pr e-adjust], and press the enter key to choose [on],The system will allocate the data to 10bar -160bar on average.

5. Flow Pre-Adjustment Page

After entering the correct password, press 储 料 FEEDING Key twice to enter the Flow Pre-Adjustment Page. The following is displayed:



Description on setting parameters

The flow pre-adjustment is the linear adjustment of flow output. In general, the standard value is 0-800mA and the output impedance is 40 Ω ,unless the manufacturer has specific requirements since different manufactures' overall oil piping designs and the capabilities of the pressure proportional valve being used are different.

Flow Adjustment Method:

The parameters on this page have been set before ex-factory. If the capability of the proportional valves being used by the user is different, and the normal proportion and linear proportion cannot be achieved, the parameters on this page can be adjusted. As for the speed adjustment, different manufacturershave different measuring methods. Some manufacturers use the melt tachometer to measure the rotation speed. First heat the barrel until the barrel temperature reaches normal melt temperature. Set the melt speed to be 1, 10, 20, 30, and more until 99 and check the actual values. Make adjustments on all parameters whichneed adjusting and make the 0-99% speeds being set correspond to the proportional coefficients being shown on the tachometer respectively. After the adjustments are completed, the computer executes automatically linear processing and takes the processing results as the subsequent normal D/A proportional outputvalues.

Flow linear pre-adjust :

Enter the number in the 99% Flow pre-adjust,then move the cursor to [Flow linear pre-adjust],and press the enter key to choose [on],The system will allocate the data to 10%-90% on average.

6. Back Pressure Pre-Adjustment Page

After entering the correct password, press 储 料 FEEDING Key three time to enter the Back Pressure Pre-Adjustment Page. The following is displayed:

Description on setting parameters

The back pressure pre-adjustment is the linear adjustment of back pressure output. In general, the standard pressure is 0-800mA and the standard output impedance is 10-20 Ω ,unless the manufacturer has specific requirements since different manufactures' overall oil piping designs and the capabilities of the pressure proportional valve being used are different.

Back Pressure Adjustment Method:

The parameters on this page have been set before ex-factory. If the capability of the proportional valves being used by the user is different, and the normal proportion and linear proportion cannot be achieved, the parameters on this page can be adjusted. First heat the barrel until the barrel temperature reaches normal melt temperature. Set the melt back pressure to be 1, 10, 20, 30, and more until 160 and check the actual values. Make adjustments on all parameters which need adjusting and make the 0-160 bar back pressures being set correspond to the back pressures being shown on the back pressure meter respectively. After the adjustments are completed, the computer executes automatically linear processing and takes the processing results as the subsequent normal D/A proportional output values.

Back pressure pre-adjust:

Enter the number in the 160bar pre-adjust,then move the cursor to [back pressure linear pre-adjust], and press the enter key to choose [on],the system will allocate the data to 10bar -160bar on average.

7. Electronic Ruler /Pressure Inspection Setting Page

After entering the correct password, press 座臺/托模 NOZZ/ADJ. Key once /twice to enter the Electronic Ruler/Pressure Inspection Setting Page. The following is displayed:

Description on setting parameters

(1) **Electronic Ruler Function:** If the equipment needs to use the electronic ruler, choose [Activated]. If the equipment adopts stroke switch control, choose [Deactivated].

(2) **Measurement Values:** indicating the actual dynamic positions of the electronic rulers for the clamping unit, the injection unit and the ejector.

(3) **Total Length:** referring to the actual lengths of the electronic rulers for the clamping unit, the injection unit and the ejector.

(4) **Limit Position:** It refers to the maximum value set for the position. This parameter is subject to the maximum position setting. For example, if the parameter set is bigger than the limit position value, the system will not accept the parameter set and will retain the original setting.

(5) **Zeroing:** When the equipment choose [Activated] for the Electronic Ruler Function and uses the electronic ruler, it may appear that the mechanic movement stroke is in place and yet the actual positions of the electronic rulers for the clamping unit, the injection unit and the ejector do not indicate "0". In such case, the corresponding ruler should be zeroed. Move the cursor to the zeroing button for [clamping unit ruler], [injection unit ruler] and [ejector ruler], and then press 輸 入 ENTER Key to make zero clearing for the corresponding electronic ruler.

(6) **Sensor:** The method of setting is similar to the elcetornic ruler.

8.Special function setting page

After password input correctly, press 滑模/中子 TABLE /CORE the button, you will enter and delay setting pages, display as follows:

The parameter setting instruction

(1) **The ways of thimble stop**: Choose the journey and the set will be stop by journey. Choose time and the set will be stopped by time .

(2) **Open mold while storing stuff**: Open mold when the cooling time is up ,Needn t wait for stroing stuff end.

(3) **The ways of platform retreat**: Choose the journey and the set will be stop by journey. Choose time and the set will be stopped by time .

(4) **storing material key locked by itself**: when use ,press the key once ,and it will store material continually until the time or the position of storing materail is up. Or press the key again to end this action.

(5) **The motor dallies and stops by oneself**: the limited time set ed is effectively that the motor dally while using.

(6) **The motor racing limit time**: Set range is 2-999 min, when starting, system measure is in this time, the machine closes the motor automatically when not doing any operation, in order to protect the life-span of motor and save the electric rate.

(7) **Shut mould self-insurance**: [quick][low pres]Can choose fast[quick] , low-voltage , begin self-insurance while choosing fast; Begin self-insurance while choosing [low-voltage] low-voltage .

(8) **Shut mould stopping** : [While choosing time to the high pressure of shutting mould, high-pressure time begins to time, time to shutting the mould to stop promptly; Choose journey and end point of shutting mould is on ,then shutting mould promptly stop.

(9) **Shut mould fast**: Y51 chooses guide valve to export all the time while opening themould; Choose differential Y51 and not export while opening the mould.

(10) **The slippery mould is used**: Can choose pairs of slippery mould , single slipperymould , no need, this fence function choose will decided is by display of page and using choose of slippery mould function.

(11) **Full-automatic**: While choosing to use, the machine can run full-automatically.

(12) **full-automatic test:** the machine will run automaticlly cycle by cycle.this function is only for test and debug in machine factory.it don't use in normal production.it is in nouse by default when the machine start.

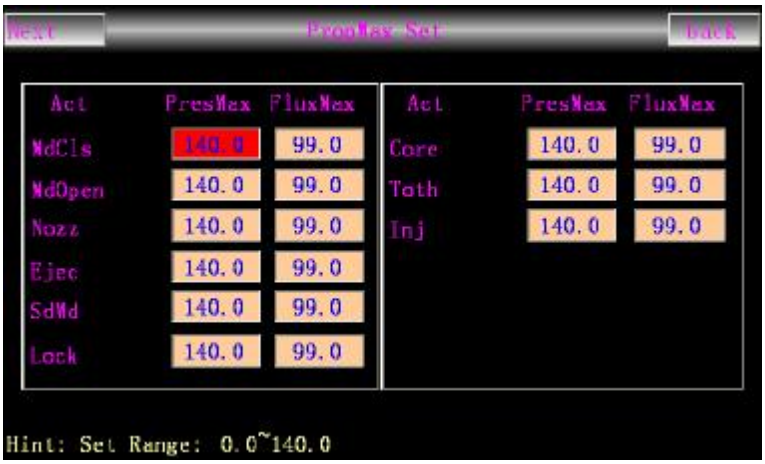
(13) **Ejecting while closing mold:**this function only works when double silding mold.

(14) **Open mold and download:** can choose use or nouse,it will download firsly ,then open mold slowly when it use.

(15) **location/entangle tooth:**can choose all nouse or location in use or entangle tooth in use.

(16) **Type of machine:**can choose common machine or C type machine ,this will determine the display in monitor page.

After entering the engineer page , press 滑模/中子 TABLE /CORE key twice ,it will enter into the proportion limit page,picture shows as follows at this monment:

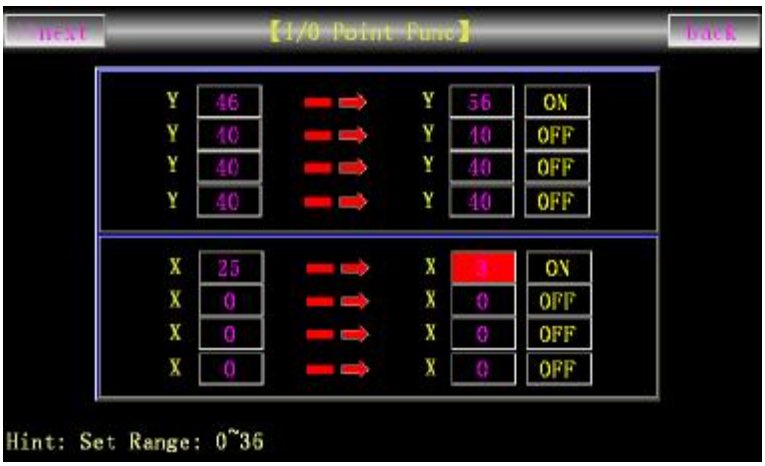


The parameter setting instruction

(1) **Press /Flow up limit :** these parameters value will determine the up limit in all pages in mold parameter setting page .

9. I/O Transfer Setting Page

After entering the correct password, press 時 間 TIME Key to enter the Standby Function Setting Page. The following is displayed:



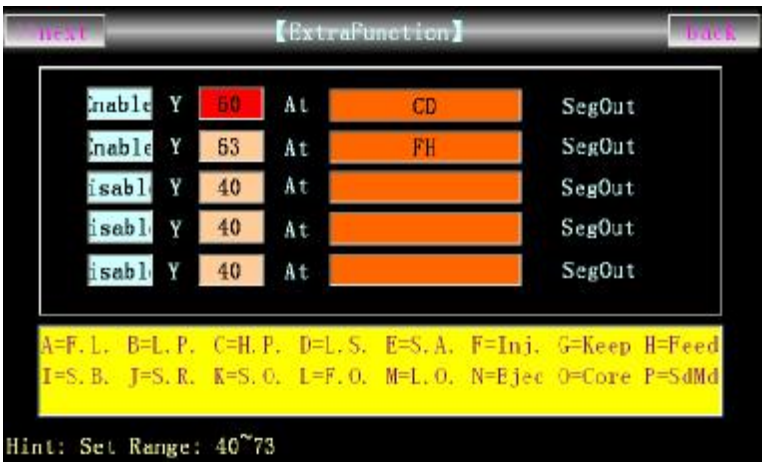
Descriptions on setting parameters function mode

(1) **Output Point Transfer Function:** This function can be activated or deactivated. If activated, the output point executes immediately transfer operation. In case that mal-function or damage occurs to a certain point, the control can be transferred to another point by activating this function. For example, in case that failure occurs to the mould opening output point and the knockout core function is deactivated, the Y46 mould opening point can be transferred to Y66 and then the output wires should be exchanged. The system is equipped with the function of simultaneously transferring two output points. Once this function is activated, the system makes judgment on the two selected items. If the item is [ON], the transfer of the pre-set conditions of the item will be executed.

(2) **Input Point Transfer Function:** This function can be activated or deactivated. If activated, the input point executes immediately transfer operation. In case that mal-function or damage occurs to a certain point, the control can be transferred to another point by activating this function. For example, in case that failure occurs to the front safety door input point and the knockout core function is deactivated, the X00 front safety door input point can be transferred to X25 and then the input wires should be exchanged. The system is equipped with the function of simultaneously transferring two input points. Once this function is activated, the system makes judgment on the two selected items. If the item is [ON], the transfer of the pre-set conditions of the item will be executed.

10. Programmable Standby Function Page

After entering the correct password, press 時 間 TIME Key twice to enter the Programmable Page. The following is displayed:



Descriptions on setting parameters function mode

In order to meet diversified application needs and provide an innovative product, we take the initiative to offer the programmable standby function page so that the users can define and revise by themselves the functions and the action sequence.

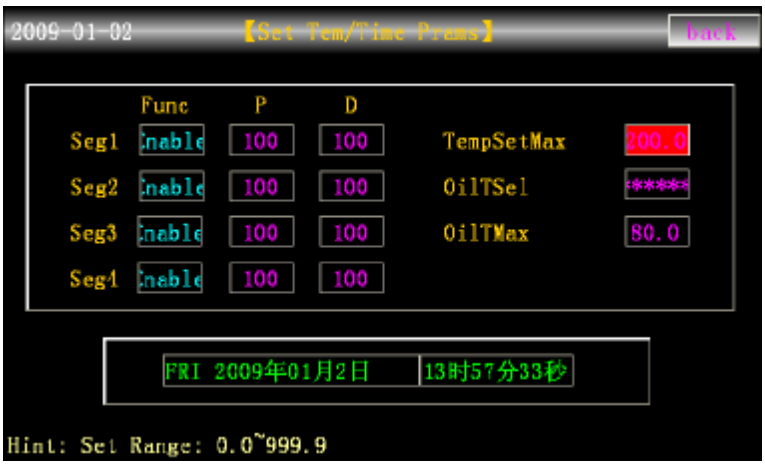
Example 1: For a certain mould injection machine, due to the different design of the oil piping, it is required that a point is output while clamping at high pressure and the power will not be interrupted until the melt finishes taking out. To achieve such a special function, choose an item and have it activated, and then specify an output point (i.e. this function is output through Y xx), and then set the action sequence [CD].

Notes: Regarding the output scope of Sequence D Clamping Stop, in automatic mode, the clamping switch is contacted during the process of mould close at high pressure, and this sequence output starts until the melting finishes; in manual mode, the clamping switch is contacted during the process of mould close at high pressure, and this sequence output starts until the mould opening key or the reset key is pressed.

Example 2: For a certain mould injection machine, due to the different design of the oil piping, it is required that a point is output while injecting and melting. To achieve such a special function, choose an item and have it activated, and then specify an output point (i.e. this function is output through Y xx), and then set the action sequence [FH].

11. Temperature Parameter/Time Setting Page

After entering the correct password, press 温 度 TEMP. Key to enter the Temperature Parameter/Time Setting Page. The following is displayed:



Descriptions on setting parameters function mode

(1) **Nozzle ,Seg I ,Seg II ,Seg III ,Seg IV,Seg V :** [use] and [nouse] can be chose ,if [nouse],the syestem will not inspect and control on this segment.

(2) **Oil Temperature Selected:** [Activated] or [Deactivated] can be chosen. If deactivated, once it is detected that the oil temperature is equal to or over the set upper limit, the alarm will be neglected. If activated, the alarm will be output, and the system will turn to manual mode and the motor will be turned off when the alarm cycle ends.

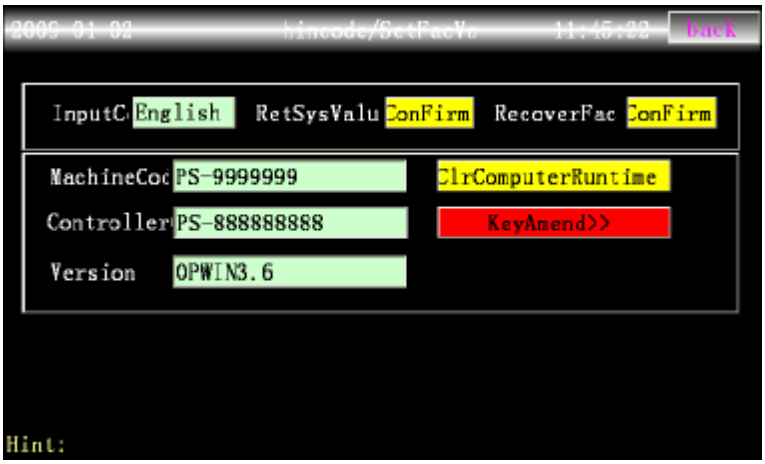
(3) **Pd Setting:** Pd has been set before ex-factory. It is recommended that the user should not revise this parameter under normal circumstance.

(4) **Proportion Setting :** proportion control is a simplest control way ,the output of the cotroller is proportionate to the input inaccuracy signal. There will be stable inaccuracy in output only with proportion controller.

(5) **Differentiation control:** In differentiation control, the output is directly proportional to the input signal error differentiation the auto control system maybe vibrate or even instable in the process of overcoming error.because the existed large inertia component and the lag component can inhibit the error. its change is always lose behind the change of the error .the solution is to make the change of the inhibition error in advance .that is when the error is close to zero ,the inhibition error should be zero.so ,the "proporiton" item is not enough in the controller , the role of "proportion" is only to enlarge the error.we should add the "differentiation"which can predict the tendency of the error. thus ,with proportion and differentiation ,the controller will be able to make the role of inhibition error to zero or even negative in advance .and avoid overadjust of the controller. Therefore, greater Inertia or lag charged object, the proportion of + differential (PD) controller can improve the system dynamic properties in regulating.

12. Machine No./Ex-Factory Value Setting Page

After entering the correct password, press 資 料 DATUM Key to enter the Machine No./Ex-Factory Value Setting Page. The following is displayed:



Descriptions on setting parameters function mode

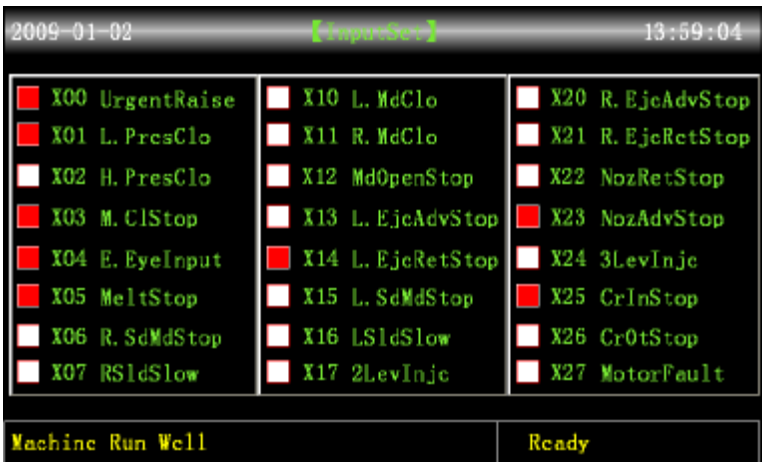
(1) **Mould Injection Machine No.:** The system is equipped with the function of setting NO. for the mould injection machine so that the manufacturer can set the No. for easy sales management and after-sales service record.

(2) **Ex-Factory Value Restoration:** During the modifying process of password pages, if normal operation cannot be achieved due to too much deviations of the modified parameters, press Key Enter and choose Confirm, and then all the contents and all the parameters will be restored to the standards valu es set before ex-factory.

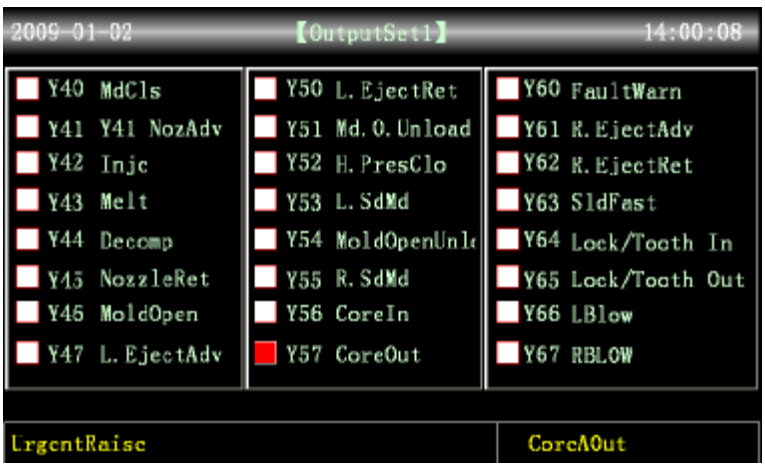
Chapter 6 Input/Output Mode Inspection

1. Input Inspection Page

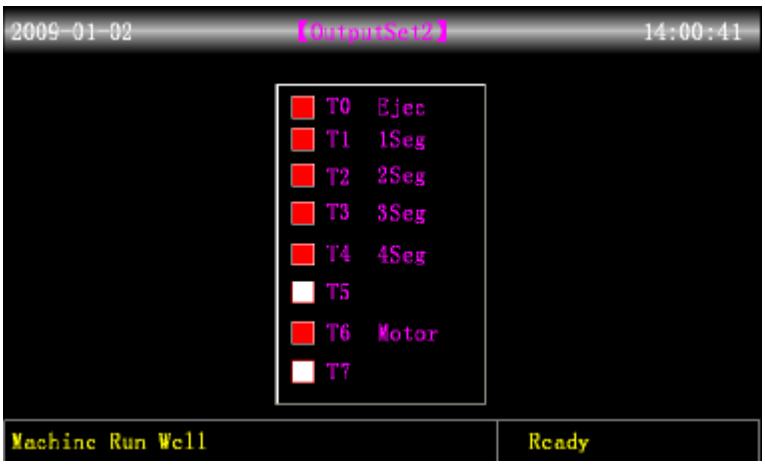
(1) Press 2 VWX Key on the Main Page to enter Input Inspection Page and the following will be displayed:



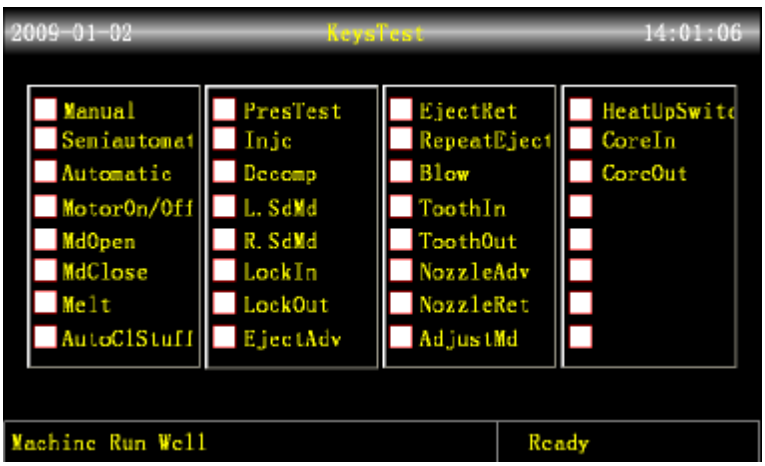
(2) Press 3 YZ Keyon the Main Page to enter Input Inspection Page I and the following will be displayed:



(3) Press 3 YZ Key on the Main Page to enter Key Inspection Page I and the following will be displayed:

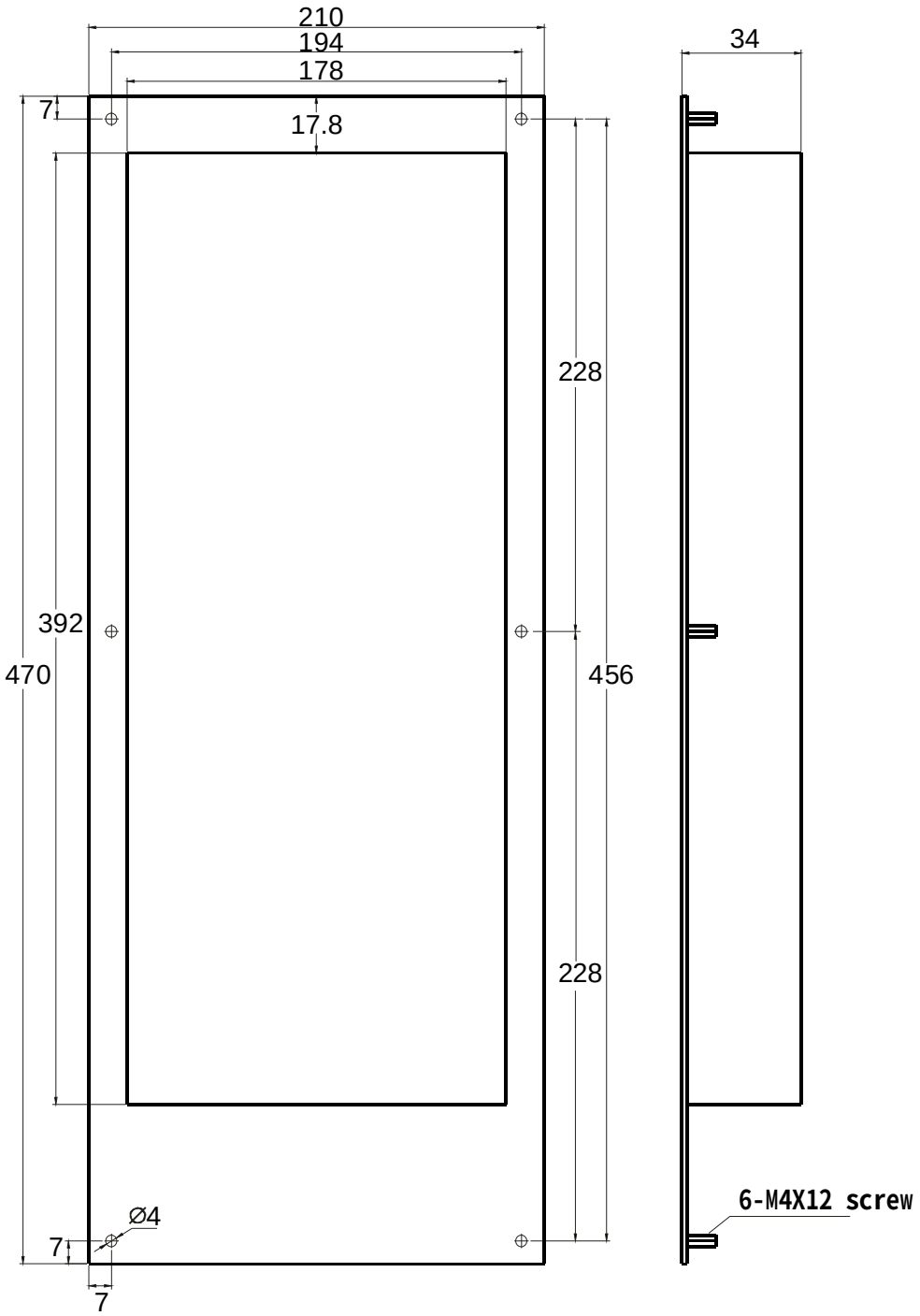


(4) Press 4 JKL Key on the Main Page to enter Key Inspection Page II and the following will be displayed:



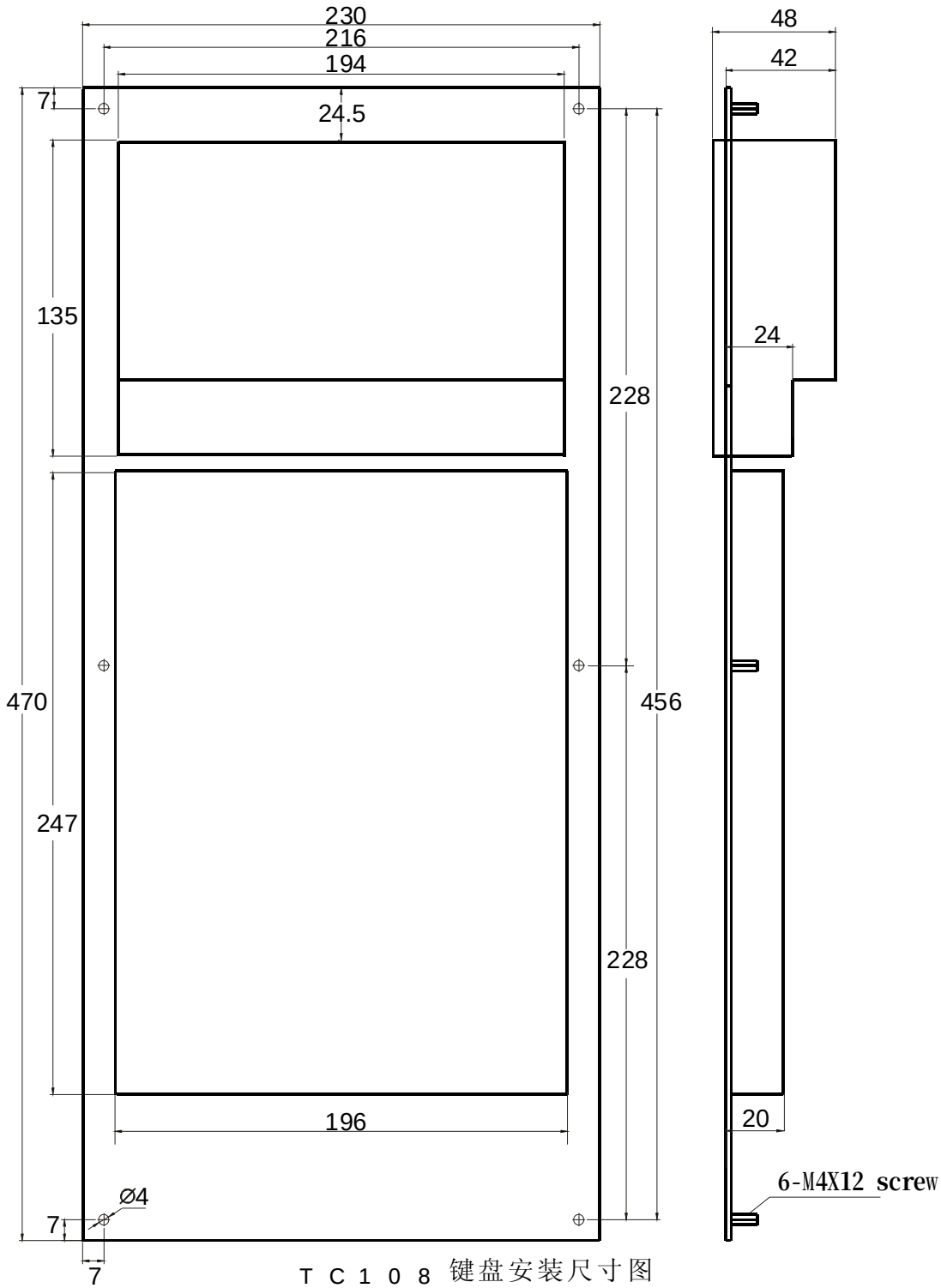
NOTE:

The above input inspection pages are used for signal inspection and cannot accept information modified. The solid box on the display indicates that the signals are being input.



TB108 键盘安装尺寸图

TB 108 Keyboard Installation Size Diagram



T C 1 0 8 键盘安装尺寸图

TC 108 Keyboard Installation Size Diagram

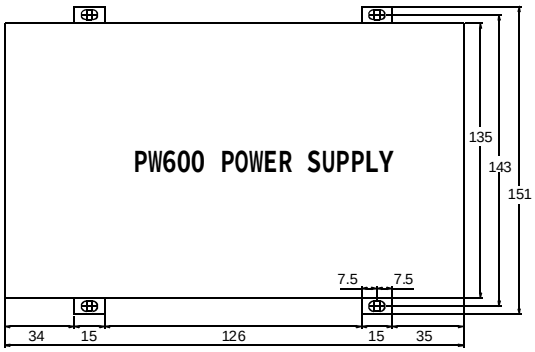
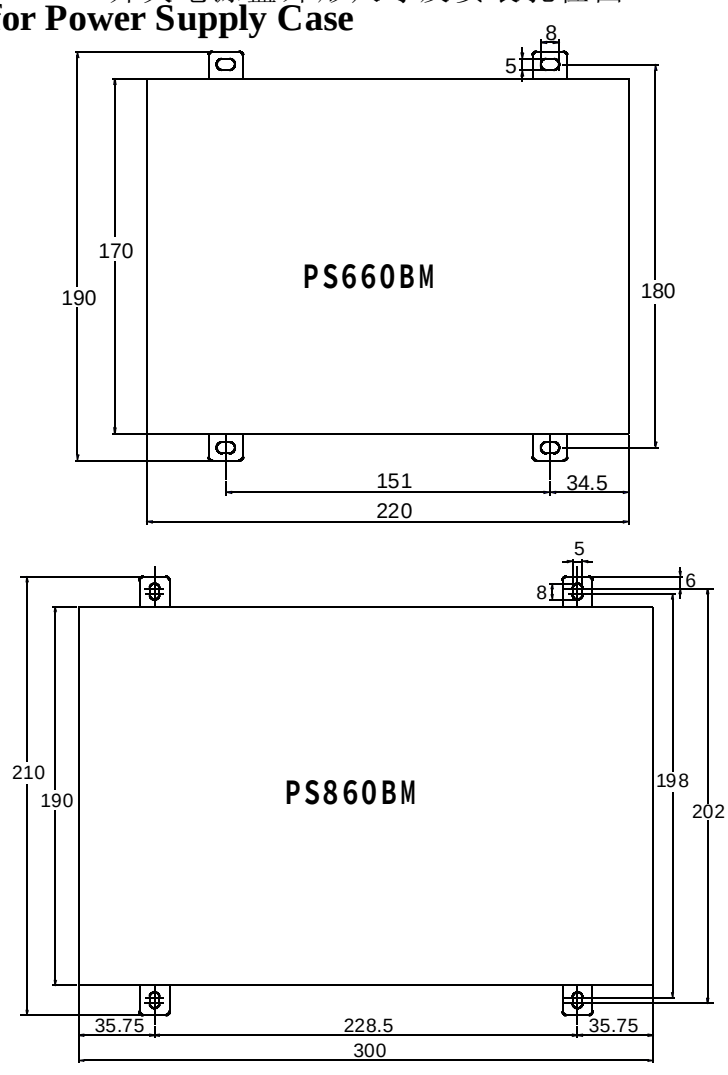


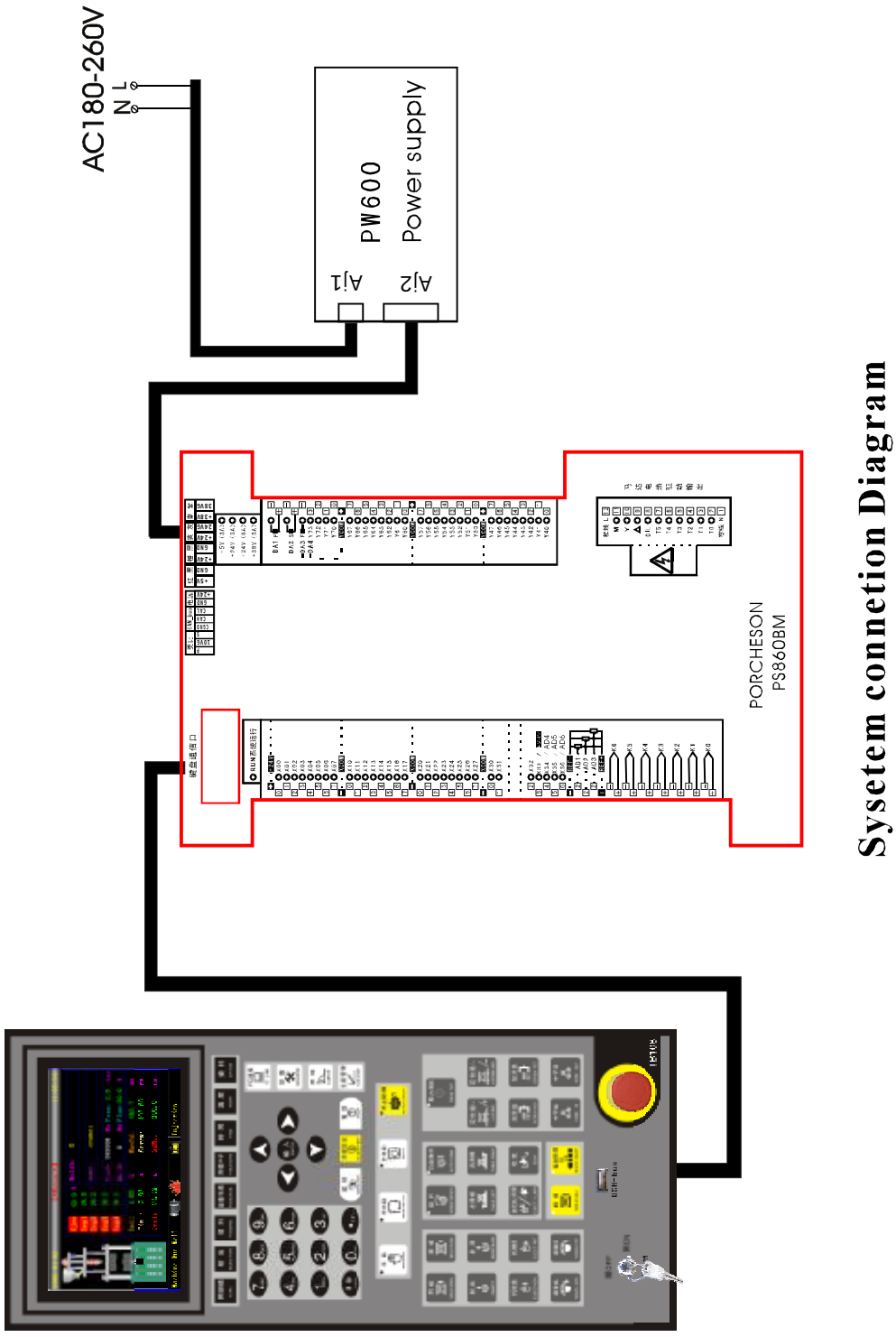
Figure of Dimensions & Installation Hole Positions for Power Supply Case

开关电源盒外形尺寸及安装孔位图

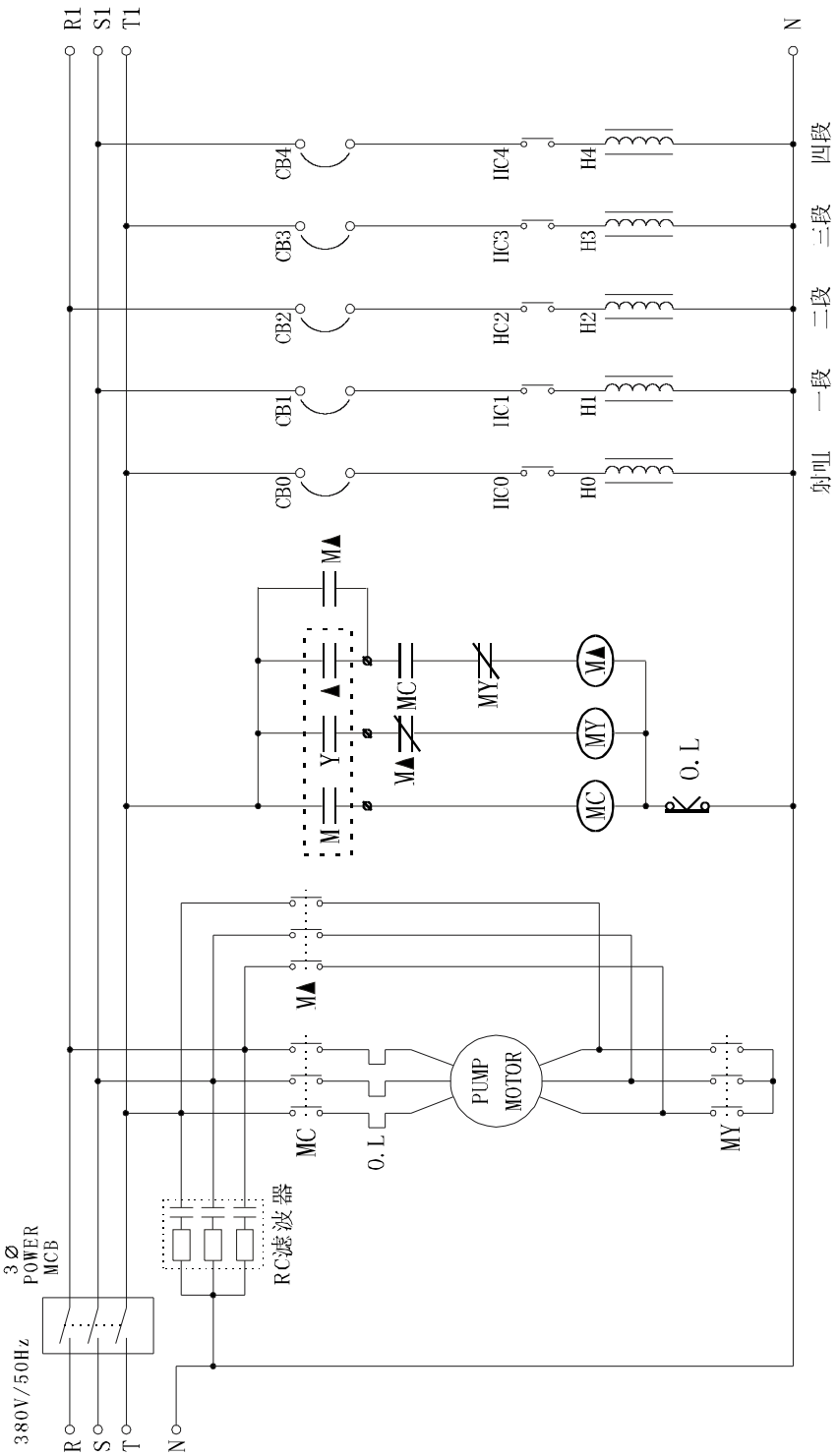


主机外形尺寸及安装孔位图

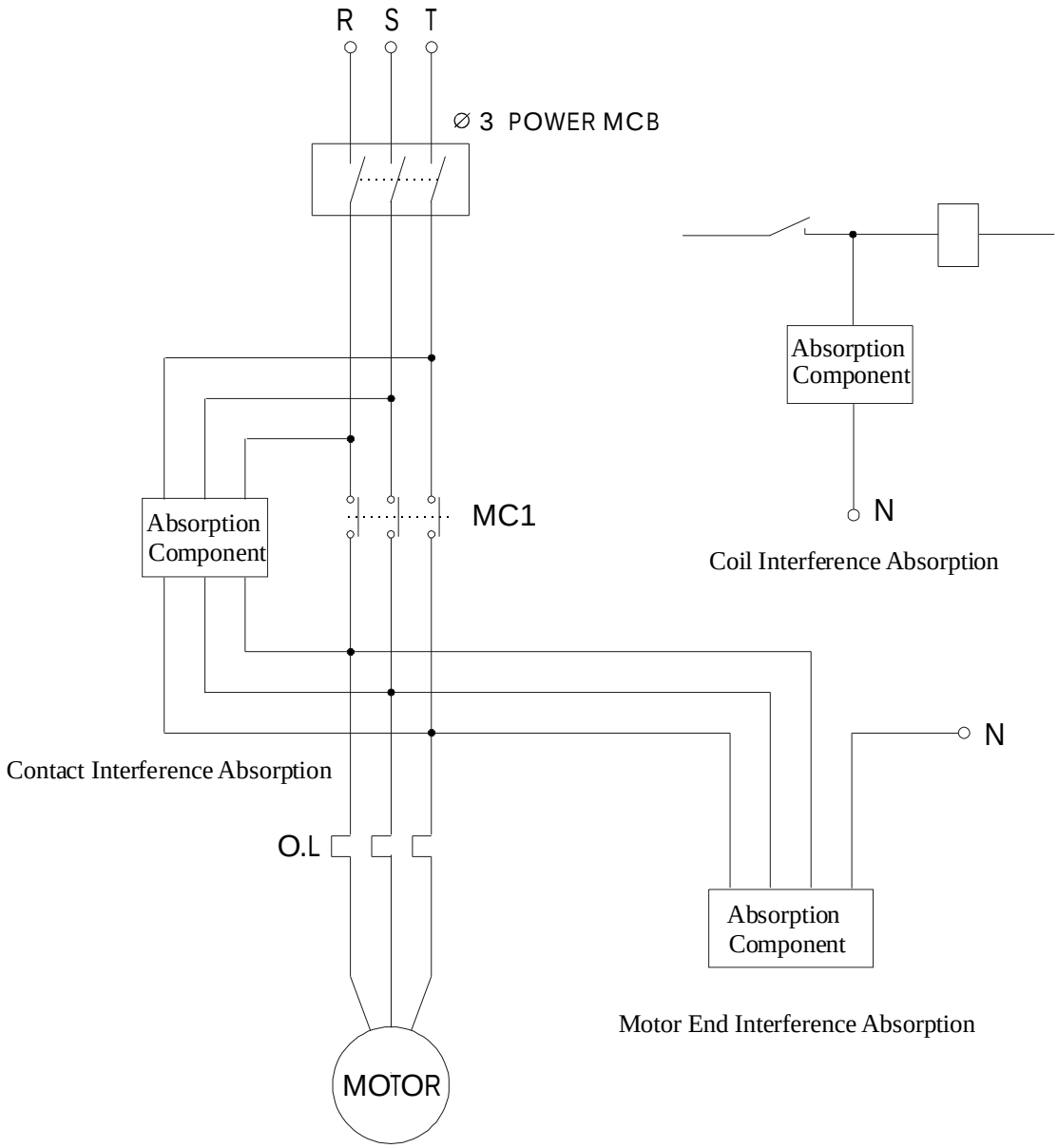
Figure of Dimensions & Installation Hole Positions for Master Machine



System connetion Diagram



Motor Electric-Heating connection Diagram



Common Interference Suppression Method (for reference only)