Multiaxial servo manipulator control system operation manual

V4.2

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CONTENTS

CHAP 1 Specification and Installation

1.1 Specification

1. 8 inch color touch screen
2. Servo control board
3. I/O Board
4. Power Supply(2 power supplies)

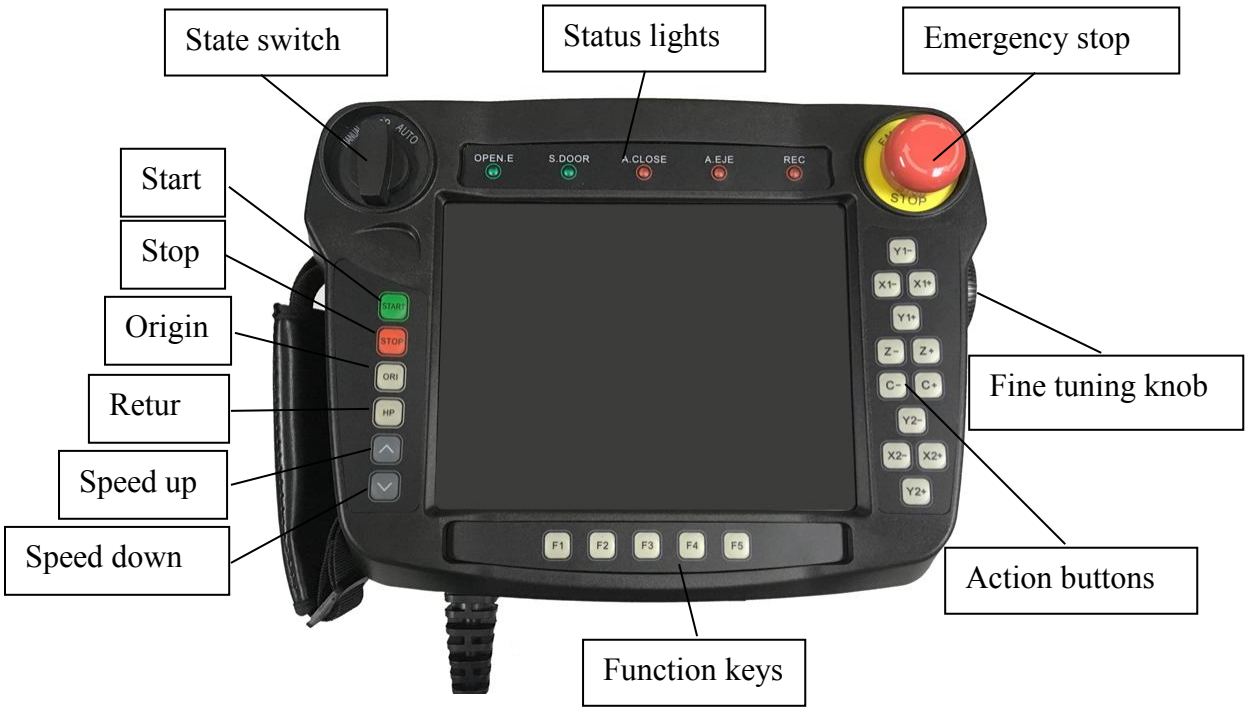
1.2 Installation Notes

1. The wiring work must be done by a professional electrician.
2. Confirming the power off when you are working.
3. Please installed on metal flame retardants and must be away from combustible materials.
4. Ground connection is needed for your safe.
5. When there is something wrong with external power supply, which may make control system out of work, you must set a safety circuit.
6. Be familiar with the Instructions before installing, wiring, operating and maintaining. Have a good knowledge of mechanical, electronic may help a lot when you use.
7. Installing the controller should have well ventilated, defending the oil and dust. If the electronic controller is installed in a close room, to prevent environment temperature goes high, a fan is necessary to make sure temperature inside the box is below 50 ℃.
8. The controller shouldn't be installed near to the relay, transfer etc., for these are disturb source.

Notice: Improper operation may cause hazards, including personal injury or equipment accidents.

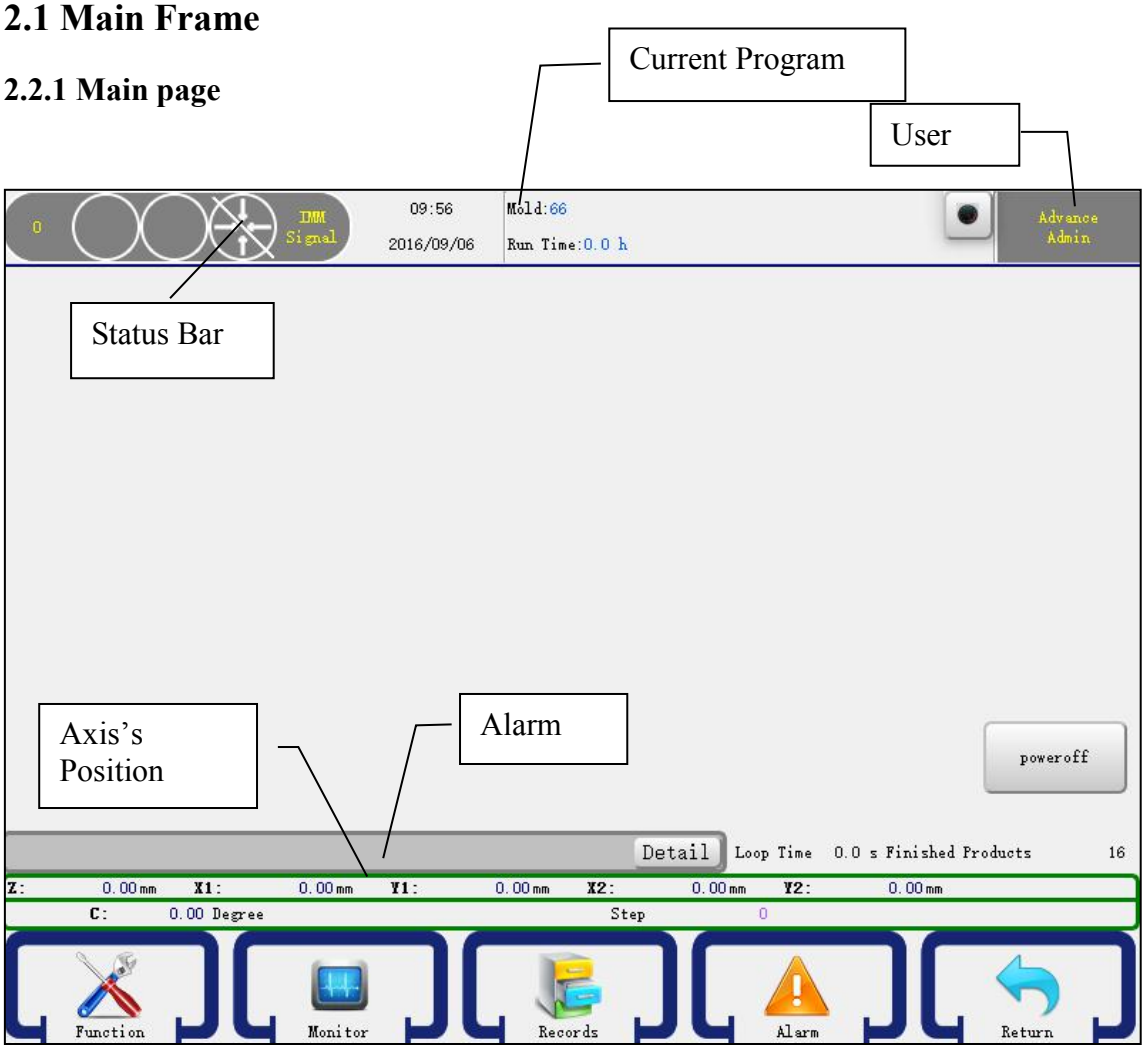
CHAP 2 Operate panel

2.1 Appearance



2.1 Main Frame

2.2.1 Main page



Status bar: display manual, automatic, stop, the status of the origin.

Current module number: according to the different processes to establish the number of the display. In the file inside the new, copy, delete, load, export. See Section 4.1.

The auxiliary buttons: auxiliary keys for the virtual keys. With start, stop, reset, timing, origin, speed. As the auxiliary measures of hand controller button.

User rights: can login administrator, senior administrator. Password is 123 to modify the permissions password see section 5.6.2.

Current axis position: the position of the current machine is displayed in real time.

Alarm information: alarm display alarm information, press the help button will pop up a dialog box to solve the method, can be prompted to solve the problem.

2.2.2 Axials Definitions

Z：Traverse in/out.

X1：Main arm forward/backward.

Y1：Main arm up/down.

X2：Vice arm forward/backward.

Y2：Vice arm up/down.

A axis: mechanical hand tool level 2, 2 vertical.

B axis: mechanical hand tool axis of rotation (arm five shaft).

C: Pose Horizontal/Vertical.Operation

CHAP 3 Operation

Manipulator manual, stop, automatic are three operating status, the selection switch on the left of the gear is manual mode, in which the robot can be operated manually; the stop switch only to be used by homing robot operation is to the middle position of selection switch to stop all action. When the selection switch is to the right, pressed a "start" button, the robot enters the automatic operation.

3.1 Origin Position Returned

To make the robot can run automatically correctly after power on, an Origin Position Returned(OPR), driving the robot return to the home position for each axis, sucker and fixture return to the closed is needed.

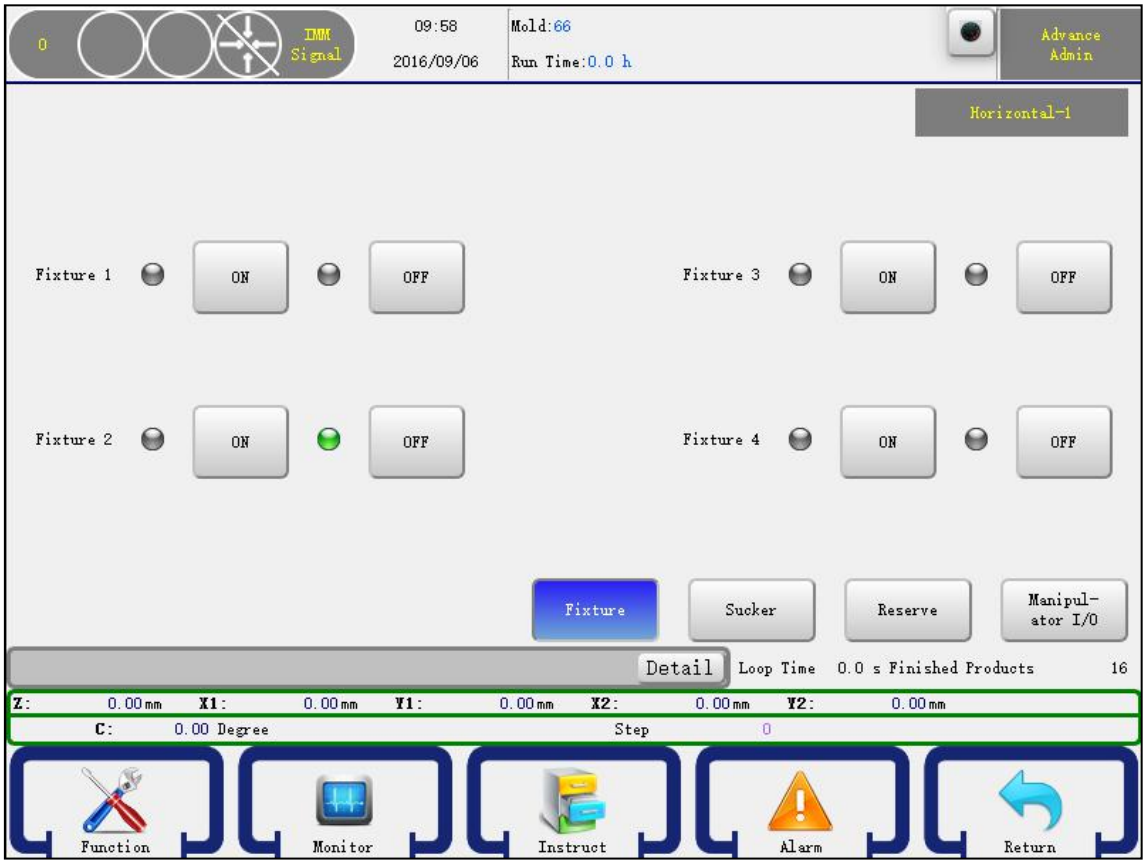
In the stop mode, press the "Home" button once, then press the "Start" button to return to the home position with each axis Y1 (Y2) X1 (X2) Z by order. At the same time, a page box comes to remind you that you are ongoing OPR operation and all back to their origin that each electric axis position is 0.

When all axes, sucker and fixture return to the home position, there is a icon on the top right of the screen  , you can operate automatic and manual mode.

You can not operate manual, automatic and modify setting when OPR, please press the stop button or emergency stop button in case of emergency to stop the OPR.

3.2 Manual Operation

Turn the knob to left , the robot will go into **Manual Status**. As shown below:



3.2.1 Axis Action

Users can not move the arms before set origin. But can operate pneumatic valves.

Pneumatic control: Main arm up with pressed once.

Electric control: Main arm up with pressed. When you stop pressing, it stops moving.

Pneumatic control: Main arm down with pressed once.

Electric control: Main arm down with pressed. When you stop pressing, it stops moving.

Pneumatic control: Vice arm up with pressed once.

Electric control: Vice arm up with pressed. When you stop pressing, it stops moving.

Pneumatic control: Vice arm down with pressed once.

Electric control: Vice arm down with pressed. When you stop pressing, it stops moving.

Pneumatic control: Main arm backward with pressed once.

Electric control: Main arm backward with pressed. When you stop pressing, it stops moving.

Pneumatic control: Main arm forward with pressed once.

Electric control: Main arm forward with pressed. When you stop pressing, it stops moving.

Pneumatic control: Sub arm backward with pressed once.

Electric control: Sub arm backward with pressed. When you stop pressing, it stops moving.

Pneumatic control: Sub arm forward with pressed once.

Electric control: Sub arm forward with pressed. When you stop pressing, it stops moving

Pneumatic control: Pose vertical with pressed once.

Electric control: Moving towards vertical position with pressed. When you stop pressing, it stops moving.

Pneumatic control: Pose horizontal with pressed once.

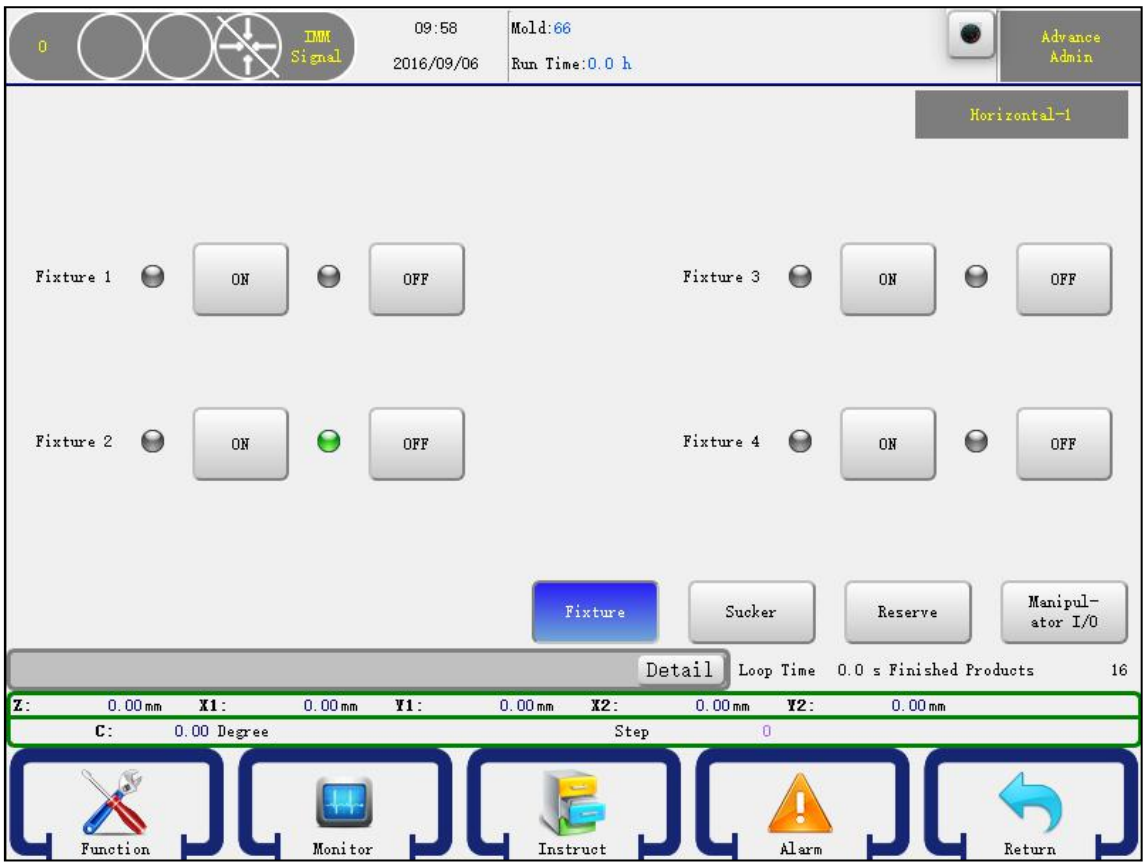
Electric control: Moving towards horizontal position with pressed. When you stop pressing, it stops moving.

Traverse In

Traverse Out

3.2.2 Fixture Action

In the manual page click the Fixture button on the bottom right to go into the manual fixture page. As shown below:

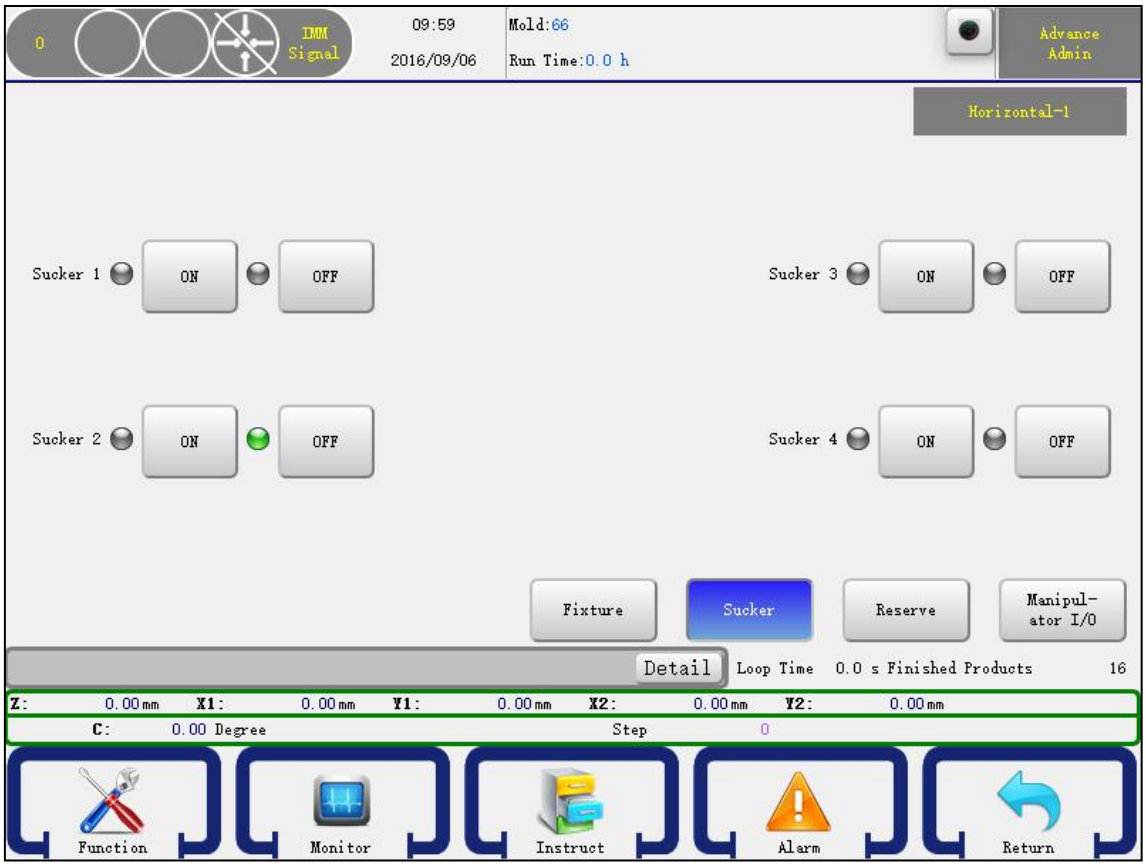


There are four fixtures. Press the On button to turn it on and press the OFF button to turn it off.

Attention: Input signal shows red and output signal shows green. The input or output indicator is off if there is no signal.

3.2.3 Sucker Action

In the manual page click the Sucker button 【Sucker】on the bottom right to go into the manual sucker page. As shown below:

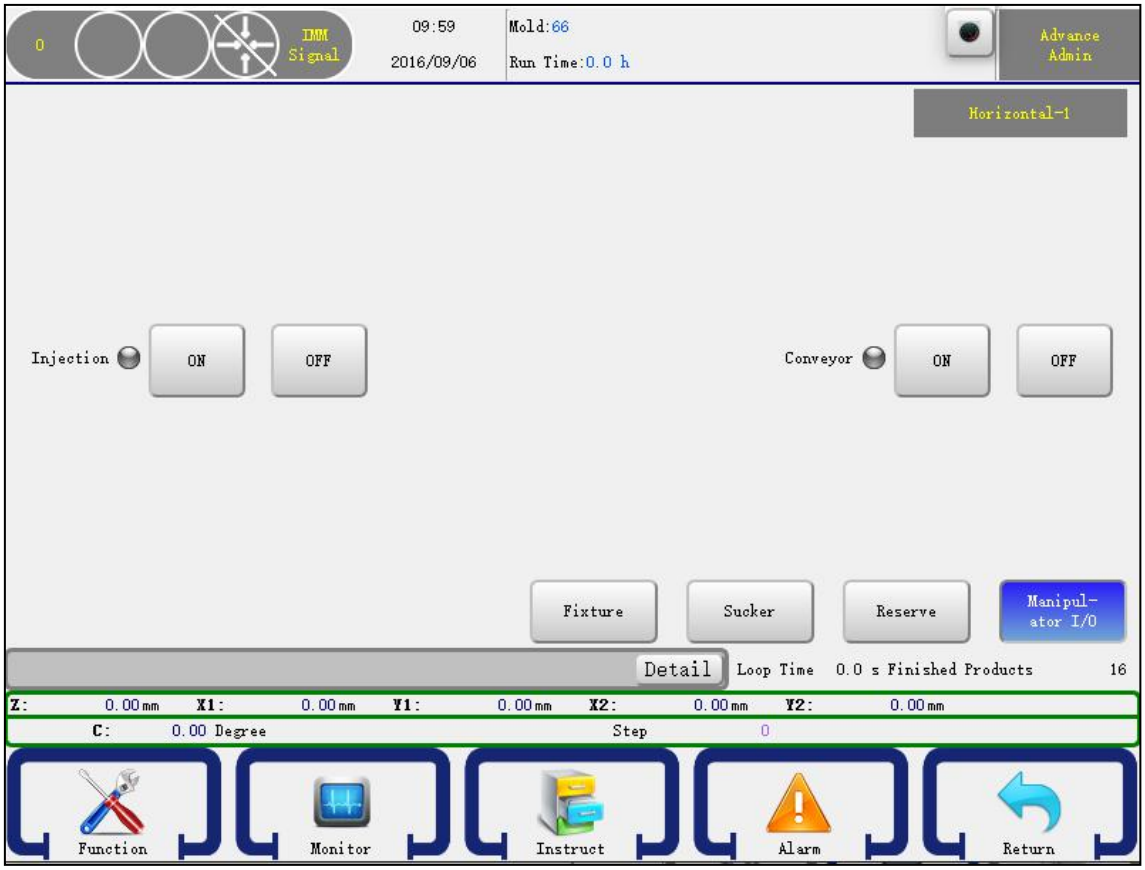


There are four suckers. Press the On button to turn it on and press the OFF button to turn it off.

Attention: Input signal shows red and output signal shows green. The input or output indicator is off if there is no signal.

3.2.4 Auxiliary Action

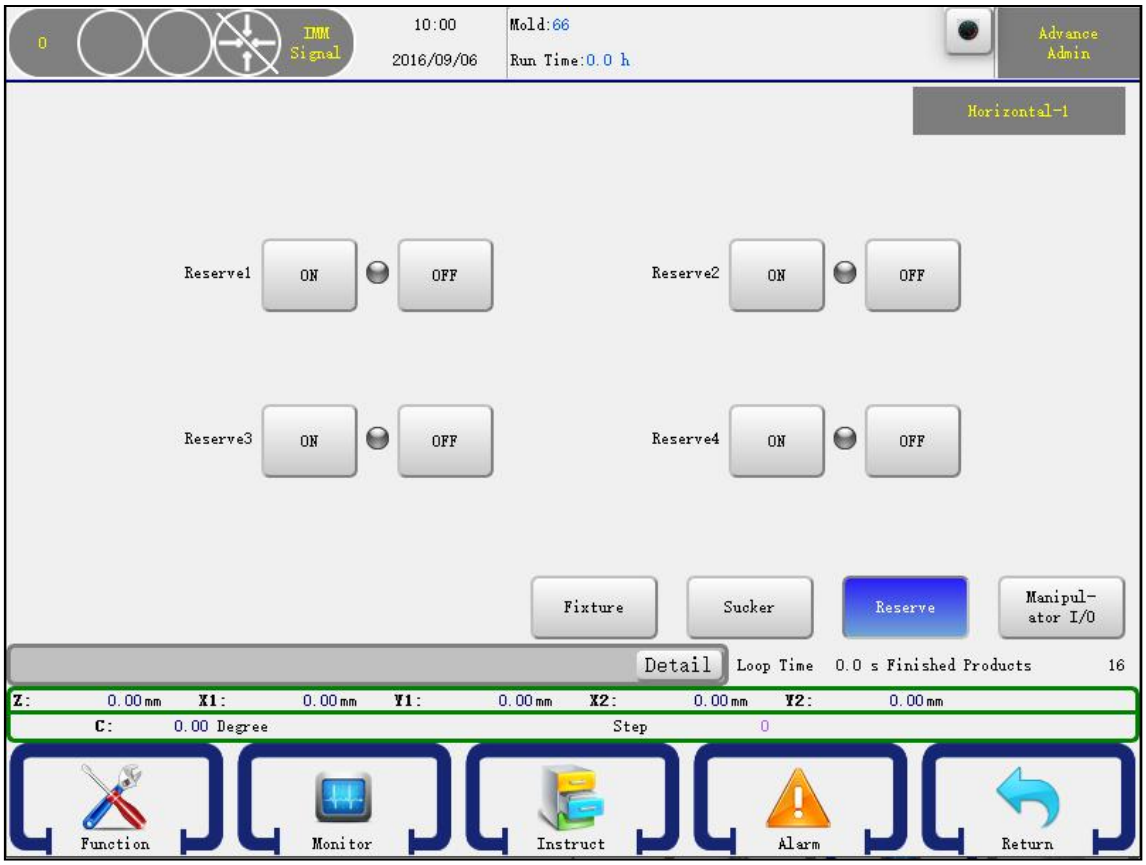
In the manual page click the Other button on the bottom right to go into the manual other page. As shown below:



The operation is the same as fixture.

3.2.5 Reserve Action

In the manual page click the Adjust button on the bottom right to go into the manual Adjust page. There are six adjust reserve action, you can set as what you want. As shown below:



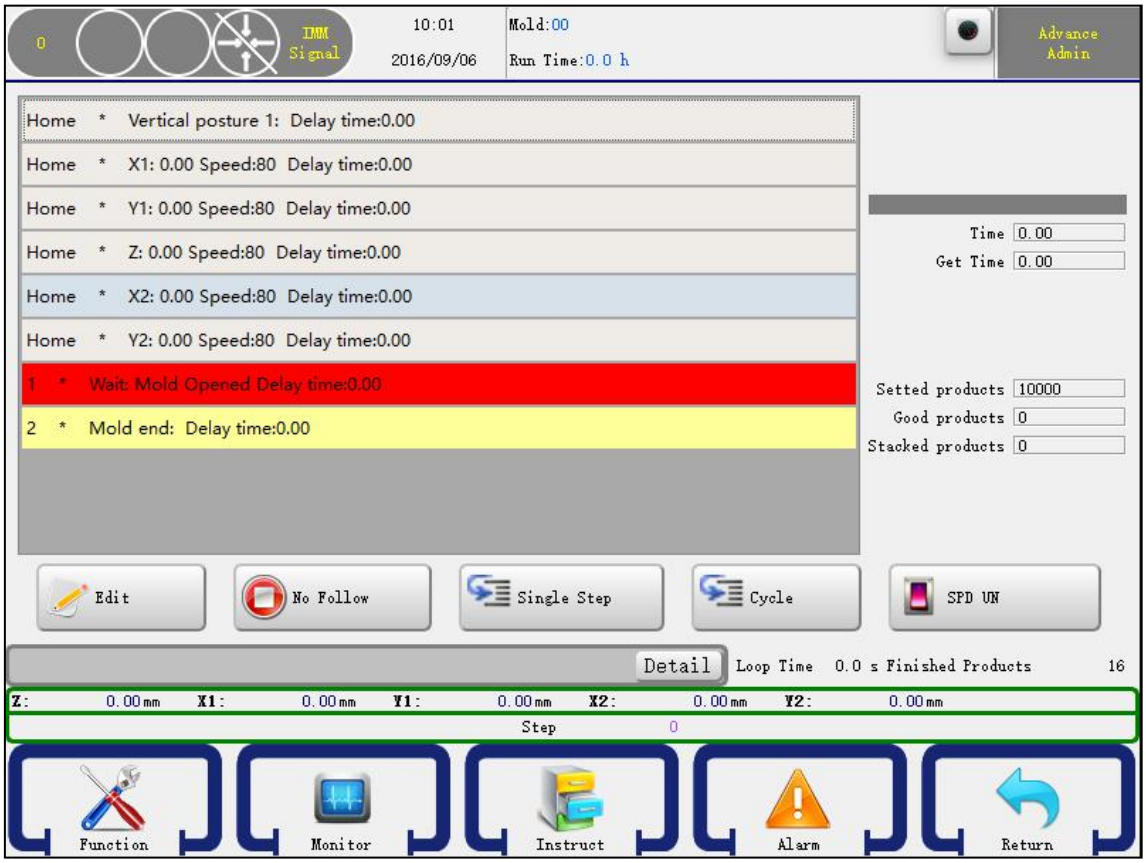
The operation is the same as fixture.

Warning: the reserved reserve 1 and 2 for the interlock signal, namely the reserved after 1 pass, reserved 2 recanalization, will take the output of the reserved 1 break. Please according to need careful connection!

3.3 Auto Mode

3.3.1 Monitor Auto Running Status

Turn the knob to the right to go into the auto run page. The robot will turn to **Auto Ready Status**. In this status, press the start button will let the robot turn to **Auto Running Status.** You can monitor the running status , as shown below



Time：Time suspend in the Auto carry out cycle.

Get Time: The time that robot dropped to get and take out the product in the Auto

Setted Products： The mount of product per-set. Alarm occurs when product counter reached.

Good products：The number of chi ban took out by robot.

Stacked products: The number of products have been stacked by robot.

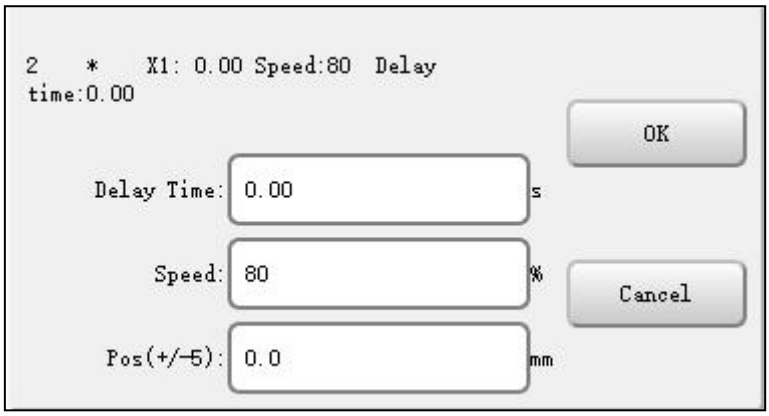
Loop Time: Time after a carry out cycle in the Auto.

Finished products：the number of finished products.

3.3.2 Adjust Running Configures

In the auto running status, you can modify the action of program configures. Just select a step and then click the edit button will show a editor dialog, after you click "OK", those data will be accepted and in the next cycle will be run according to your setting, if you press "Cancel" to cancel the operation.

To ensure that those setting won't make the robot, machine, mold damage, within 5 mm range is allowed. As shown below:



After you finished, just click the OK button to confirm your change.

3.3.3 Single Step Running

On the auto running status, you can click the single button to run a step. Click again will run the next step, as so on. This feature is very useful when debug you program.

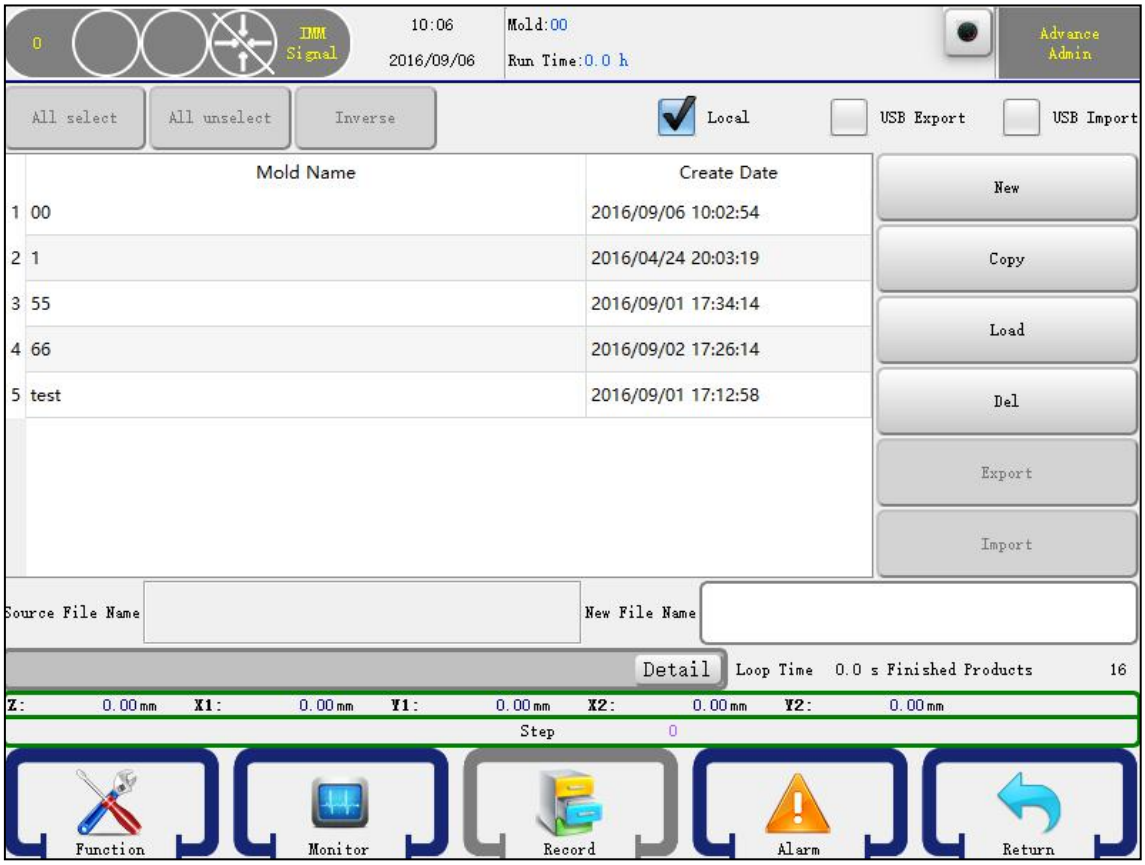
3.3.4 Speed Adjustment

Click "Speed"button so that it becomes "Speed display" to adjust the overall speed by pressing "Speed adjustment" on the Key board and the the panel on the lower left corner.

CHAP 4 Record Management

4.1 Create and Load Program

On the stop status and then click the record button on the menu bar to go into the record management page. You can maintain your programs in this page. As shown below:



Create Program： Input a program name in the file name box and then click the new button to create a new program.

Copy Program： Input a program name in the file name box and then click the copy button to copy a program to a new program.

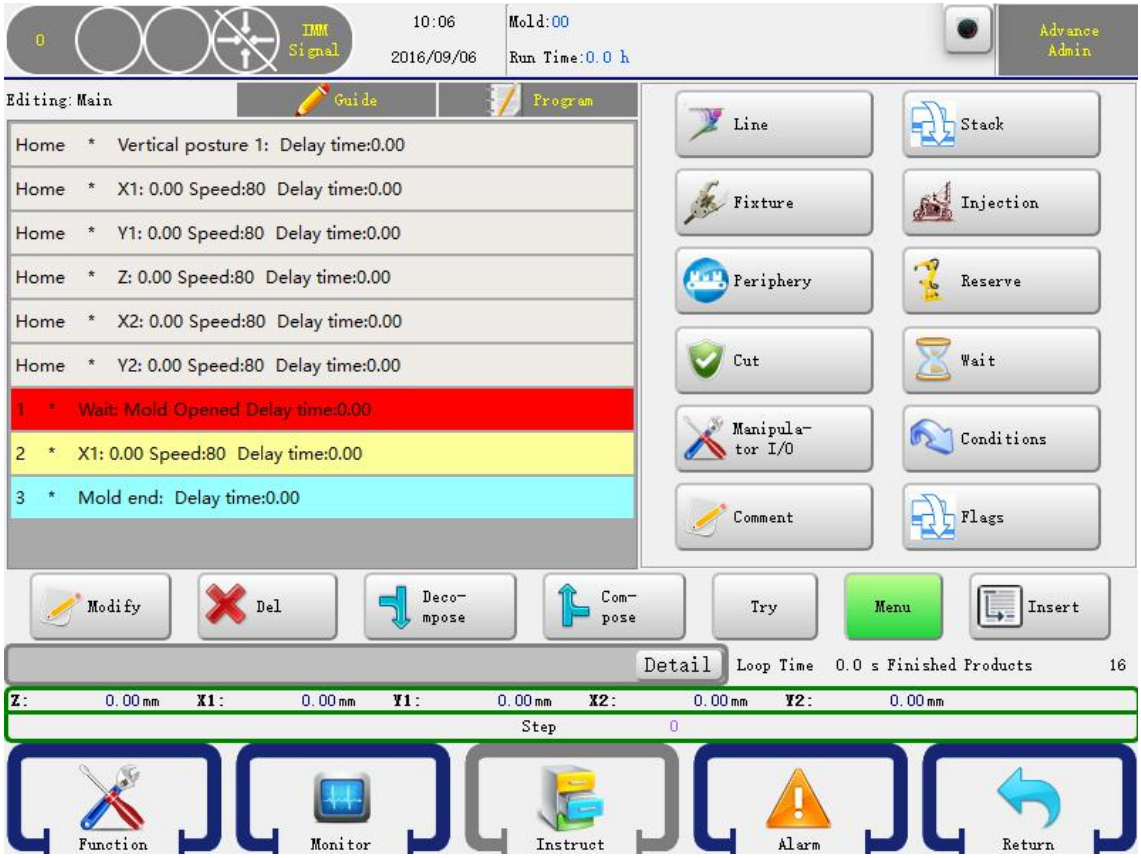
Load Program：Select a program and then click the load button to load a program.

Delete Program： Select a program and then click the delete button to delete a program. The current used program can not be deleted.

Export Program: Select a program and then click the export button to move out a program.

4.2 Program instruct

Turn the knob to the left to go into manual status and then click the teach button on the main menu bar to open the program editor. As shown below:

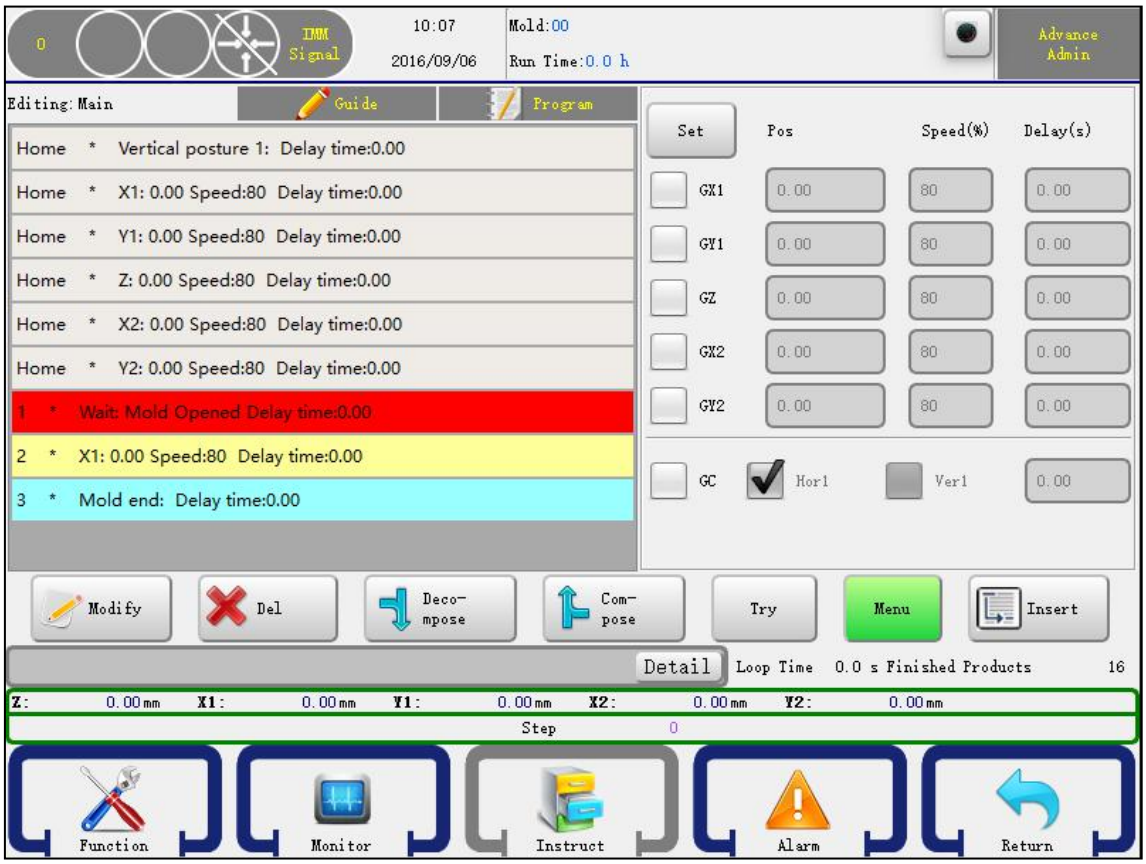


Servo action,Stack action, Fixture action, Injection, Auxiliary action, Reserve action, Check action, Wait action, Series action, Periphery are included in “Teach” button. Clicking those buttons to edit a program. Press “Teach” to back to menu.

In teaching mode, after selecting the actions you want to combine with, click “Combination” and you will get a same action step which is working at the same time when Auto operation. You can also separate a combined step into several steps by pressing “Break” button.

4.2.1 Servo Action

Click the Line button to go into servo action editor, you can set the X1(X2), Y1(Y2),Z,C(Pose) axis status ,as shown below:



In this page, you can set X1(X2),Y1(Y2),Z axes' position, operating speed and delay time. After clicking, the icon √ comes on the left, then set up the parameters of axes, select and click “Insert” button so that the corresponding settings are confirmed and inserted into the program steps.

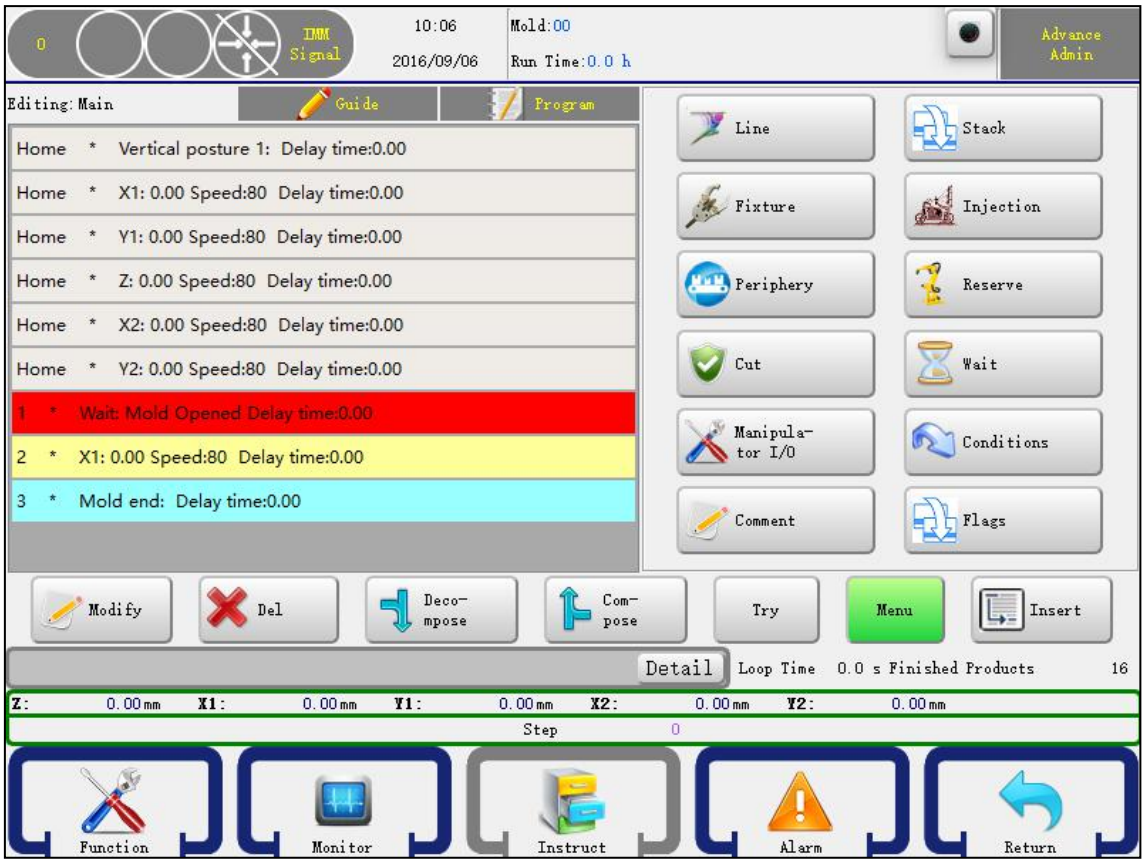
There are two ways to set the axis position:

1)Input the position you wanted in the editor box.

2)Press the axis button on the keyboard to let the arm locate to the position you wanted and then click the set button.

4.2.2 Program Starting point

The six steps are shown as six axes' origin position and pose.



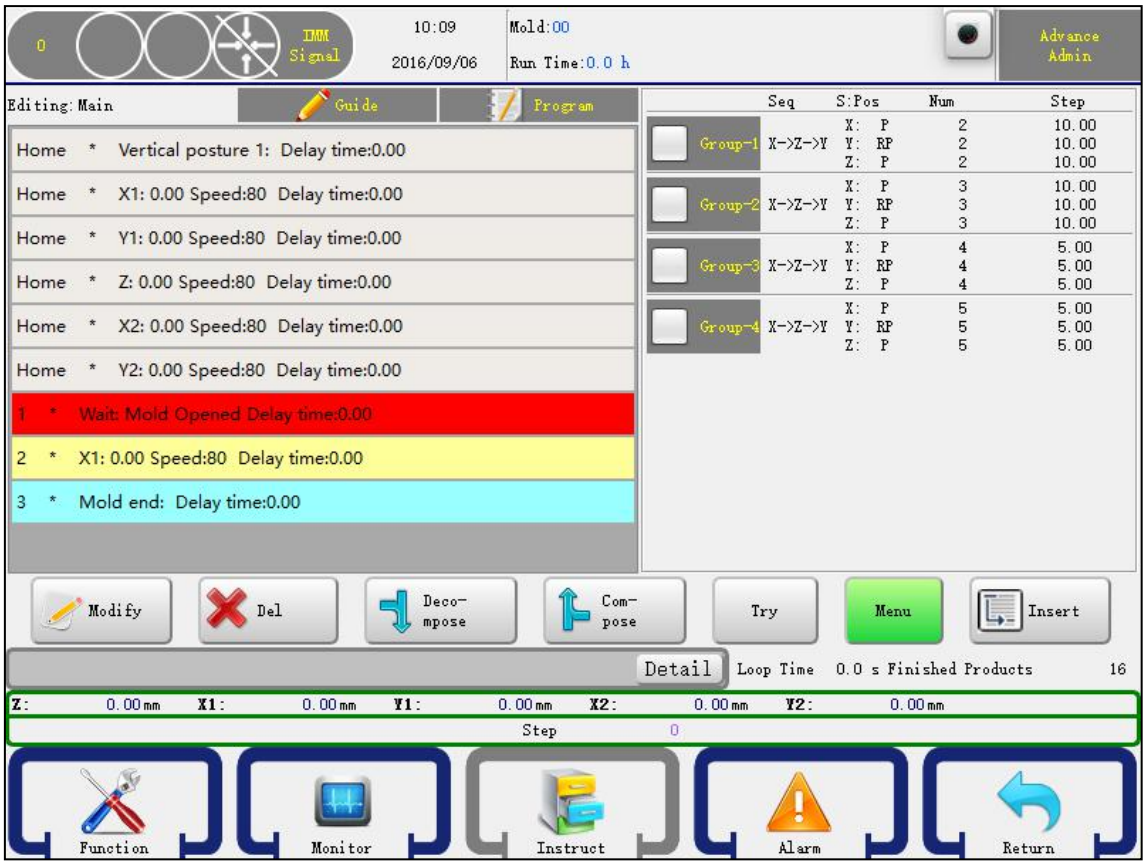
Six steps of [Home] status above, which are default steps status in a new program, can just be edited by click "Edit" to modify the starting position, operating speed and delay time of axes, not be deleted.

Tip: for the six axis of the five axes of the machine for the step, the other models due to the different axes, may increase or decrease.

The starting point is displayed and axis definition (section 5.7.1) to select the corresponding selection. The starting point several there are several, if not on the definition of the starting point and axis, it will alarm "standby position error", will be new mode number or will choose the correct definition of the shaft.

4.2.3 Stack action

Click the Stack button to go into stack action editor, as shown below:

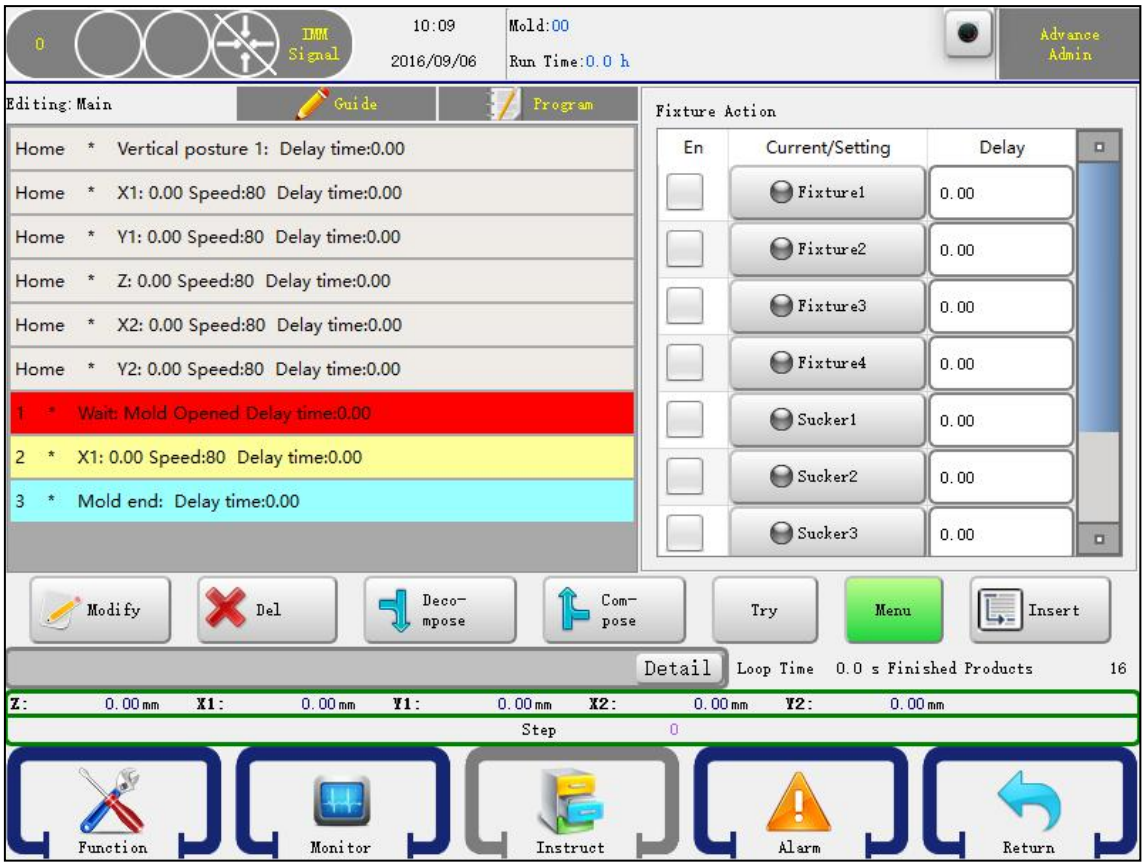


Select the left side of the stack to insert the program group, set the group and then click Insert button in front of the stacking step. The robot will stack products as order when Auto operation.

If you want to use the Y axis to stack, you should make sure the stack is inserted before Y-axis is lowering operation.

4.2.4 Fixture action

Click the Fixture button to go into fixture and sucker action editor, as shown below:



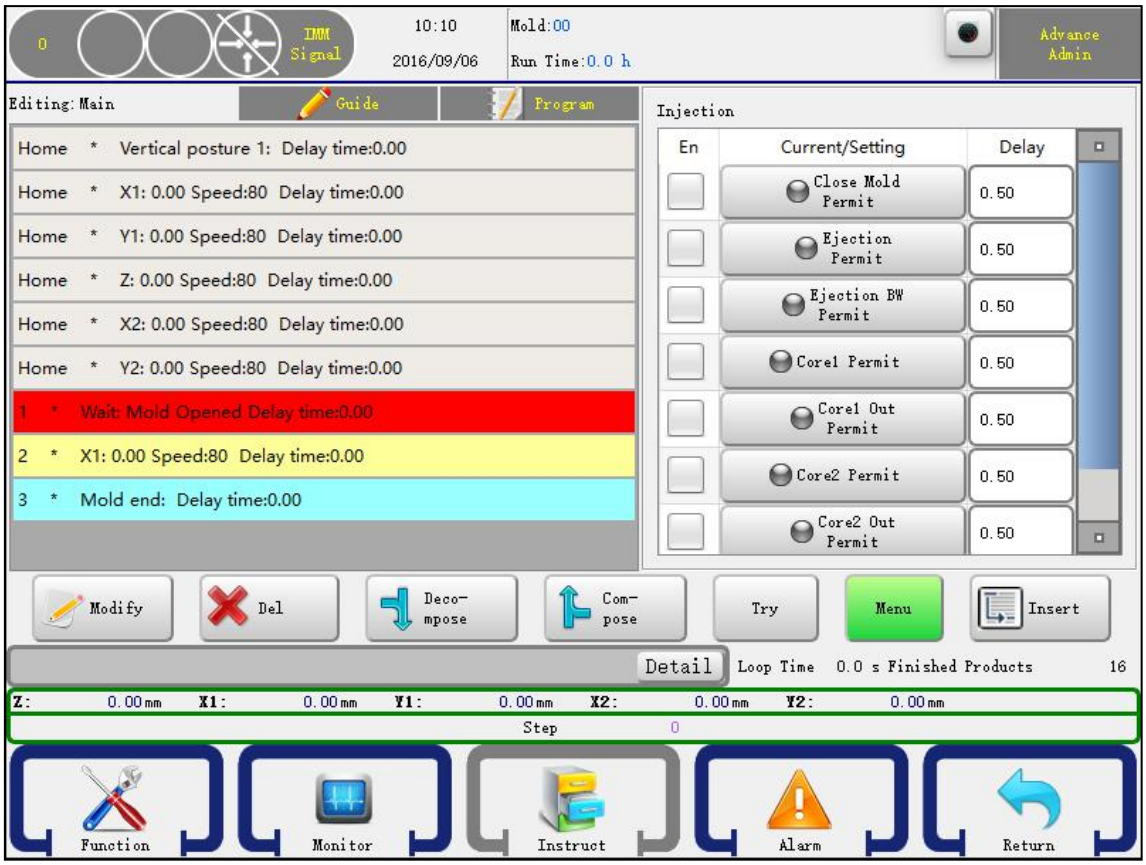
Controller can set four fixtures and two sucker action, clicking the button to be controlled and the indicator turns red when output. Then click on the left so that it becomes √, clicking “Insert” the action step is inserted into the front steps of the selection procedure.

After inserting fixture and sucker action, be sure to insert Check action, or the program does not test their conformation signal. If you do not acknowledge signal, you don't need the Check action.

You'd better have Check action to protect machine.

4.2.5 IMM Action

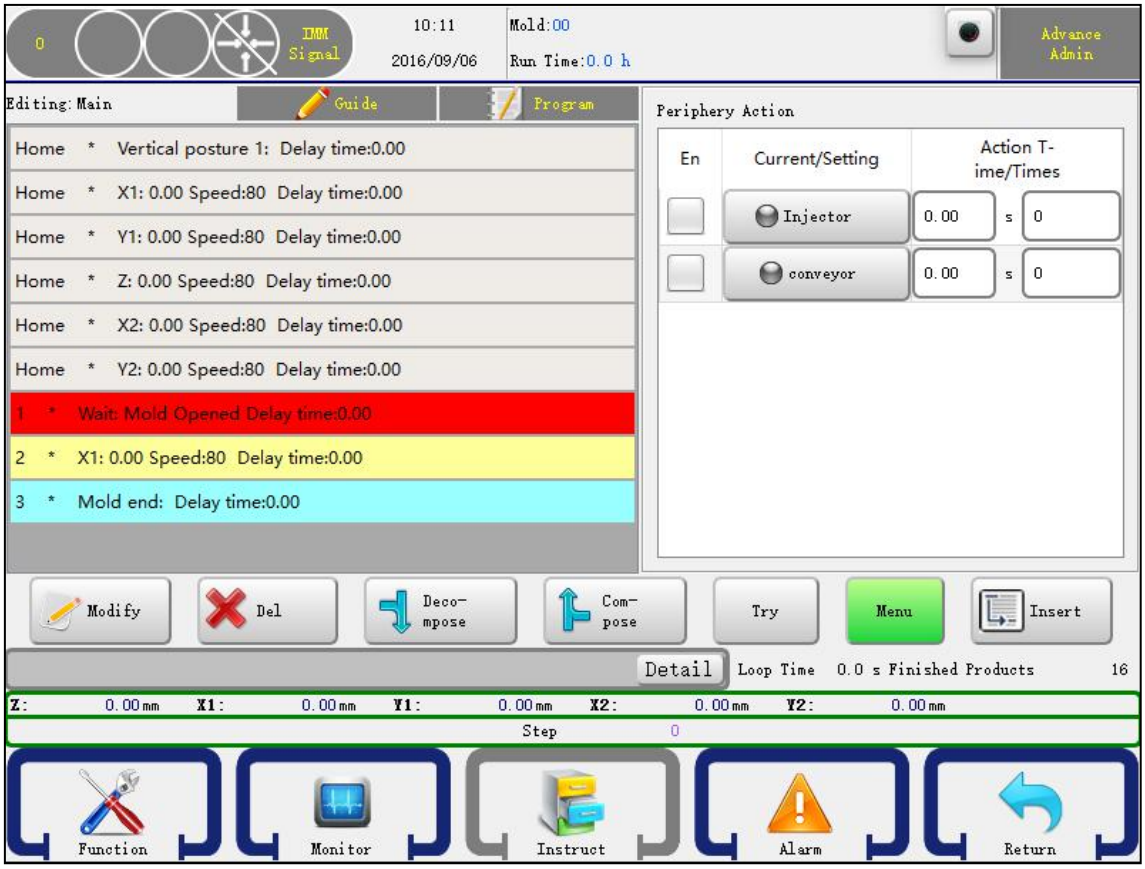
Click the Injection button to go into injection action editor, as shown below:



The operation is the same with program fixture action. See 4.2.4.

4.2.6 Auxiliary Action

Click the Auxiliary button to go into periphery action editor, you can find injector, conveyor, reserve point and stack action in this editor, as shown below:



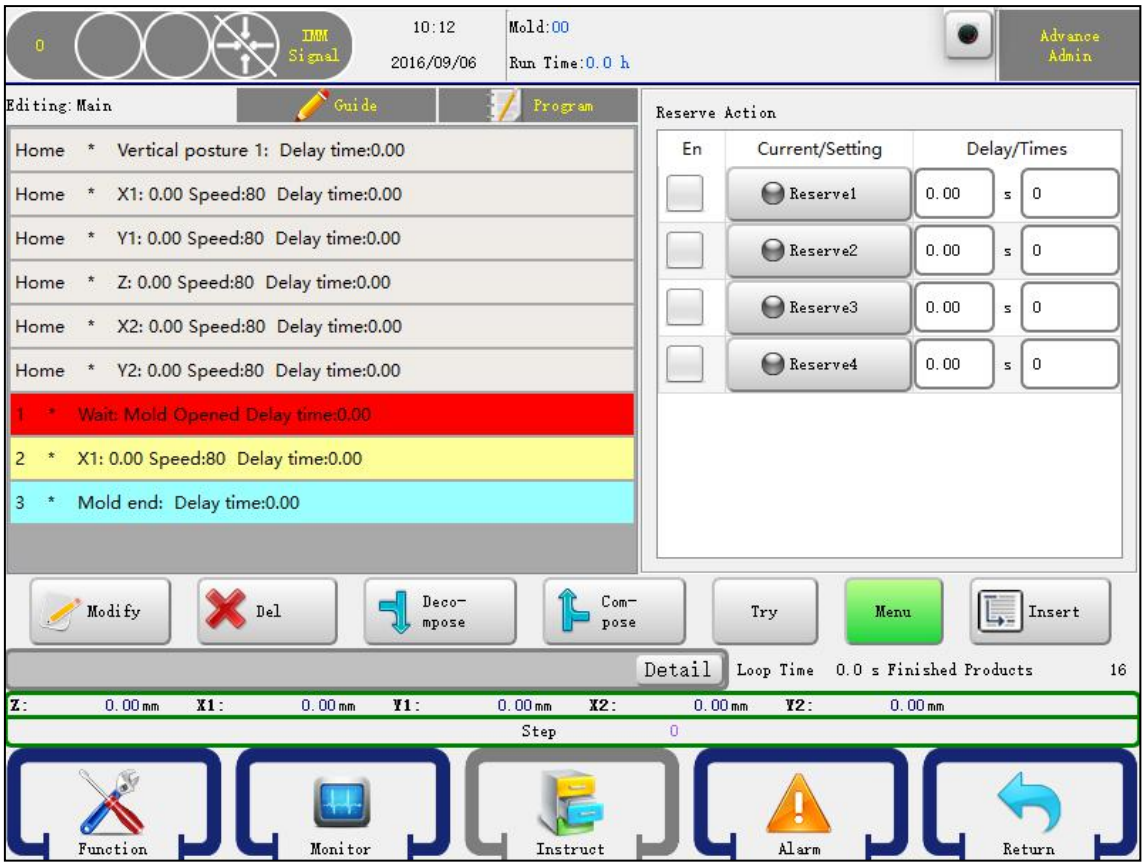
The operation is the same with program fixture action. See 4.2.4.

Times: Means how long to execute the action in a cycle.

Delay: Set how many molds in Auto when output, maybe every other 1 or two,etc.,

4.2.7 Reserve Action

Click the Reserve button to go into action editor. As shown below:



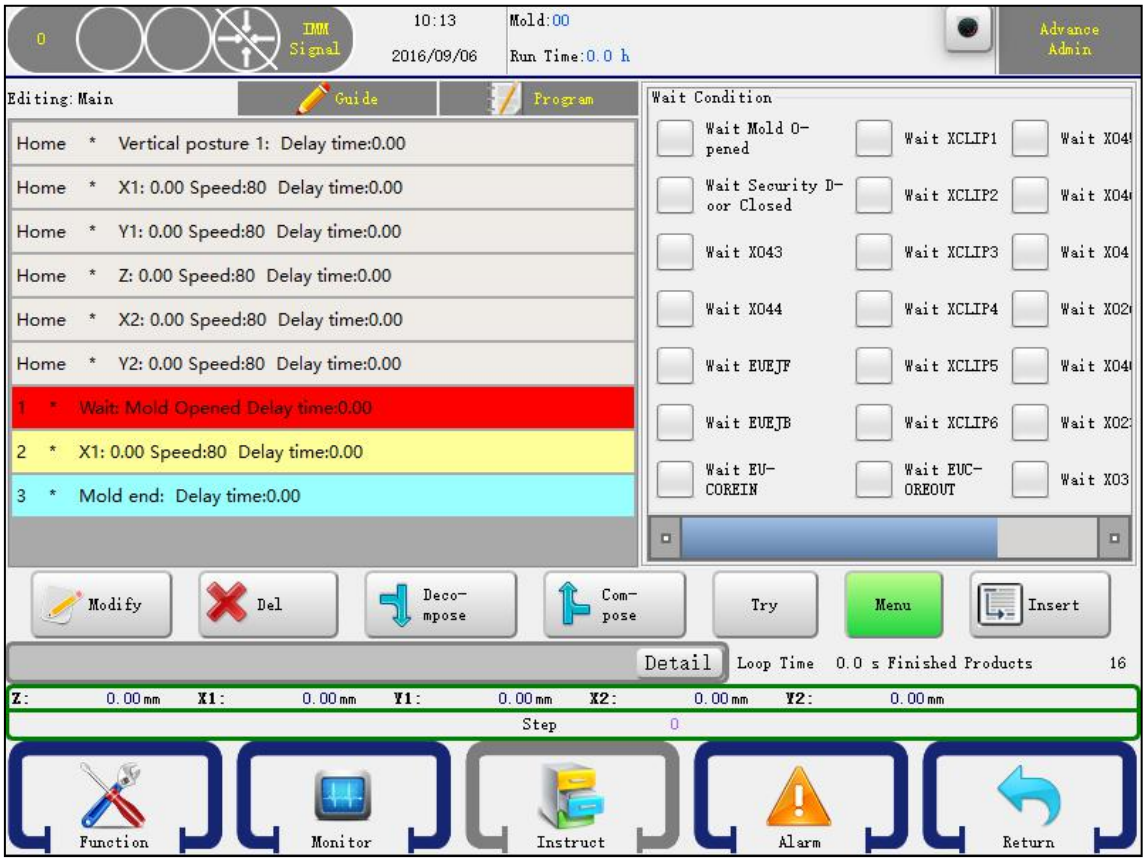
There have four reserves on the system.

Times: Means how long to execute the action in a cycle.

Delay: Set how many molds in Auto when output, maybe every other 1 or two,etc.,

4.2.8 Wait Action

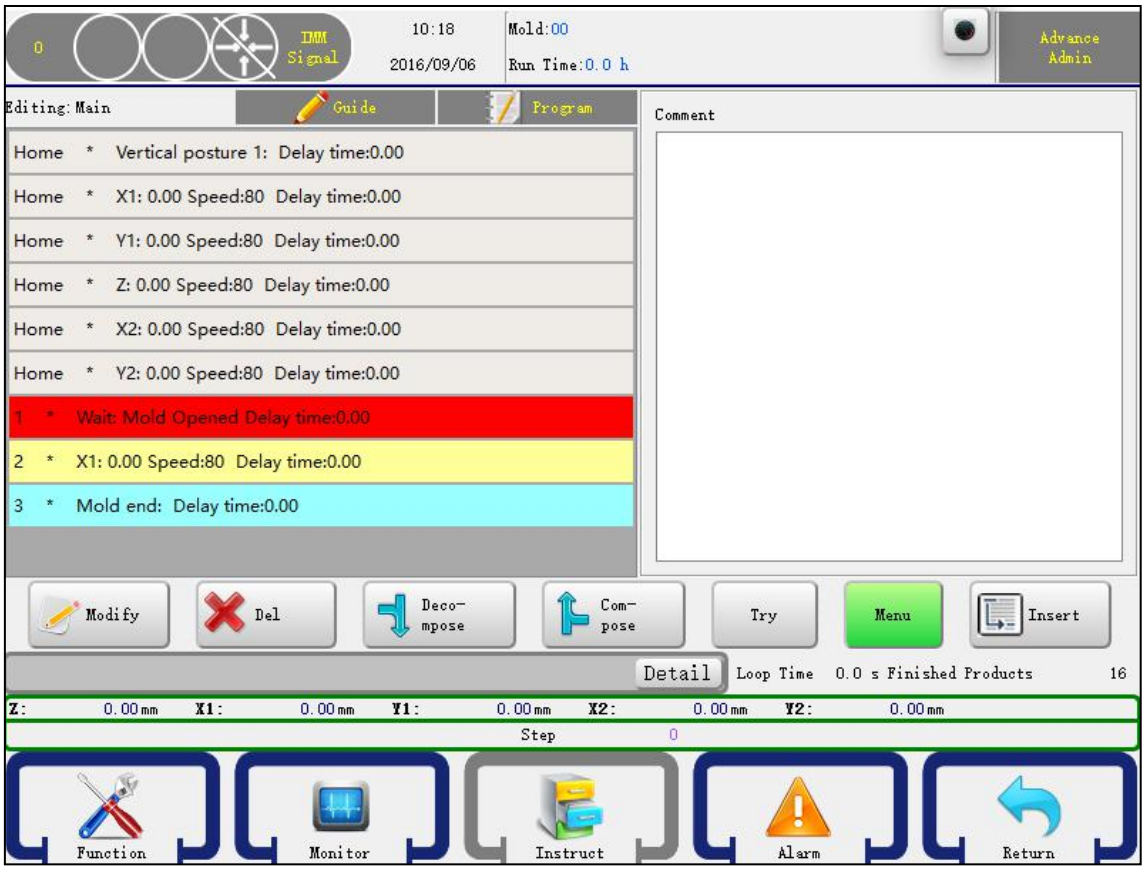
Click the wait button to go into wait action editor. This type of action means the program will stop before the input signal you want to wait is on. The editor is as shown below：

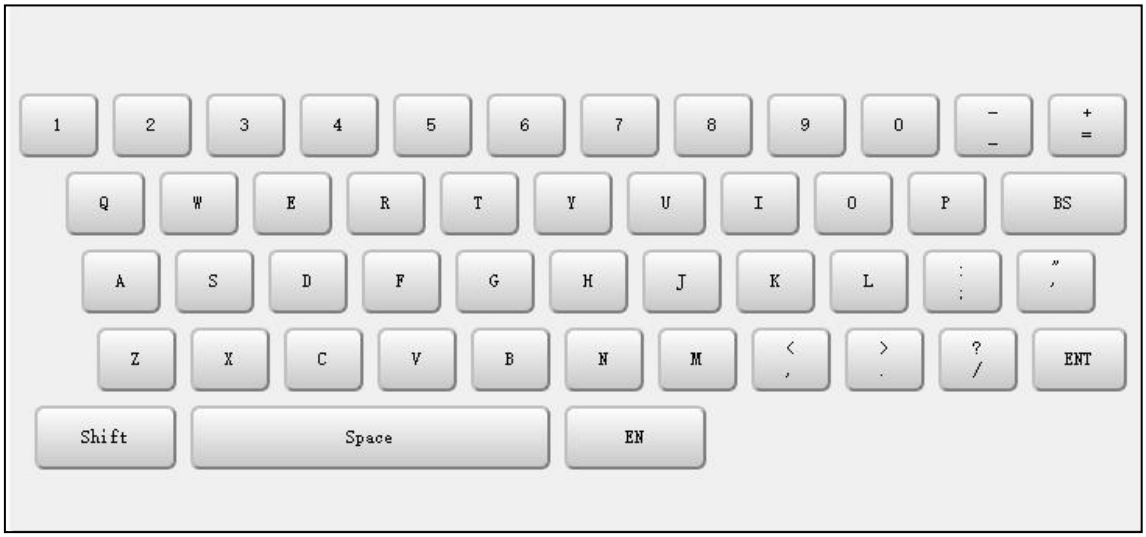


Just check the signal you want to wait and click the insert button to confirm your change.

4.2.9 Comment

Click the Comment button to go into Comment editor. It can be have some comment on the program

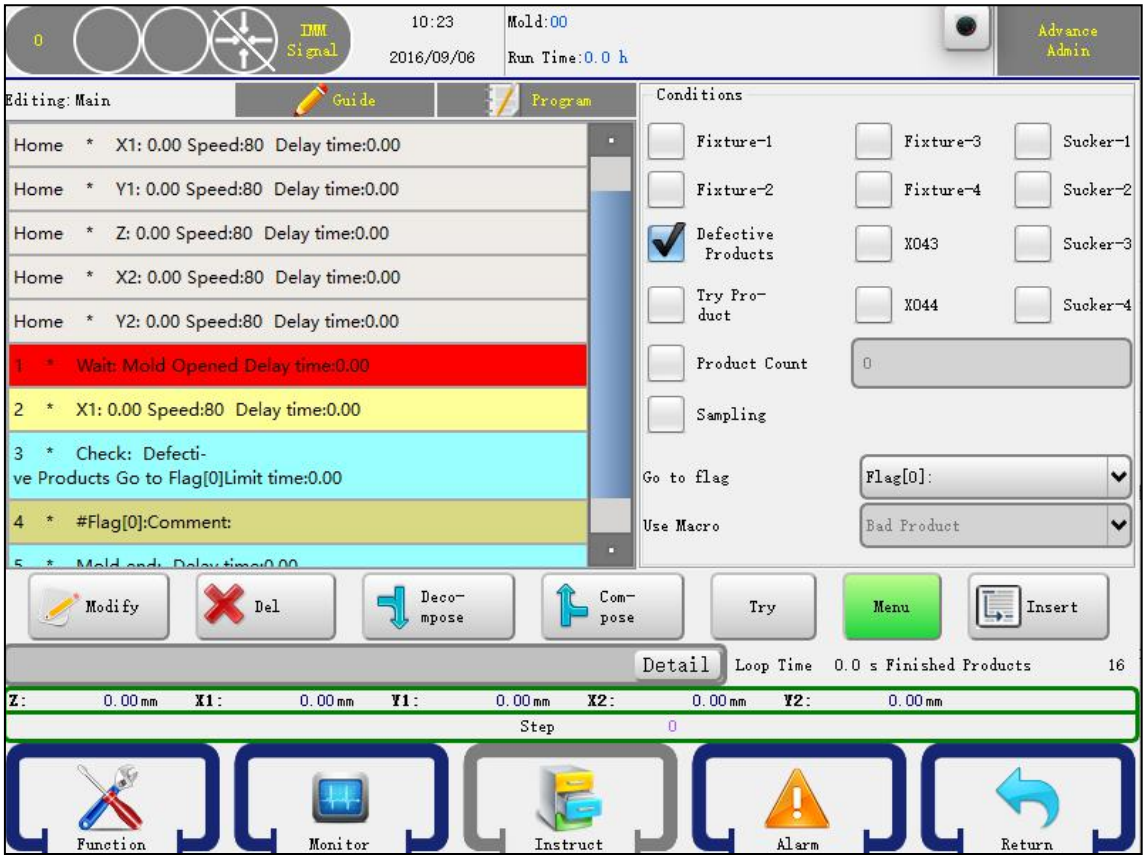




Keyboard can input the imformation.

4.2.10 Conditions

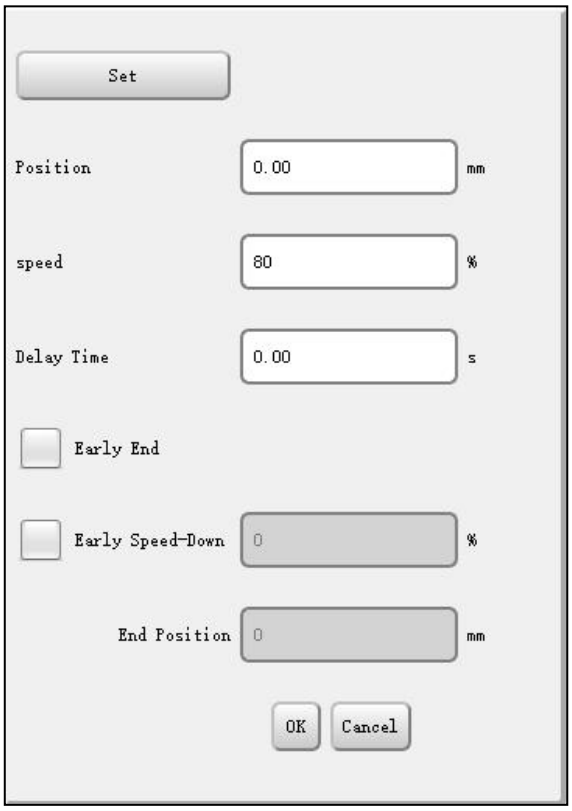
If have some conditions,the program go to some step.



Attention:The program should have a Comment ,then can use the conditions.

4.2.11 Modify Program

Select the step you want to modify and then click the modify button it will open the modify dialog, as shown below:



You can modify the action configure and press OK to confirm.

4.3 Demo

The following procedure will help to teach you to learn and practice robot programming. In the actual mold robot program, depending on your actual situation and set the servo axis position, and setting the correct sequence with the injection molding machine.

4.3.1 command

The procedure used to pick products and feed tail, the robot stays at the top of the mold injection molding machine and waits for the mold opened signal. When injection molding machine mold opened, arms go down and pick products and feed tail, then lay feed tail to the crusher, put down the product to the conveyor belt, which moving every mold cycle.

4.3.2 actions

- Turn to auto-mode.

- Arms run to start point waiting for mold opened signal.
- Suck1 for product，fixture1 for feed tail.
- Arms go outside injection mold machine, and enable mold close signal.
- Lay feed tail.
- Put down the product to conveyor and start moving for 3 seconds.
- Arms return to waiting point.

4.3.3 program

Home X1： 0.0 Speed：30 Delay time：0.00
Home Y1： 0.0 Speed：30 Delay time：0.00
Home Z： 0.0 Speed：30 Delay time：0.00
Home X2： 0.0 Speed：30 Delay time：0.00
Home Y2： 0.0 Speed：30 Delay time：0.00
Home Vertical posture Delay time：0.00
1 Wait：Mold Opened Delay time 0.00
2 Y1：850.0 Speed：90 Delay time：0.00
3 X1：400.0 Speed：90 Delay time：0.00
4 Y2：850.0 Speed：90 Delay time：0.00
5 X2：400.0 Speed：90 Delay time：0.00
6 Sucker1 On Delay time：0.00
7 X1：0.0 Speed：90 Delay time：0.35
8 Y1：0.0 Speed：90 Delay time：0.00
9 X2：0.0 Speed：90 Delay time：0.35
10 Y2：0.0 Speed：90 Delay time：0.00
11 Sucker1 Begin-cut
12 Lock Mold On Delay time：0.00
13 Horizontal posture Delay time：0.00
14 Z：1000.0 Speed：90 Delay time：0.00
15 Y1：800.0 Speed：90 Delay time：0.00
16 Y2：800.0 Speed：90 Delay time：0.00
17 Sucker1 OFF Delay time：0.00
18 Y1：0.0 Speed：90 Delay time：0.25
19 Y2：0.0 Speed：90 Delay time：0.25
20 Conveyor On Times：1 Action time：3.00

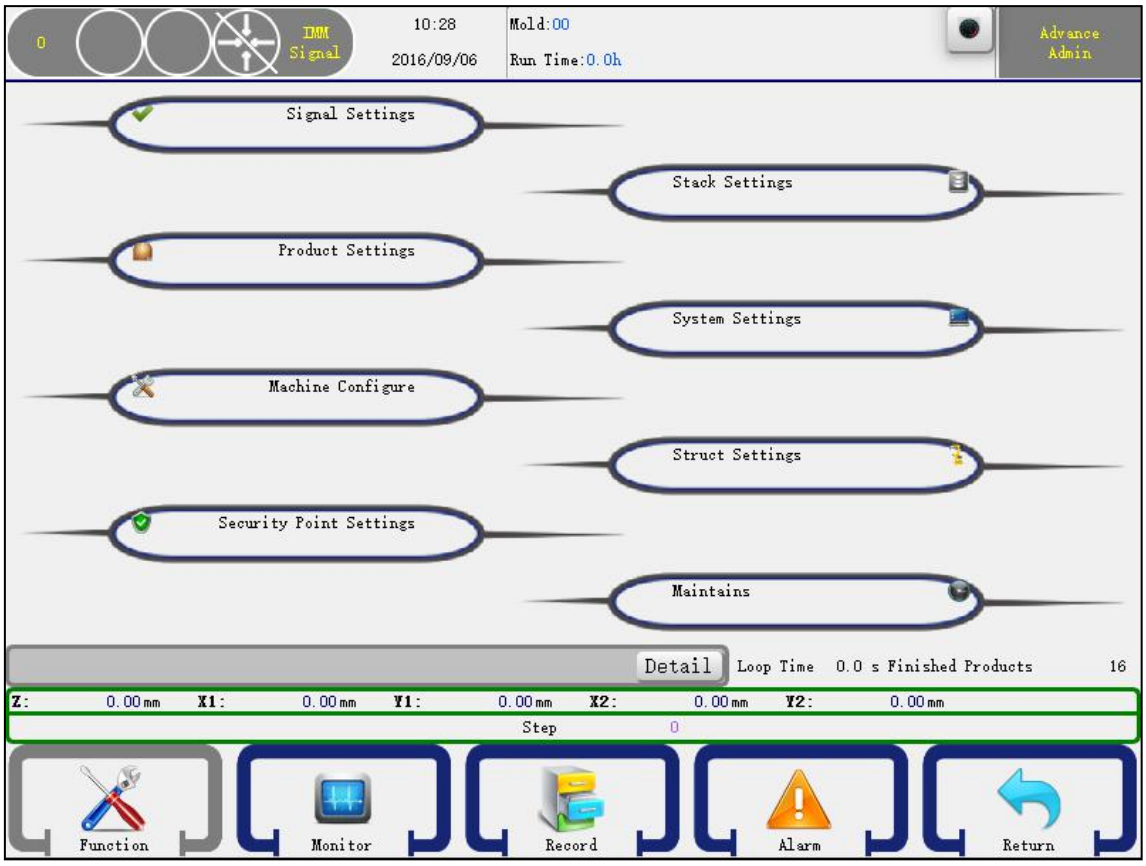
21 Z：0.0 Speed：90 Delay time：0.00

22 Vertical posture Delay time：0.00

23 Mold End Delay time：0.00

CHAP 5 Function Configures

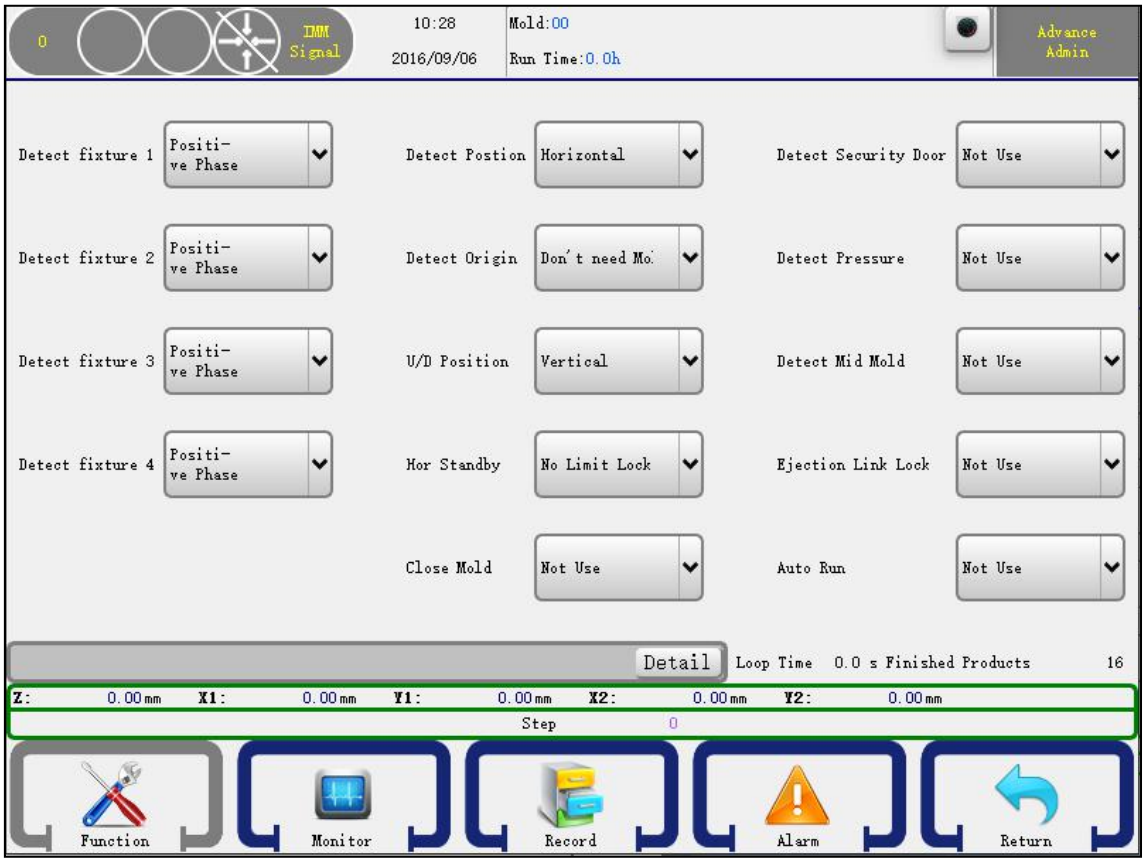
In the stop status and then click the function menu item on the main menu bar to go into function configures page. As shown below:



You can select function group in this page. Click the item will open the corresponding detail settings page. The Structure **Settings** can only set by the **Advance Administrator**.

5.1 Signal Settings

Click the Signal Settings item to go into the signal setting page, as shown below:



Detect Fixture 1-4:

Positive: Check if the fixture input signal is on.

Reverse: Check if the fixture input signal is off.

Emergency Stop:

Not Use: The robot does not check the emergency stop signal.

Use: Check the signal and when there is no signal, Alarm shows “Emergency Stop”.

Detect Position: Detect the pose when executing traverse action.

Horizontal: Must be horizontal pose when executing traverse action.

Vertical:

Must be vertical pose when executing traverse action.

No Limit: Does not detect.

Detect Origin: Detect the mold-opened signal when origin.

Need: Must have the mold-opened signal when origin.

No Need: Do not need the mold-opened signal when origin.

Origin Position: Detect the pose when origin.

Horizontal: Must be horizontal pose when origin.

Vertical: Must be vertical pose when origin.

No Limit: Do not detect.

Horizontal:

Limited : Mold locked until arm goes up horizontal.

Mold locked allowed: Arm up to be mold locked.

Mold locked:

Use: A mold locked signal comes means mold open signal.

Not Use: Mold open signal is finished means mold open signal.

Detect Security Door:

Use: Alarm when the security door is open when the robot is auto running, no matter which action.

No Use: Alarm when the security door is open when executing the arm down action.

Detect Pressure:

Use: The robot will check the pressure, if is low and then will alarm.

No Use: Not check the pressure.

Detect Mid Mold:

Use: The robot will check the mid mold signal, if there is no mid mold signal when arm down inside the mold, will alarm.

No Use: Not check the mid mold signal.

Ejection Link Lock:

Use: System will control the ejection permit signal.

No Use: the ejection permit signal is always on.

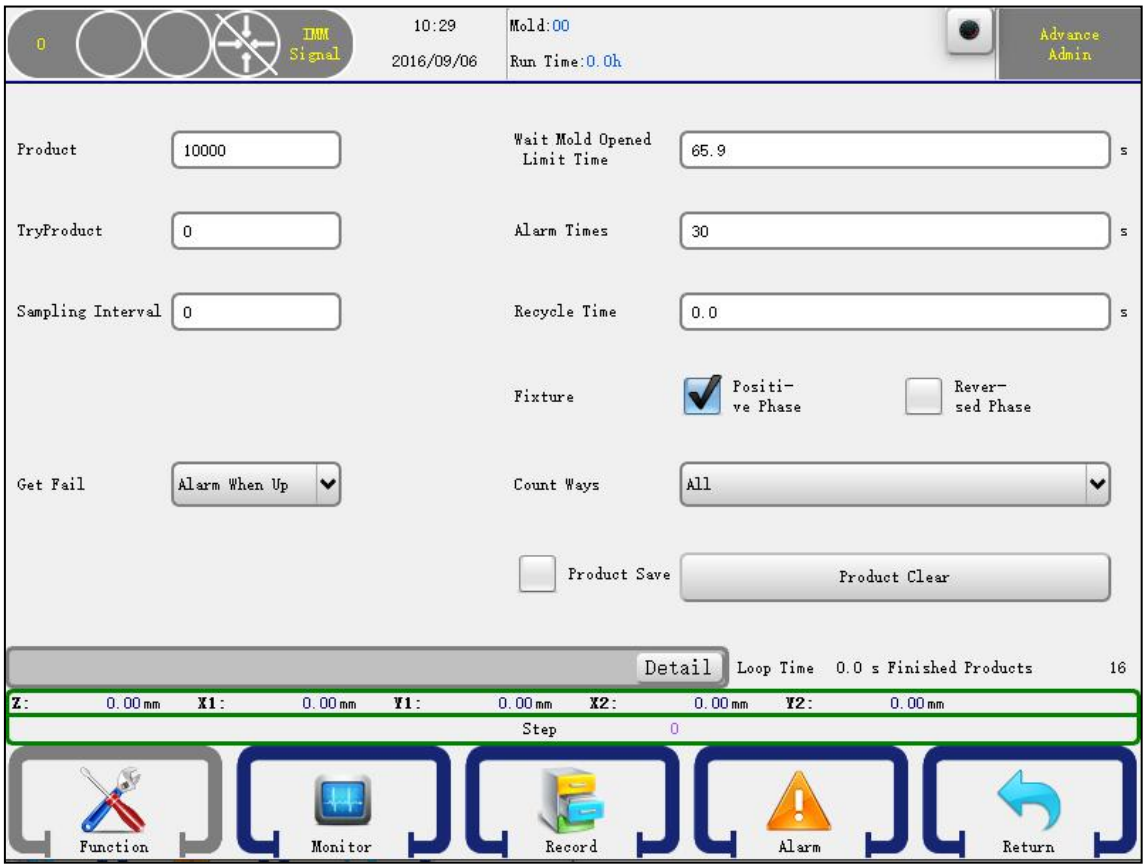
Automatic:

Use: The robot will control check the Auto signal from Injection Molding Machine.

Not Use: Not check the signal.

5.2 Product Settings

Click the **Product Settings** item to go into the product setting page, as shown below:



Product: Setting the product count, when over the number you setting, it alarms.

Trial production: The number you are trying to produce.

Delay: setting take products out every other 1 or 2 etc,.

Wait Mold Opened Limit Time: The time to wait mold-opened signal when auto running.

Failed extract:

Arm up alarm: Arm up and alarm when checked the failure signal.

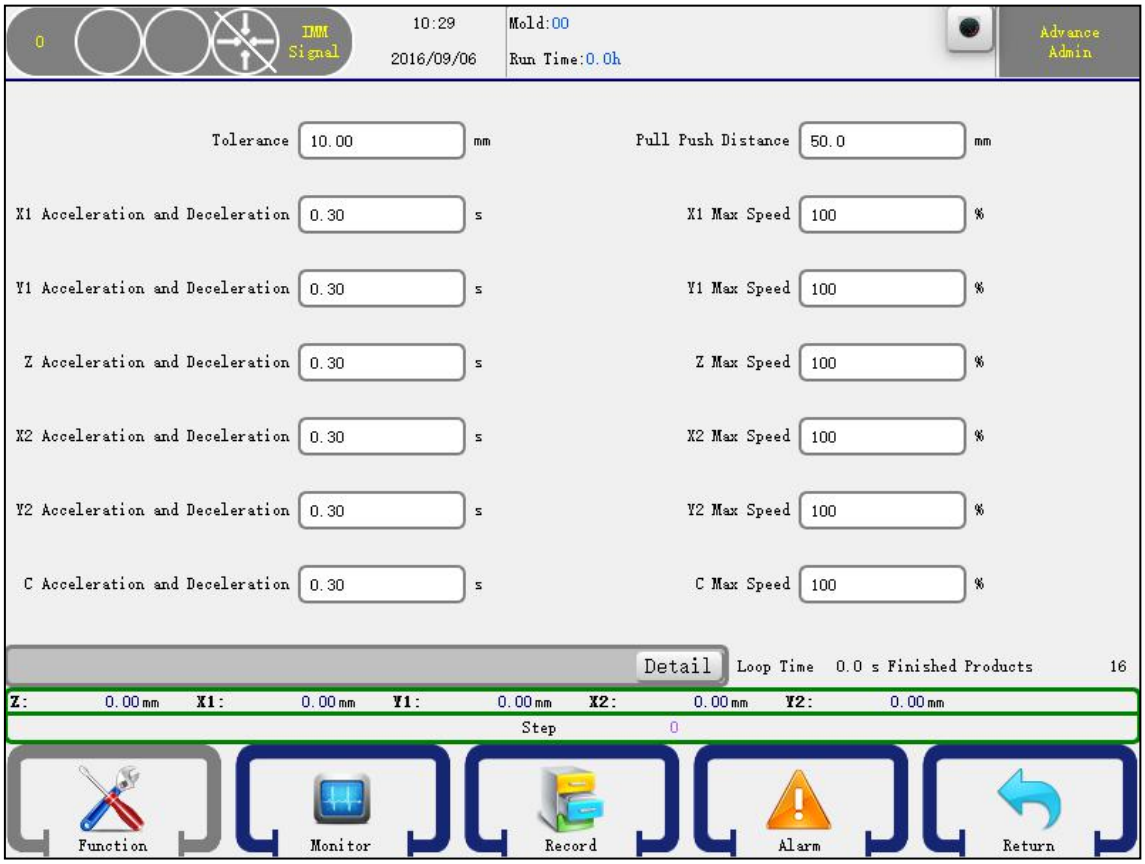
Alarm: Alarm when checked the failure signal.

Alarm Times: The time of alarm.

Product Clear: Clear the finished product count.

5.3 Machine Configure

Click the **Machine Configure** item to go into the machine configure page, as shown below:



Tolerance: The tolerance between the sent pulse and feedback pulse of servo.

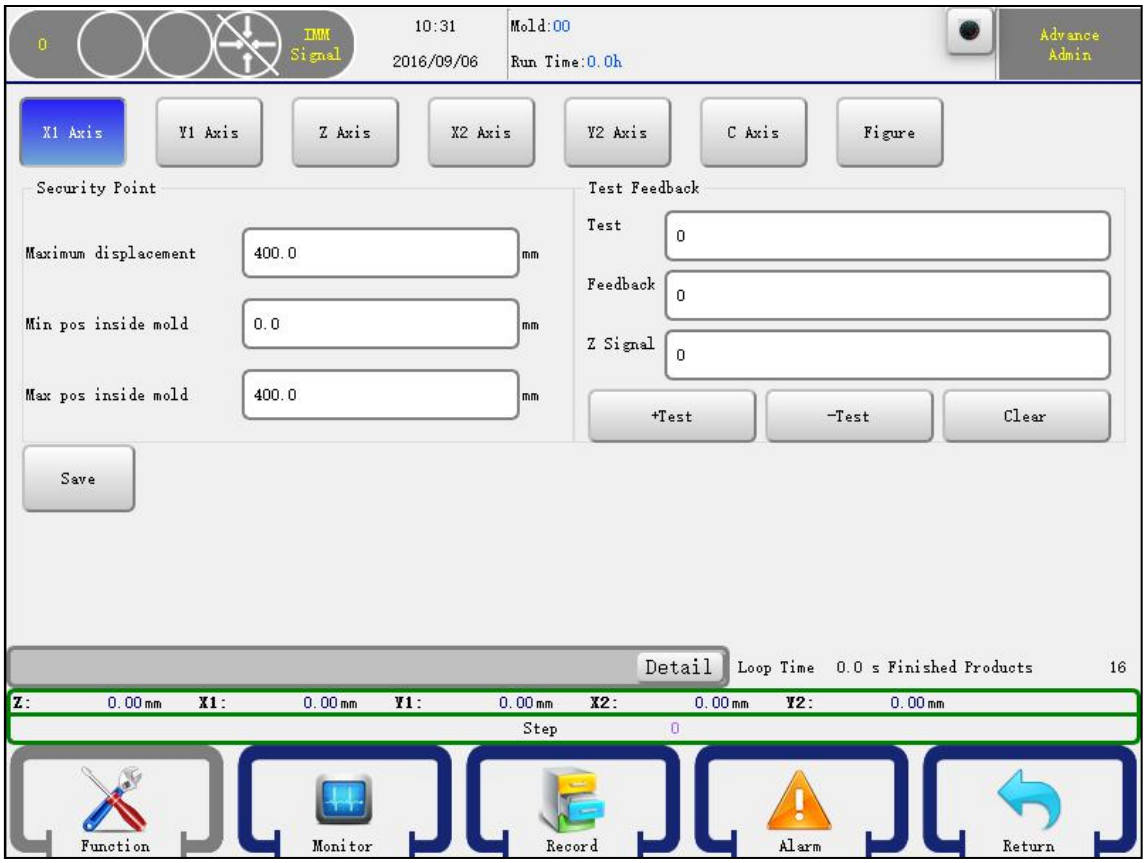
Safety Zone: A safety zone between arms and sub arms.

X,Y,Z Acceleration and Deceleration: The servo axis acceleration and deceleration time.

X,Y,Z Max Speed: The max speed of the servo axis.

5.4 Security Point Settings

Click the **Security Point Settings** item to go into the security point settings page, as shown below:



1. Press the X menu item on the top to select the axis you want to see.

Max: The max for axis to move.

Maximum inside: The maximum position that the axis could move in machine.

Minimum inside: The minimum position that the axis could move in machine.

+Test: Test the servo positive pulse.

-Test : Test the servo reverse pulse.

Clear: Clear the test data.

When you have done, just click the set in button to confirm.

2. Press the Y1 menu item on the top to select the axis you want to see.

Maximum standby position: Set the standby position Y1 axis maximum points.

Distance back to origin: Y1's position before OPR operation

Press the Y1 menu item on the top to select the axis you want to see.

3. Press the Z menu item on the top to select the axis you want to see.

Safety zone inside:Setting a number which is safety zone inside of machine.

Safety zone outside: A safety distance number out of the machine.

4. Press the C menu item on the top to select the axis you want to see.

Transverse safe range: A safety angle when move towards transverse.

5. Press the Structure menu item on the top. As shown below:

Min increase inside of X axis: Min position for X when arm rise in machine.

Max increase inside of X axis: Max position for X when arm rise.

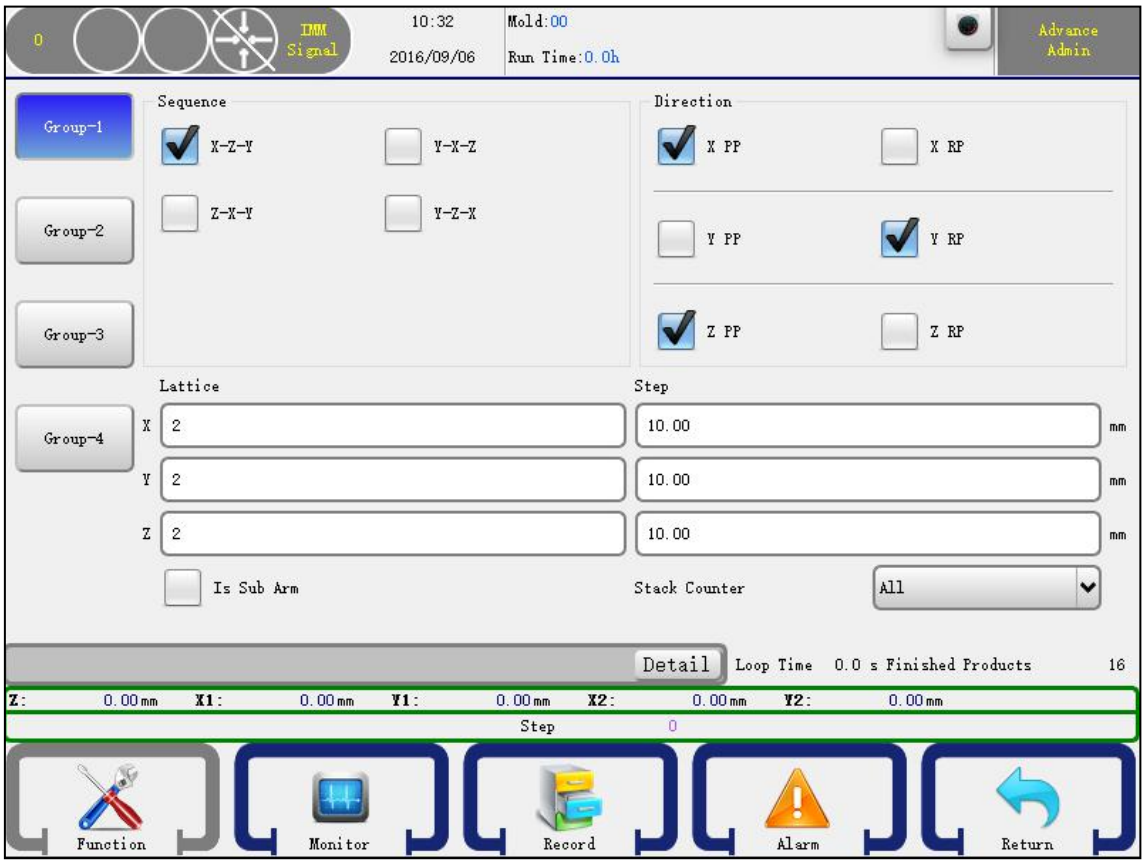
Min increase outside of Y axis: Min position for Y when arm rise out of machine.

Max increase outside of Y axis: Max position for Y when arm rise.

Attention: You can modify the X's minimum, maximum position in the mechanical parameters page X axis parameter field.

5.5 Stack Settings

Click the **Stack Settings** item to go into the stack settings page, as shown below:



There four group stack setting in our system.

Sequence: Select the stack sequence

X RP: If checked, the robot will stack reverse on the X axis.

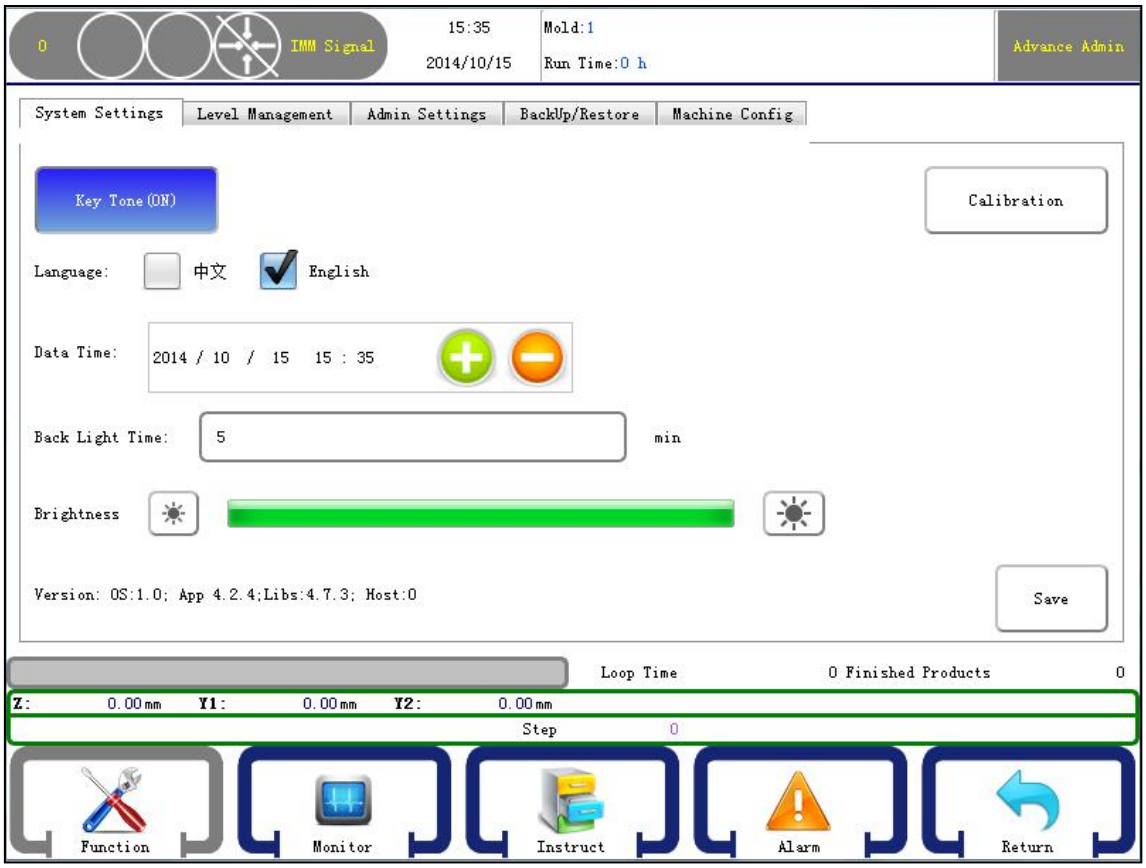
Y RP: If checked, the robot will stack reverse on the Y axis.

Z RP: If checked, the robot will stack reverse on the Z axis.

5.6 System Settings

5.6.1 Setting

Click the **System Settings** item to go into the system settings page, as shown below:



Key Tone: When press the keyboard will beep if on.

Language: Select the Interface language.

Data Time: Set the current data time.

Back Light Time: If no action in the setting time, the back light will turn off.

Version: The version for the system

Touch calibration: when the screen cursor is not on time, you can calibrate it.

Important: if the cursor has been unable to deviate from this page, you can use the key sequence to correct the screen.

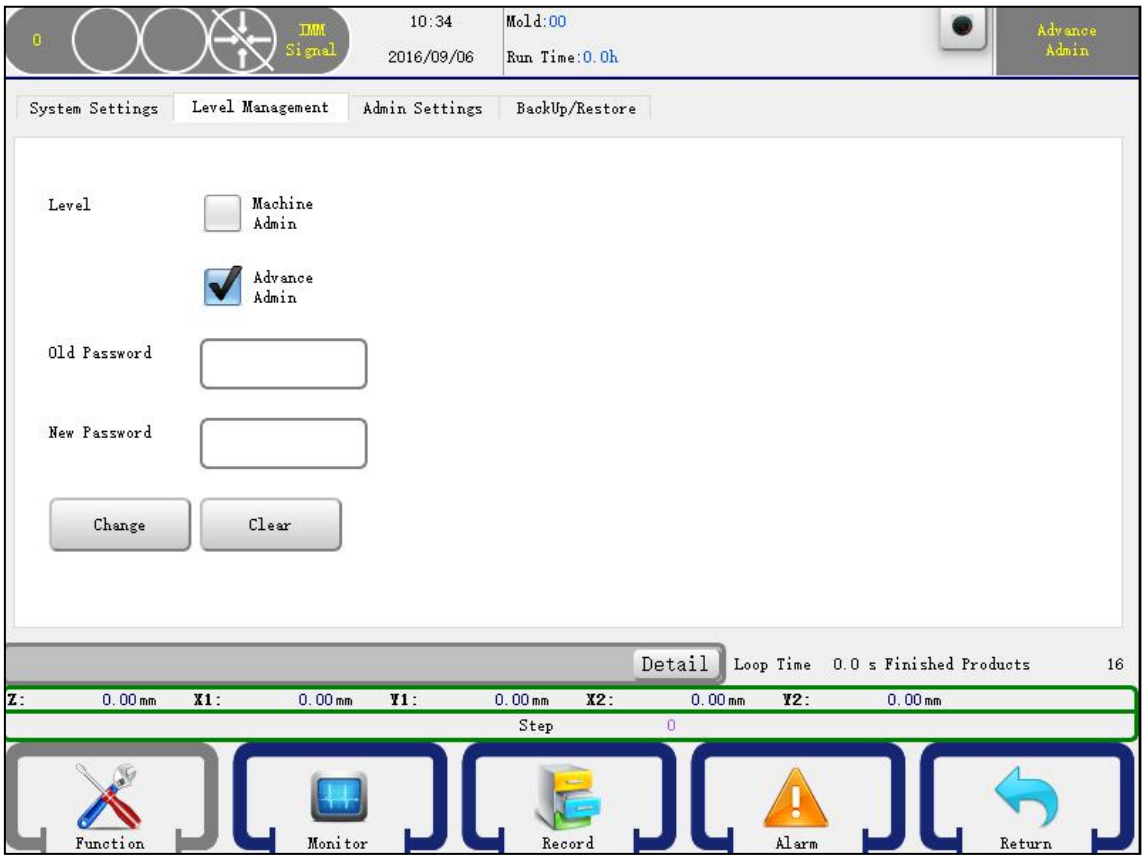
After the system is fully activated, the three stop switch is switched from the stop to the manual.

And then press F1 F4 F5 F1 F3 F1 F2 F5, the system is automatically reset to the correct screen page.

Storage repair: after the press, the system will automatically restart the repair store.

5.6.2 Level Management

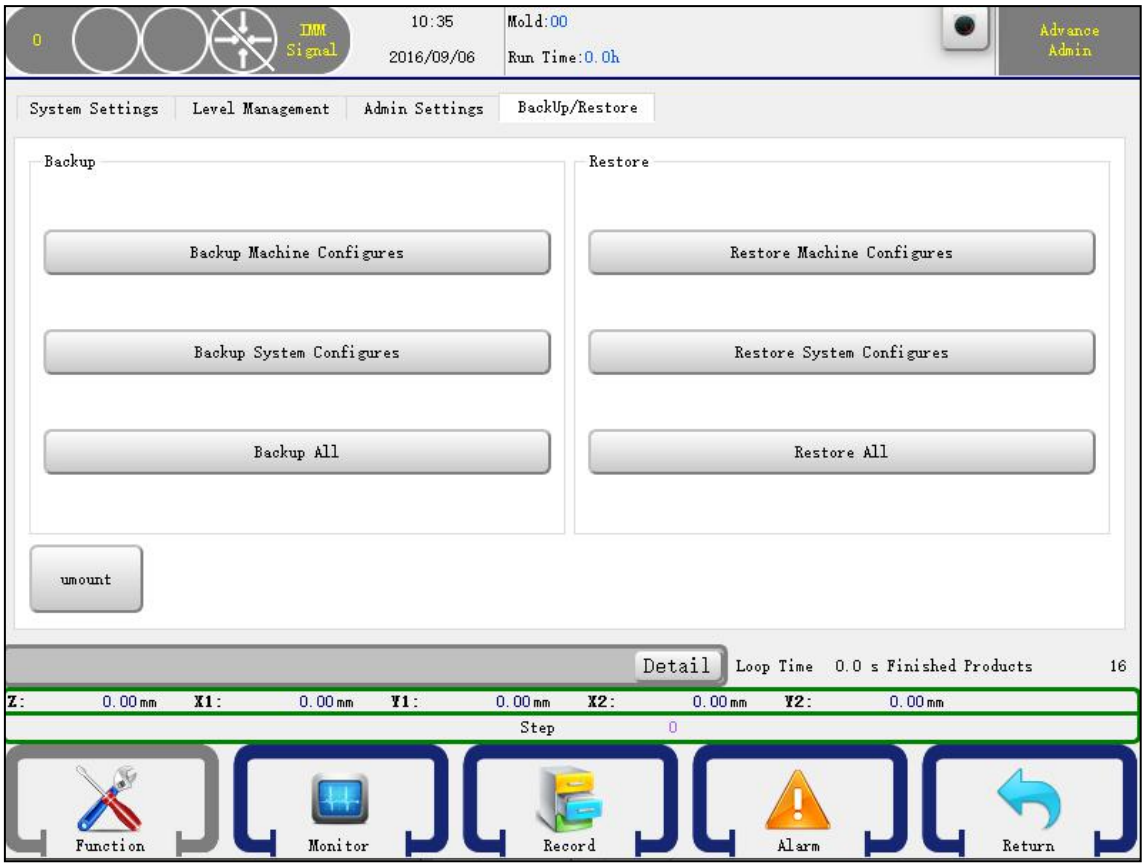
Click the **Level Management** item to go into settings page, as shown below:



Level management can change the basic information while administer can modify any parameters. Enter the old password and then input a new one, the moment you confirmed, you change the password.

5.6.3 Backup/Restore

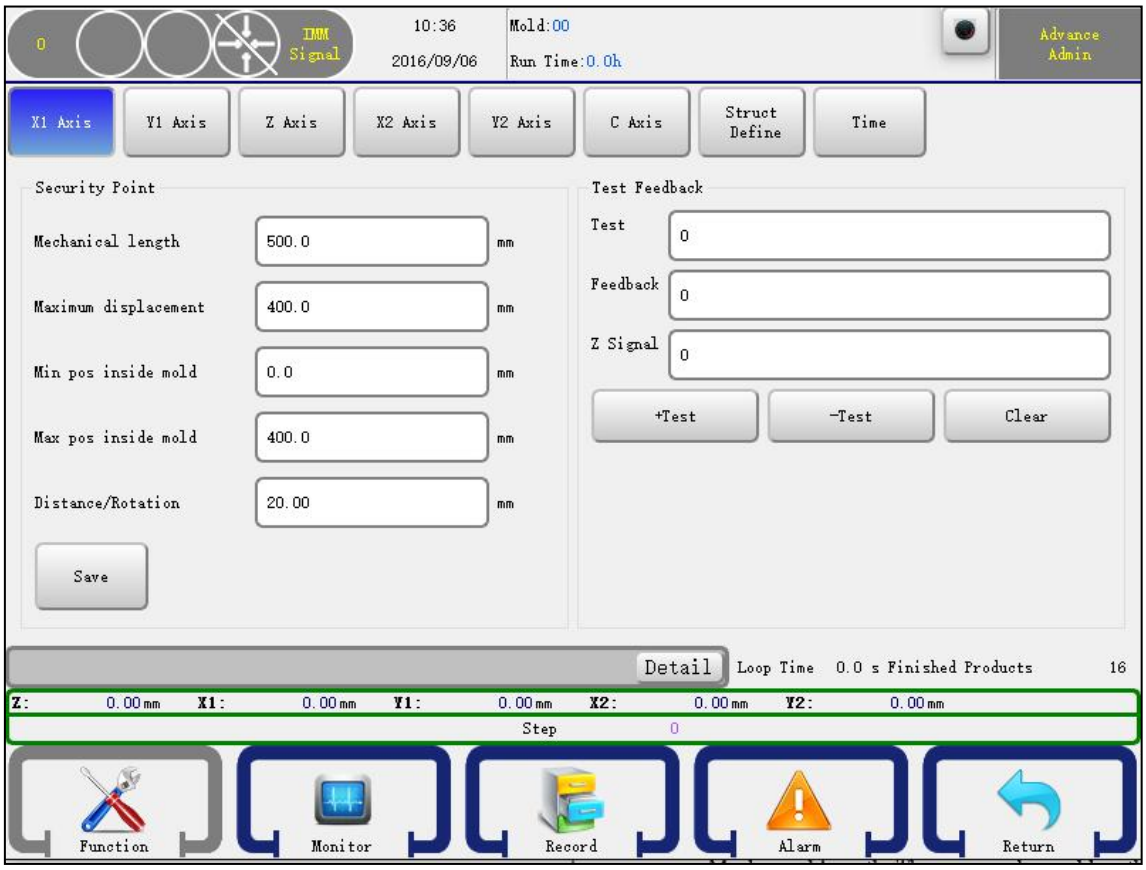
Click the Backup/Restore item to go into settings page, as shown below:



You can use USB to backup or restore “Machine parameters”, ”System Parameters” and “mold parameter” or select all to backup/restore.

5.7 Structure Settings

Click the Struct **Settings** item to go into the structure settings page, as shown below:



Mechanical Length: The axis mechanical length.

Distance/Rotation: The distance of one rotation of the servo.

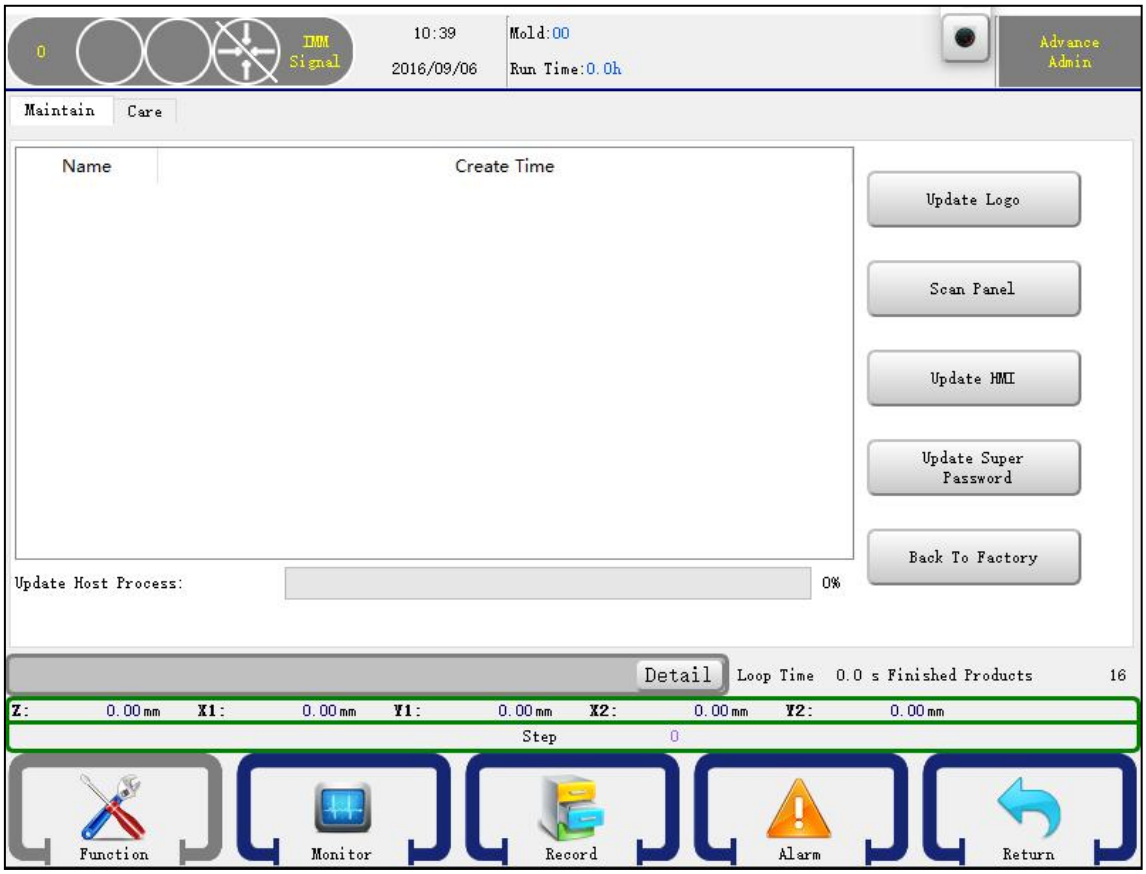
You can also set other parameters as 5.4 please press the save button to confirm your change.

WARING: Struct Define may cause damage to the machine and personal injury!

Please contact the manufacturer

5.8 Maintains

Click the **Maintains** item to go into the maintain page, as shown below:

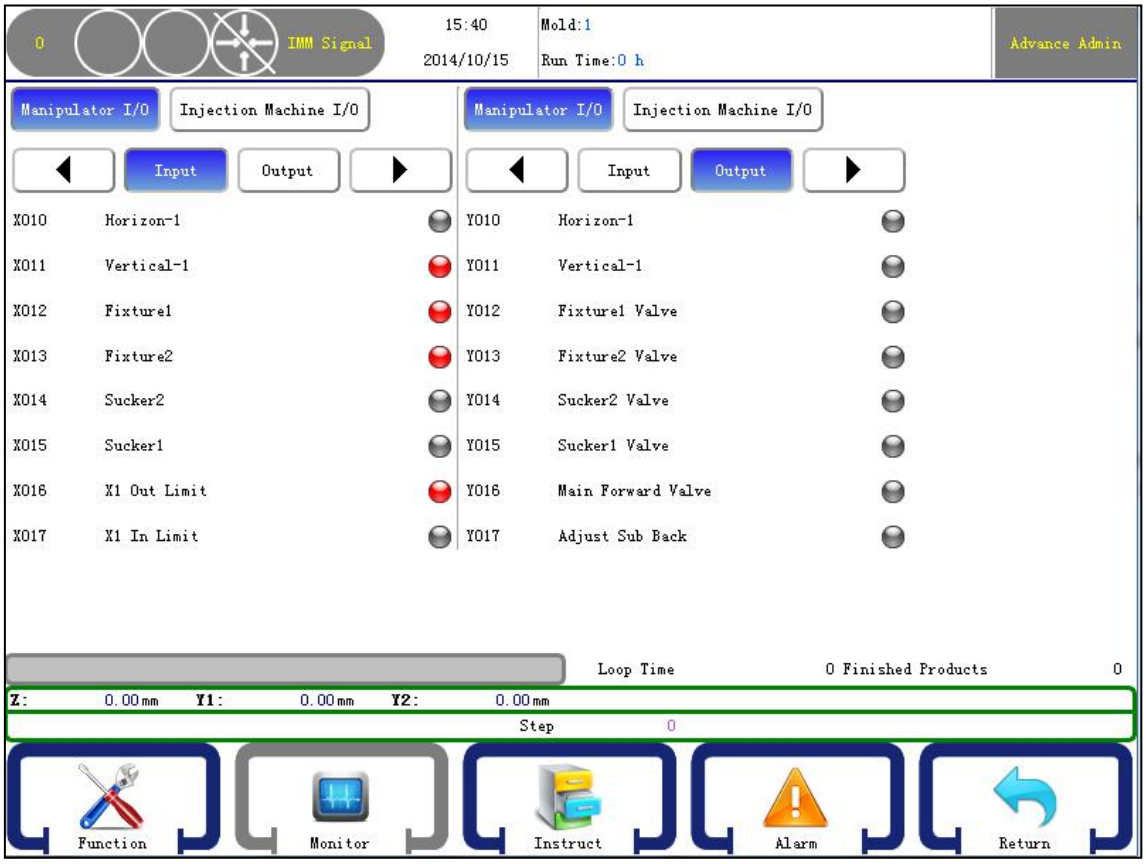


You can update the control panel system by a USB. Put the system update packet to a U disk. Click the Refresh button and wait for a while the page will show the system version if it can check the system update packet from the disk. If it can't , just press the refresh button again or use another U disk. If it check the system update packet, just click the Update button to start update system. After finish will show a message and the system will restart and then you can unplugin your U disk.

CHAP 6 I/O Monitor and Alarm History

6.1 I/O Monitor

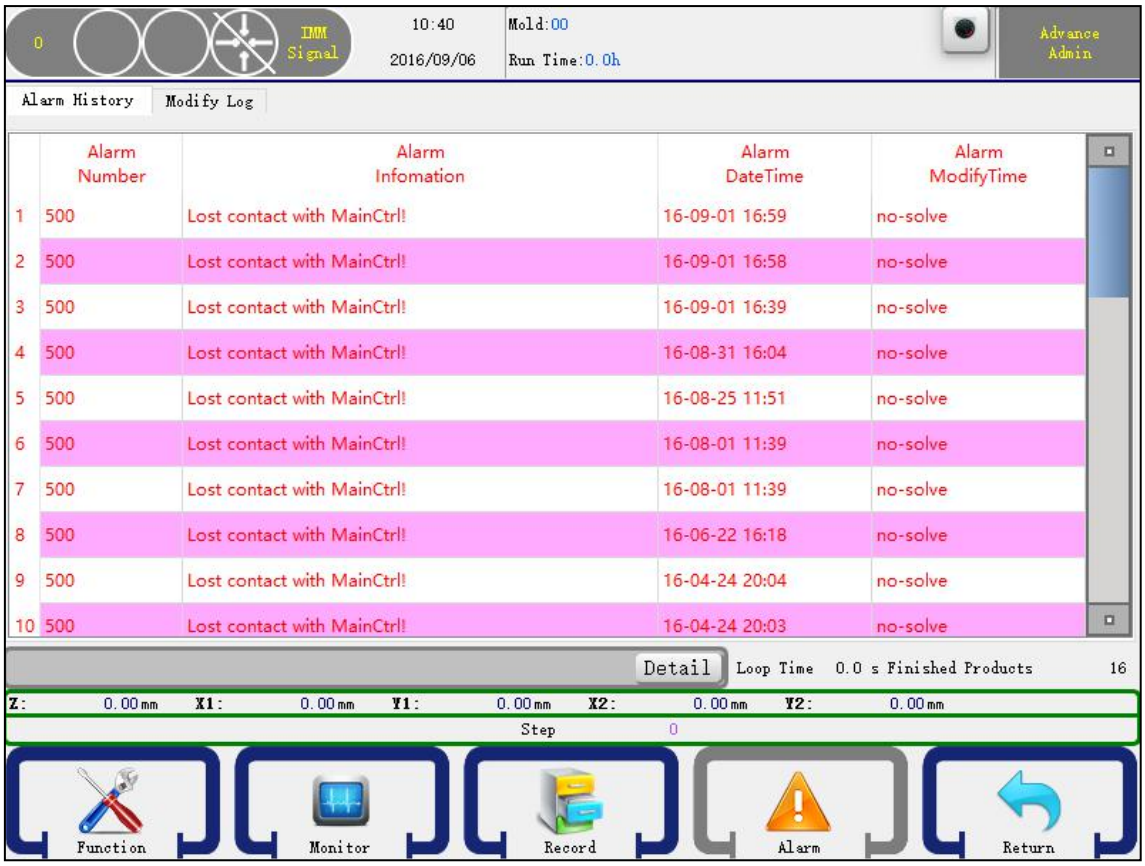
Click the Monitor menu item in the main menu bar will open the monitor page, as shown below：



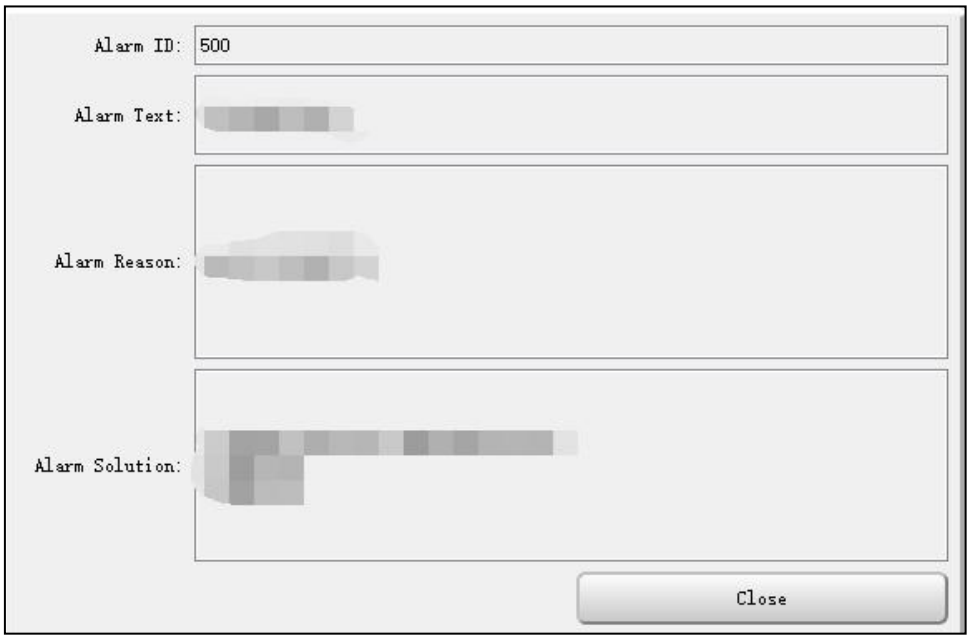
The left side and the right side are independent. You can view the input and output signal in the same time. Click the Injection Machine I/O button will open the IMM signal monitor.

6.2 Alarm History

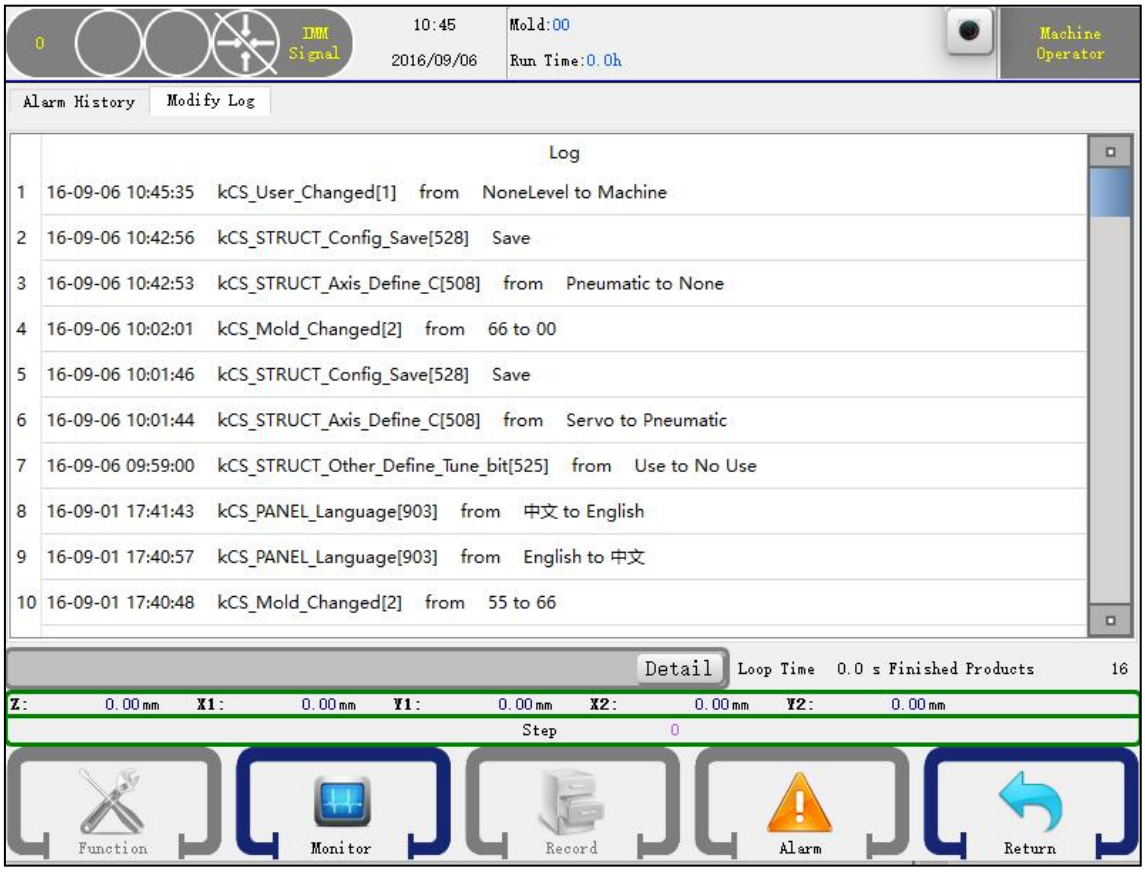
Click the Alarm menu item in the main menu bar will open the alarm history page, as shown below：



Click when alarm alarm column help, automatically pop-up prompts, alarm details and solutions. The diagram below:



6.3 Modify Log



6.4 Alarm Information

Alarm contents	The cause of the alert	Solutions
22: When x is still running	The same combination action consists of two x- axis motion commands	X axis movement broken down or remove a
23: When generating the action y is still running	The same combination action consists of two y axis motion commands	Y axis movement broken down or remove a
24: When z is still running	The same combination contains two z- axis motion commands	Z axis movement broken down or remove a
26:X Movement speed	Frequency output pulse directive >600K	Parameters -X maximum speed is not greater than 100
27:Y Movement speed	Frequency output pulse directive >600K	Parameters -Y maximum speed is not greater than 100
28:Z Movement speed	Frequency output pulse directive >600K	Parameters -Z maximum speed is not greater than 100
60:A Movement speed	Frequency output pulse directive >600K	Operating parameters -a maximum speed greater than 100
61:B Movement speed	Frequency output pulse directive >600K	Parameters -B maximum speed is not greater than 100
62:C Movement speed	Frequency output pulse directive >600K	Parameters -C maximum speed is not greater than 100
63: Build action is still running	The same combination action consists of two axis motion commands	Motion decomposition or remove a
64: When b is still running	The same combination action consists of two b -axis motion commands	B axis movements broken down or delete a
65: When c is still running	The same combination contains two c -axis motion commands	C -axis movement decomposition or remove a
70:X2 Movement speed	Frequency output pulse directive >600K	Parameters -X2 maximum speed is not greater than 100
71:Y2 Movement speed	Frequency output pulse directive >600K	Parameters -Y2 maximum speed is not greater than 100
72: When generating the action X2 is still running	The same combination action consists of two X2 -axis motion commands	X2 motion decomposition or remove a

73: Generated when Y2 is still running	The same combination contains two Y2 axis motion commands	Y2 axis movements broken down or delete a
100:X Axis too large feedback pulse	Instruction counts and feedback pulse pulse instruction count is greater than the tolerance setting	1If the alarm can be cleared, check if the tolerance is too small (function - parameters - "tolerances" parameters are adjustable), servo rigidity is too soft (dynamic following bad) 2If the alarm does not clear, use the reverse pulse test, there may be connection problems cause loss of pulse or servo feedback pulse forward and backward is wrong. (The motor is turning feedback into 10000, motor reverse feedback 55535)
101:Y Axis too large feedback pulse		
102:Z Axis too large feedback pulse		
106:X Servo-drive alarm	X Shaft drive alarm	1.Servo-drive alarm found to solve servo alarm.
107:Y Servo-drive alarm	Y Shaft drive alarm	2.Servo drives without alarm, inspect the motherboard connector and servo drive is loose, welding fault.
108:Z Servo-drive alarm	Z Shaft drive alarm	3.Servo drives without alarm, wire properly. Replace the motherboard.
112:X Shaft finish the limit	X Shaft end limit no signal	1.Check the limit switch is working. 2.Limit is normally closed, check the short connection is normal.
113:X Axis has a starting point limit	X Axis start point limit no signal	
114:Y Shaft finish the limit	Y Shaft end limit no signal	
115:Y Axis has a starting point limit	Y Axis start point limit no signal	
116:Z Shaft finish the limit	Z Shaft end limit no signal	
117:Z Axis has a starting point limit	Z Axis start point limit no signal	

118: The x value is too large	Current position is greater than the x axis mobile	1.Please check the appropriate security settings, may occur when the maximum and minimum positions turn tuning knob above the alarm. 2.Clears the alarm, move in the opposite direction
119: The x value is too small	Current position less than x axis minimum mobile	
120: Current y value is too large	Current position is greater than the y axis movement	
121: Current y value is too small	Position is less than the y axis minimum mobile	
122: The z value is too large	Current position is greater than the z axis movement	
123: The z value is too small	Current position less than z axes minimum mobile	
124: Run time x axis position is too large	Stack space setting error exceeds the maximum or minimum position	Check the stack number and spacing settings
125: Run x- axis setting is too small		
126: Runtime y axis position is too large		
127: Runtime y axis setting is too small		
128: Runtime z axis position is too large		
129: Runtime z axis position is too small		
130:X Axle memory fault	X Axis parameter memory error.	Functionality - mechanical parameters -the "x axis" resave the page
131:Y Axle memory fault	Y Axis parameter memory error.	Functionality - mechanical parameters -"y axis" resave the page
132:Z Axle memory fault	Z Axis parameter memory error.	Functionality - mechanical parameters -"z axis" resave the page

133: Structure memory error	Host axis parameter memory error	Functionality - mechanical parameters page saves all axis parameters.
134:X Comparison of shaft	Host x axis parameter and hand control of the x axis parameter is inconsistent	Functionality - mechanical parameters -the "x axis" resav e the page
135:Y Comparison of shaft	Host y axis parameter and hand control of the y axis do not match the parameters	Functionality - mechanical parameters -"y axis" resave the page
136:Z Comparison of shaft	Host z axis parameter and manually controlled z axis do not match the parameters	Functionality - mechanical parameters -"z axis" resave the page
137: Structure comparison	Axis parameters and manually controlled axis in the host parameter inconsistencies	Functionality - mechanical parameters of page all axis parameters and structure parameters can be saved.
160:X2 Axis too large feedback pulse 161:Y2 Axis too large feedback pulse	Instruction counts and feedback pulse pulse instruction count is greater than the tolerance setting	1.If the alarm can be cleared, check if the tolerance is too small (function - parameters - "tolerances" parameters are adjustable), servo rigidity is too soft (dynamic following bad) 2.If the alarm does not clear, use the reverse pulse test, there may be connection problems cause loss of pulse or servo feedback pulse forward and backward is wrong. (The motor is turning feedback into 10000, motor reverse feedback 55535)
164:X2 Servo-drive alarm	X2 Shaft drive alarm	1.Servo-drive alarm found to solve servo alarm. 2.Servo drives without alarm, inspect the motherboard connector and servo drive is loose, welding fault. 3.Servo drives without alarm, wire properly. Replace
165:Y2 Servo-drive alarm	Y2 Shaft drive alarm	

		the motherboard.
168:X2 Shaft finish the limit	X2 Shaft end limit no signal	1.Check the limit switch is working. 2.Limit is normally closed, check the short connection is normal.
169:X2 Axis has a starting point limit	X2 Axis start point limit no signal	
170:Y2 Shaft finish the limit	Y2 Shaft end limit no signal	
171:Y2 Axis has a starting point limit	Y2 Axis start point limit no signal	
172: Current X2	Current position is greater than the X2 axis mobile	1.Please check the appropriate security settings, may occur when the maximum and minimum positions turn tuning knob above the alarm. 2.Clears the alarm, move in the opposite direction
173: The current X2 is too small	Current location is less than X2 minimum move axially	
174: Current Y2	Current position is greater than the Y2 axis mobile	
175: The Y2 is too small	Current position less than Y2 axis minimum mobile	
176: Runtime X2 axis position is too large	Stack space setting error exceeds the maximum or minimum position	Check the stack number and spacing settings
177: Runtime X2 axis position is too small		
178: Runtime Y2 axis position is too large		
179: Runtime Y2 axis position is too small		
180:X2 Axle memory fault	X2 Axis parameter memory error.	Functionality - mechanical parameters -"X2 shaft" resave the page
181:Y2 Axle memory fault	Y2 Axis parameter memory error.	Functionality - mechanical parameters -"Y2 axis" resave the page
182:X2 Comparison of shaft	Host X2 in the axis parameter and manually controlled X2 axis do not match the parameters	Functionality - mechanical parameters -"X2 shaft" resave the page

183:Y2 Comparison of shaft	Host Y2 axis parameters and manually controlled Y2 axis do not match the parameters	Functionality - mechanical parameters -"Y2 axis" resave the page
200:A Axis too large feedback pulse	Instruction counts and feedback pulse pulse instruction count is greater than the tolerance setting	1If the alarm can be cleared, check if the tolerance is too small (function - parameters - "tolerances" parameters are adjustable), servo rigidity is too soft (dynamic following bad) 2If the alarm does not clear, use the reverse pulse test, there may be connection problems cause loss of pulse or servo feedback pulse forward and backward is wrong. (The motor is turning feedback into 10000, motor reverse feedback 55535)
201:B Axis too large feedback pulse		
202:C Axis too large feedback pulse		
206:A Servo-drive alarm	A Shaft drive alarm	1.Servo-drive alarm found to solve servo alarm. 2.Servo drives without alarm, inspect the motherboard connector and servo drive is loose, welding fault. 3.Servo drives without alarm, wire properly. Replace the motherboard.
207:B Servo-drive alarm	B Shaft drive alarm	
208:C Servo-drive alarm	C Shaft drive alarm	
212:A Shaft finish the limit	A Shaft end limit no signal	1.Check the limit switch is working. 2.Limit is normally closed, check the short connection is normal.
213:A Axis has a starting point limit	A Axis start point limit no signal	
214:B Shaft finish the limit	B Shaft end limit no signal	
215:B Axis has a starting point limit	B Axis start point limit no signal	
216:C Shaft finish the limit	C Shaft end limit no signal	

217:C Axis has a starting point limit	C Axis start point limit no signal	
218: Current is too large	Current position is greater than axis maximum moves	1.Please check the appropriate security settings, may occur when the maximum and minimum positions turn tuning knob above the alarm.
219: Current is too small	Current position less than minimum move axially	2.Clears the alarm, move in the opposite direction
220: Current b	Current position is greater than the b axis mobile	
221: Current b is too small	Position is less than the b axis minimum mobile	
222: The current c	Current position is greater than the c axis mobile	
223: Current c is too small	Current position less than c - axis minimum mobile	
224: Run time axis set is too large	Stack space setting error exceeds the maximum or minimum position	Check the stack number and spacing settings
225: Run time axis set too small		
226: Running b - axis position is too large		
227: Running b - axis position is too small		
228: Runtime c axis position is too large		
229: Runtime c axis position is too small		
230:A Axle memory fault	A Axis parameter memory error.	Functionality - mechanical parameters -" shaft" resave the page
231:B Axle memory fault	B Axis parameter memory error.	Functionality - mechanical parameters -"b -axis" resave the page

232:C Axle memory fault	C Axis parameter memory error.	Functionality - mechanical parameters -"c axis" resave the page
234:A Comparison of shaft	Host x axis parameter and hand control of the x axis parameter is inconsistent	Functionality - mechanical parameters -the "x axis" resav e the page
235:B Comparison of shaft	Host y axis parameter and hand control of the y axis do not match the parameters	Functionality - mechanical parameters -"y axis" resave the page
236:C Comparison of shaft	Host z axis parameter and manually controlled z axis do not match the parameters	Functionality - mechanical parameters -"z axis" resave the page
300:X Axis setting is incorrect	X Axis mechanical parameter is incorrect	Functionality - mechanical parameters -the "x axis" page reset
301:Y Axis setting is incorrect	Y Axis mechanical parameter is incorrect	Functionality - mechanical parameters -"y axis" page reset
302:Z Axis setting is incorrect	Z Axis mechanical parameter is incorrect	Functionality - mechanical parameters -"z axis" page reset
304: Emergency stop input	Emergency stop signal input	1.Check whether the emergency stop switch on the hand-controlled spin out 2.Check the hand control and the main Board wiring for loose 3.Check the injection molding machine whether the emergency stop input 4.Check the motherboard power supply is normal
306: Standby position error	Mode, the beginning steps and functionality - mechanical parameters - structure inside the axis defined to not	1.Creates a new model number 2.YStandby position must be less than the maximum standby position
308: Tolerance is too large	If tolerance is greater than 10MM, alarm time	1.Two-axis touch tolerance shall be less than10mm 2.35 shaft tolerance must be less than 100mm

315: System parameters	Two-axis touch system, operating parameters - caused excessive tolerance, tolerance not more than 10	The tolerance value is set to a value less than 10MM
318: Separate directives and lists	Wait, provided procedures are combined	Wait conditions and other procedural steps broken down
320: Called irregular SEQ	Returns the step exceeds the program the last step of the value overflows.	Please check the conditions of use function returns when number is correct
323: Wait for the mold in place	Mode without waiting for the opening steps in the procedure	In the mold insert in place steps to program
326: Action repeat	Action steps for the same axis combinations together.	Disassembles the synchronization action steps.
328: Action conditions detected	Action steps are combined	To break the action steps
330: Position is selected, restart	Features - page rule definition has been changed	Restart
332: Output is selected, restart	Function - parameters of the machine - structure output definitions have been changed	Restart
333: Axis definitions have been changed, restart	Function - parameters of the machine - axis defines the structure was changed	Restart
360:X2 Axis parameter parity	And motherboard manual parameter parameters do not match.	Functionality - mechanical parameters of the corresponding axis parameters are saved
361:Y2 Axis parameter parity		
362:A Axis parameter parity		
363:B Axis parameter parity		
364:C Axis parameter parity		
365: Structure parameter parity		

500: Connection with the host	On the motherboard and manual communication does not	1.Please check the connection between the handheld and the host has no loose 2.Replace the motherboard 3.Replace manual control
501:I/O Traffic exceptions	Boards with the IO board communications on	1.Please check the Board and IO Board connections for loose 2.Please check the Board and IO Panel lines line sequence is correct 3.Replace the motherboard 4.Replacement of IO Board
502: Has reached the set output	Product number to set output	1.Feature - set page will reset 2.If you do not use this feature, feature - set page output for 0
503: Low air pressure	Pressure detection of signals	1.Check that the pneumatic signal is normal 2.If you do not use this feature, feature - set page pressure signal detection to not use
504: Communications watchdog	Host and IO exception occurred communication between	Please check the Board and IO Board connections for loose
505: Program synchronization errors	Inconsistency in the manual program and host	Please reload it again, die
506: Timed out waiting for signal	Timed out waiting for mold	1.Check the opening signal is normal 2.Feature - set page waiting for opening time adjustment

600:Z When you move outside the security zone, within the security zone-pass	When the manipulator is outside the security zone positions, within the security zone signal conduction (only under automatic State detection)	1.Please check - machine parameter z position outside the security zone settings are correct 2.Please check the z-point switch is working correctly
602:Z When you move to safe areas, outside the security zone-pass	When the robot is in the safe zone location, outside the security zone signal conduction (only in the automatic State detection)	1.Please check - machine parameter z inside the security zone settings are correct 2.Please check the z -type external safety switch is properly
604:Y Non-security zone, but only if the light	When the boom down when it reaches the position detection (parameter y is defined in the security zone),y origin of signal conduction	1.Please check - machine parameter y axis settings are correct
605:Y Safe zone, but only if the point does not light	When the main arm inside the security area, andy the original signal does not light	2.Please check the y origin switch is working correctly
608 :Y2 of the security zone but light	Dang : jib down when it reaches the position detection (parameters in Y2 defined in the security zone),Y2 origin signal conduction	Y2 moved away from the origin position.
700: Waiting for the X043 timeout	Timed out waiting for signal	1.Check the wait signal is normal 2.Long will wait for a limited time
701: Waiting for the X044 timeout		
702: Wait for clip 1 confirmation timeout		
703: Wait for clip 2 confirmation timeout		
704: Wait for clip 3 confirmation timeout		

705: Wait for clips 4 confirmation timeout		
706: Wait 1 confirmation timeout		
707: Wait for the 2 confirmation timeout		
708: Timed out waiting for thimble in place		
709: Timed out waiting for ejector pin back in place		
710: Timed out waiting for into the core place		
711: Timed out waiting for a core in place		
1000: Arm drop signal fault	1.Pneumatic arm drop, rise limit signal fault 2.Dang Y1 drops, Y1 safety zone or rising non-restricted-mode signal out (except for origin)	1.Check that the signal is normal 2.If not using mode function, function - mode selected in the signal set to not use
1001: Arm drop opening signal fault	1. Dang Y1 drops, Y1 or rising non-restricted place outside the security zone, opening signal out (except for origin)	1.Please check the mold out signal is normal 2.Please check for correct procedural steps to prepare
1002: Drop safe door open	1.Dang Y1 drops, Y1 or rising non-restricted place outside the security zone, automatically running security door open 2.Pneumatic jib fell, pair up in the type restrictions, safety door signal is not detected (automatic single-step exception)	1.Check that the safety door signal is normal 2.Please check for correct procedural steps to prepare

1003: Position horizontal and vertical signal at the same time-pass	Horizontal spacing and vertical spacing a signal	Check the horizontal spacing and vertical limit switch is working correctly
1004:Z Outside the axis origin signals and signals through the security zone	Z Zero point switch and safety switch while	Please check the z origin switch and safety switch is normal
1005: Decrease mold in place breaks	1.Or non-type, the primary Deputy rise limit of the increased limit or broken or Y1 is not in the security zone 2.Automatically open mode is in place under the State off 3.Other States allow clamping mold off 4.YSets the maximum standby position to 1mm(or set too small), the machine has a vibration, vibrations of feedback pulse exceeds 1mm.	1.Please check the mold out signal is normal 2.Please check for correct procedural steps to prepare 3.Reset y maximum standby position
1006: Down position 1 errors	1.Manual mode, press the boom down key, outside the security zone or in non-security zone, does not detect the position 1 vertical signal 2.Automatic State, within the security zone or non-rising outside the security zone, non-limited, does not detect the position 1 vertical signal 3.Pneumatic main arm drops, in the security zone, does not detect the position 1 vertical signal	1.Please check the position 1 vertical 2.Check vertical limit switches properly
1007: Drop location is not in z axis within the security area	Dang Y1 drops, Y1 or non-rise limits within safety outside detected signals but not in the security zone z within the security zone	1. Please check - machine parameter z axis within the security zone settings are correct

1008: Foreign descent but not in z axis-outside the security area	Dang Y1 drops, Y1 or non-rise limits within safety outside detected location signals from security zone but not in z outside the security zone	1. Please check - machine parameter z axis outside the security zone settings are correct
1009: Drop zone signal is not detected	Dang Y1 drops, Y1 rise outside the security zone or in non-restricted, does not detect internal security and external security zones signal	1.Please check the Y1 axis drop location is in the safety zone 2.Check the z origin and type of security zone switch is working correctly
1010:Y1 Decline without z axis security	Dang Y1 drop, rise in the non-restricted, does not detect internal security and external security zones signal	1.Please check the Y1 axis drop location is in the safety zone 2.Check the z origin and type of security zone switch is working correctly
1011:Y1 Decrease when x axis security	Dang Y1 drop, rise in the non-restricted, does not detect the x axis security zone signal	Please check - machine parameter x axis settings are correct
1012: Two sets of lateral position and level	Position 1 and position 2 and level	1.Please check the position 1 and position 2 while doing the horizontal movement 2.Please check the level 1 limit and level 2 limit switch is working correctly
1013: Under both before and after opening	Deputy back to both	Please check under the back limit switch is working correctly
1014: Under minimum and at the same time opening	Pair up and down both	Check the pair up and down limit switch is working correctly
1015: Both before and after the Lord opened	Back to both	Please check the main forward backward limit switch is working correctly
1016: Thus saith the lower bound open	The main up and down both	Please check the main up and down limit switch is working correctly
1017: Run the safe door open	Automatic runtime security door open	1.Check that the safety gate is opened

		2.Check that the safety door signal is normal
1019: When origin return opening break	When origin return, opening up no signal	1.Please check the function of the signal set origin need to die in place 2.If you choose to find the origin does not need to die in place, in the case of mold breaking point, the system will call a police, removed may continue to find the origin
1020: When origin return, plate-mode signal fault	When origin return, plate mode no signal	1.Check that the signal is normal 2.If not using mode function, function - mode selected in the signal set to not use
1021: When origin return, pose no vertical	When origin return, vertical limit no signal	1.Check the limit switch is working correctly
1022: When origin return, pose no levels	When origin return, horizontal limits no signal	2.Without limiting position, place the feature - set origin return signal positions elected does not limit
1023: When rampant, poses no vertical	When the transverse, vertical limit no signal	1.Check the limit switch is working correctly
1024: When the rampage, pose no levels	When the transverse horizontal limit no signal	2.Without limiting position, place the feature - set signal running amok pose elected does not limit

1025: Falls, pose 2 errors	1.Manual mode, press the boom down key, outside the security zone or in non-safety zone, no position is detected 2 vertical signal 2.Automatic State, within the security zone or non-rising outside the security zone, non-limited, no position is detected 2 vertical signal 3.Pneumatic main arm drops, in the security zone, no position is detected 2 vertical signal	1.Check position 2 vertical 2.Check vertical limit switches properly
1027: Mode-locking is not available	Guan Mo out no signal detected	1.Please check off the die-out signal is normal 2.If you do not use this feature, set the feature - set signal mode-locking in place elected not to use
1038: When bad product z axis is not type	Bad products, thez axis is not type	Please check the z axis settings are correct
1039: When bad products z -axis settings are not outside		
1040: Step action not on z axis	Bad product so that it can check the	Hook you want removed. Or, before teaching a z axis
1054: No x axis x	Function - parameters of the machine - structured axis definition for this axis, but program mode, this motion	Please delete no definition of motion
1055: Without y axis y		
1056: No z axis z		
1057: No X2 shaft X2		
1058: No Y2 axis Y2		
1059: No shaft		
1060: No b axis b		

1061: No c axis c		
1100: Main arm drops is not detected by security zone	Pneumatic main arm drops, not detected within the security zone and the outer security zone signal	1.Please check the z origin switch and safety switch is normal 2.Please check for correct procedural steps
1101: Jib dropped security zone is not detected when	Pneumatic jib fell, did not detect internal security and external security zones signal	1.Please check the z origin switch and safety switch is normal 2.Please check for correct procedural steps
1102: Decrease mold in place off the main arm	Pneumatic main arm drops, within the security zone and does not detect the opening signal	Please check the mold out signal is normal
1103: Broken jib down mold in place	Pneumatic jib fell, in the security zone, does not detect the opening signal	Please check the mold out signal is normal
1104: Main boom declines, increased limits-pass	Pneumatic main arm after falling up limit switch signal	1.Check whether the main boom down 2.Please check whether the up limit switch to normal
1105: Jib dropped, Deputy rose limit-pass	Pneumatic jib dropped, pair up limit switch signal	1.Check that the jib is down 2.Check under up limit switch properly
1106: Decline decline limit breaks	Pneumatic main arm after falling down limit no signal	1.Check whether the main boom down 2.Check the down limit switch is working correctly 3.If there is no drop limit, move the function - parameters of the machine - structural decline options to not use

1107: Deputy decline decline limit breaks	Pneumatic jib dropped, Deputy decline limit no signal	1.Check that the jib is down 2.Please check whether the Deputy down limit switch to normal 3.If there is no drop limit, move the function - parameters of the machine - structure under decline options to not use
1108: Arm drop signal fault	Pneumatic main arm drop, mode no signal	1.Check that the signal is normal 2.If not using mode function, function - mode selected in the signal set to not use
1109: Jib dropped signal fault	Pneumatic jib fell, plate mode no signal	1.Check that the signal is normal 2.If not using mode function, function - mode selected in the signal set to not use
1120: Main arm up inside and outside the security zone is not detected	Pneumatic main boom up z origin and type of security zone there is no signal	Please check the z origin switch and safety switch is normal
1121: Jib up inside and outside the security zone is not detected	Pneumatic jib up z origin and type of security zone there is no signal	
1122: Main arm speed too fast	Pneumatic main arm rises, closing the main detected up dropped valve after a short time limit	Please check whether the increased limit of changtong
1123: Jib up too fast	Pneumatic jib when, after falling close the main valve detected pair of rose in a short time limit	Please check whether the Deputy rise limit of changtong
1124: Main arm rising mold off	Pneumatic main boom up, opening up no signal	Please check the mold out signal is normal

1125: Jib up mold off	Pneumatic jib rise, opening up no signal	
1126: Main arm rises, the increased limit breaks	Pneumatic main arm rises, the increased limits no signal	1.Check that the main boom is rising 2.Please check whether the up limit switch to normal
1127: Jib rises, the Deputy rise limit breaks	Pneumatic Vice-arm rises, the Deputy rise limit no signal	1.Check that the jib is up 2.Check under up limit switch properly
1140: After the boom, the main limit back-pass	Pneumatic boom after the forward, backward limit signals	1.Check whether the main boom 2.Please check the back limit switch is working correctly 3.If there is no primary back limits, set the function - parameters of the machine - back structure options to not use
1141: After the jib, main limit back-pass	After pneumatic jib, Vice-back limit signals	1.Check that the jib is 2.Please check under the back limit switch is working correctly 3.If there is no Deputy back limits, set the function - parameters of the machine - structure under back options to not use
1142: After the main arm back, back limit breaks	Pneumatic boom after the back, back limits no signal	1.Please check if the main boom is back 2.Please check the back limit switch is working correctly 3.If there is no primary back limits, set the function - parameters of the machine - back structure options to not use

1143: After the jib backwards, Vice-back limit breaks	Pneumatic Vice after the arm back, Vice-back limit no signal	1.Please check that the jib is back 2.Please check under the back limit switch is working correctly 3.If there is no Deputy back limits, set the function - parameters of the machine - back structure options to not use
1144: After the boom, the main limit breaks	Pneumatic boom after the move, the main advance limit no signal	1.Check whether the main boom 2.Check the limit switch is working correctly 3.If there is no limit, set the function - parameters of the machine - structure options to not use
1145: After the jib, under limit breaks	After pneumatic jibs forward, Deputy advance limit no signal	1.Check that the jib is 2.Please check the under limit switch is working correctly 3.If no Deputy limits, set the function - parameters of the machine - structure under forward options to not use
1146: After the main arm back, limiting flux	Pneumatic boom after the retreat, master limited signal	1.Please check if the main boom is back 2.Check the limit switch is working correctly 3.If there is no limit, set the function - parameters of the machine - structure options to not use

1147: After the jib backwards, Vice-limits-pass	Pneumatic jib back later, Deputy advance limit no signal	1.Please check that the jib is back 2.Please check under the back limit switch is working correctly 3.If there is no Deputy back limits, set the function - parameters of the machine - back structure options to not use
1160: Position 1 changes, increased limits are not detected	1.In the security zone, rose-limited signal and off , position 1 vertical 2.Is not outside the security zone, rose-limited signal and off , position 1 horizontal / vertical 3.ZLocation is less than z within the security zone setting, rose-limited signal and off , position 1 horizontal / vertical	Please check whether the up limit switch to normal
1161: Position 1 changes, the Deputy rise limit is not detected	1.In the security zone, Deputy rose-limited signal and off , position 1 vertical 2.Is not outside the security zone, Deputy rose-limited signal and off , position 1 horizontal / vertical 3.ZLocation is less than z within the security zone setting, Deputy rose-limited signal and off , position 1 horizontal / vertical	Check under up limit switch properly
1162: Position 1 changes, the opening break	Security posture in the type 1 vertical, when you select the outer levels of standby or standby, mold signal fault	Please check the mold out signal is normal

1163: Position 1 level, level 1 limit breaks	Position 1 level, level 1 limit switch signal	1.Please check the position 1 level 2.Please check the level 1 limit switch is working correctly
1164: Position 1 after vertical, vertical 1 limit breaks	Position 1 after vertical, vertical 1 limit switch signal	1.Please check the position 1 vertical 2.Please check the vertical 1 limit switch is working correctly
1165: Position level, is not in the security zone	Position level, not z origin or type of security zone	1.Please check the z origin switch and safety switch is normal 2.Please check for correct procedural steps
1170: Position 2 changes, increased limits are not detected	1.In the security zone, rose-limited signal and off , position 2 vertical 2.Is not outside the security zone, rose-limited signal and off , position 2 horizontal / vertical 3.ZLocation is less than z within the security zone setting, rose-limited signal and off , position 2 horizontal / vertical	Please check whether the up limit switch to normal
1171: Position 2 changes, the Deputy rise limit is not detected	1.In the security zone, Deputy rose-limited signal and off , position 2 vertical 2.Is not outside the security zone, Deputy rose-limited signal and off , position 2 horizontal / vertical 3.ZLocation is less than z within the security zone setting, Deputy rose-limited signal and off , position 2 horizontal / vertical	Check under up limit switch properly

1172: Position 2 changes, the opening break	Security posture in the type 2 vertical, when you select the outer levels of standby or standby, mold signal fault	Please check the mold out signal is normal
1173: Position 2 level, level 2 limit breaks	Position 2 level, level 2 limit switch signal	1.Check position 2 levels 2.Please check the level 2 limit switch is working correctly
1174: Position 2 after vertical, vertical 2 limit breaks	Position 2 after vertical, vertical 2 limit switch signal	1.Check position 2 vertical 2.Please check the vertical 2 limit switch is working correctly
1180: Pneumatic cross into horizontal when rising limit breaks	Pneumatic cross to cross out, rose the limit no signal	Check rising limit properly
1181: Pneumatic cross into horizontal when Deputy rise limit breaks	Pneumatic cross to cross out, Deputy rose the limit no signal	Check Deputy rise limit properly
1182: Cross then cross into the limit breaks	Pneumatic cross then cross into the limit there is no signal	1.Check whether the cross into the 2.Cross check the limit switch is working correctly
1183: Cross after cross limit breaks	Pneumatic cross after cross the limit there is no signal	1.Check whether the cross 2.Cross check the limit switch is working correctly
1185: When you cross, mold breaking	Under the type of standby, cross into the z is reduced, the security zone outside the non-or z location is less than outside the security zone setting value, the opening break	Please check the mold out signal is normal
1186: In some non-security area, increased limit breaks	Not-within and outside the security zone, or z when the peripheral value-laden, does not detect the rise limited	Check rising limit properly

1187: In some non-security area, under rising limit breaks	Not-within and outside the security zone, or z when the peripheral value-laden, not detected under rose limited	Check Deputy rise limit properly
1188: In some non-security area,Y1 is not in the security zone	Not-within and outside the security zone, or z when the peripheral value-laden,Y1 position is greater than the security zone settings	Please check - machine parameter y axis is normal
1189: Increased limit when it is not full, by type Heng into	Z Moving, rising main and auxiliary limit do not all pass, the current z position is greater than the outer security zone, the destination is less than the outer security zone settings	Check rising main and auxiliary limit properly
1190: Increased limit when it is not full, by type Heng	Z When you move, Lord Deputy rise limits is not full, the current z position is less than the zone, destination than within the security zone settings	Check rising main and auxiliary limit properly
1191: Manually in the non-security run amok, not detected increased limits	Manually while in non-security run amok, main and auxiliary increase limits do not all pass or Y1 position is greater than the zone locations	1.Check rising main and auxiliary limit properly 2.YAxis stand point as 0 or go a distance of 0 causes reported to the police
1192: Less than secure location that can be moved from its current location	Manually when you cross, the current position is less portable, secure location	Please check - machine parameter z axis is normal
1193: Secure location than can be moved from its current location	Manually when you cross, the current position is secure location than can be moved	
1200: Clip 1 valve, and clip 1 is broken	1.When the valve, the corresponding limit no signal 2.Corresponding valves without action, the corresponding limit signals	Check valve and limit properly
1201: Clip 1 valve off, caught 1 pass		

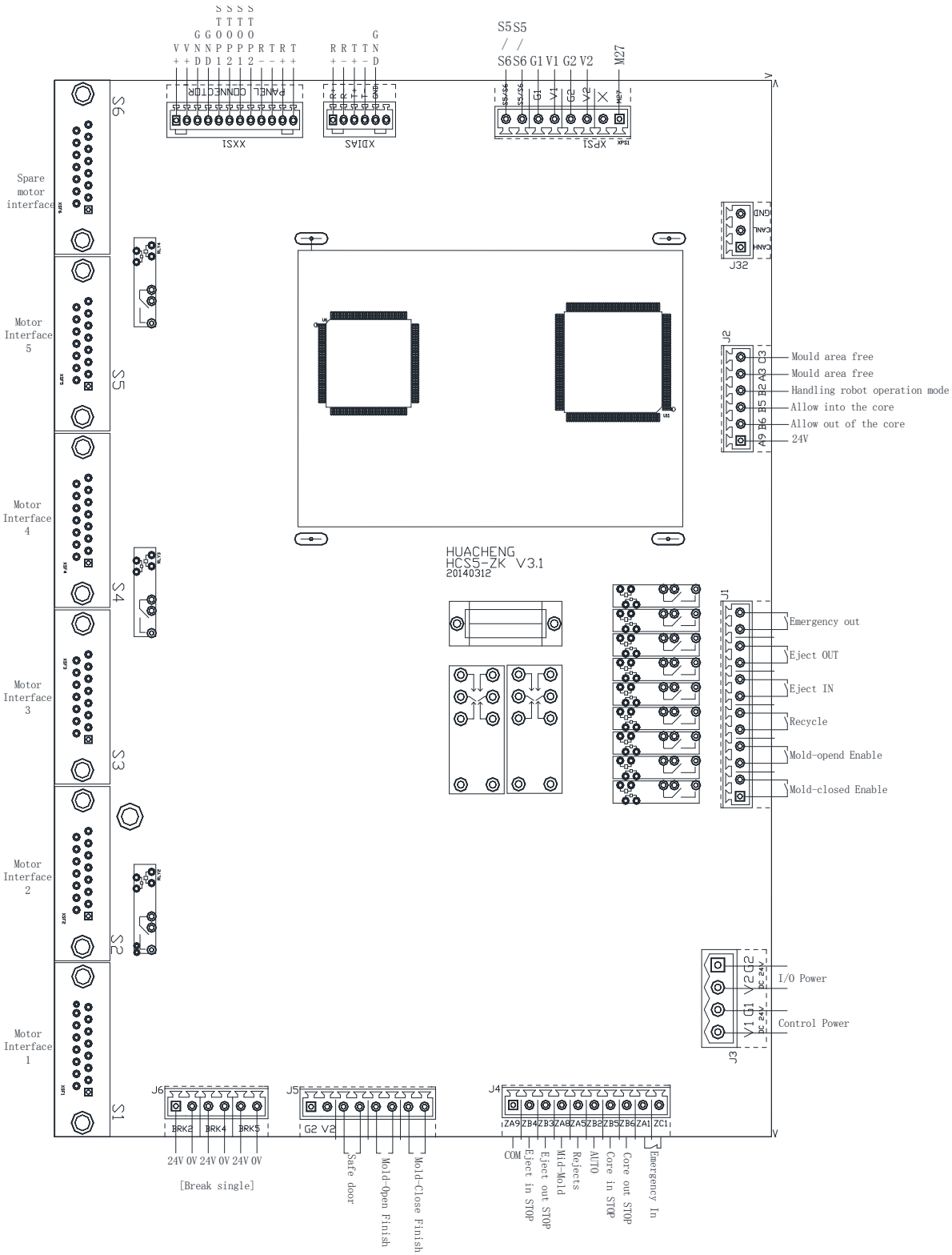
1202: Clip 2 valve-pass, and 2 broken		
1203: Clip 2 valve fault, and 2 -pass		
1204: Clip 3 valve works, clip 3 broken		
1205: Clip 3 valve broken, clip 3 -pass		
1206: Clip 4 valve works, clip 4 is broken		
1207: Clip 4 valve broken, clip 4 -pass		
1208: 1 valve works, 1 broken		
1209: 1 valve broken, 1 pass		
1210: 2 valve, and 2 broken		
1211: 2 broken valve, 2 -pass		
1212: 3 valve works, 3 broken		
1213: 3 valve off, 3 -pass		
1214: 4 valve, and 4 is broken		
1215: 4 broken valves, 4 -pass		
1300: Please check the standby postures	Standby position error	Check vertical limit and level limit properly

1301: Please check the standby main arm rose limited	1.Set the standby position is greater than the Y1 axis position of maximum standby	1.Please check - machine parameters Y1 axis settings are correct
	2.When in standby, the main arm is not in Y1 origin cannot run amok	2.Manually y axis moves to the origin
1302: Please check the standby jib up within	1.Set the standby position greater than Y2 axis position of maximum standby	1.Please check - machine parameters Y2 axis settings are correct
	2.In standby, and main boom not Y2 origin cannot run amok	2.Manually Y2 axis moves to the origin
1303: Please check the standby x-position	Starting point for x axis position second value after the decimal point	Please set the starting x position the second decimal places is set to 0
1304: Please check the standby y-location	Automatic start,y axis is not the origin	Manually the y axis to the origin position
1305: Please check the standby z position	Starting z axis position second value after the decimal point	Please set the starting z axis position of second place after the decimal point is set to 0
1306: Please check the standby clip 1 1307: Check the stand point of clip 2 1308: Please check the standby clip 3 1309: Please check the standby clip 4	When you teach, standby position of the default folder full off, if you need to clip through, and in part 0 standby position. When a robot after the cycle is complete, the system will automatically return to standby, but except for the clip. If standby jiaguan, caught after a cycle is through, appears above alarm; If Clip through standby point and clip is broken after a cycle, will also appear above the alarm. Die inline guidance from the arm horizontal upper started, Access inserts cross in, waiting for the finished mold,	Please refer to the alarm causes

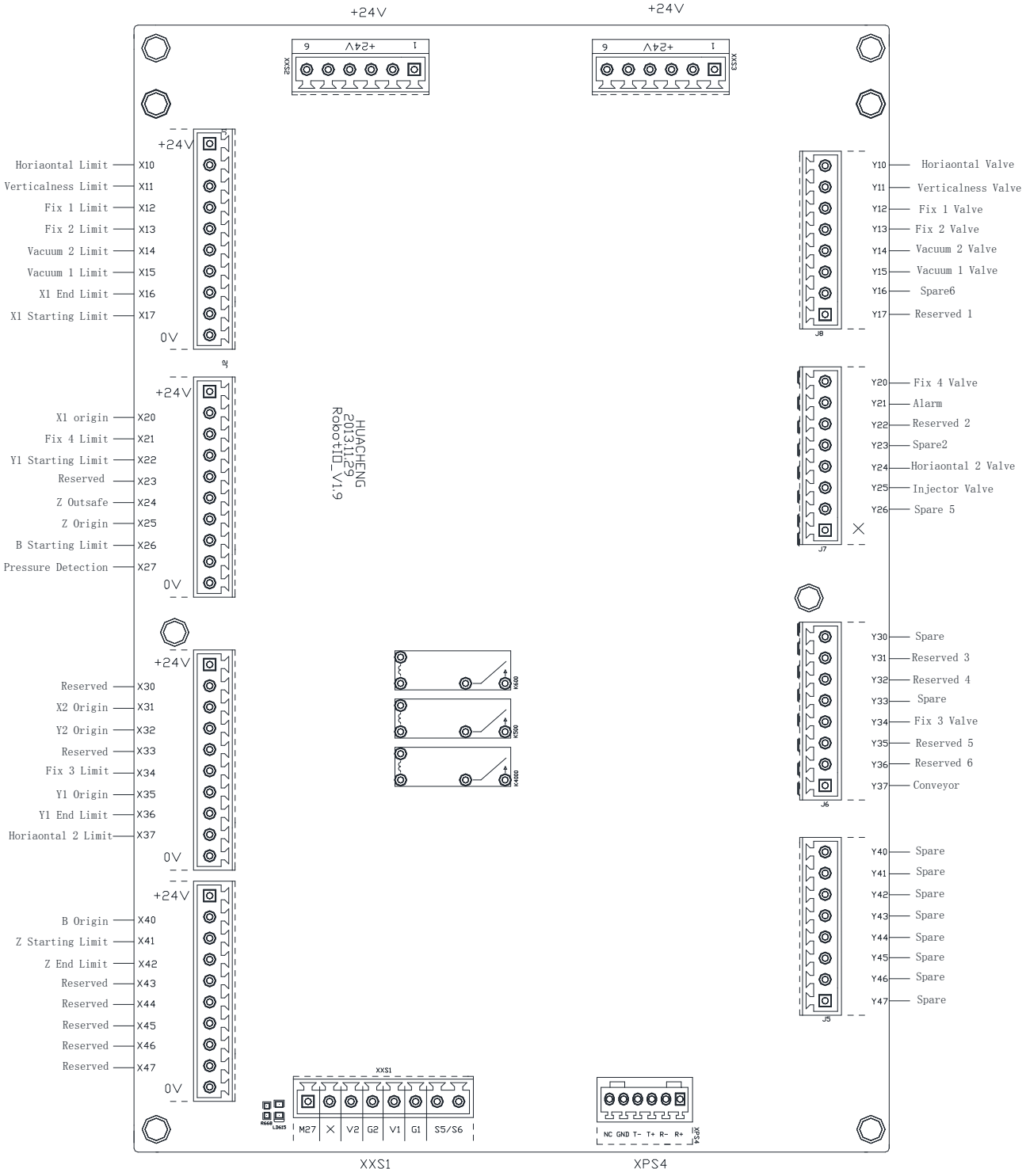
	Down into, take the product, upstream allows the clamping cross products, up-ends. According to the above process can be seen, stand clamp is broken at the point where, after the end of the loop is broken.	
1310: Please check the standby 1		
1311: Please check the standby 2		
1312: Please check the standby		
1313: Please check the standby b		
1314: Check standby point c		
1315: Please check the standby X2		
1316: Please check the standby Y2		
1400: Does not detect rising limit	Automatic State by pressing the start key, the system reverted back to standby. When you return, boom jib must increase limit, or alarm	1.Check whether the rise limited the normal 2.Manually move the main boom to the origin
1403:Y2 Does not detect rising limit	Automatic State by pressing the start key, the system reverted back to standby. When you return, boom jib must increase limit, or alarm	1.Check whether the Deputy rise limit normal 2.Manually move the jib to the origin

CHAP 7 Board port definition

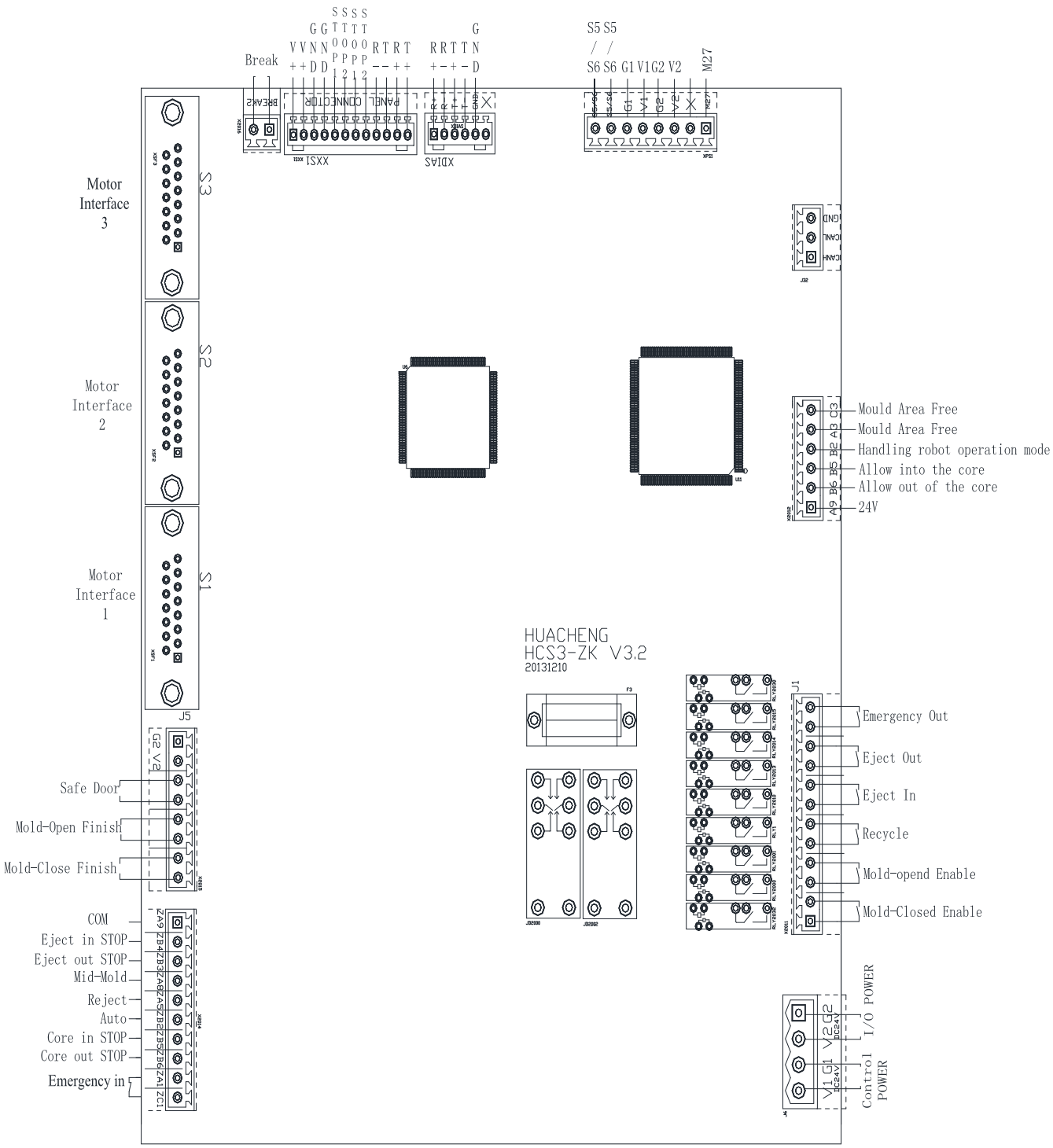
7.1 HC-S5 Main Board



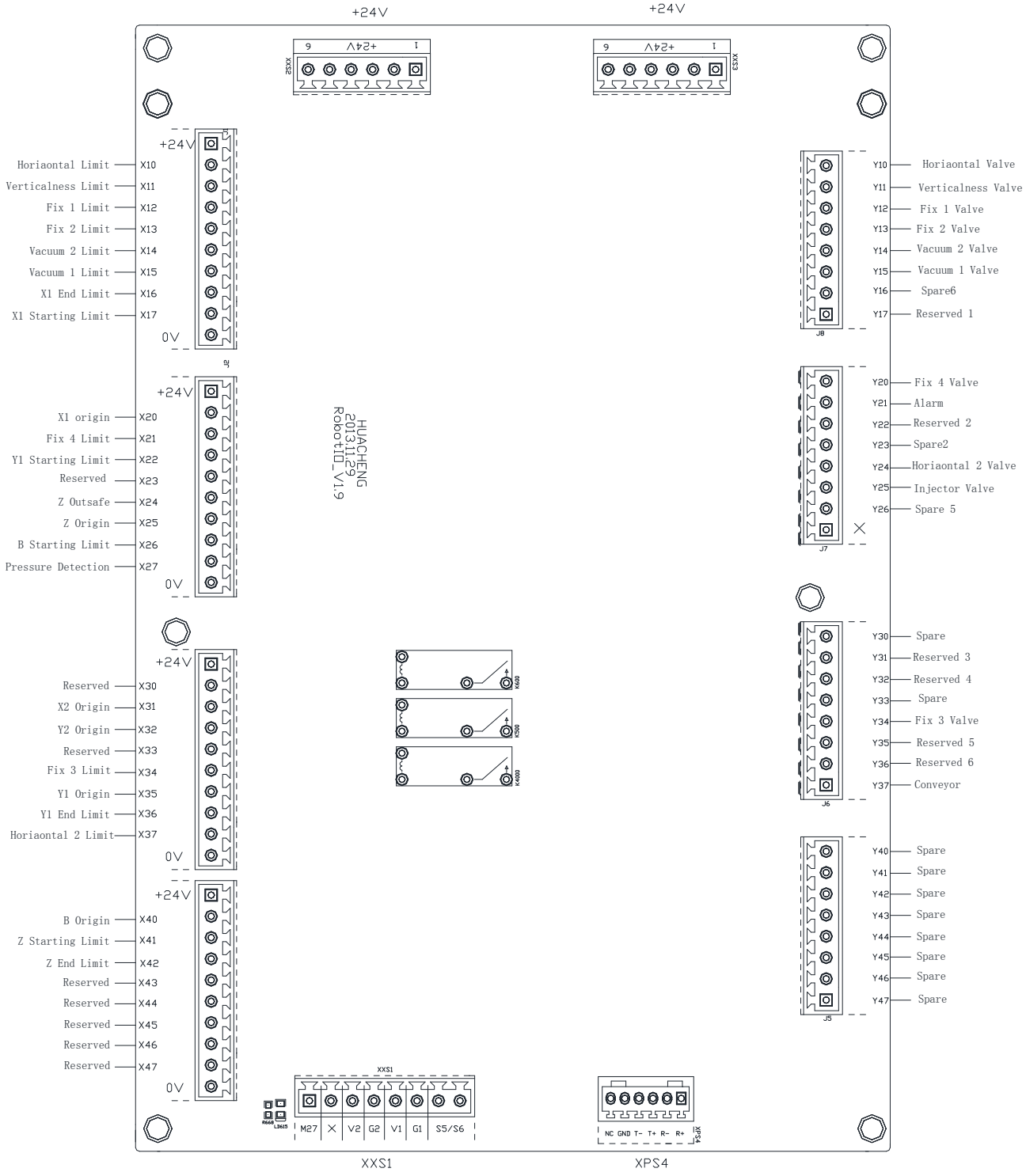
7.2 HC-S5 I/O Board



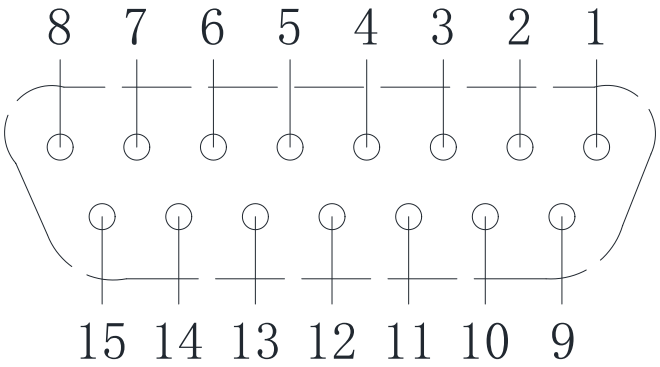
7.3 HC-S3 Main Board



7. 4 HC-S3 I/O Board



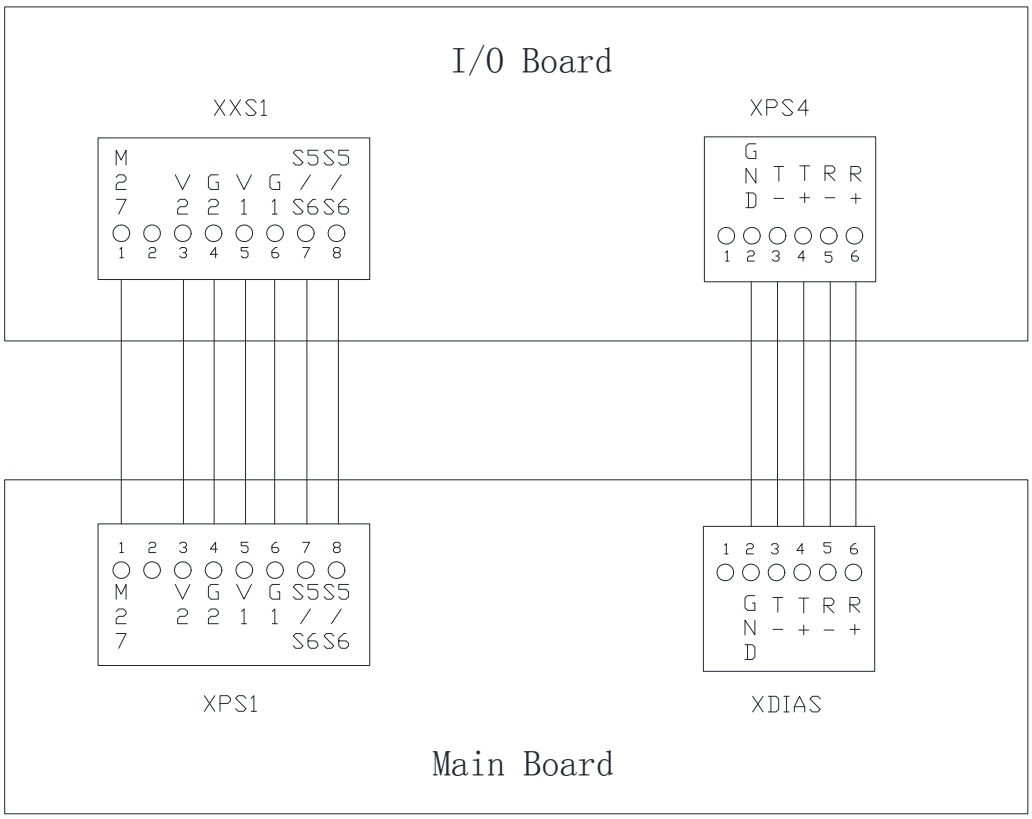
7.5 Servo connector



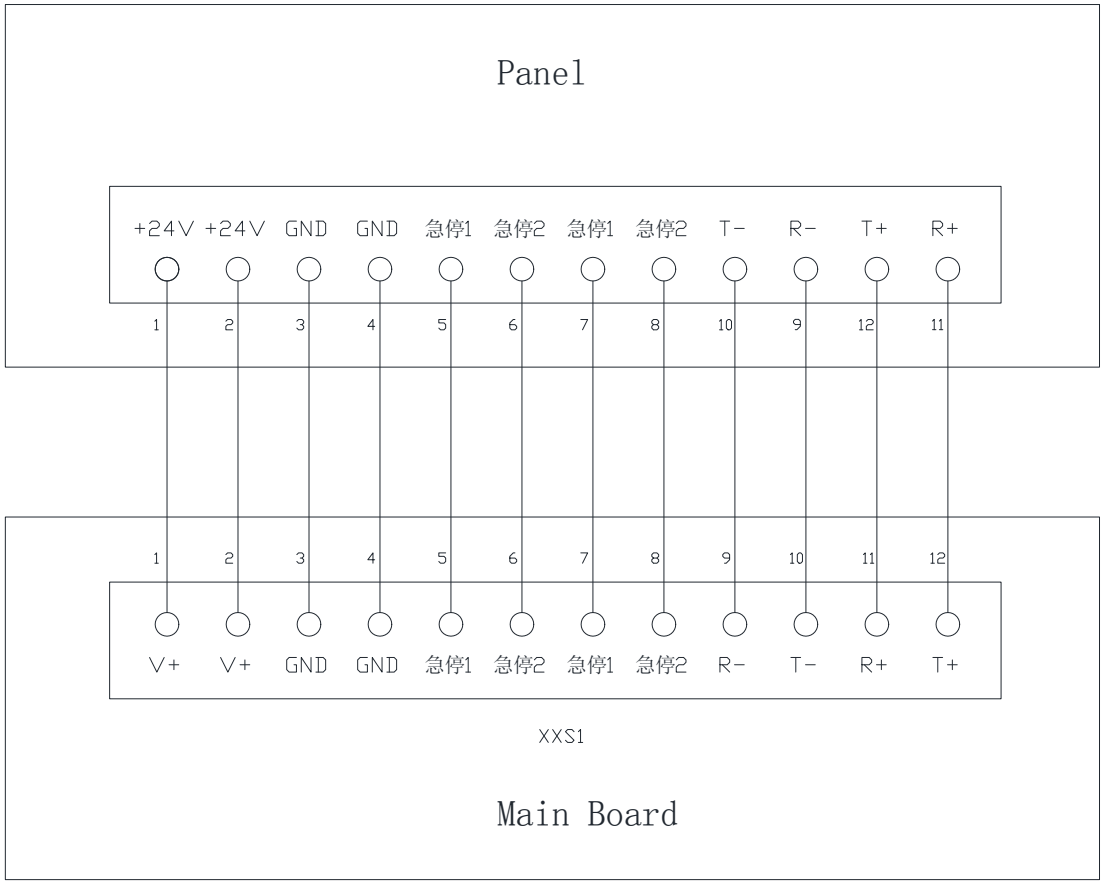
Pin No.	Terminal definition	Pin No.	Terminal definition
1	+24V	9	0V
2	OA+	10	P+
3	OA-	11	P-
4	OB+	12	BRAKE
5	OB-	13	N+
6	OZ+	14	N-
7	OZ-	15	ALM
8	SON		

CHAP 8 Wiring Diagram

8.1 Main board to I/O Board



8.2 Main board to Panel



8.3 Main board to Servo

Please choose position mode for servo system. The command pulse type is forward and reverse pulses. The maximum frequency is 500K.

8.3.1 Connect to Panasovic A5

A5 Servo settings

No.	name	set
Pr0.01	controlmode	0
Pr0.05	Input pulse select	1
Pr0.06	Input pulse positive	0
Pr0.07	Input pulse mode	1
Pr0.08	Pulses of moter circle	10000
Pr0.11	Pulse out for circle	2500

MainBoard			Panasonic A4/A5		
pin	define		pin	define	
1	P+	Positive pulse	3	PULS1	Pulse 1 input
2	P-		4	PULS2	
3	S+	Negative pulse	5	SIGN1	Pulse 2 input
4	S-		6	SIGN2	
5	A+	Feedback pulse phase A	21	OA+	Phase A output
6	A-		22	OA-	
7	B+	Feedback pulse phase B	48	OB+	Phase B output
8	B-		49	OB-	
9	Z+	Feedback pulse phase Z	23	OZ+	Phase Z output
10	Z-		24	OZ-	
13	GND	Signal ground	13	GND	Signal ground
26	+24V	+24V power supply	7	COM+	External power+
25	0V	power ground	41	COM-	External power-
			36	ALM-	alarm
15	ALRM	alarm	37	ALM+	
23	SON	Servo-on	29	SRV-ON	Servo-on

8.3.2 Connect to MITSUBISHI MR-E

MR-E Servo settings

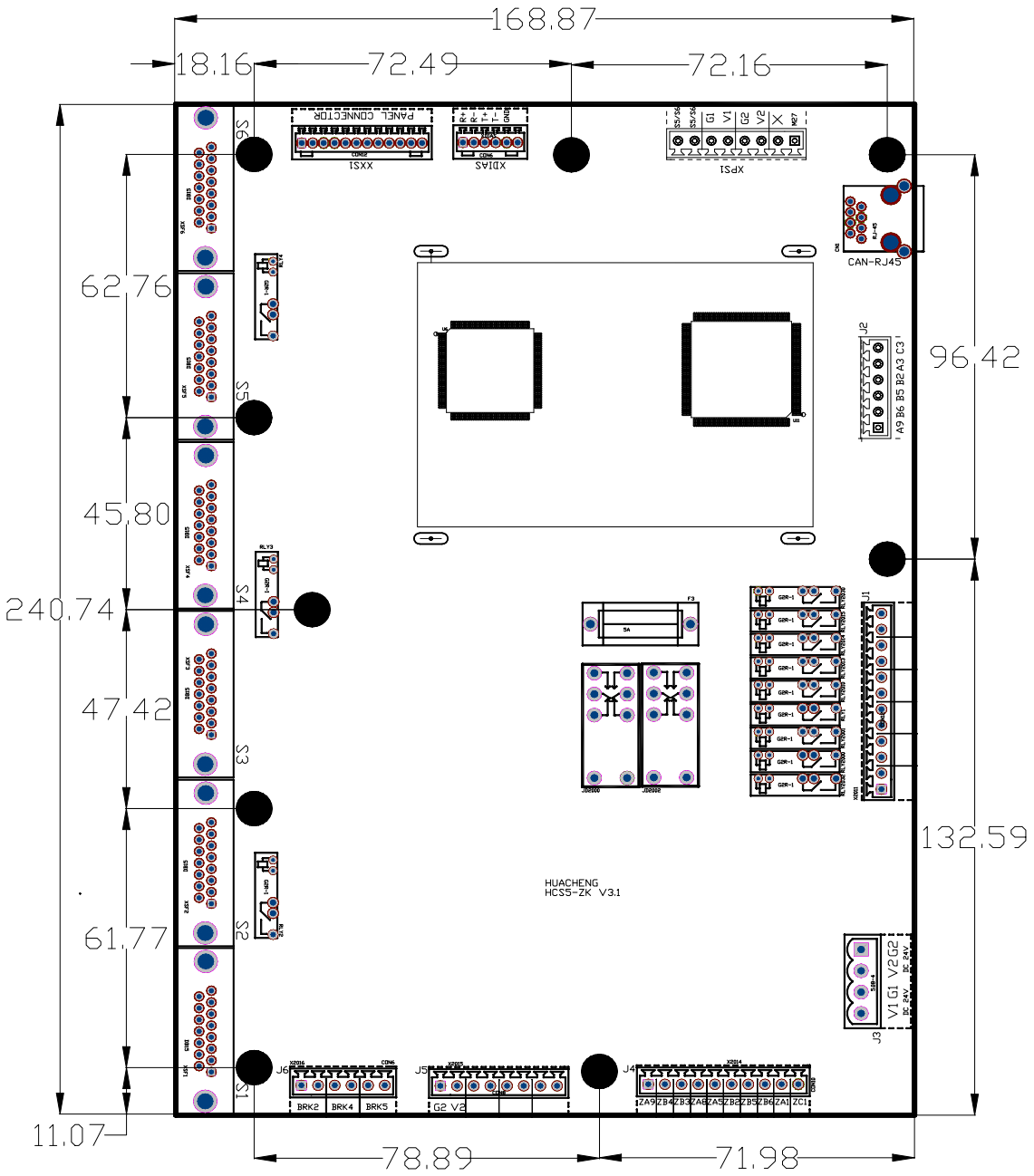
(For 131072pulses/cycle moter)

No	name	set
No. 0	controlmode	***0
No. 1	Brake selection	0012
No. 3	numerator	14
No. 4	Denominator	1
No. 21	Pulse mode select	0000
No. 27	Pulse out	14
No. 54	Pulse out	1***

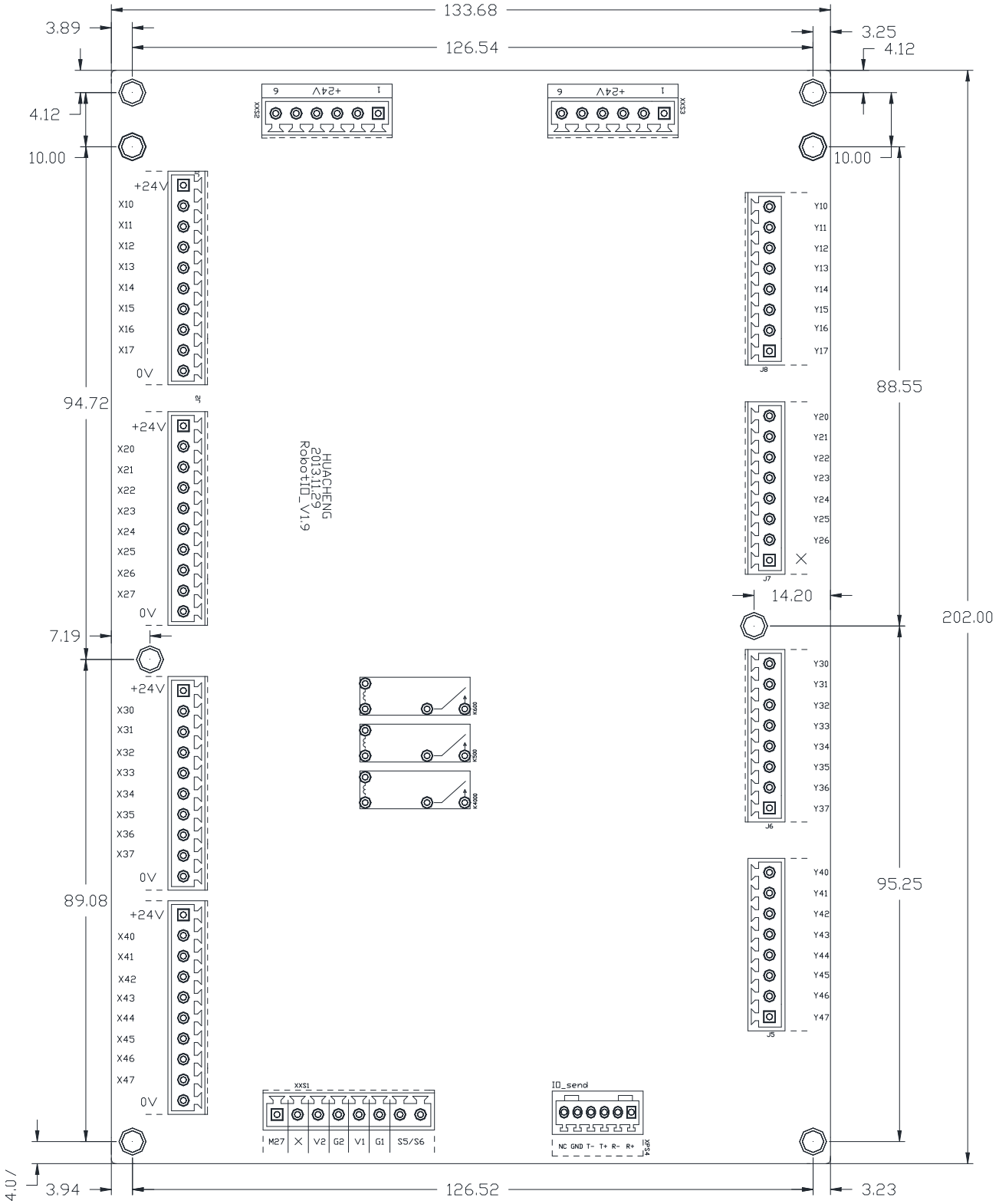
MainBoard			MISUBISHI MR-E		
pin	define		pin	define	
1	P+	Positive pulse	23	PP	Pulse 1 input
2	P-		22	PG	
3	S+	Negative pulse	25	NP	Pulse 2 input
4	S-		24	NG	
5	A+	Feedback pulse phase A	15	LA	Phase A output
6	A-		16	LAR	
7	B+	Feedback pulse phase B	17	LB	Phase B output
8	B-		18	LBR	
9	Z+	Feedback pulse phase Z	19	LZ	Phase Z output
10	Z-		20	LZR	
13	GND	Signal ground	14	LG	Logic ground
26	+24V	+24V power supply	1	VIN	DC24V power+
25	0V	power ground	13	SG	DC24V power-
15	ALRM	Alarm	9	ALM	alarm
23	SON	Servo-on	4	SON	Servo-on

CHAP 9 Installation dimensions

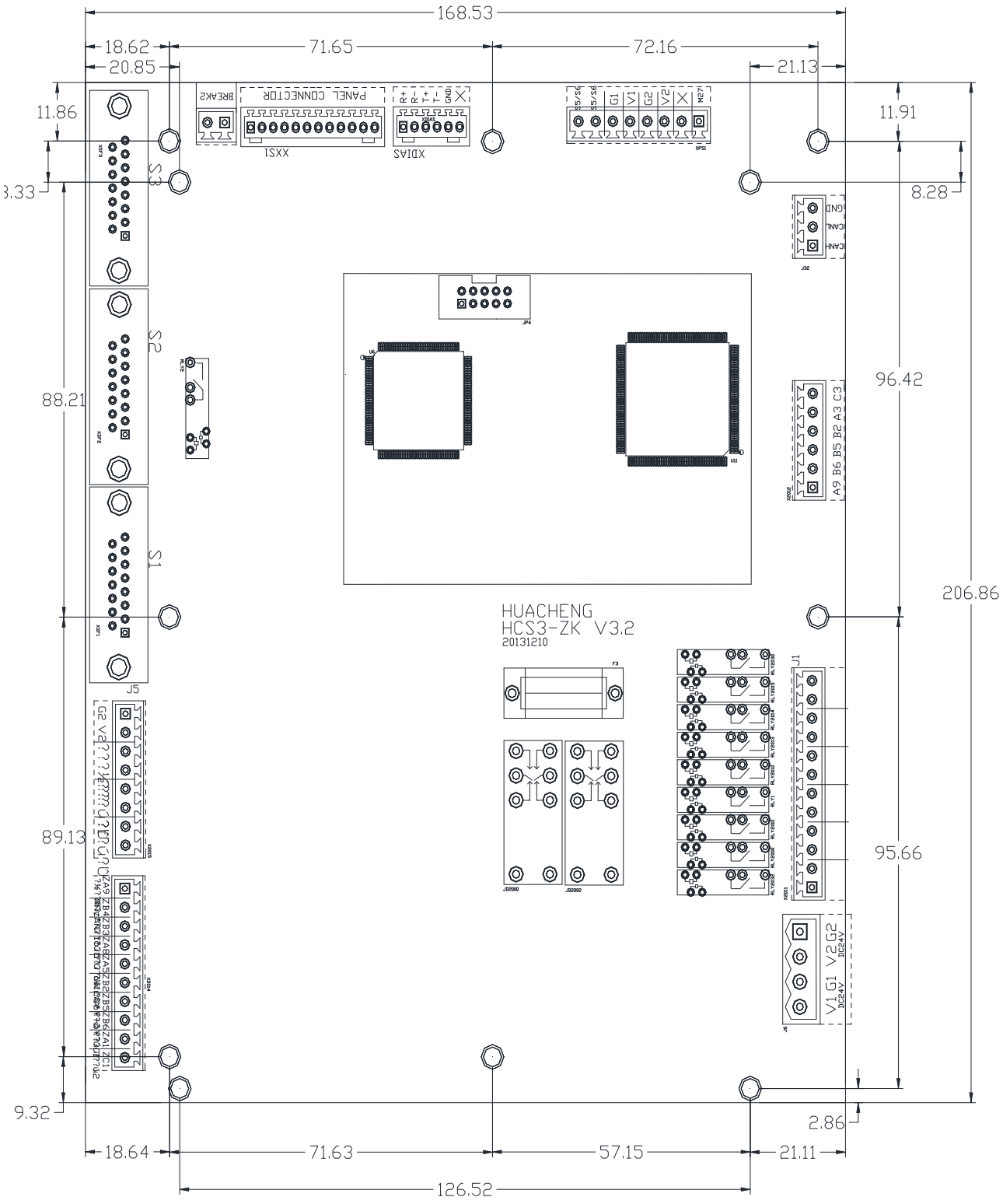
9.1 HC-S5 Main board Installation Dimension



9.2 I/O board Installation Dimension



9.3 HC-S3 Main board Installation Dimension



Thanks for reading.

The information is subject to change WITHOUT notice while update.