

C6 Punch manipulator system operating instructions

C6 V3.0 VERSION

Shenzhen Huacheng Industrial CO., Ltd.

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1 System configuration and installation

1.1 Basic configuration

- 1、 8 -Inch color touch screen
- 2、 Servo control board
- 3、 I/O board
- 4、 Power supply (24V DC power supply).

1.2 Installation of the system

- 1、 Wiring operations must be carried out by a professional electrician.
- 2、 Confirm that the power is disconnected before you can begin work.
- 3、 Mounted on a metal, such as flame retardants and away from combustibles.
- 4、 Must be used with safety grounding.

5、 External power supply an exception occurs, the control system failures may occur, in order to make the whole system work, please be sure to set the external safety circuit of the control system.

6、 Before installing, wiring, operation, maintenance, must be familiar with the contents of this manual use must also be familiar with the relevant machinery, electronics knowledge and all the relevant safety precautions.

7、 Install the controller box, should have good ventilation, oil-proof, dust-proof conditions. If the electronic control box is closed the controller temperature is too high, affecting its normal work, be fitted with extractor fan, electric box at the appropriate temperatures to 50below, do not use in dew and frozen places.

8、 Controller should avoid contact with accessories, transformers and other communication features, avoid unnecessary surge disturbances.

Note: the danger caused by the improper handling, including personal injury or accident.

2 Operation Panel

2.1 The appearance and description



2-1

2.2 Keys function description

2.2.1 State selector switch

Manual, stop, auto state selection.

- 1、 " Manual ": after you select switch to manual, manual operation and programming.
- 2、 " Stop ": after you select switch to stop, you can make the function setting.
- 3、 " Auto ": after you select switch to auto, can be fully automated and the corresponding settings.

2.2.2 Function keys

1、 **"Start"** Key: origin return and auto movements, pressing this button will start the appropriate action.

"Stop" Key: auto status, press this key, you will be taught the last step of the program auto stops; in stop mode, this key to clear the alarm display that has been resolved.

2、 **"Origin"** Key: in stop mode, press this key, then press the start key, started returning at the origin.

"Return" Key: press this key to " I/O Reset the "check in the interface I/O Output points are reset.

3、 **"Up and down"** Key: this key is used to adjust the speed of manual and auto global.

2.2.3 Page toggle keys

F1 —F5 : The corresponding function on the display panel.

2.2.4 Axis action key

X+,X-,Y+,Y-,S+,S-,R+,R-,T+,T- : In manual status, press the corresponding axis moves.

2.2.5 Fine tuning knob

Manual states when precise positioning, you can use the precise movement of the knob axis. The status bar, you can select which axis for adjustment.

X1: A grid axis 0.01mm Or to rotate 0.01 Degrees.

X5: One-axis translation 0.05mm Or to rotate 0.05 Degrees.

X10: One-axis translation 0.1mm Or to rotate 0.1 Degrees.

2.2.6 Emergency stop button

Press the emergency stop button in an emergency, will cut off all axes enabling all IO Maintaining the current status. system alert: emergency stop.

Knob screw out, press the "stop" button, the alarm can be eliminated.

2.2.7 Status lights

"Punch origin": dead signal status display on the punch.

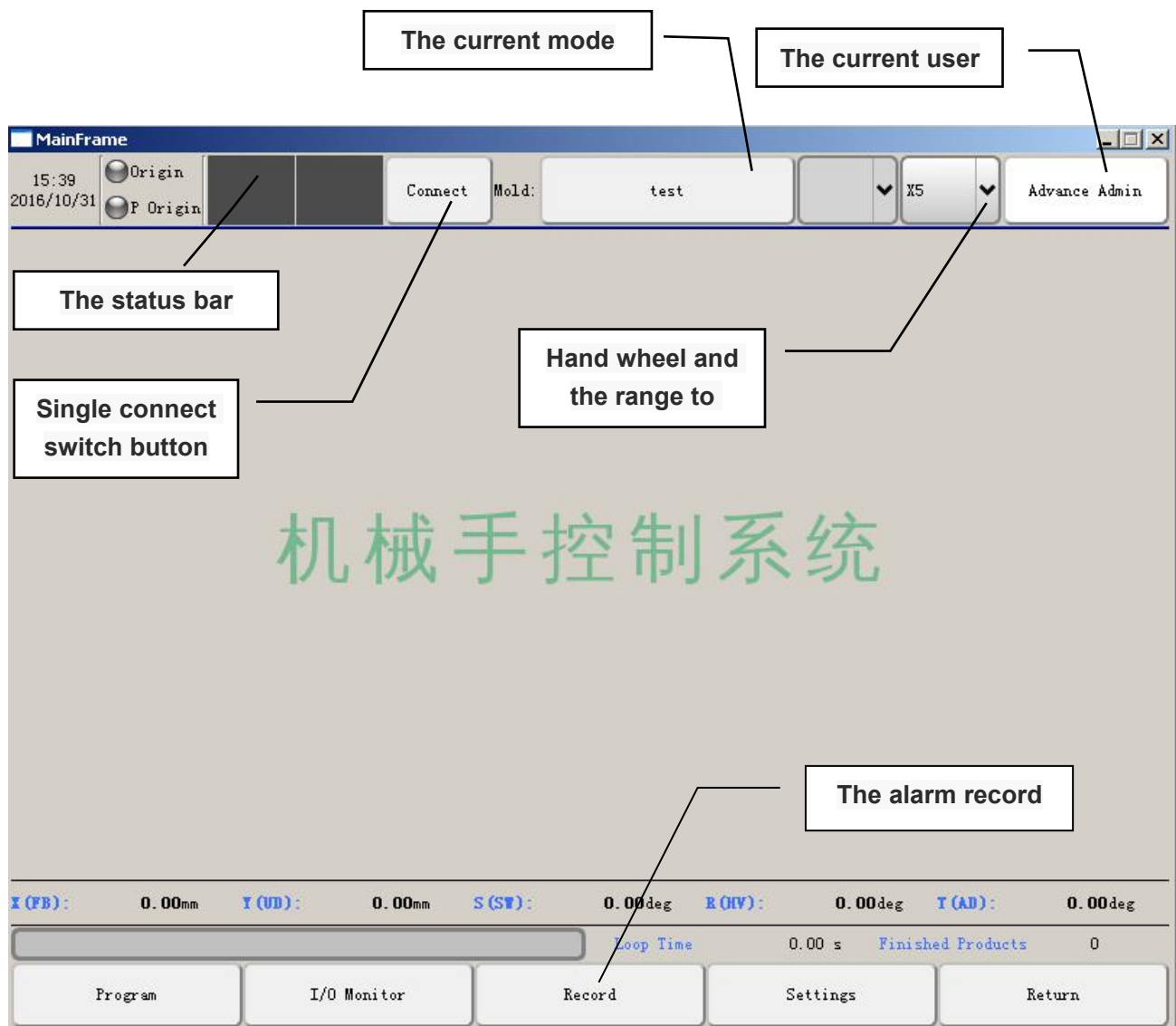
"Safety grating": dead signal status is displayed under the punch.

"Allow punch": punch allows the state to display the output of the system.

"Punch stop": the robot in punch shows the status of the safety area.

2.3 Main screen and axis definition

2.3.1 Main screen description



2.3.2 Manipulator axis definition

X (FB) axis: manipulator, the back axis.

Y (UD) axis: rise of the machine, drop axis.

S (SW) axis: manipulator arm axis.

R (HV) axis: manipulator The front end The calibration axis.

T (AD) axis: flip axis of the robot arm.

3 Operating modes

Manipulator with manual, auto stop, three running stalls from the left selection switch for manual states, in this state, the manipulator can be manual operated. Status selection switch to the middle position to stop state manipulator in the state stop all movements, machine can be carried out only origin return operation. Select switch to the right position and press the "start" button, the robot into auto operation.

3.1 Origin and returning

For machine to correctly auto after each time you turn on the power, you must revert to the action at the cessation of the state of origin. Origin return to action will drive the robot reverted to the original position each axis, vacuum and clamps return to the off position.

Back processes: in the stop state, press the "origin" key once → System pop up a dialog box, there are two options in the dialog box, choose according to the actual situation (①left-handed: check this at the robot left the origin.② Right hand: the point on the right of the robot when you check this.③ If the manipulator is which one to check the origin line) → check is completed press the "start" button, the robot axes by Shun sequence and returning to the origin position → When all servo axes and returning to the original position, robot icon at the origin in the upper left corner of the screen will turn green.

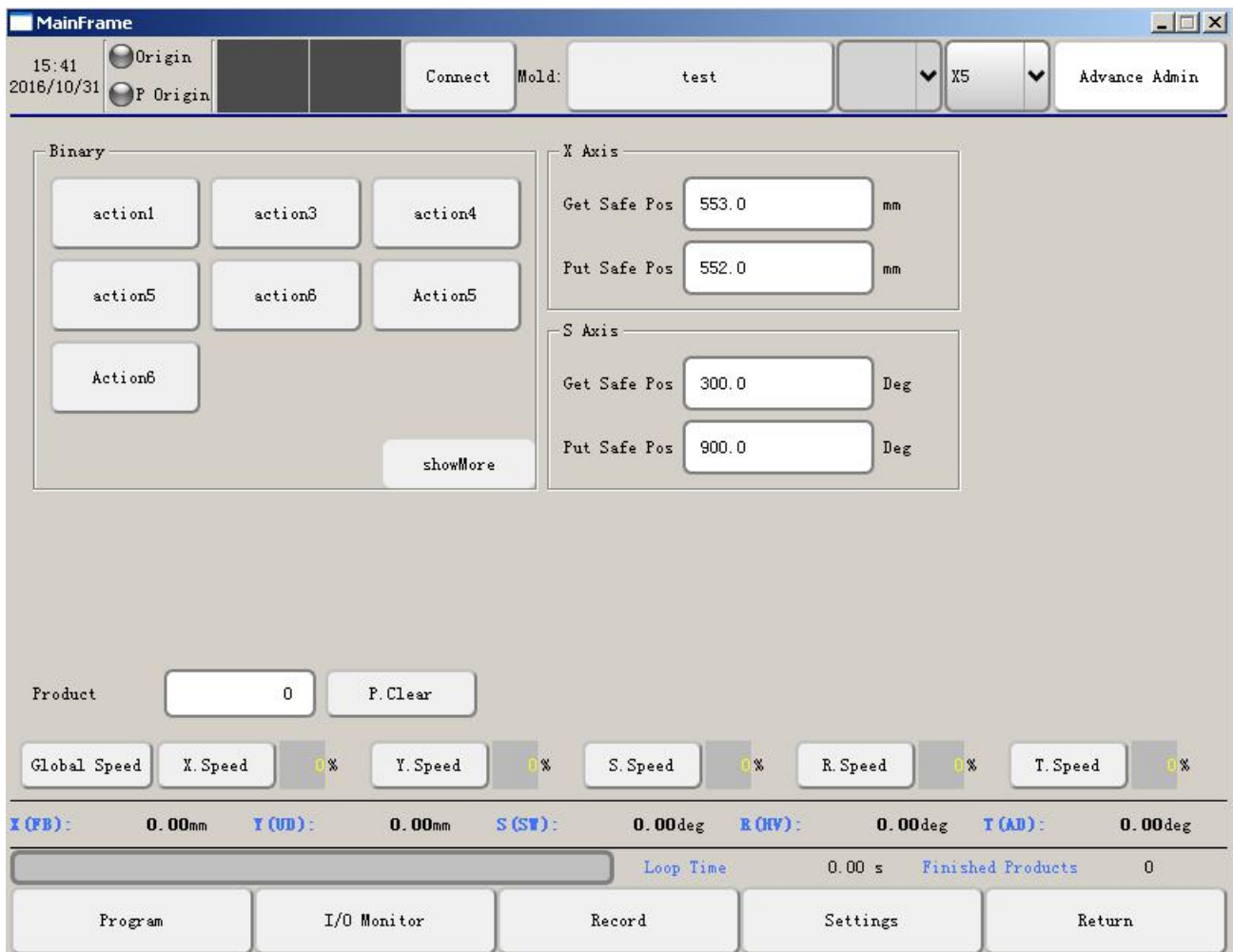
When origin return user manipulator can be manual, auto operation and parameter setting, in case of emergency you can press the stop button to stop the origin return or press the emergency stop button.

3.2 Stopped state

As Figure 2-3 Shows, the stop can be set for program management functions and operations.

3.3 Manual

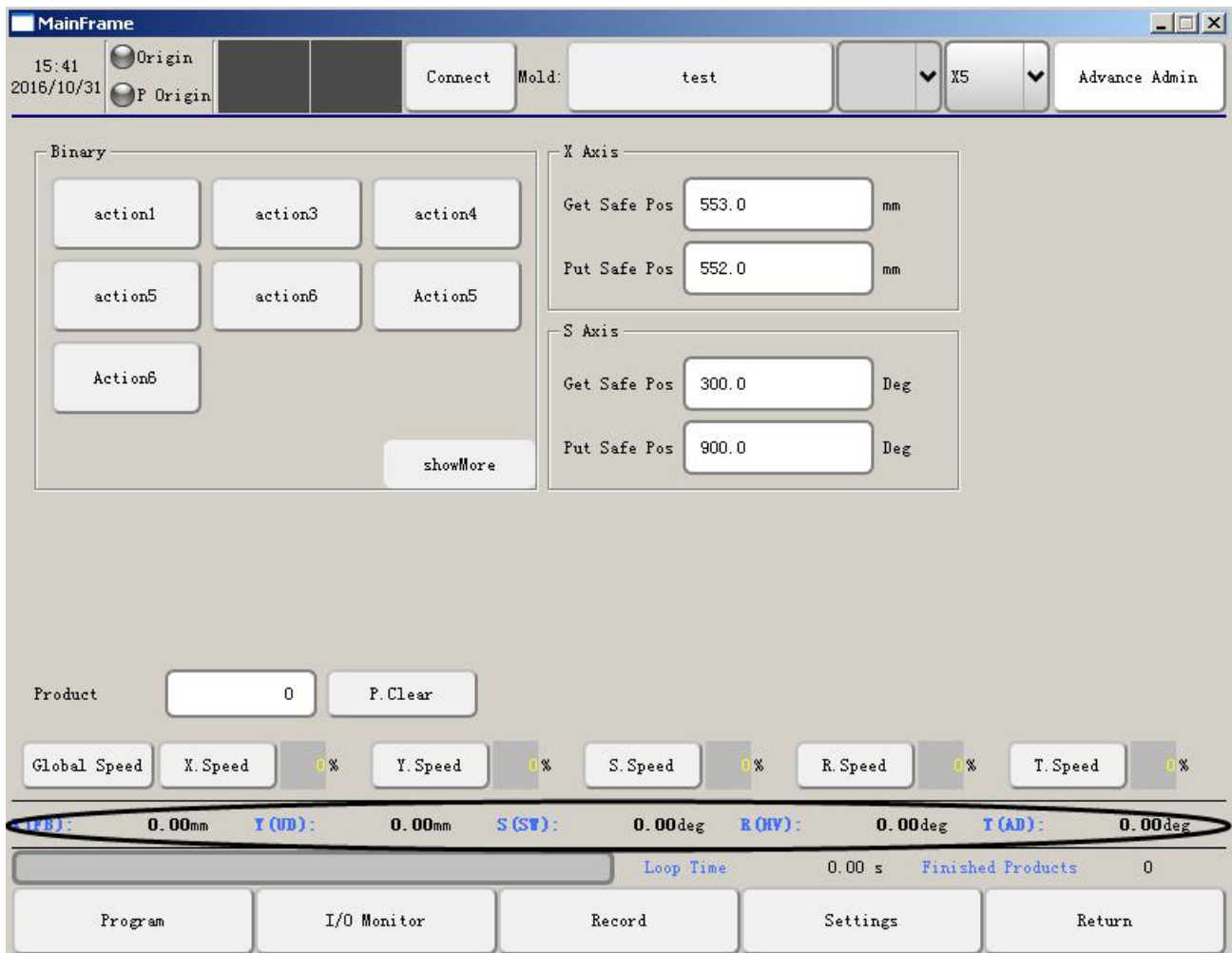
Select switch to the manual position, robot entered manual. Manual pages are as follows:



3-1

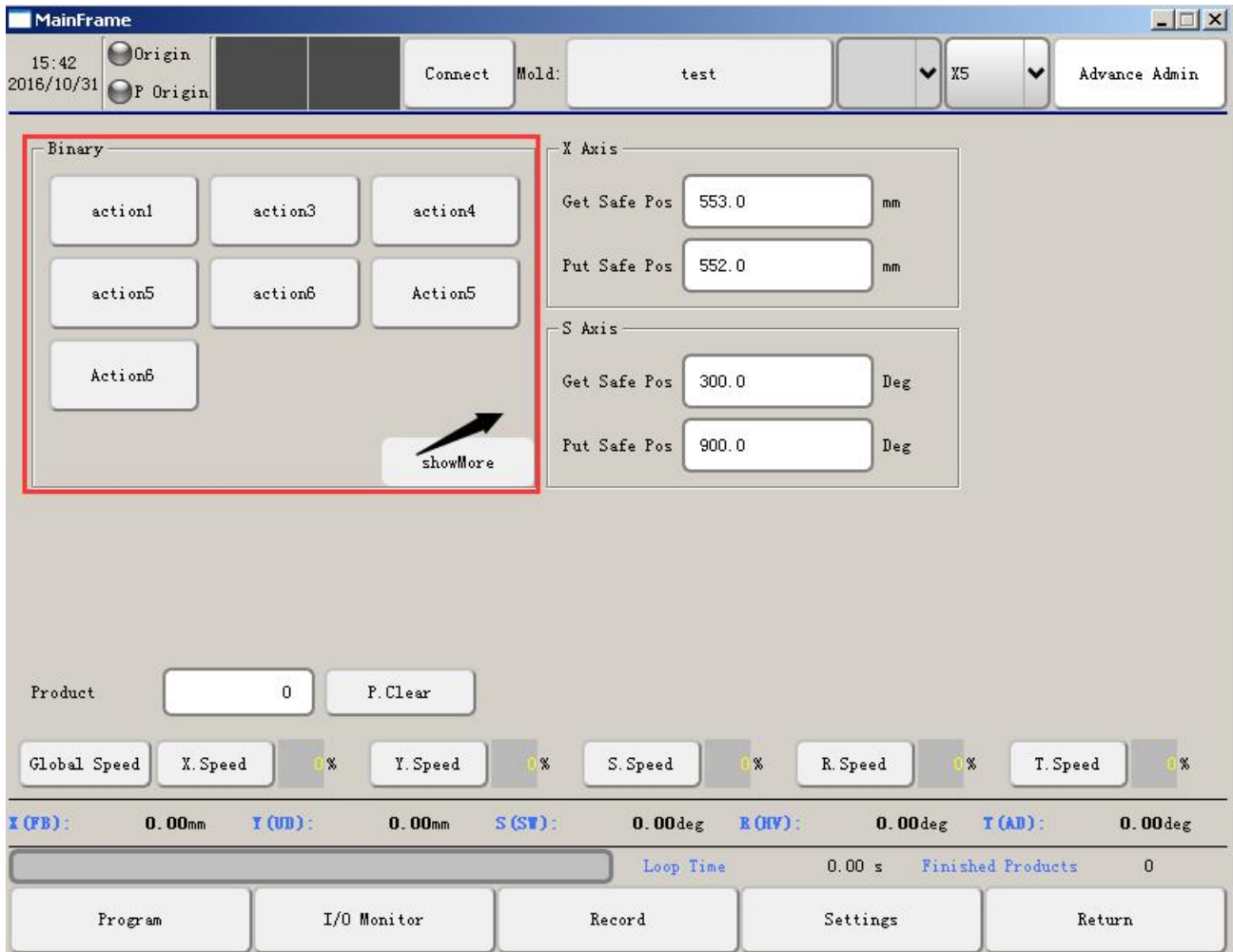
3.3.1 Axis manual

Press the corresponding keys X+,X-,Y+,Y-,S+,S-,R+,R-,T+,T- Corresponding actions of the axis, axis will immediately show in the following figure.



3.3.2 Pneumatic manual

In the manual on the upper left corner of the page, pneumatic switches and outlet points of the action will appear, click on the corresponding valve, blue can output. As shown in the following figure:



3-3

Click [more action] can be opened to close more valves or output points, as shown below



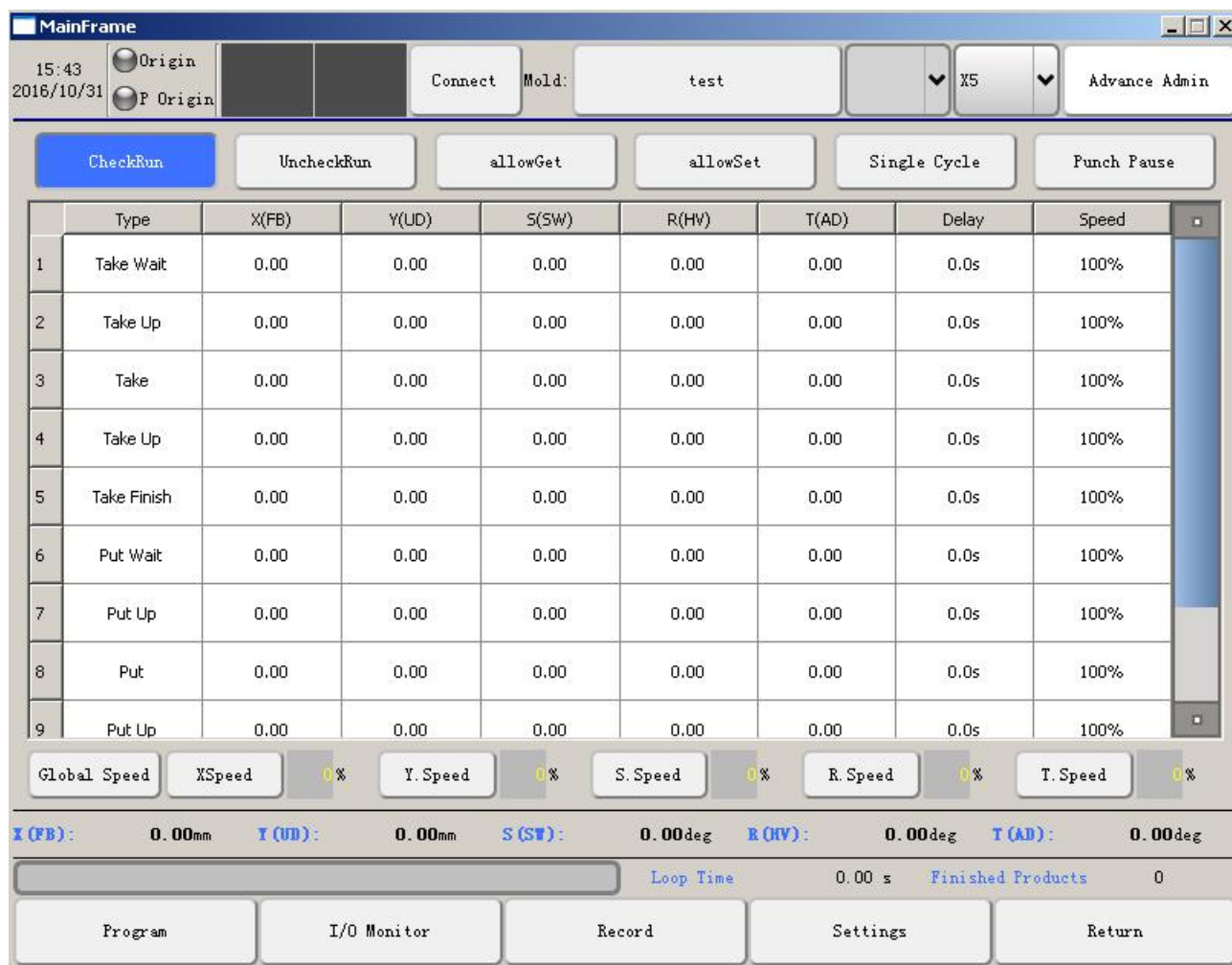
Note: in function, mechanical, structure, mechanical hand, switch, check the "start pressing"

option and manipulator in the safe range to click "allow stamping" button press will be really stamping (output stamping signal).

3.4 Auto

3.4.1 Auto data monitoring

Turn the selector switch to automation location manipulator into standby mode automatically, press the start key again manipulator into auto operation, Auto running can monitor data of the manipulator. Auto run page is displayed as shown below.

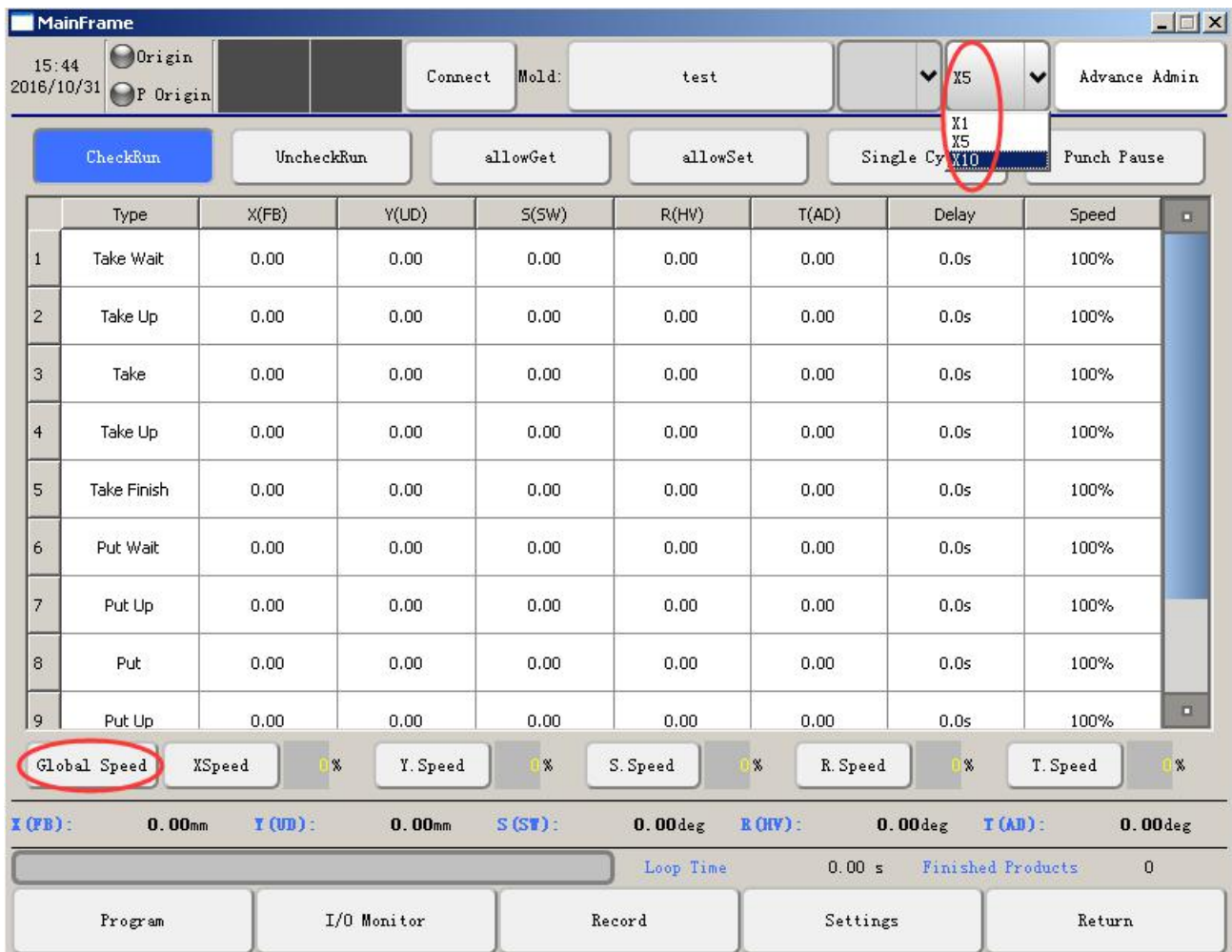


3-4

Loop Time: the manipulator cycles each time.

3.4.2 Auto adjustment of running speed

In auto operation can be selected clicking on "global speeds", " X Speed", " Y Speed", " S Speed", " R Speed ", " T Speed " button, then choose multiples of the speed of (X1 X5 X10) Press add and subtract speed key to adjust the speed. As shown in the following figure:



3.4.3 Check Run and Uncheck Run

Prepared by the program Suck,Clip and reserved have the option detect or does not detect the details entered in the stop state, "Settings" → "Axis" → "Struct" → " I/O checked "setting page . If you choose to use the testing. The Auto run process, click on the "run" run between program steps, the system will detect whether a confirmation signal, if the acknowledgement signal is not detected, you will be in the running to take standby alarm "failed to fetch" choose to continue or to extract, click on the "no running" confirmed that the system does not detect a signal.

3.4.4 Allows get and allows set

In an online state, if one machine fails, needs to stop state, press the "stop" key alarm elimination. Call back to auto status, press the start key to continue auto operation.

Alarm when the machine state is lost. Need to force the robot to action, if the product has been punch completed, extract is points allowed, machine will be forced to pick up, you do not need a robotic arm to allow signal on.

If manipulator on the product, you can click allow storage, machine will be forced to put and under do not need a robot to enable signal.

3.4.5 Single cycle

Single-loop start, the robot runs a loop to stop.

3.4.6 Punch pause

The automatic operation of single case, press the [] button to suspend the manipulator (blue) manipulator will immediately suspend and pop-up alarm, such as mechanical hand, continue to run and then click [pause] button manipulator (white) and then press the [start] key manipulator continues to run.

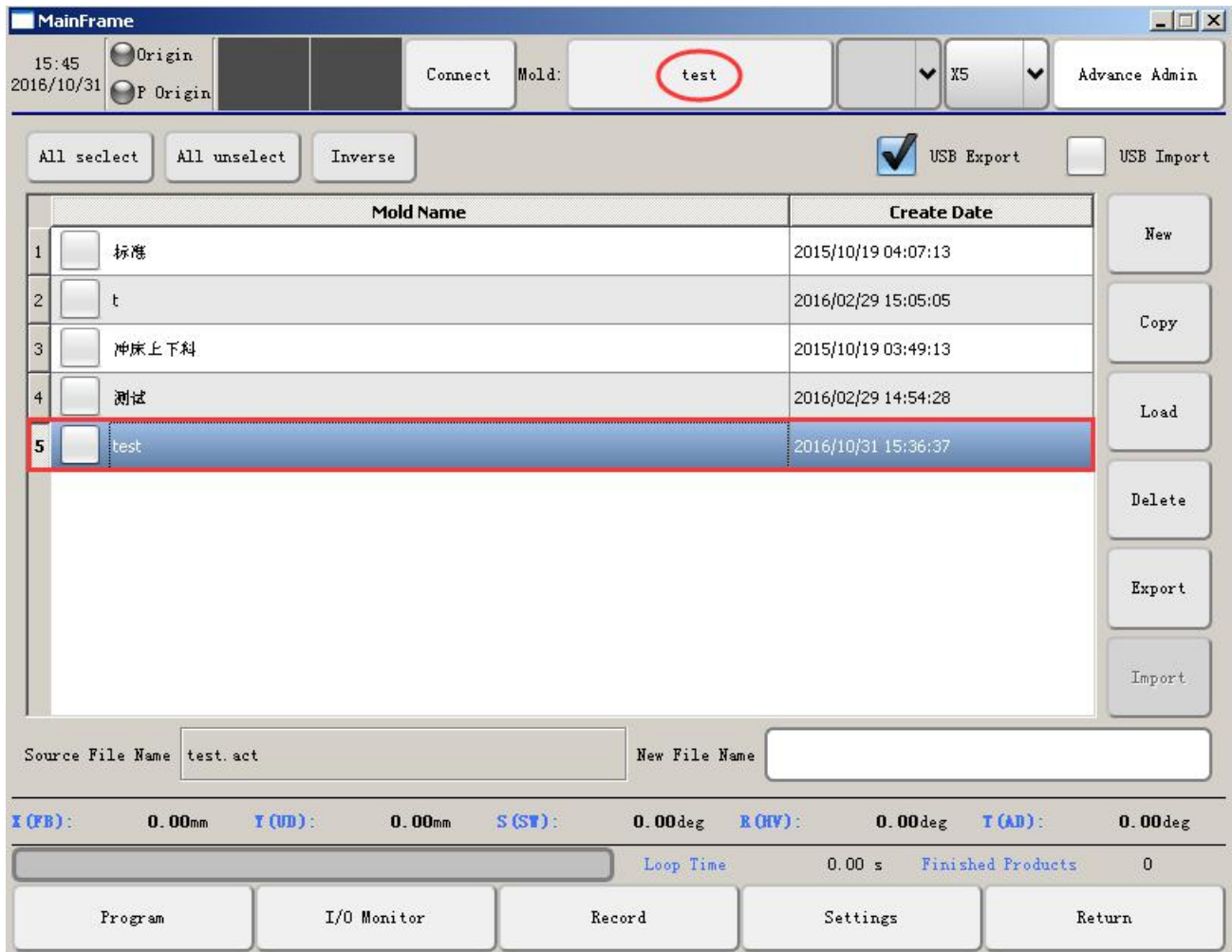
The online case if one robot manipulator press [pause] button (blue), then all manipulator immediately stop running and pop "XX manipulator suspended" alarm, such as mechanical hand to continue to press again [pause] button manipulator (white) and then

press the the hand controller on the [start] key manipulator continues to run.

4 Program management

4.1 Program to load and create

In the stop state, click on the "program" mode name to enter the model number of the back page, copy the page to create new programs, program, load procedures, and delete the program.



4-1

For different processes, model number you need to function for storage and loading.

New: "new file name" text box, enter the name to create a new stencil, and then click the "new" button, you can create a new blank stencil process, stencil name you can enter the letters and numbers.

Copy: new stencil name text box, enter a new name, click on the saved stencil name (to be selected bar turns blue), then click the "copy" button, you can copy the stencil to create a new stencil that is stored procedures.

Load: click the molds you have stored procedures (selected bar turns blue), and then click on the "load" button, you can load the selected mold programs auto run when you run the program.

Delete: click the molds you have stored procedures (need to check before, die, multiple choice), and then click the "delete" button to remove mold program, currently loaded stencil process may not be deleted.

Import / Export: this feature supports U Pan mode, the backup and restore. Insert u disk, click on the upper right "USB export" select storage mode (mode, ex-check, a multiple-selection), press the "export", then check the die, export to u disk; click on "USB import" Interface u , stored in disk mode, the same check can be imported into the Panel.

4.2 Program teaches

state select buttons to spin manual, then click on the "program" button to enter the program guidance page, as shown below.

The screenshot shows the MainFrame software interface. At the top, there is a status bar with the time 15:46 and date 2016/10/31. Below this, there are buttons for 'Origin' and 'P Origin', a 'Connect' button, and a 'Mold:' field containing 'test'. There are also dropdown menus for 'X5' and 'Advance Admin'.

	Type	X(FB)	Y(UD)	S(SW)	R(HV)	T(AD)	Delay	Speed
1	Take Wait	0.00	0.00	0.00	0.00	0.00	0.0s	100%
2	Take Up	0.00	0.00	0.00	0.00	0.00	0.0s	100%
3	Take	0.00	0.00	0.00	0.00	0.00	0.0s	100%
4	Take Up	0.00	0.00	0.00	0.00	0.00	0.0s	100%
5	Take Finish	0.00	0.00	0.00	0.00	0.00	0.0s	100%
6	Put Wait	0.00	0.00	0.00	0.00	0.00	0.0s	100%
7	Put Up	0.00	0.00	0.00	0.00	0.00	0.0s	100%
8	Put	0.00	0.00	0.00	0.00	0.00	0.0s	100%
9	Put Up	0.00	0.00	0.00	0.00	0.00	0.0s	100%
10	Put Finish	0.00	0.00	0.00	0.00	0.00	0.0s	100%

Below the table is a menu bar with buttons: Insert, Delete, Edit, Servo On, Manual1, Inject, Stacked, Test, Save. Below the menu bar, there are status indicators: X(FB): 0.00mm, Y(UD): 0.00mm, S(SW): 0.00deg, R(HV): 0.00deg, T(AD): 0.00deg. Below this, there are fields for Loop Time (0.00 s) and Finished Products (0). At the bottom, there are buttons: Program (highlighted in blue), I/O Monitor, Record, Settings, Return.

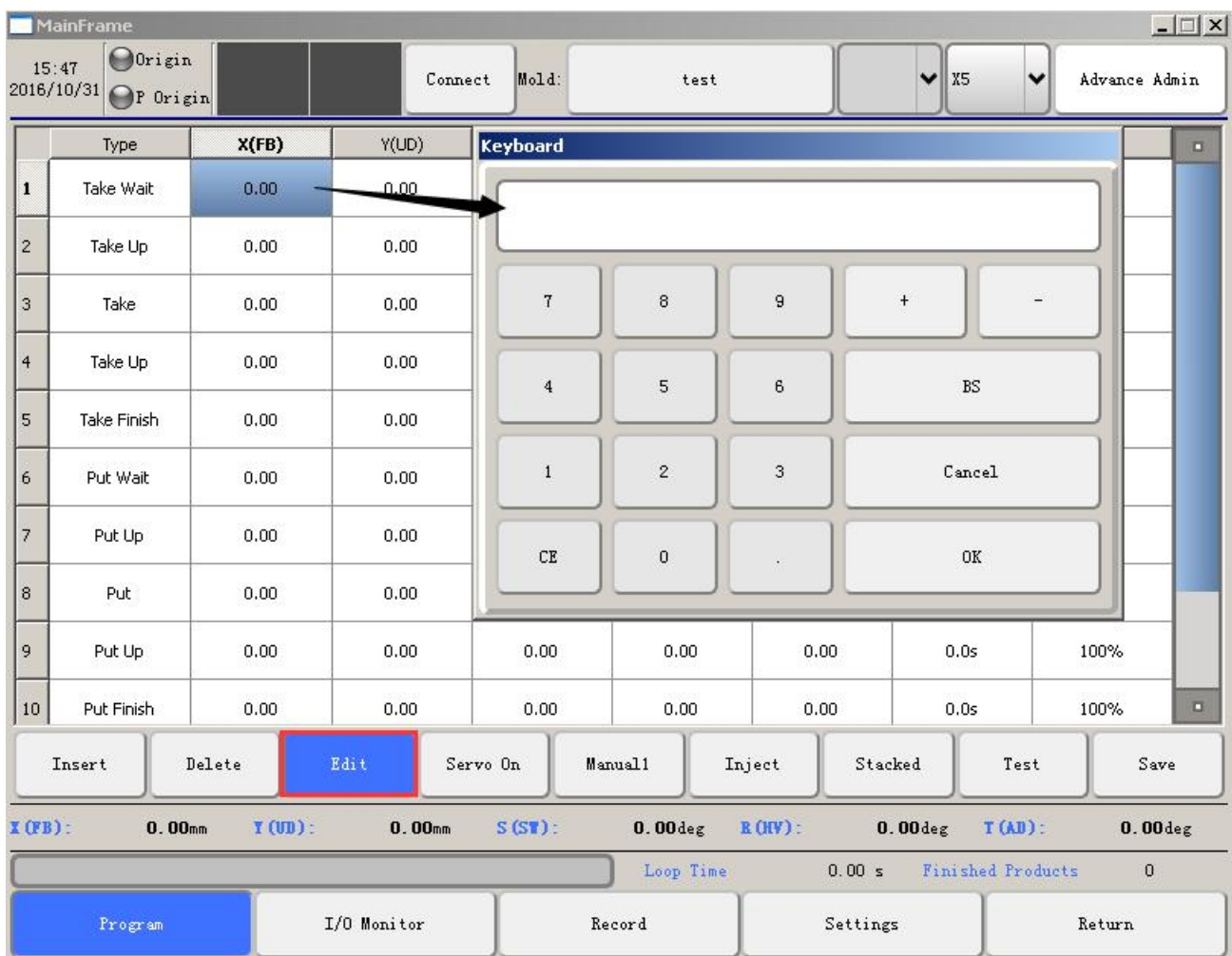
4-2

In the edit menu "insert" and "delete", "edit", "servo on", " Manual 1", " Inject", " stacked", " test ", the " save "option.

4.2.1 Motion teaching

In the new mode, the default 10 Axis point. This 10 -step program cannot be deleted. Click a step program, this program will become blue. Button or move the hand wheel axis to the desired position, click on the "inject", each axis is located in the current location to the current step of the program.

Click on "Edit" an axis to point this step program again, you can use the keyboard to enter the current axis position. Figure 4-3 shows.



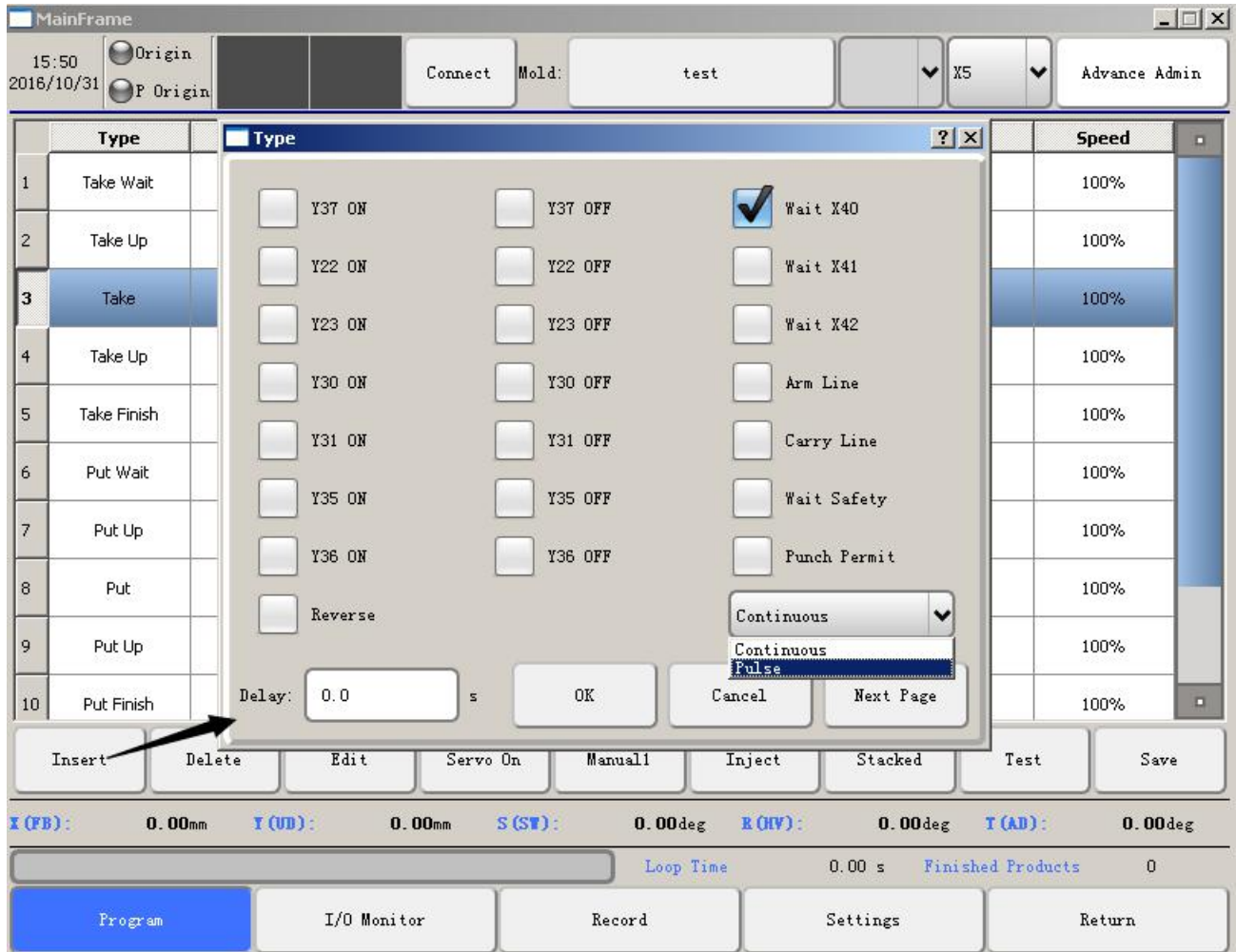
4-3

Click on the "servo-on" into a "servo off", the system will be in addition to Y Axis of the motor could be turned off. Drag teaching can drag axis. After dragging to the desired location, click on the "inject", current position of each axis into the current procedure.

Click on any step action steps, click on "test" each axis to move the current location. Release the "test", the axis stopped. Press "test", the axis moves to the location of this action step, stop.

4.2.2 Insert action

Click on a location to make it blue, and then click [insert] will pop up dialog box, the corresponding action tick, and then click OK, you can insert this step in the last step.



4-4

[suction 1, clip 1, reserved valve] is the output of the action of the valve delay are pre delay, that is, the delay time to go, the output valve output, and then the next action.

[waiting] the waiting delay time limit. Wait for the assumption of X41 program, 10S.

program delay in the run-up to this step, if there is a X41 signal, the program to run. If there is no X41 signal, the program in this step, if 10S still no signal, the system alarm.

Waiting signal type

Pulse type: the program execution to wait for the signal this step or before, the signal to be broken.

Continuous type: the program executes to wait for the signal this step to the signal.

[Reverse] as the axis of the point of action, the program will perform this transition point position.

[Wait safety] Insert the standby security point of action, every walk automatically when the first mode will go to standby safety, the second began to no longer go the point

[Punch Permit] Insert the "punch" control to allow the punch to press 2.

[Arm line] At a point into the "joint straight line" said that from the point of the last point to go to this point is to move the axis at the same time to stop moving at the same time.

[Carry Line] At a point into the space straight line represents a point to this point is a straight line.

4.2.3 Stacked instruction

Use stack method: first stop in the state to enter the [function], [user], [basic user set], [switch] in the selection of switch stack type (check material stack or discharge stack) then enter the interface on the stack is set accordingly.

The screenshot shows the 'MainFrame' software interface. At the top, there is a status bar with the time '15:52' and date '2016/10/31'. Below this are several control elements: 'Origin' and 'P Origin' buttons, a 'Connect' button, a 'Mold:' field with the value 'test', a dropdown menu showing 'X5', and an 'Advance Admin' button. The main area is a table with 10 rows and 8 columns. The columns are labeled 'Type', 'X (FB)', 'Y (UD)', 'S (SW)', 'R (HV)', 'T (AD)', and 'Used'. Each row represents a stack location from 1 to 10. The 'Used' column contains a button labeled 'Not Used'. Below the table, there are several input fields and buttons: 'Y Distance' (0.00), 'Y Count' (0), 'Stack Seq' (XZ-Y), 'Edit', 'Inject', 'Test', 'Save', and 'Return'. At the bottom, there are status indicators for 'X (FB): 0.00mm', 'Y (UD): 0.00mm', 'S (SW): 0.00deg', 'R (HV): 0.00deg', and 'T (AD): 0.00deg'. Below these are 'Loop Time' (0.00 s) and 'Finished Products' (0). At the very bottom, there are five large buttons: 'Program', 'I/O Monitor', 'Record', 'Settings', and 'Return'.

	Type	X (FB)	Y (UD)	S (SW)	R (HV)	T (AD)	Used
1	Stack 1	0.00	0.00	0.00	0.00	0.00	Not Used
2	Stack 2	0.00	0.00	0.00	0.00	0.00	Not Used
3	Stack 3	0.00	0.00	0.00	0.00	0.00	Not Used
4	Stack 4	0.00	0.00	0.00	0.00	0.00	Not Used
5	Stack 5	0.00	0.00	0.00	0.00	0.00	Not Used
6	Stack 6	0.00	0.00	0.00	0.00	0.00	Not Used
7	Stack 7	0.00	0.00	0.00	0.00	0.00	Not Used
8	Stack 8	0.00	0.00	0.00	0.00	0.00	Not Used
9	Stack 9	0.00	0.00	0.00	0.00	0.00	Not Used
10	Stack 10	0.00	0.00	0.00	0.00	0.00	Not Used

4-5

Y Distance: distance between the upper and lower.

Y Count: number of products stacked vertical we need.

Stack Seq : XZ-Y : First horizontal and then vertical.

Stack Seq : Y-XZ : First vertical and then horizontal.

Note: this system in horizontal position setting for up to 16 a location stack.

Stack usage : according to the actual use of the option to use "stack" location (click the "do not used" to "used") → According to the actual situation as a stack of points on a

horizontal position one edit to "stack location *" → Set Y Distance spacing → Set Y Axis of the stacked layers → Sets the stack seq → Single "Save" button to save it.

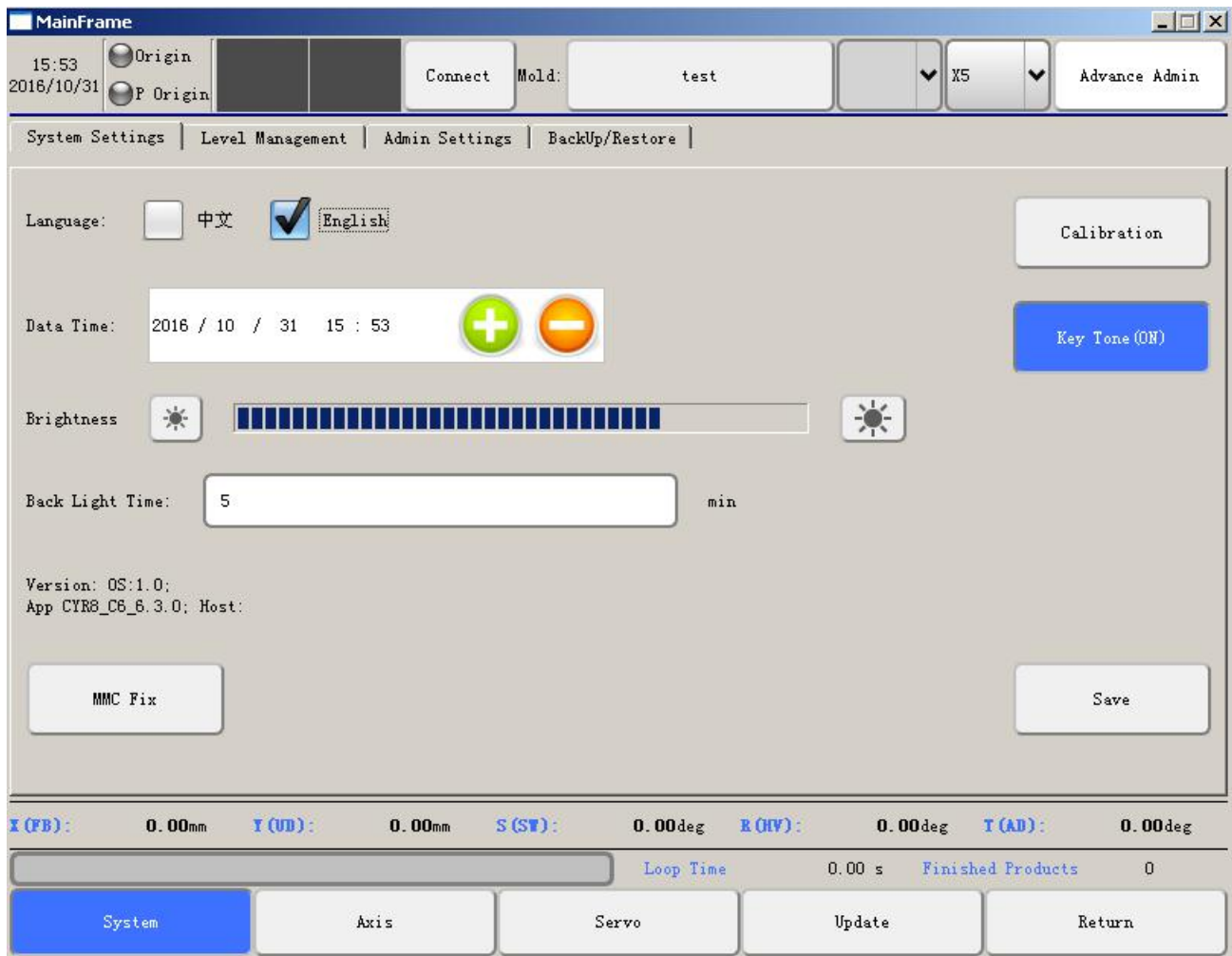
5 Function

5.1 Manual

Click [function] - [hand control] can enter, the page is divided into "system settings", "rights management", "senior administrator options", "backup / restore" four categories.

5.1.1 System settings

On hand control page click on the system settings to enter the system settings page:



5-1

Key tone : Key tone switch opening and closing.

Language : Choose either Chinese or English.

Date time : The system displays the date and time, select date and time, press Add, subtract key to change.

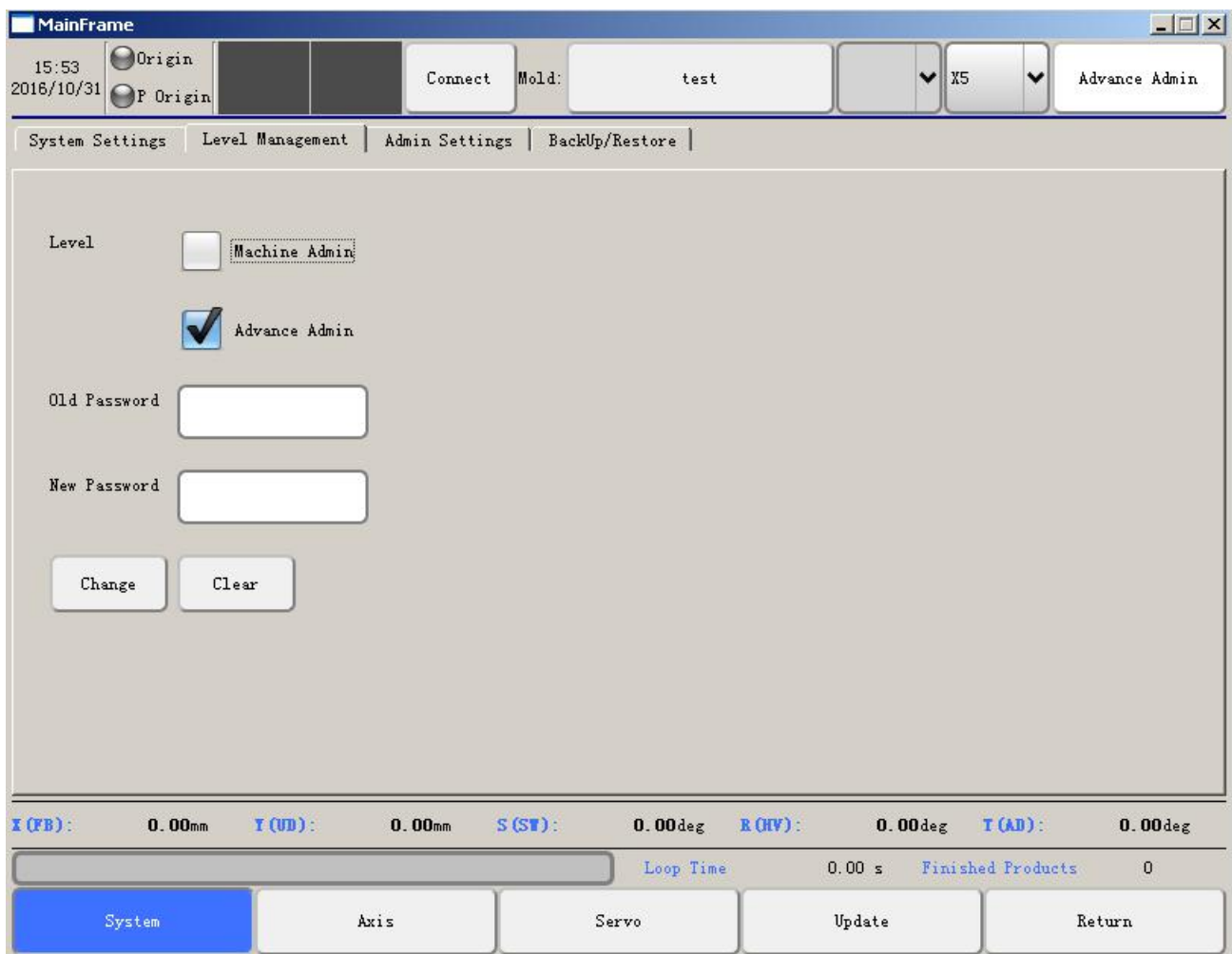
Back light time : Set the background lighting of the standby time.

Brightness : Adjust the brightness of the display.

The version number : Displays the manual control system and the version number of the host.

5.1.2 Level management

Click the permission management button to enter the rights management page:

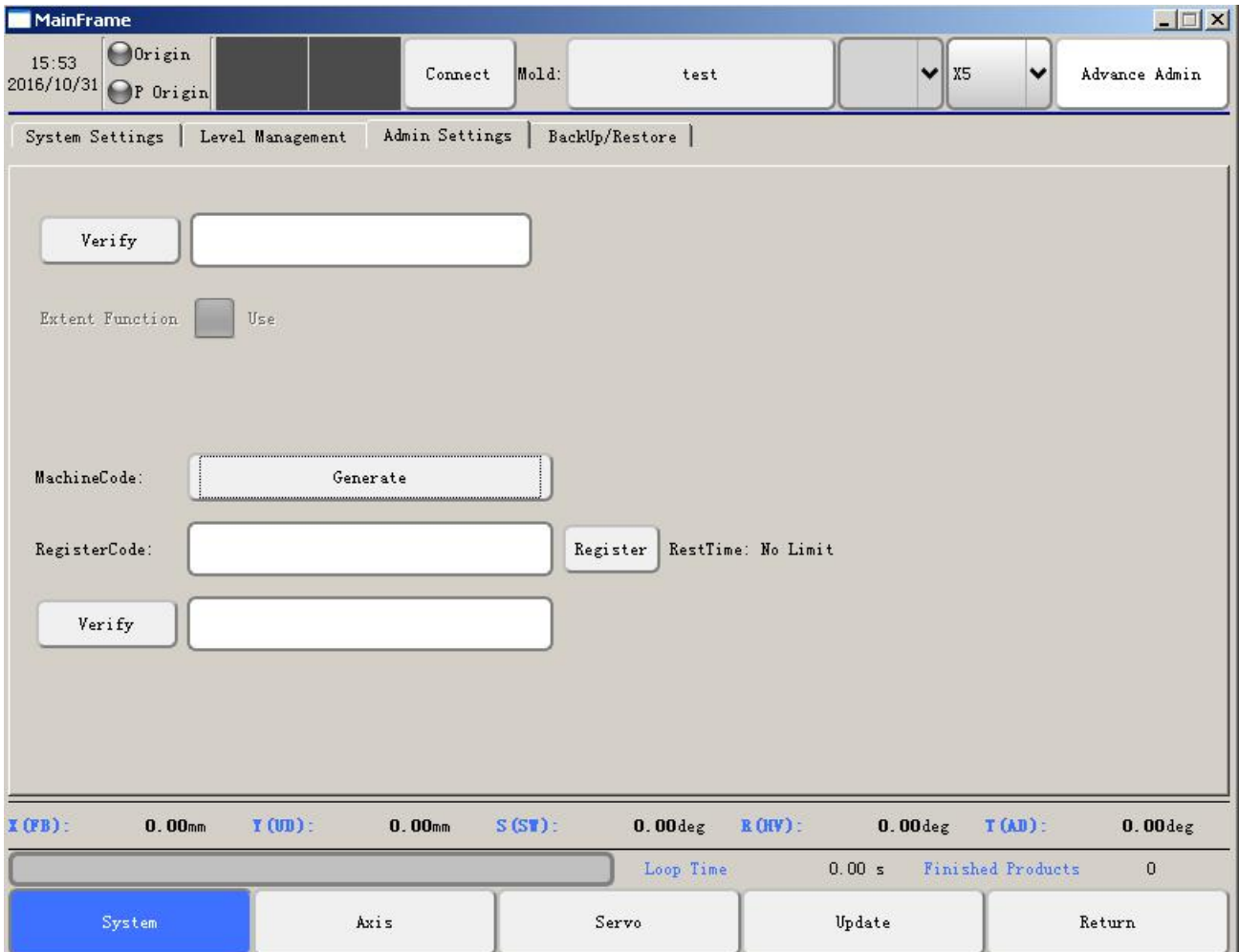


5-2

Permissions: divided into administrators and senior administrators; administrators can change the basic parameters, but the right to change the mechanical parameters, the senior administrator can change any of the parameters.

5.1.3 Admin Settings

Click the advanced administrator Options button to enter the senior administrator options page:



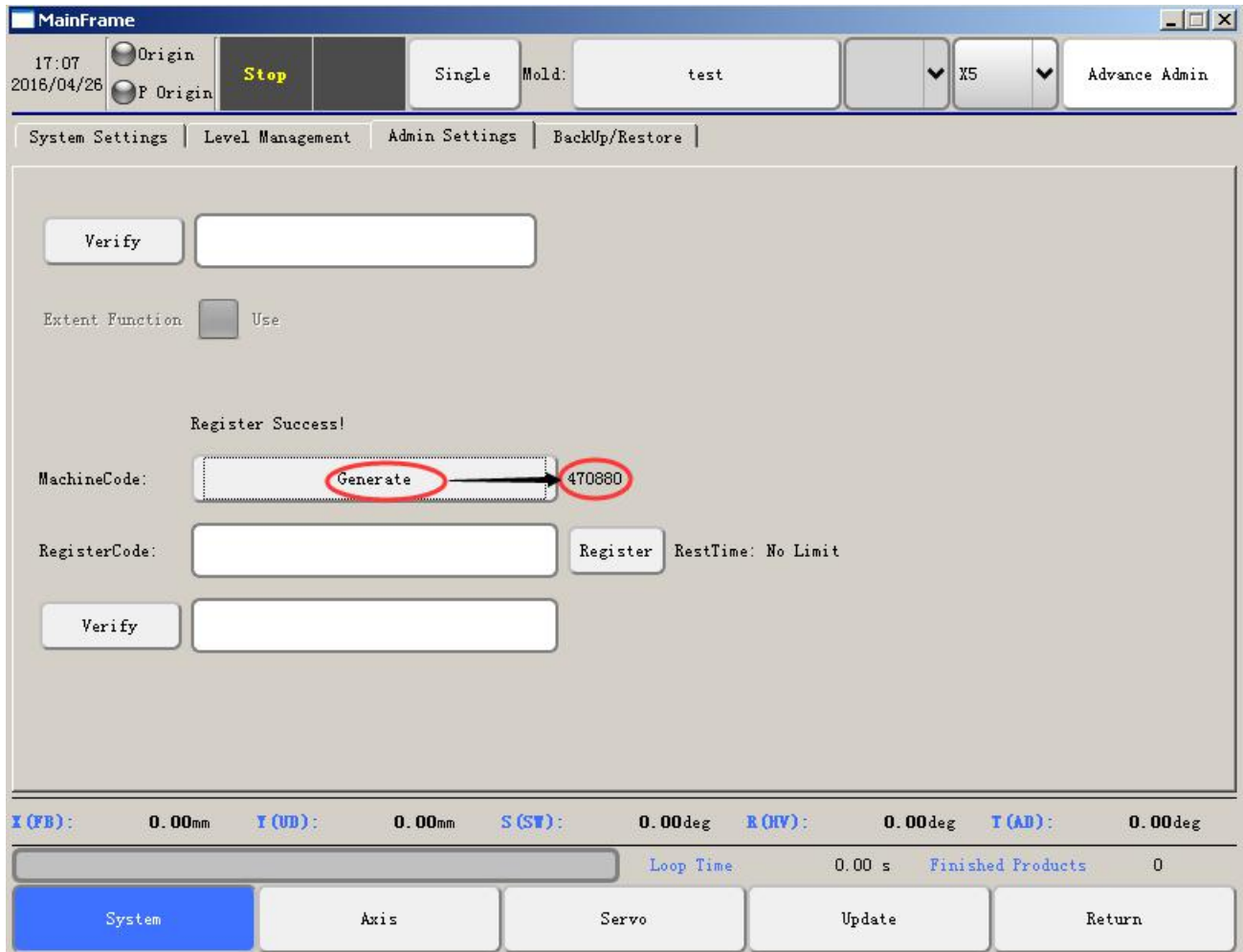
5-3

Advanced administrator options can open special functions. Enter a password in the input box, click verify. You can choose to use the appropriate function

Registration function:

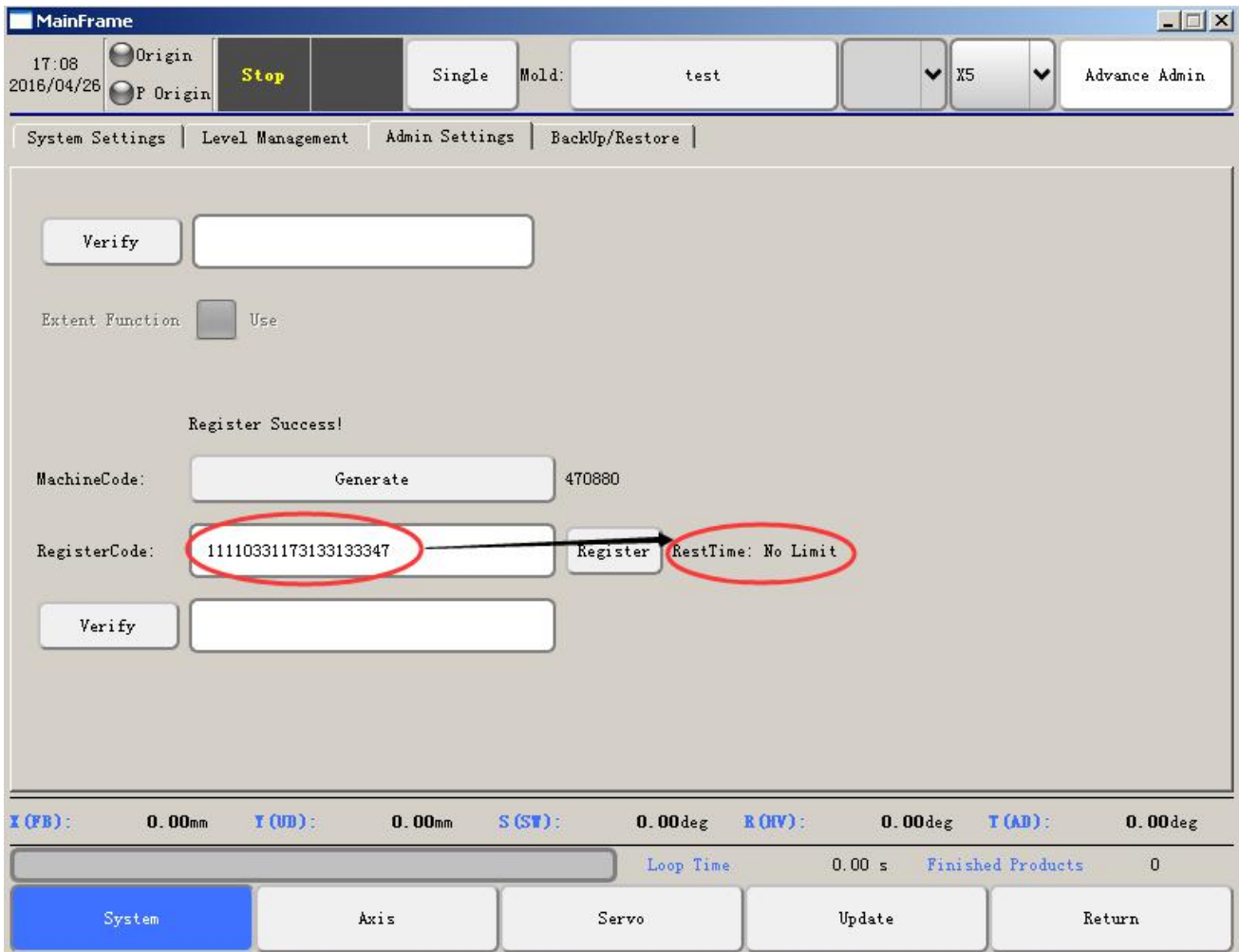
The registration function uses the method procedure is as follows:

1, click the "generate machine code" button to generate the machine code.



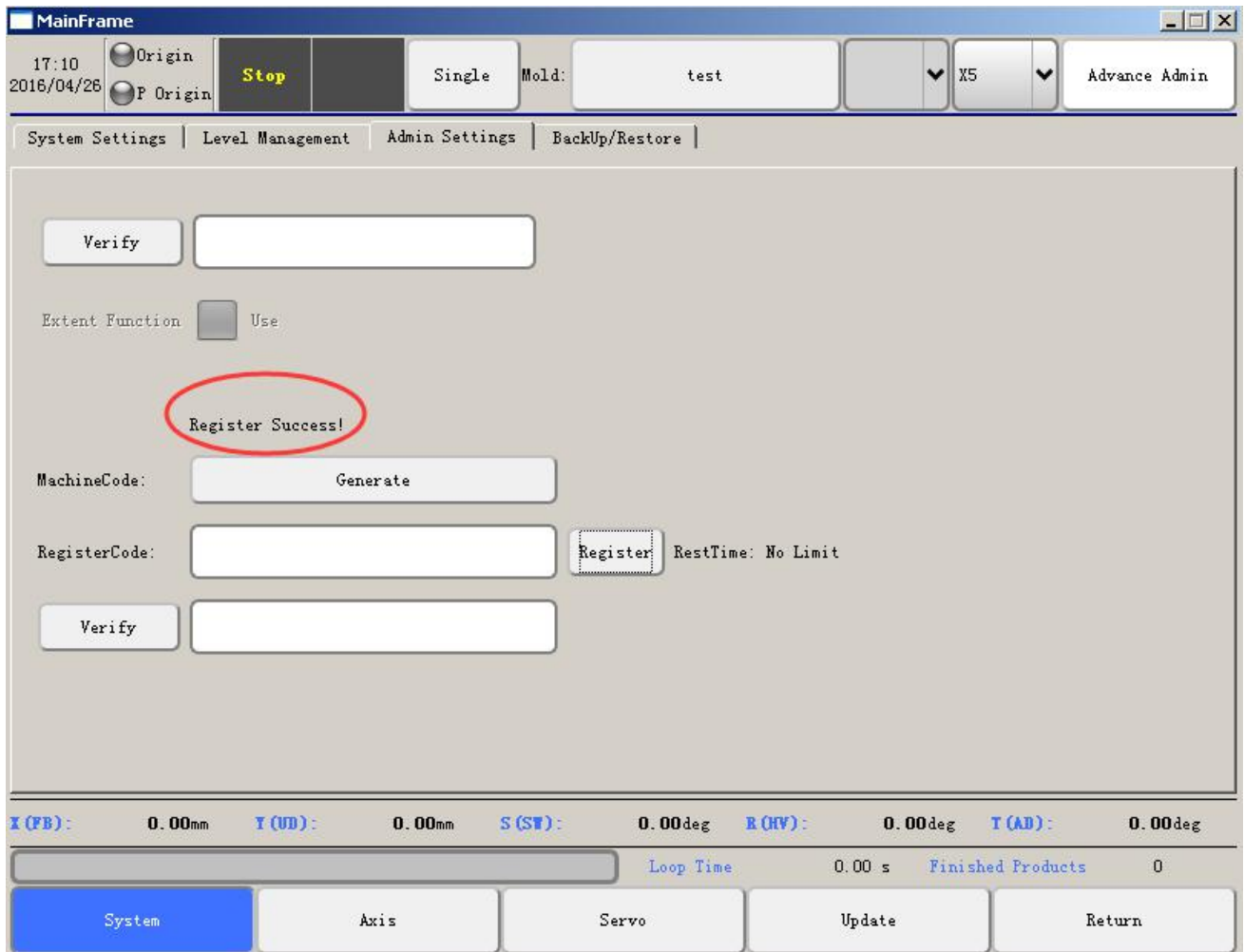
5-4

2、Machine code is provided to the manufacturer to generate the registration code.



5-5

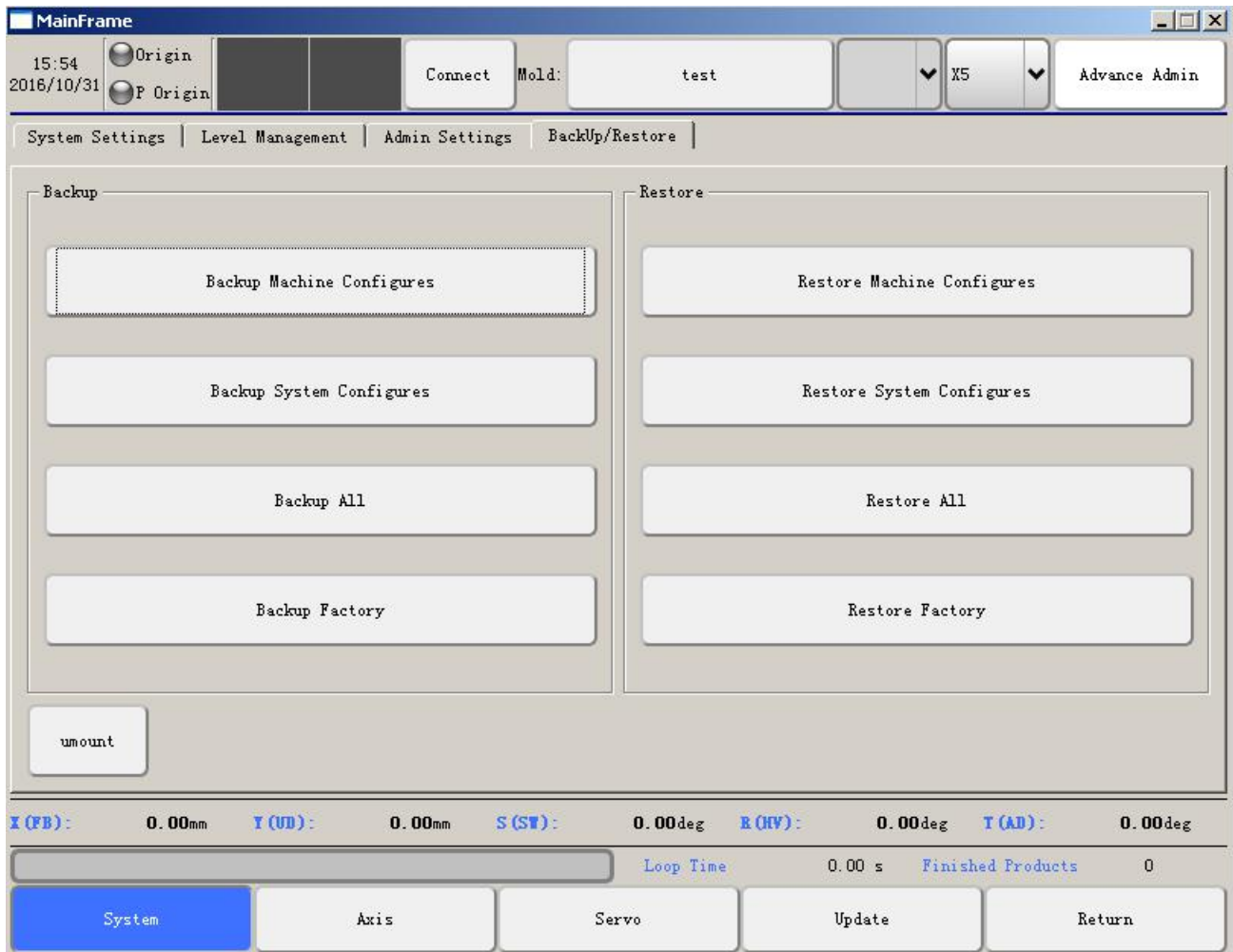
3、 Enter the registration code to the manufacturer to enter the edit box, click on the registration can be completed as shown below



5-6

5.1.4 Backup /Restore

Click the [backup / restore] button to enter the backup / restore page:



5-7

Machine parameters : Of refers to the axis parameter settings, including the largest move, the smallest mobile, material security, discharge points, distance per revolution.

System parameters: parameter "struct" axis in the definitions, mechanical hand set settings, configuration settings, the origin I/O Force input, I/O Force output settings, the "time" settings, as well as "servo" sets in.

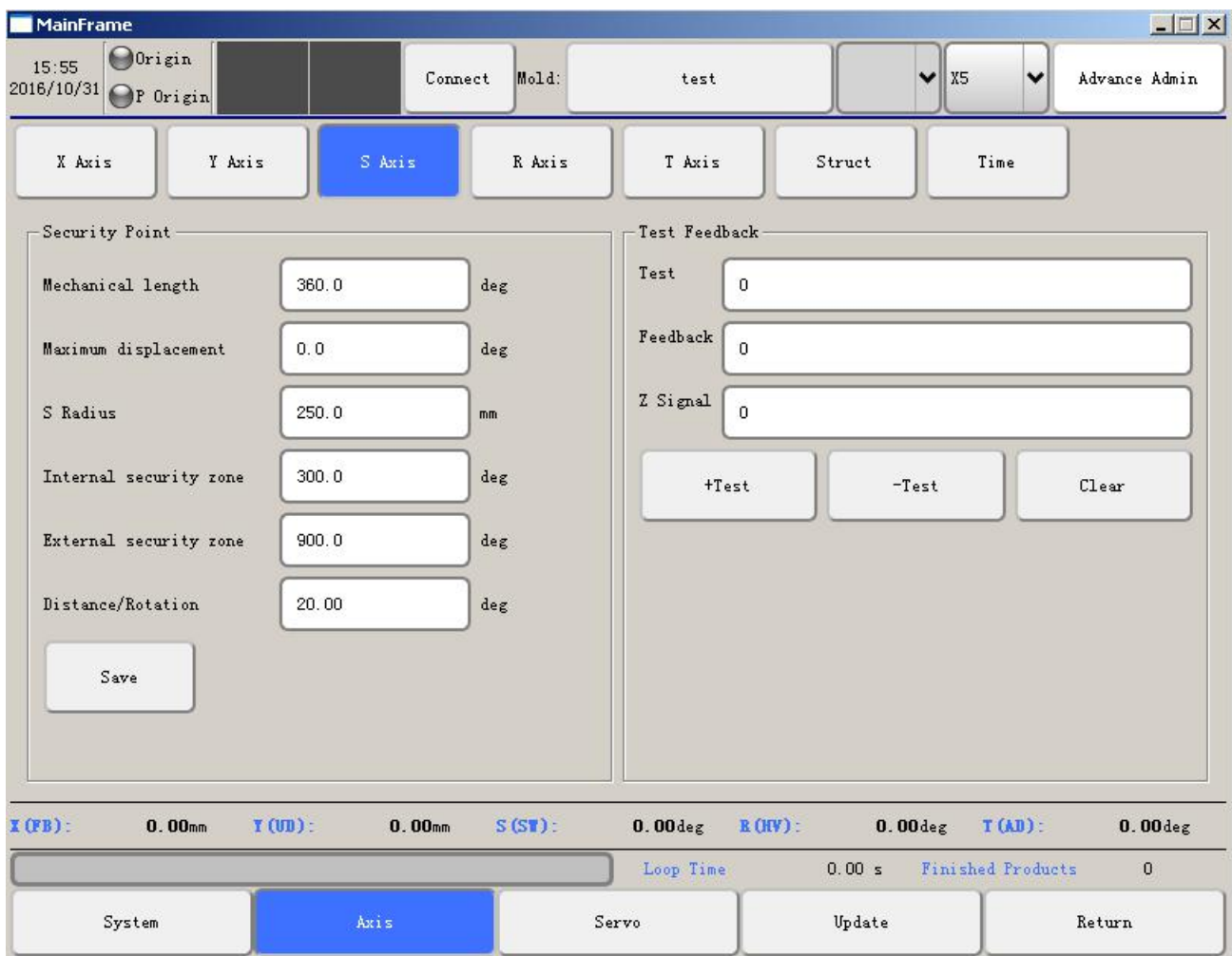
Backup All : full backups back up mechanical parameters, the parameters, and output the data and model parameters.

Backup factory configuration: set to default factory parameter and then click "set factory configuration".

Restore factory settings: restore "setting factory configuration" setting in the factory set values.

5.2 Mechanism

Settings page click the "mechanical" button to enter the parameters of the machine page. The following figure:



5-8

Mechanical length: setting the maximum servo axis moves.

Maximum displacement: set the minimum movement of each servo axis. (Can be set to negative values)

S Radius: X When axis at the origin, R Axis circle S Axis distances between the Center.

Internal security zone: set and feeding standby points equal to or better than feeding standby points closer to a position of feeding, but you must ensure that the arm was feeding punch when the security is safe.

External security zone: set up and discharge the standby or standby point closer to a position of feeding, but you must ensure that the arm was discharging security-point press security.

Distance/Rotation: set the servo axis motors running distance per round. Click on the motor is turning, measure the corresponding axis the actual running distance, the distance that the motor rotates a circle of distance running.

- **test:** the motor is turning the test, testing and feedback show 10000, indicates success.

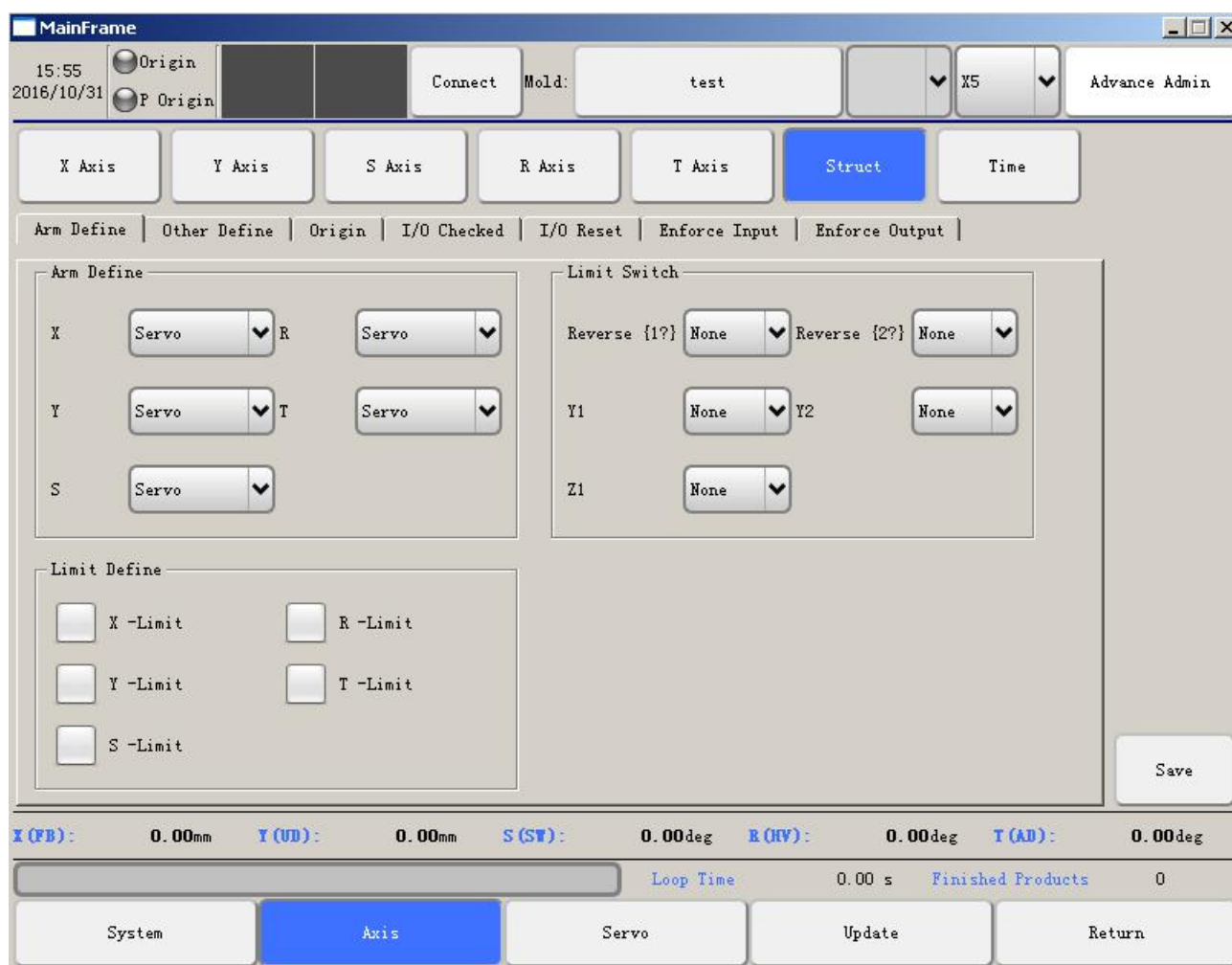
+ **test:** reverse motor testing, tests show 10000, feedback displays 55536, indicates success.

5.2.1 Struc

Click on the "struct" button to enter the machine struct page.

Machine struct: it includes "axis definition " And "manipulators," "set origin", " I/O Detection " 、 " I/O Reset "," forced to enter "and" forced out " 。

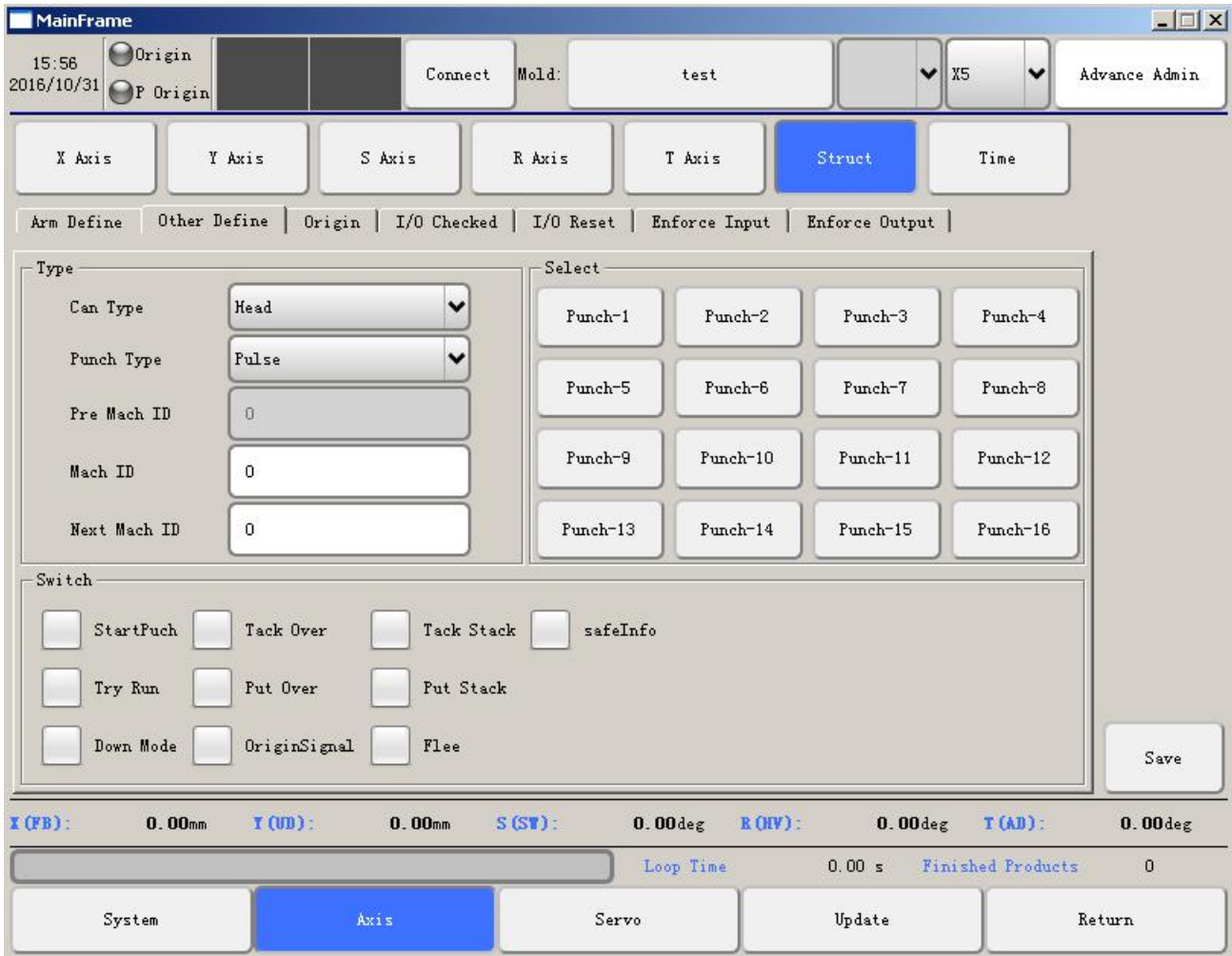
Axis definition : You can set the axis is the pneumatic axis / Servo axis / No and limit switches No / Norm open / Norm closed. The following figure:



5-9

Tick if the axis limits, turns over to the original point, the axis to look for negative limit, to find the origin.

Punch : Specific methods are as follows:



5-10

Can type:

The first machine: selected online as your first robot manipulator this machine type is set to "first opportunity".

Intermediate: online if it is a robot in the middle of this type of mechanical manipulator selected as "intermediate".

End: online is the last machine this machine mobile weapon types, please select "end machine".

This machine ID : Online cases, ID Value can be set to 1~16 Integer, between, and not with any of the online manipulator ID Repeated.

Former machine ID : Online cases, ID Value can be set to 1~16 Integer, between, and not with any of the online manipulator ID Repeated.

Later machines ID : Online cases, ID Value can be set to 1~16 Integer, between, and not with any of the online manipulator ID Repeated.

Punch type:

Pulse type: punch allows delay "time punch" after cutting off, and wait for the punch at all.

Continuous: punch allows first test after punching down the dead and waiting to punch the origin, the timeout period to wait "time punch" set the length of time until after punching the original cutting punch allows

Gear type: punch will allow dead in the induction to the punch when cutting punch allows, if "time punch" feel to punch after bottom dead point, then punch and cutting allows alarm

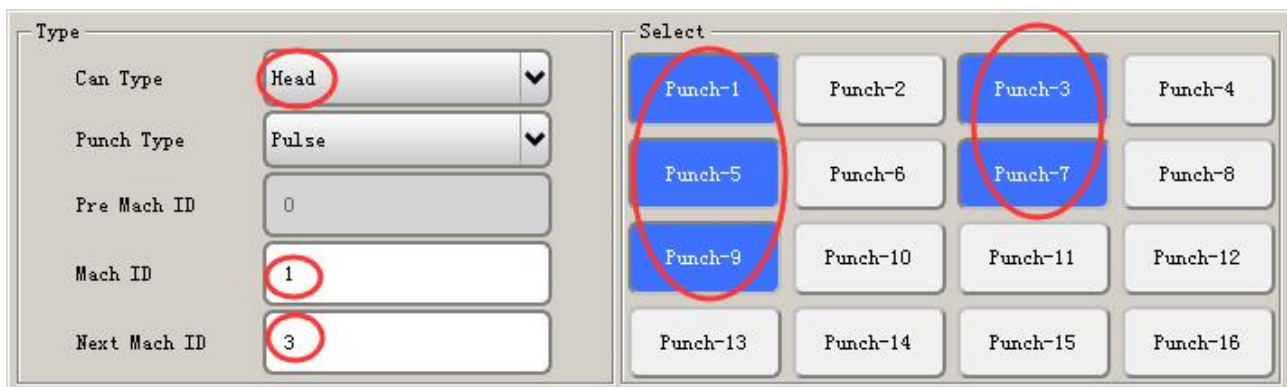
Manipulator options:

Intermediate and end manipulators selecting of the machine settings: CAN ID Robot manipulator options 1~ Manipulator 16 Corresponding to the number one by one, so the online case, ID A few robot needs the choices are few.

First machine manipulator options settings: himself ID Manipulator and corresponding intermediate and tail machine ID The robot, click blue.

For example: 5 Online specific settings are as follows:

Head machine



Middle machine 3

Type	Select
Can Type: Middle	Punch-1, Punch-2, Punch-3 , Punch-4
Punch Type: Pulse	Punch-5, Punch-6, Punch-7, Punch-8
Pre Mach ID: 1	Punch-9, Punch-10, Punch-11, Punch-12
Mach ID: 3	Punch-13, Punch-14, Punch-15, Punch-16
Next Mach ID: 5	

5-12

Middle machine 5

Type	Select
Can Type: Middle	Punch-1, Punch-2, Punch-3, Punch-4
Punch Type: Pulse	Punch-5 , Punch-6, Punch-7, Punch-8
Pre Mach ID: 3	Punch-9, Punch-10, Punch-11, Punch-12
Mach ID: 5	Punch-13, Punch-14, Punch-15, Punch-16
Next Mach ID: 7	

5-13

Middle machine 7

Type	Select
Can Type: Middle	Punch-1, Punch-2, Punch-3, Punch-4
Punch Type: Pulse	Punch-5, Punch-6, Punch-7 , Punch-8
Pre Mach ID: 5	Punch-9, Punch-10, Punch-11, Punch-12
Mach ID: 7	Punch-13, Punch-14, Punch-15, Punch-16
Next Mach ID: 9	

5-14

Tail machine

Type	Select
Can Type	Punch-1
Punch Type	Punch-2
Pre Mach ID	Punch-3
Mach ID	Punch-4
Next Mach ID	Punch-5
	Punch-6
	Punch-7
	Punch-8
	Punch-9
	Punch-10
	Punch-11
	Punch-12
	Punch-13
	Punch-14
	Punch-15
	Punch-16

5-15

Switch:

Switch			
<input type="checkbox"/>	StartPuch	<input type="checkbox"/>	Tack Over
<input type="checkbox"/>	Tack Stack	<input type="checkbox"/>	safeInfo
<input type="checkbox"/>	Try Run	<input type="checkbox"/>	Put Over
<input type="checkbox"/>	Put Stack	<input type="checkbox"/>	
<input type="checkbox"/>	Down Mode	<input type="checkbox"/>	OriginSignal
<input type="checkbox"/>	Flee	<input type="checkbox"/>	

1 , Start punch: If checked, auto and manual output punch, otherwise no output punch.

2 , Try run: test machine check pilot, dead center on the manipulator does not detect the punch pass.

3 , Flee: when the manipulator is feeding or discharge, is not within the security zone, detects broken punch the origin, X Axis and S Axis at top speed back to stand-by security.

4、 Down mode: online, when the first manipulator control two punch, choose cutting pattern.

5、 Original signal: when the robot back to the origin, S Axis and R Axis must point to the origin, or the police.

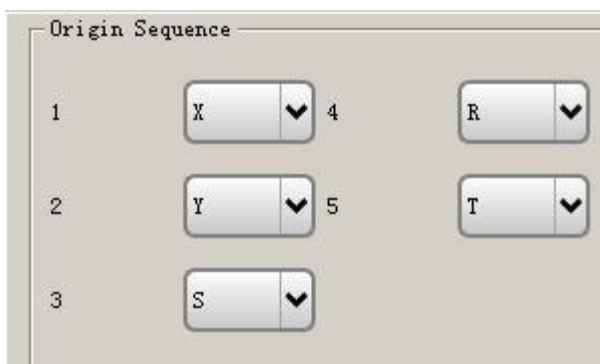
6、 SafetyInfo: check the security prompt, when play auto on the host, host and safety tips from opportunities.

7、 Tack over: after check 4 Axis manipulators in the feeding point waiting for the previous 5 Axis robot signal (only 5 Axis 4 Flip combination, just check this).

- 8、 Put over: after checking 5 Axis robot will wait behind a robot at the discharge point signal manipulator not punch signal output (only 5 Axis 4 Flip combination, just check this).
- 10 , Tack Stack: will be checked before machinery to take in material stacks.
- 11 , Put stack: checked manipulator after unwinding stack is at the discharge point.

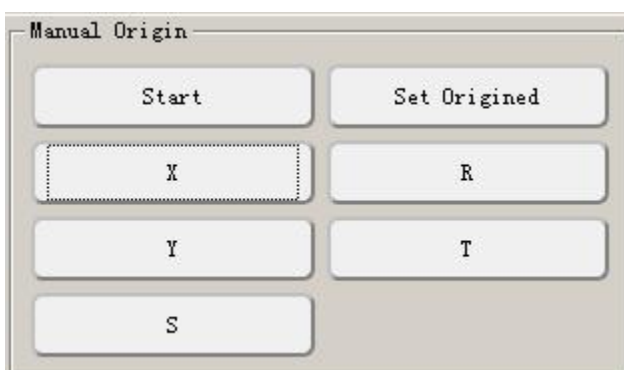
Set Origin

Origin order: the smaller the value, the higher the priority back to the origin.



Manual origin: in this interface can be manually carried out to the origin.

Operation process: in the stop mode, click once [] button and then click start point corresponding to the "axis" button, which slowly began to find the origin of the shaft, shaft axis to find the origin, the corresponding button will turn green that the shaft has been done to find the origin of the action.



Setting method: 1, the "origin bias" in the offset position of all the axis is set to 0, as shown below:



Return to the origin of the action, according to [] origin keys press [start] the origin of return.

Origin return after setting the origin offset position, origin offset position values set into two ways:

① Press the emergency stop button to press the servo enable, and then manually drag the axis to the origin point of the bias point (the bias point must be in the negative direction of the origin, can view the hand control below the coordinates of the display position).

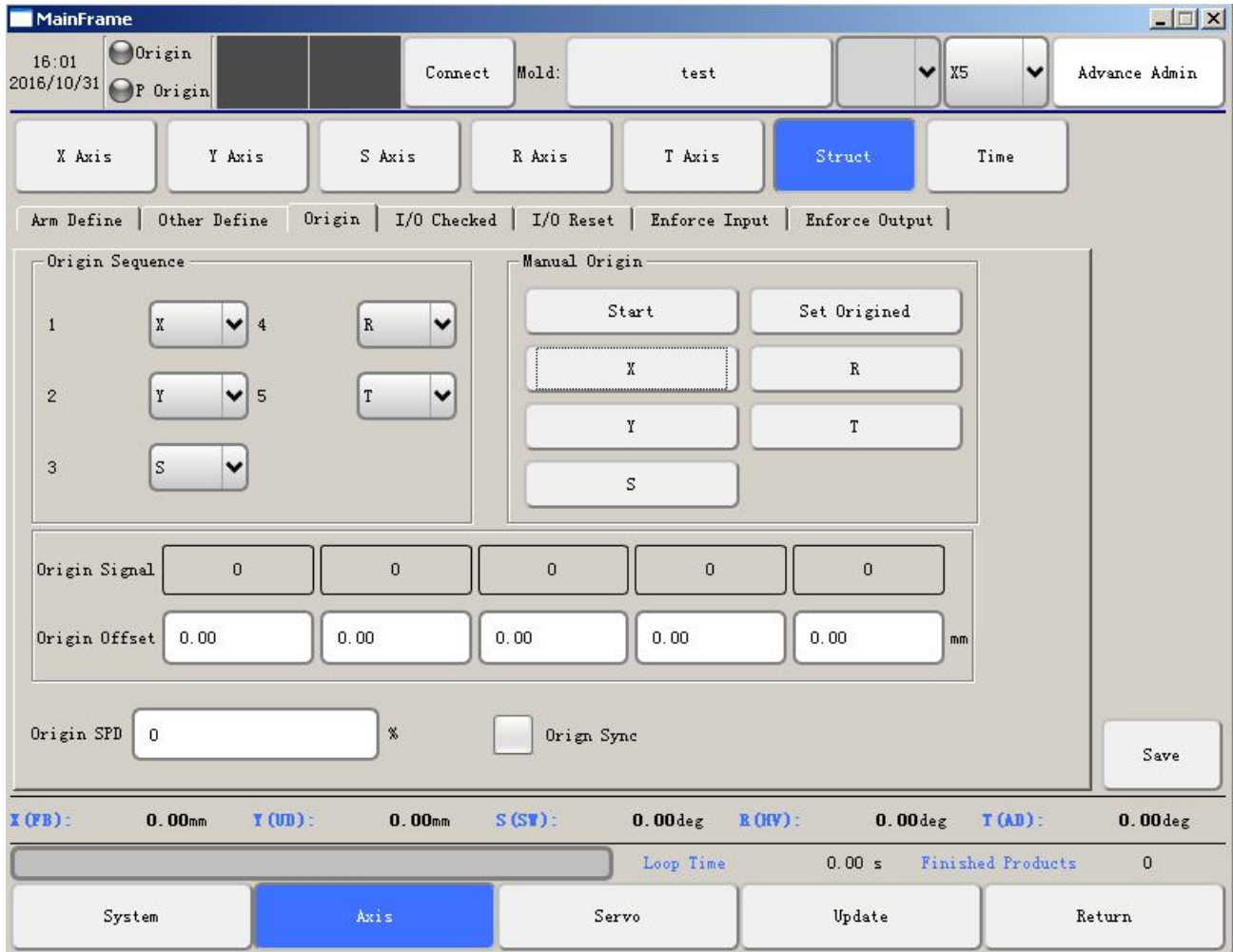
② (turn three knob to the manual state, press the action key or use the fine adjustment knob to slowly move the axis to the point of origin (the bias point must be in the negative direction of the origin, can see the position of the coordinate display below the hand controller).

Put the offset value (positive) to the origin bias edit box, and then switch to the page can be saved to save the settings.

Note: 1, every time to modify the bias point from the above 1 steps must start from scratch (first set the origin offset is set to 0 and then changed to other values otherwise it will cause run automatically when the position deviation)

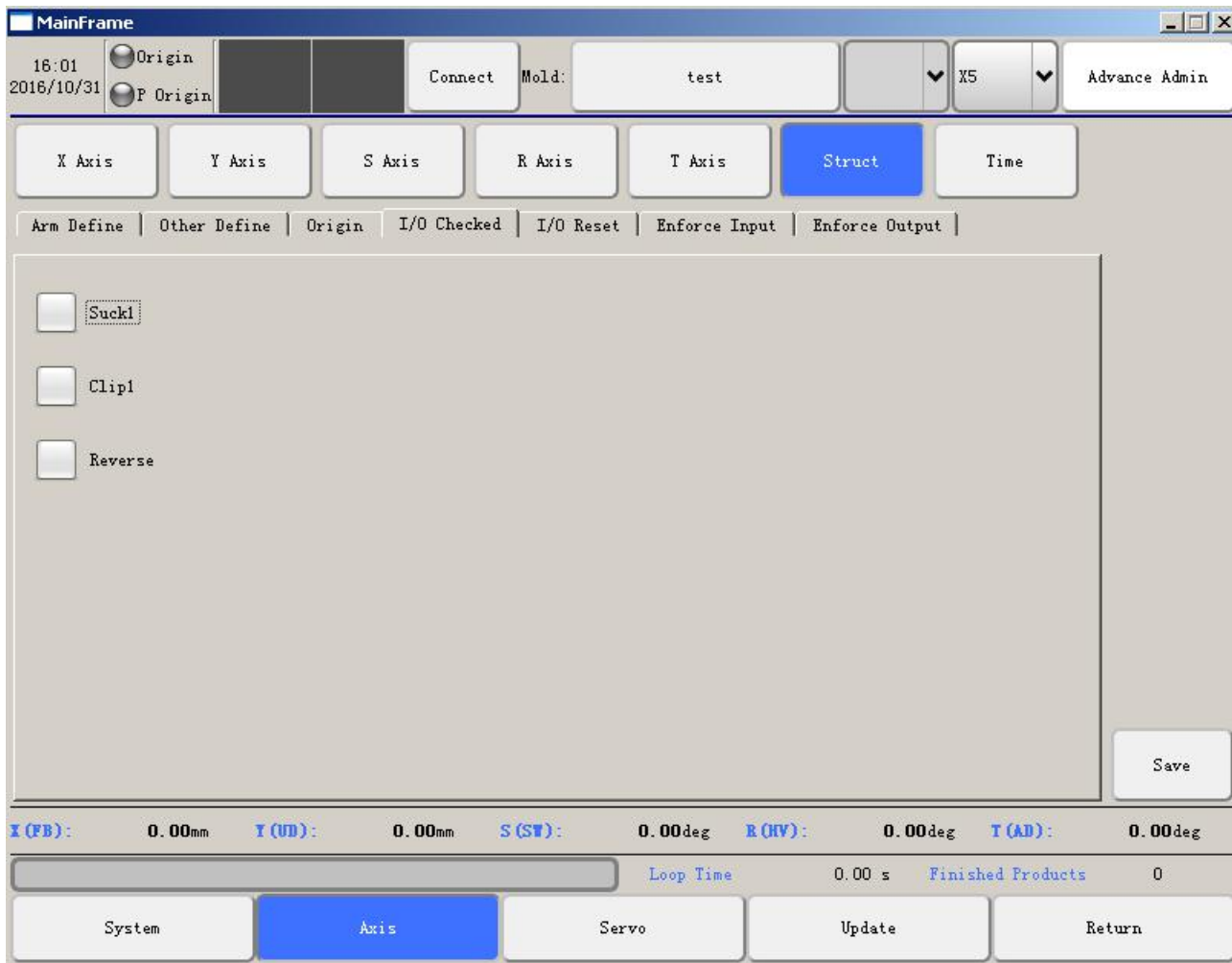
Synchronization to the origin: all the axis at the same time to the origin. (by default 1%)

Origin speed: all axes to the origin of the speed, the default rate of 1% of the maximum 5% if the choice of synchronization to the origin of the starting speed must be slow, so as not to hit the machine.

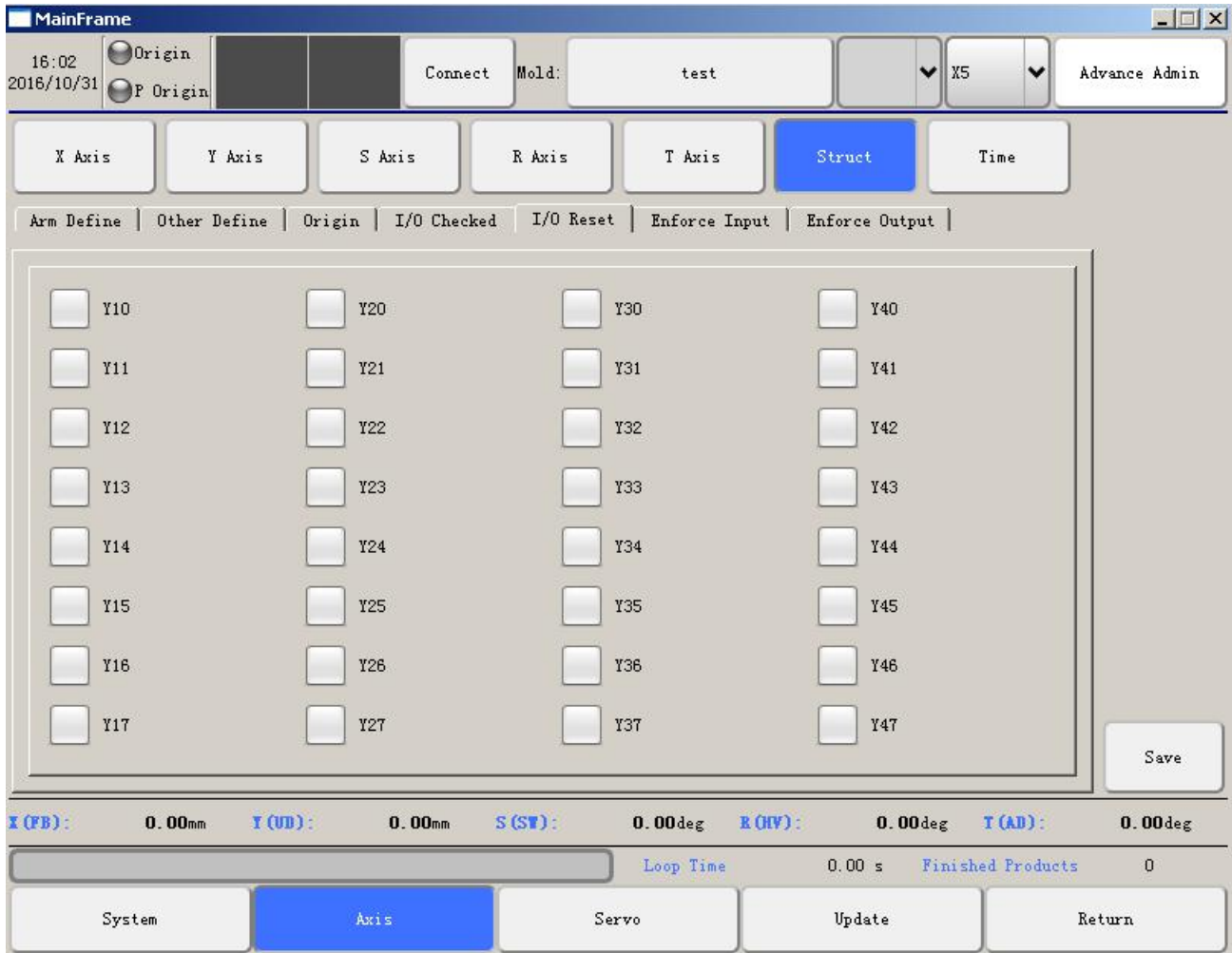


5-16

I/O checked: the hook on behalf of the output valve need to detect, in the process of automatic operation if the valve has been checked in the setting time, the output signal is not detected in the actual input, the system will alarm.



I/O Reset: the reset in the field of I/O in the state press [return] stop key selective one click Reset.



Enforce input :

16:02
2016/10/31

Origin
P Origin

Connect Mold: test

X5

Advance Admin

X Axis Y Axis S Axis R Axis T Axis **Struct** Time

Arm Define Other Define Origin I/O Checked I/O Reset **Enforce Input** Enforce Output

<input type="checkbox"/> X10	<input type="checkbox"/> X20	<input type="checkbox"/> X30	<input type="checkbox"/> X40
<input type="checkbox"/> X11	<input type="checkbox"/> X21	<input type="checkbox"/> X31	<input type="checkbox"/> X41
<input type="checkbox"/> X12	<input type="checkbox"/> X22	<input type="checkbox"/> X32	<input type="checkbox"/> X42
<input type="checkbox"/> X13	<input type="checkbox"/> X23	<input type="checkbox"/> X33	<input type="checkbox"/> X43
<input type="checkbox"/> X14	<input type="checkbox"/> X24	<input type="checkbox"/> X34	<input type="checkbox"/> X44
<input type="checkbox"/> X15	<input type="checkbox"/> X25	<input type="checkbox"/> X35	<input type="checkbox"/> X45
<input type="checkbox"/> X16	<input type="checkbox"/> X26	<input type="checkbox"/> X36	<input type="checkbox"/> X46
<input type="checkbox"/> X17	<input type="checkbox"/> X27	<input type="checkbox"/> X37	<input type="checkbox"/> X47

Save

X (FB): 0.00mm Y (UD): 0.00mm S (SW): 0.00deg R (RV): 0.00deg T (AD): 0.00deg

Loop Time 0.00 s Finished Products 0

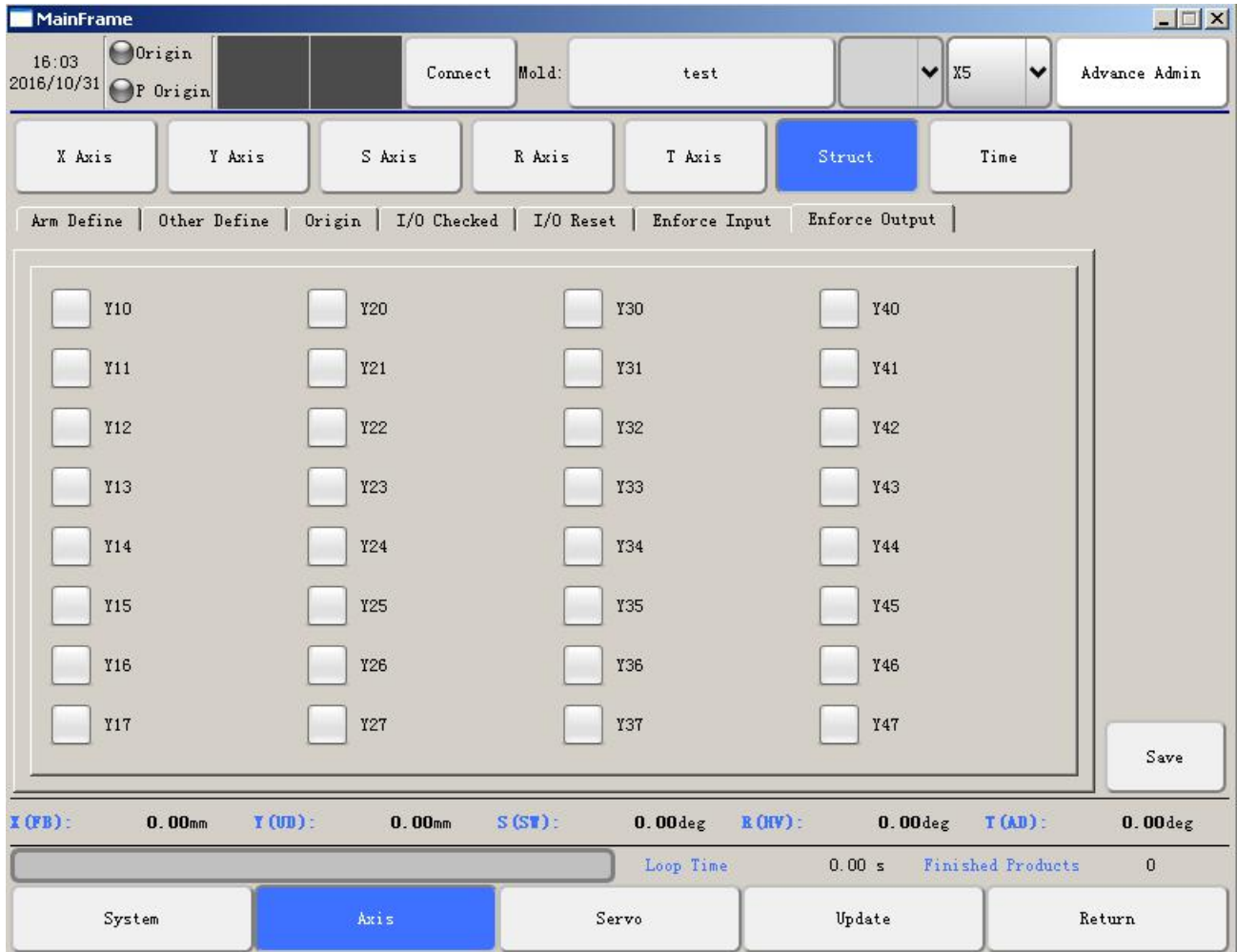
System **Axis** Servo Update Return

5-19

Notes:

- (1) X45 :Punch origin, 1 Top dead center signal.
- (2) X46 : Punch down dead , punch 1 Bottom dead point signal.
- (3) X43 : Punch origin2 ,Punch 2 Top dead center signal.
- (4) X44 : Punch down dead 2, Punch 2 Bottom dead point signal.

Enforce output:



5-20

Notes:

(1) RY3A-RY3B : Allow punch, unwinding after the completion of the system default allows punching signal is output, the output is allowed after punch the relay sucks and shuts.

(2) RY2A-RY2B : Allows punch 2 , Select the cutting mode, after you insert a punch action to implement punch behavior allows the punch of the relay sucks and shuts.

(3) RY1A-RY1B : Punch safety, a manipulator a manipulator to ago after allowing punch signals, the signals and allows a robot before punch series.

(3) Y10: auxiliary punch, in single status,Y10 and RY3 while switching

(4) Y11: punch security, power on the Y11 output. When the auto, punch allowed ON

before Y11 turn-off in press allowed OFF after Y11 will continue output can control punch when punching through the connection, increasing press security. While the manual, press allow punching buttons, Y11 are turned off, but does not output RY3 signal. If the punch punch, induction needs to punch the origin, hand stamped on the punch button is pressed, punch could punch, if you press the origin to disconnect, then immediately connect Y11 signal banning punch press.

(5) Alternate punch, Y27 pass and RY3 line breaking.

5.2.2 Time set

Click on the "time" button to enter the time page.

The screenshot displays the 'MainFrame' software interface. At the top, there is a status bar showing the time '16:03' and date '2016/10/31'. Below this, there are buttons for 'Origin' and 'P Origin', a 'Connect' button, and a 'Mold:' field with the value 'test'. To the right, there are dropdown menus for 'X5' and 'Advance Admin'. The main area contains several buttons: 'X Axis', 'Y Axis', 'S Axis', 'R Axis', 'T Axis', 'Struct', and 'Time' (which is highlighted in blue). Below these buttons are five input fields with labels and units: 'Single Clip' (5.0 s), 'Punch Time' (0.5 s), 'Min Punch' (0.0 s), 'Max Punch' (0.0 s), and 'Feed Pulse' (0.5 s). At the bottom, there is a status bar showing coordinates: 'X (FB): 0.00mm', 'Y (UB): 0.00mm', 'S (SW): 0.00deg', 'R (OV): 0.00deg', and 'T (AD): 0.00deg'. Below this, there are buttons for 'System', 'Axis' (highlighted in blue), 'Servo', 'Update', and 'Return'. A 'Loop Time' field shows '0.00 s' and a 'Finished Products' field shows '0'.

5-21

Single Clip: pneumatic valve in the specified time is not detected in the input signal will alarm.

Punch time : the time of the output of the stamping signal.

Min Punch : the completion of a pressing need for the shortest time, the system starts to press time, if the punch back to the vertex time is shorter than the time, the decision for the stamping time is too short.

Note: the origin of the punch is shorter than the shortest pressing time.

Max Punch : a stamping need long time to complete the system, start timer time stamping, if more than this time press hasn't returned to the top dead center, it is judged as

stamping timeout.

Feed Pulse: on-line operation, after the first reclaimer is completed, output feeding allowed (Y12) time pulse signal.

5.3 Servo

Click [servo] to enter the servo related settings page, as shown below:



5-22

Tolerance: the difference between the transmission pulse and feedback pulse, the unit is mm. (more than the difference, there will be "feedback pulse deviation too large" alarm)

Acceleration and deceleration time of shaft: set servo motor plus deceleration time.

The first mode speed: set the speed of the first mode of operation of all axes.

Maximum speed: set the maximum operating speed of the servo motor.

5.4 Update

Version upgrade method : Plug in U Disk And in a few seconds, click on the "scan for updates" select the version you want to upgrade and then point "Start update".

Start page and standby updated :

1 , In the U Disk directory new HCUpdate_pic Copy boot images to the file of the page needs to be done.

Start up page images need wide * High: 800*600 Unit: pixels.

Standby page need wide * High: 800*400 Unit: pixels.

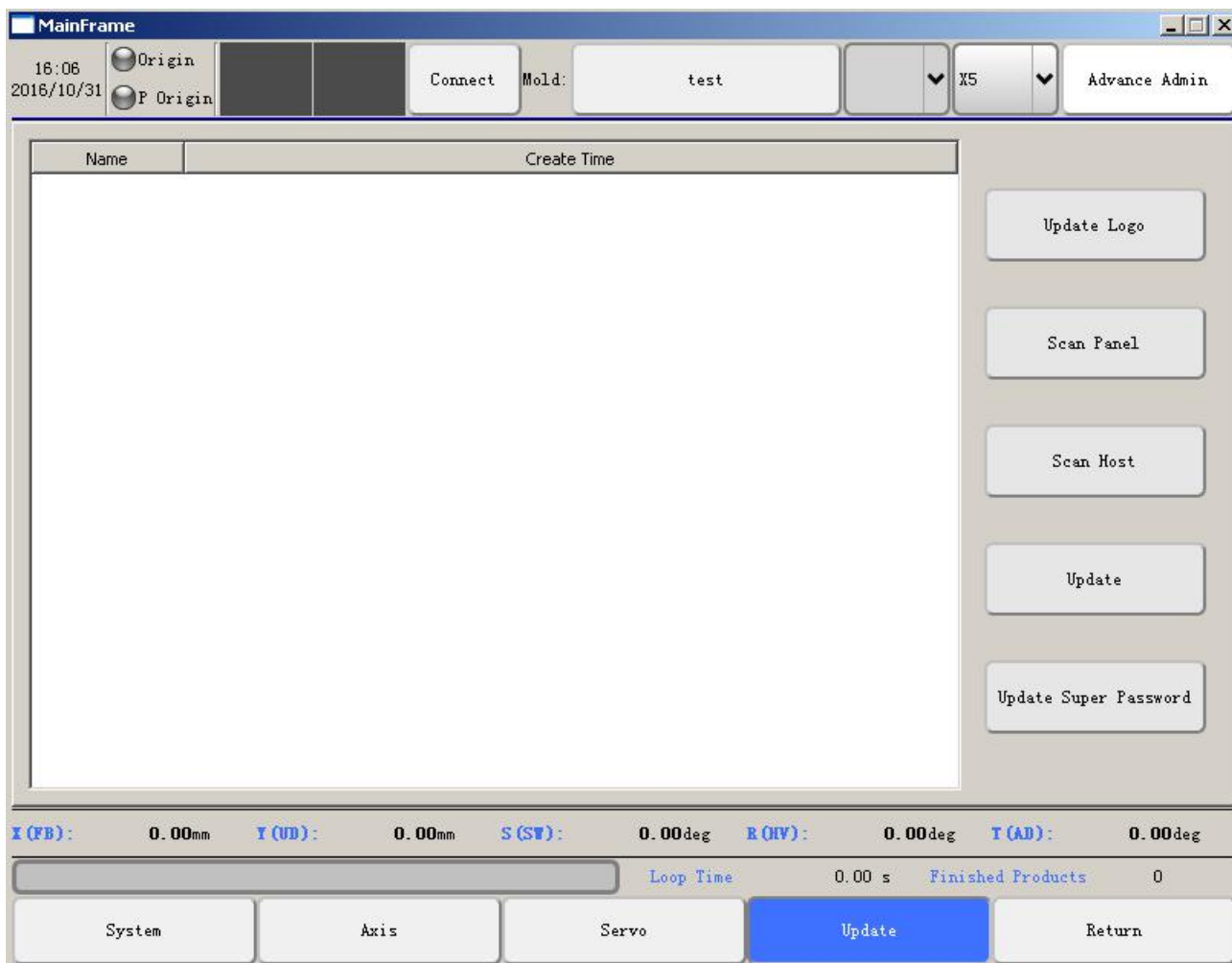
Picture format: Png Format.

2 ,On plug U Hand on the controller;

3 , Click the update picture, pop-up pictures update box.

4 , Click the scan picture;

5 ,Picture, select standby, click the selected as the standby page will pop up "set successfully, reboot to take effect", select the start page to see more pictures, click on the chosen as the start page, a pop-up "set successfully, reboot to take effect", and then quit and restart the system.



5-23

6 I/O monitoring and alarm recording

6.1 I/O monitor

Click on the bottom of the screen " I/O Monitor "button to enter the I/O Signal monitor page. I/O status as shown below:



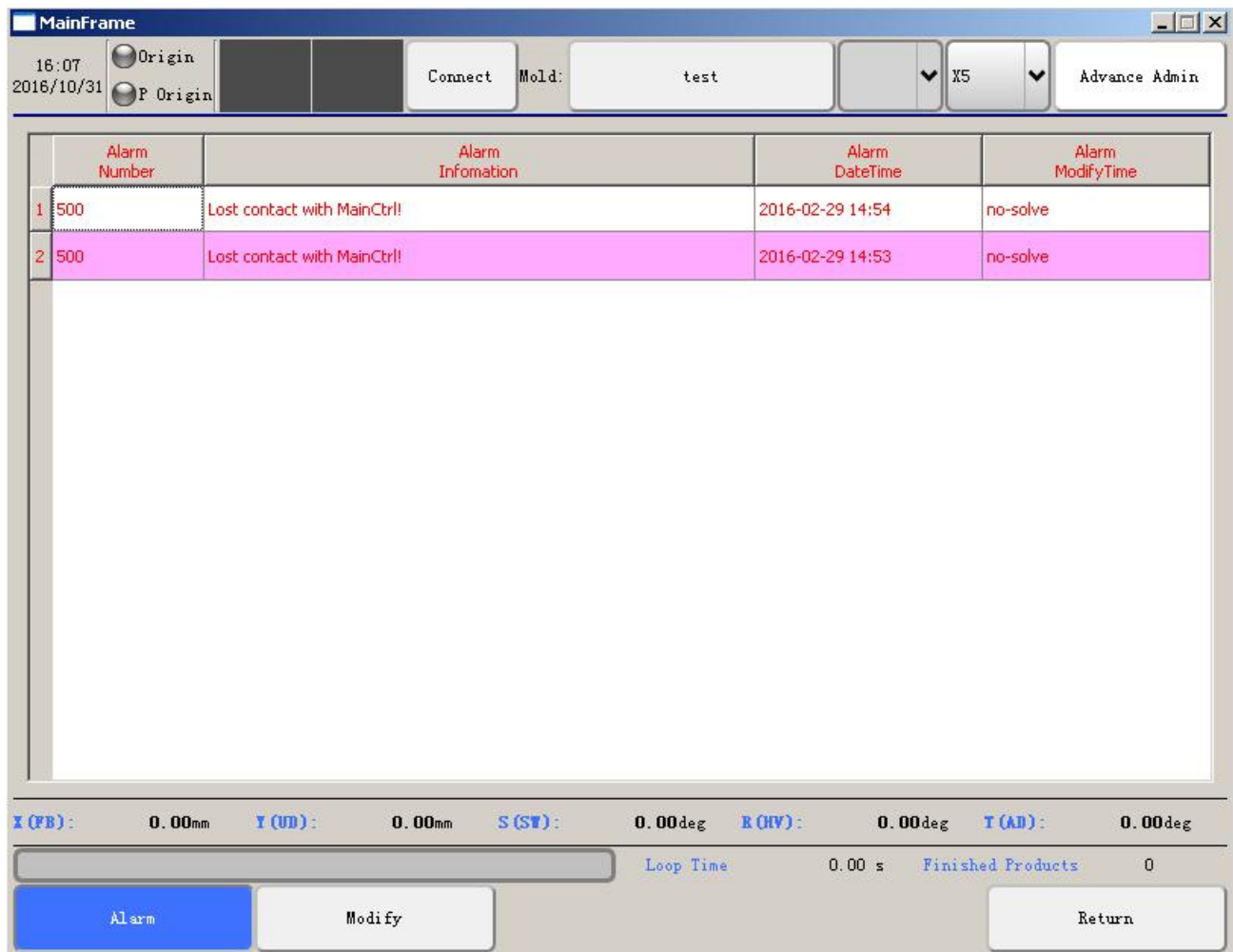
6-1

This page provides surveillance robot signal input and output. For not punching robot, the I/O names vary, supporting a specific set of the system I/O name tools for user convenience.

6.2 Record

6.2.1 Alarm

Click on the screen below the "record" button to enter the alarm log. The following figure:



6-2

Control system can record the most recent 500 Alarm, makes it easier to find robot history information.

6.2.2 Modify

Click on the screen below the "modify" button to enter the alarm log. The following figure:



6-3

Control system can record the most recent 500 Modify records, record the customer to modify the parameters of the page and log in. Easy to troubleshoot failures due to parameter modification.

6.3 Single alarm information and processing methods

Alarm Control no	Alarm contents	The cause of the alert	Solutions
30	When x axis is still running	When x axis is still running	X Combination of motion side by side, or the main program and subroutine to run the x axis
31	When generating the action y axis running	When generating the action y axis running	Y Combination of motion side by side, or the main program and a program that runs the y axis
32	When generating the action s axis running	When generating the action s axis running	S Combination of motion side by side, or the main program and subroutine to run s-axis

33	Generate moves r axis running	Generate moves r axis running	R Combination of motion side by side, or the main program and a program that runs the r axis
34	When generating the action t- axis running	When generating the action t- axis running	T Combination of motion side by side, or the main program and subroutine to run the t- axis
35	When generating the action axis running	When generating the action axis running	A Combination of motion side by side, or the main program and subroutine to run the axis
36	When generating the action b axis running	When generating the action b axis running	B Combination of motion side by side, or the main program and a program that runs the b axis

37	When generating the action c axis running	When generating the action c axis running	C Combination of motion side by side, or the main program and subroutine to run the c -axis
38	Generate action 3D lines running	Generate action 3D lines running	3D Action combo side by side, or the main program and subroutine to run 3D action
40	X Axis motion too fast	X Axis motion too fast	Program internal error
41	Y Axis motion too fast	Y Axis motion too fast	Program internal error
42	S Axis motion too fast	S Axis motion too fast	Program internal error
43	R Axis motion too fast	R Axis motion too fast	Program internal error
44	T Axis motion too fast	T Axis motion too fast	Program internal error
45	A Axis motion too fast	A Axis motion too fast	Program internal error
46	B Axis motion too fast	B Axis motion too fast	Program internal error
47	C Axis motion too fast	C Axis motion too fast	Program internal error

50	X Axis is not servo axis	X Axis is not servo axis	Taught the x axis,x axis is not the servo, select the x axis servo axis
51	Y Axis is not servo axis	Y Axis is not servo axis	Teaches the y axis,the y axis is not the servo, select the y axis servo axis
52	S Axis is not servo axis	S Axis is not servo axis	Teach s motion,s -axis is not the servo, select s-axis servo axis
53	R Axis is not servo axis	R Axis is not servo axis	Teach r -axis movement,r -axis is not the servo, select the r- axis servo axis
54	T Axis is not servo axis	T Axis is not servo axis	Teaches t-axis moves,the t-axis is not the servo, select t- axis servo axis
55	A Axis is not servo axis	A Axis is not servo axis	Teach motion, axis is not the servo, select axis servo axis

56	B Axis is not servo axis	B Axis is not servo axis	Teaches b-axis movement, b-axis is not the servo, select b-axis servo axis
57	C Axis is not servo axis	C Axis is not servo axis	Teaching c-axis movement, c-axis is not the servo, select c-axis servo axis
60	X Axis CAN bus timeout	X Axis CAN bus timeout	Checking x-axis CAN bus connections are correct
61	Y Axis CAN bus timeout	Y Axis CAN bus timeout	Check the y-axis CAN bus connections are correct
62	S Axis CAN bus timeout	S Axis CAN bus timeout	Check s-axis CAN bus connections are correct
63	R Axis CAN bus timeout	R Axis CAN bus timeout	Check the r-axis CAN bus connections are correct

64	T Axis CAN bus timeout	T Axis CAN bus timeout	Check the t-axis CAN bus connections are correct
65	A Axis CAN bus timeout	A Axis CAN bus timeout	Check axis CAN bus connections are correct
66	B Axis CAN bus timeout	B Axis CAN bus timeout	Check the b-axis CAN bus connections are correct
67	C Axis CAN bus timeout	C Axis CAN bus timeout	Check the c axis CAN bus connections are correct
70	Generate action GX does not match	Generate action GX does not match	Teach again x axis movement
71	Generate action GY did not match	Generate action GY did not match	Re-teach y axis movement
72	Generate action GZ does not match	Generate action GZ does not match	Re-teach s motion
73	Generate action GR does not match	Generate action GR does not match	Re-teach r motion
74	Generate action GT does not match	Generate action GT does not match	Re teaches t-motion
75	While GA does not match	While GA does not match	Re-teach motion

76	Generate action GB do not match	Generate action GB do not match	Teach again b axis
77	When GC does not match	When GC does not match	Teach again c -axis movement
100	X Big deviation for axial-feedback	X Big deviation for axial-feedback	Checking x axis servo reverse correctly, tolerance parameters set correctly, axis parameter settings are correct
101	Y Big deviation for axial-feedback	Y Big deviation for axial-feedback	Checking y axis servo reverse correctly, tolerance parameters set correctly, axis parameter settings are correct
102	S Big deviation for axial-feedback	S Big deviation for axial-feedback	Check the s -axis servo reverse correctly, tolerance parameters set correctly, axis parameter settings are correct

103	R Big deviation for axial-feedback	R Big deviation for axial-feedback	Check the r-axis servo reverse correctly, tolerance parameters set correctly, axis parameter settings are correct
104	T Big deviation for axial-feedback	T Big deviation for axial-feedback	Check the t-axis servo reverse correctly, tolerance parameters set correctly, axis parameter settings are correct
105	A Big deviation for axial-feedback	A Big deviation for axial-feedback	Check servo reverse correctly, tolerance parameters set correctly, axis parameter settings are correct
106	B Big deviation for axial-feedback	B Big deviation for axial-feedback	Check the b-axis servo reverse correctly, tolerance parameters set correctly, axis parameter settings are correct

107	C Big deviation for axial-feedback	C Big deviation for axial-feedback	Check the c-axis servo reverse correctly, tolerance parameters set correctly, axis parameter settings are correct
110	X Axis servo alarm	X Axis servo alarm	X Axis servo alarm, check the servo drive
111	Y Axis servo alarm	Y Axis servo alarm	Y Axis servo alarm, check the servo drive
112	S Axis servo alarm	S Axis servo alarm	S Axis servo alarm, check the servo drive
113	R Axis servo alarm	R Axis servo alarm	R Axis servo alarm, check the servo drive
114	T Axis servo alarm	T Axis servo alarm	T Axis servo alarm, check the servo drive
115	A Axis servo alarm	A Axis servo alarm	A Axis servo alarm, check the servo drive

116	B Axis servo alarm	B Axis servo alarm	B Axis servo alarm, check the servo drive
117	C Axis servo alarm	C Axis servo alarm	C Axis servo alarm, check the servo drive
130	X Axis forward limit alarm	X Limit switch axis motion in the process of being	X Axis forward limit input or to limit point is flashing
131	Y Axis forward limit alarm	Y Limit switch axis motion in the process of being	Y Axis forward limit input or to limit point is flashing
132	S Axis forward limit alarm	S Limit switch axis motion in the process of being	S Axis forward limit input or to limit point is flashing
133	R Axis forward limit alarm	R Limit switch axis motion in the process of being	R Axis forward limit input or to limit point is flashing
134	T Axis forward limit alarm	T Limit switch axis motion in the process of being	T Axis forward limit input or to limit point is flashing
135	A Axis forward limit alarm	A Limit switch axis motion in the process of being	A Axis forward limit input or to limit point is flashing
136	B Axis forward limit alarm	B Limit switch axis motion in the process of being	B Axis forward limit input or to limit point is flashing

137	C Axis forward limit alarm	C Limit switch axis motion in the process of being	C Axis forward limit input or to limit point is flashing
140	X Axis reverse limit alarm	X Limit switch axis motion in the process of	X Axis start point limit input or start limit has flashing
141	Y Axis reverse limit alarm	Y Limit switch axis motion in the process of	Y Axis start point limit input or start limit has flashing
142	S Axis reverse limit alarm	S Limit switch axis motion in the process of	S Axis start point limit input or start limit has flashing
143	R Axis reverse limit alarm	R Limit switch axis motion in the process of	R Axis start point limit input or start limit has flashing
144	T Axis reverse limit alarm	T Limit switch axis motion in the process of	T Axis start point limit input or start limit has flashing
145	A Axis reverse limit alarm	A Limit switch axis motion in the process of	A Axis start point limit input or start limit has flashing

146	B Axis reverse limit alarm	B Limit switch axis motion in the process of	B Axis start point limit input or start limit has flashing
147	C Axis reverse limit alarm	C Limit switch axis motion in the process of	C Axis start point limit input or start limit has flashing
150	X axis is too large	X Axis operation exceeds the maximum	Set the correct x position
151	Y axis is too large	Y Axis operation exceeds the maximum	Set the right y axis position
152	S axis is too large	S Axis operation exceeds the maximum	Set the correct s axis position
153	R axis is too large	R Axis operation exceeds the maximum	Set the correct r axis position
154	T axis is too large	T Axis operation exceeds the maximum	Set the correct t- axis position
155	A axis is too large	A Axis operation exceeds the maximum	Set the correct position
156	B axis is too large	B Axis operation exceeds the maximum	Set the correct b axis
157	C axis is too large	C Axis operation exceeds the maximum	Set the correct c- axis position

160	X axis is too small	X Axis operation is less than the minimum	Set the correct x position
161	Y axis is too small	Y Axis operation is less than the minimum	Set the right y axis position
162	S axis is too small	S Axis operation is less than the minimum	Set the correct s axis position
163	R axis is too small	R Axis operation is less than the minimum	Set the correct r axis position
164	T axis is too small	T Axis operation is less than the minimum	Set the correct t- axis position
165	A axis is too small	A Axis operation is less than the minimum	Set the correct position
166	B axis is too small	B Axis operation is less than the minimum	Set the correct b axis
167	C axis is too small	C Axis operation exceeds the maximum	Set the correct c- axis position
170	X axis running too large	X Axis position exceeds the maximum value	Set the correct x position
171	Y axis running too large	Y Axis position exceeds the maximum value	Set the right y axis position

172	S axis running too large	S Axis position exceeds the maximum value	Set the correct s axis position
173	R axis running too large	R Axis position exceeds the maximum value	Set the correct r axis position
174	T axis running too large	T Axis position exceeds the maximum value	Set the correct t- axis position
175	A axis running too large	A Axis position exceeds the maximum value	Set the correct position
176	B axis running too large	B Axis position exceeds the maximum value	Set the correct b axis
177	C axis running too large	C Axis position exceeds the maximum value	Set the correct c- axis position
180	X axis run time is too small	X axis position is less than the minimum	Set the correct x position
181	Y axis run time is too small	Y axis position is less than the minimum	Set the right y axis position
182	S axis run time is too small	S axis position is less than the minimum	Set the correct s axis position
183	R axis run time is too small	R axis position is less than the minimum	Set the correct r axis position

184	T axis run time is too small	T axis position is less than the minimum	Set the correct t- axis position
185	A axis run time is too small	A axis position is less than the minimum	Set the correct position
186	B axis run time is too small	B axis position is less than the minimum	Set the correct b axis
187	C axis run time is too small	C axis position is less than the minimum	Set the correct c- axis position
200	X Axle memory fault	X Axle memory fault	Save the x axis parameter
201	Y Axle memory fault	Y Axle memory fault	Re save the y axis parameter
202	S Axle memory fault	S Axle memory fault	Save s axis parameter
203	R Axle memory fault	R Axle memory fault	Save the r axis parameter
204	T Axle memory fault	T Axle memory fault	Save the t- axis parameter
205	A Axle memory fault	A Axle memory fault	Re save the axis parameter
206	B Axle memory fault	B Axle memory fault	Save the b -axis parameters
207	C Axle memory fault	C Axle memory fault	Save the c axis parameter
208	struct memory error	struct memory error	Save the struct parameters

210	X Axis struct	Upper and lower computer records of the x axis parameter is inconsistent	Choose manual or host to save again the x axis parameter
211	Y Axis struct	Upper and lower computer records of the y axis parameter is inconsistent	Choose manual or re save the host y axis parameter
212	S Axis struct	Upper and lower computer records s-axis struct parameter is inconsistent	Choose manual or re save the host s axis parameter
213	R Axis struct	Upper and lower computer records of the r axis struct parameter is inconsistent	Choose manual or host save the r axis parameter
214	T Axis struct	Upper and lower computer records of the t- axis struct parameter is inconsistent	Choose manual or re save the host t- axis parameter
215	A Axis struct	Upper and lower computer records of axis structural parameters are inconsistent	Choose manual or re save the host axis parameter
216	B Axis struct	Upper and lower computer records of the b axis struct parameter is inconsistent	Choose manual or re save the host b axis parameter

217	C Axis struct	Upper and lower computer records of c-axis struct parameter is inconsistent	Choose manual or re save the host c axis parameter
218	Comparison of structural parameters	Upper and lower computer records do not match the parameters	Choose manual or re save the host parameters
220	X Axis parameter parity	PC recording the x axis parameter parity and error	Save the x axis parameter
221	Y Axis parameter parity	Computer records of y axis parameter parity and error	Re save the y axis parameter
222	S Axis parameter parity	PC recording s axis struct parameter parity and error	Save s axis parameter
223	R Axis parameter parity	PC record r axis struct parameter parity and error	Save the r axis parameter
224	T Axis parameter parity	PC record t- axis struct parameter parity and error	Save the t- axis parameter
225	A Axis parameter parity	PC recording struct parameter parity and error	Re save the axis parameter
226	B Axis parameter parity	PC recording b-axis struct parameter parity and error	Save the b-axis parameters

227	C Axis parameter parity	Computer records of c -axis struct parameter parity and error	Save the c axis parameter
228	struct parameter parity	The struct parameters of host computer records check sum errors	Save the struct parameters
303	System parameters	Main program teaches a check sum error	Re save the teach program
304	Emergency stop input	Emergency stop button is pressed or the emergency stop input is not shorted	Stop play or stop inputs shorted
305	The main loop error	The main loop error	System internal error
308	Tolerance is too large	Tolerance set value exceeds the specified range	The tolerance parameter down
309	Function module parameter error	Module parameters corrupt	New modeling
310	Macro iSub is too large	Macro iSub is too large	Save the program
311	Macro iSub nesting	Macro iSub nesting	Save the program
313	Stacked overlapping	Stack duplicates	Remove duplicate stack

314	Sequence error	Sequence error	Save the program
315	System parameters	System parameter parity and error	Save the system parameters
316	Sequence error	Sequence error	Save the program
318	Separate directives and lists	Separate directives and lists	Save the program
320	Called irregular SEQ	Main program or reserved cannot be empty	Insert the main program or the set aside program programming statements
321	Called a check digit error occurred	Called a check digit error occurred	Re save the teach program
322	Call appeared GM calibration fault	Call appeared GM calibration fault	Re save the teach program
326	Motion to repeat	Motion to repeat	Teaching programs running at the same axis movement
327	Action Repeat	Action Repeat	Teaching programs are running with a non-axial movement

333	Machine re-election	Machine re-election	Tips
334	Arm re-election	Arm re-election	Tips
335	System parameters	System parameters	Program teaches check sum errors
343	Machine ID change	Machine ID change	Tips
344	Online schema change	Online schema change	Tips
500	Host connection	Communication with the host interrupts	Check loose lines of communication with the host
501	I/O Traffic exceptions	I/O board communications	Check IO Board communication line
502	Set output	Production has to	Tip down
505	Program synchronization errors	Program synchronization errors	Guidance type does not match the check sum
508	Manipulator pause repeat	Multiple manipulator press pause	Multiple machines to unsuspend
509	Communication sequence error	Communication sequence error	Procedures for internal control

510	Communication sequence error	Communication sequence error	Procedures for internal control
511	Communication sequence error	Communication sequence error	Procedures for internal control
512	Communication sequence error	Communication sequence error	Procedures for internal control
600	X Axis to find the origin fail	X Axis z signal failure	Checking x axis servo reverse correctly, number of pulses per revolution are correct
601	Y Axis to find the origin fail	Y Axis z signal failure	Checking y axis servo reverse correctly, number of pulses per revolution are correct
602	S Axis to find the origin fail	S Axis z signal failure	Check the s -axis servo reverse correctly, number of pulses per revolution are correct

603	R Axis to find the origin fail	R Axis z signal failure	Check the r -axis servo reverse correctly, number of pulses per revolution are correct
604	T Axis to find the origin fail	T Axis z signal failure	Check the t -axis servo reverse correctly, number of pulses per revolution are correct
800	1 CAN communication timeout	1 CAN communication timeout	Examination 1 machine CAN communication line
801	2 CAN communication timeout	2 CAN communication timeout	Check 2- CAN communication line
802	3 CAN communication timeout	3 CAN communication timeout	Check 3- CAN communication line
803	4 CAN communication timeout	4 CAN communication timeout	Check 4 CAN communication line
804	5 CAN communication timeout	5 CAN communication timeout	Check 5 CAN communication line
805	6 CAN communication timeout	6 CAN communication timeout	Check 6- CAN communication line

806	7 CAN communication timeout	7 CAN communication timeout	Check 7- CAN communication line
807	8 CAN communication timeout	8 CAN communication timeout	Check 8- CAN communication line
808	9 CAN communication timeout	9 CAN communication timeout	Check 9- CAN communication line
809	10 CAN communication timeout	10 CAN communication timeout	Checked 10 , CAN communication line
810	11 CAN communication timeout	11 CAN communication timeout	Check 11 CAN communication line
811	12 CAN communication timeout	12 CAN communication timeout	Inspection 12 , CAN communication line
812	13 CAN communication timeout	13 CAN communication timeout	Check 13 machines, CAN communication line
813	14 CAN communication timeout	14 CAN communication timeout	Check 14 CAN communication line
814	15 CAN communication timeout	15 CAN communication timeout	Check 15 machine CAN communication line

815	16 CAN communication timeout	16 CAN communication timeout	Check 16 CAN communication line
817	There can be only one first machine	Taiwan Solidarity Union machine CAN type select multiple machines	Get rid of excess of the first
818	No machine	Taiwan Solidarity Union machine CAN type without first selecting machine	Choose a machine to do the first machine
820	Slave 1 is not auto state,	Hosts in the auto state, the slave 1 is not auto	Check out of 1 is online, whether there is alarm
821	Slave 2 is not auto state,	Hosts in the auto state, from machine 2 is not auto	Check from machine 2 is online, whether there is alarm
822	Slave 3 is not auto state,	Hosts in the auto state, 3 is not auto	Check out 3 is online, whether there is alarm
823	Slave 4 is not auto state,	Hosts in the auto state, 4 are not auto	Check out of 4 is online, whether there is alarm
824	Slave 5 is not auto state,	Hosts in the auto state, 5 are not auto	Check out of 5 is online, whether there is alarm

825	Slave 6 is not auto state,	Hosts in the auto state, 6 are not auto	Check from a 6 is online, whether there is alarm
826	Slave 7 is not auto state,	Hosts in the auto state, 7 is not auto	Check out of 7 is online, whether there is alarm
827	Slave 8 is not auto state,	Hosts in the auto state, 8 is not auto	Check out of 8 is online, whether there is alarm
828	Slave 9 is not auto state,	Hosts in the auto state, 9 are not auto	Check out of 9 is online, whether there is alarm
829	Slave 10 is not auto state,	Hosts in the auto state, 10 is not auto	Check out of 10 is online, whether there is alarm
830	Slave 12 is not auto state,	Hosts in the auto state, 11 are not auto	Check out 11 is online, whether there is alarm
831	Slave 12 is not auto state,	Hosts in the auto state, 12 is not auto	Check out of 12 are online and whether there is alarm
832	Slave 13 is not auto state,	Hosts in the auto state, from 13 is not auto	Check out of 13 are online, whether there is alarm

833	Slave 14 is not auto state,	Hosts in the auto state, 14 are not auto	Check out of 14 is online, whether there is alarm
834	Slave 15 is not auto state,	Hosts in the auto state, from machine 15 is not auto	Check out of 15 are online, whether there is alarm
835	Slave 16 is not auto state,	Hosts in the auto state, 16 are not auto	Check out of 16 is online, whether there is alarm
900	1 ID conflict	Select multiple manipulator 1 ID	Remove duplicate 1 ID
901	2 ID conflict	Select multiple manipulator 2 ID	Remove duplicate 2 ID
902	3 ID conflict	Select multiple manipulator 3 ID	Remove duplicate 3 ID
903	4 ID conflict	Select multiple manipulator 4 ID	Remove duplicate 4 , ID
904	5 ID conflict	Select multiple manipulator 5 ID	Remove duplicate 5 , ID
905	6 ID conflict	Select multiple manipulator 6 , ID	Remove duplicate 6 , ID
906	7 ID conflict	Select multiple manipulator 7 ID	Remove duplicate 7 , ID
907	8 ID conflict	Select multiple manipulator 8 , ID	Remove duplicate 8 , ID

908	9 ID conflict	Select multiple manipulator 9 , ID	Remove duplicate 9 , ID
909	10 ID conflict	Select multiple manipulator 10 ID	Remove duplicate 10 ID
910	11 ID conflict	Select multiple manipulator 11 ID	Remove duplicate 11 ID
911	12 ID conflict	Select multiple manipulator 12 , ID	Remove duplicate 12 , ID
912	13 ID conflict	Select multiple manipulator 13 ID	Remove duplicate 13 , ID
913	14 ID conflict	Select multiple manipulator 14 ID	Remove duplicate 14 ID
914	15 ID conflict	Multiple robot choice 15 , ID	Remove duplicate 15 ID
915	16 ID conflict	Select multiple manipulator 16 ID	Remove duplicate 16 , ID
1000	Running punch in point 1 broken	Running punch in point 1 broken	When there is no output press allows, punch origin disconnect
1001	Running punch in point 2 cut	Running punch in point 2 cut	When there is no output press allows, punch origin disconnect

1002	Running punch in point 3 cut	Running punch in point 3 cut	When there is no output press allows, punch origin disconnect
1003	Running punch in point 4 cut	Running punch in point 4 cut	When there is no output press allows, punch origin disconnect
1004	Running press the origin 5 broken	Running press the origin 5 broken	When there is no output press allows, punch origin disconnect
1005	Running punch in point 6 broken	Running punch in point 6 broken	When there is no output press allows, punch origin disconnect
1006	Running punch in origin 7 broken	Running punch in origin 7 broken	When there is no output press allows, punch origin disconnect
1007	Running punch in origin 8 off	Running punch in origin 8 off	When there is no output press allows, punch origin disconnect
1008	Running punch in point 9 off	Running punch in point 9 off	When there is no output press allows, punch origin disconnect

1009	Running punch in point 10 fault	Running punch in point 10 fault	When there is no output press allows, punch origin disconnect
1010	Running punch in point 11 broken	Running punch in point 11 broken	When there is no output press allows, punch origin disconnect
1011	Running punch in origin 12 off	Running punch in origin 12 off	When there is no output press allows, punch origin disconnect
1012	Running punch in point 13 broken	Running punch in point 13 broken	When there is no output press allows, punch origin disconnect
1013	Running punch in point 14 broken	Running punch in point 14 broken	When there is no output press allows, punch origin disconnect
1014	Running punch in point 15 break	Running punch in point 15 break	When there is no output press allows, punch origin disconnect
1015	Running punch in point 16 broken	Running punch in point 16 broken	When there is no output press allows, punch origin disconnect

1100	auto signal, press 1 is not auto	No auto signals	Check auto signals
1101	auto signal, press 2 is not auto	No auto signals	Check auto signals
1102	auto signal, press 3 is not auto	No auto signals	Check auto signals
1103	auto signal, press 4 is not auto	No auto signals	Check auto signals
1104	auto signal, punch 5 is not auto	No auto signals	Check auto signals
1105	auto signal, press 6 is not auto	No auto signals	Check auto signals
1106	auto signal, press 7 is not auto	No auto signals	Check auto signals
1107	auto signal, punch 8 is not auto	No auto signals	Check auto signals
1108	auto signal, press 9 is not auto	No auto signals	Check auto signals
1109	auto signal, press 10 is not auto	No auto signals	Check auto signals
1110	auto signal, punch 11 is not auto	No auto signals	Check auto signals
1111	auto signal, punch 12 is not auto	No auto signals	Check auto signals
1112	auto signal, press 13 is not auto	No auto signals	Check auto signals

1113	auto signal, press 14 is not auto	No auto signals	Check auto signals
1114	auto signal, punch 15 is not auto	No auto signals	Check auto signals
1115	auto signal, press 16 is not auto	No auto signals	Check auto signals
1152	punch when not in a secure location	punch allows manipulators when not in a secure location	Proper security bit set
1153	Clip detection input, please manu feeding	Clip detection input, please manu feeding	Manipulator
1154	Back to the original point s axis do not have the original signal	Back to the original point s axis do not have the original signal	The original signal option is selected, back to the original point of s -axis origin signal no input
1155	Back to the original point r axis do not have the original signal	Back to the original point r axis do not have the original signal	The original signal option is selected, back to the original point of r -axis origin signal no input
2000	Waiting for the X10 open timeout	Waiting for the X10 open timeout	Check the input signal wiring is incorrect

2001	Waiting for the X11 open timeout	Waiting for the X11 open timeout	Check the input signal wiring is incorrect
2002	Waiting for the X12 open timeout	Waiting for the X12 open timeout	Check the input signal wiring is incorrect
2003	Waiting for the X13 open timeout	Waiting for the X13 open timeout	Check the input signal wiring is incorrect
2004	Waiting for the X14 open timeout	Waiting for the X14 open timeout	Check the input signal wiring is incorrect
2005	Waiting for the X15 open timeout	Waiting for the X15 open timeout	Check the input signal wiring is incorrect
2006	Waiting for the X16 open timeout	Waiting for the X16 open timeout	Check the input signal wiring is incorrect
2007	Waiting for the X17 open timeout	Waiting for the X17 open timeout	Check the input signal wiring is incorrect
2008	Waiting for the X20 open timeout	Waiting for the X20 open timeout	Check the input signal wiring is incorrect
2009	Waiting for the X21 open timeout	Waiting for the X21 open timeout	Check the input signal wiring is incorrect

2010	Waiting for the X22 open timeout	Waiting for the X22 open timeout	Check the input signal wiring is incorrect
2011	Waiting for the X23 open timeout	Waiting for the X23 open timeout	Check the input signal wiring is incorrect
2012	Waiting for the X24 open timeout	Waiting for the X24 open timeout	Check the input signal wiring is incorrect
2013	Waiting for the X25 open timeout	Waiting for the X25 open timeout	Check the input signal wiring is incorrect
2014	Waiting for the X26 open timeout	Waiting for the X26 open timeout	Check the input signal wiring is incorrect
2015	Waiting for the X27 open timeout	Waiting for the X27 open timeout	Check the input signal wiring is incorrect
2016	Waiting for the X30 open timeout	Waiting for the X30 open timeout	Check the input signal wiring is incorrect
2017	Waiting for the X31 open timeout	Waiting for the X31 open timeout	Check the input signal wiring is incorrect
2018	Waiting for the X32 open timeout	Waiting for the X32 open timeout	Check the input signal wiring is incorrect

2019	Waiting for the X33 open timeout	Waiting for the X33 open timeout	Check the input signal wiring is incorrect
2020	Waiting for the X34 open timeout	Waiting for the X34 open timeout	Check the input signal wiring is incorrect
2021	Waiting for the X35 open timeout	Waiting for the X35 open timeout	Check the input signal wiring is incorrect
2022	Waiting for the X36 open timeout	Waiting for the X36 open timeout	Check the input signal wiring is incorrect
2023	Waiting for the X37 open timeout	Waiting for the X37 open timeout	Check the input signal wiring is incorrect
2024	Waiting for the X40 open timeout	Waiting for the X40 open timeout	Check the input signal wiring is incorrect
2025	Waiting for the X41 open timeout	Waiting for the X41 open timeout	Check the input signal wiring is incorrect
2026	Waiting for the X42 open timeout	Waiting for the X42 open timeout	Check the input signal wiring is incorrect
2027	Waiting for the X43 open timeout	Waiting for the X43 open timeout	Check the input signal wiring is incorrect

2028	Waiting for the X44 open timeout	Waiting for the X44 open timeout	Check the input signal wiring is incorrect
2029	Waiting for the X45 open timeout	Waiting for the X45 open timeout	Check the input signal wiring is incorrect
2030	Waiting for the X46 open timeout	Waiting for the X46 open timeout	Check the input signal wiring is incorrect
2031	Waiting for the X47 open timeout	Waiting for the X47 open timeout	Check the input signal wiring is incorrect
2100	Waiting for the X10 turn off the timeout	Waiting for the X10 turn off the timeout	Check the input signal wiring is incorrect
2101	Waiting for the X11 turn off the timeout	Waiting for the X11 turn off the timeout	Check the input signal wiring is incorrect
2102	Waiting for the X12 turn off the timeout	Waiting for the X12 turn off the timeout	Check the input signal wiring is incorrect
2103	Waiting for the X13 turn off the timeout	Waiting for the X13 turn off the timeout	Check the input signal wiring is incorrect
2104	Waiting for the X14 turn off the timeout	Waiting for the X14 turn off the timeout	Check the input signal wiring is incorrect

2105	Waiting for the X15 turn off the timeout	Waiting for the X15 turn off the timeout	Check the input signal wiring is incorrect
2106	Waiting for the X16 turn off the timeout	Waiting for the X16 turn off the timeout	Check the input signal wiring is incorrect
2107	Waiting for the X17 turn off the timeout	Waiting for the X17 turn off the timeout	Check the input signal wiring is incorrect
2108	Waiting for the X20 turn off the timeout	Waiting for the X20 turn off the timeout	Check the input signal wiring is incorrect
2109	Waiting for the X21 turn off the timeout	Waiting for the X21 turn off the timeout	Check the input signal wiring is incorrect
2110	Waiting for the X22 turn off the timeout	Waiting for the X22 turn off the timeout	Check the input signal wiring is incorrect
2111	Waiting for the X23 turn off the timeout	Waiting for the X23 turn off the timeout	Check the input signal wiring is incorrect
2112	Waiting for the X24 turn off the timeout	Waiting for the X24 turn off the timeout	Check the input signal wiring is incorrect
2113	Waiting for the X25 turn off the timeout	Waiting for the X25 turn off the timeout	Check the input signal wiring is incorrect

2114	Waiting for the X26 turn off the timeout	Waiting for the X26 turn off the timeout	Check the input signal wiring is incorrect
2115	Waiting for the X27 turn off the timeout	Waiting for the X27 turn off the timeout	Check the input signal wiring is incorrect
2116	Waiting for the X30 turn off the timeout	Waiting for the X30 turn off the timeout	Check the input signal wiring is incorrect
2117	Waiting for the X31 turn off the timeout	Waiting for the X31 turn off the timeout	Check the input signal wiring is incorrect
2118	Waiting for the X32 turn off the timeout	Waiting for the X32 turn off the timeout	Check the input signal wiring is incorrect
2119	Waiting for the X33 turn off the timeout	Waiting for the X33 turn off the timeout	Check the input signal wiring is incorrect
2120	Waiting for the X34 turn off the timeout	Waiting for the X34 turn off the timeout	Check the input signal wiring is incorrect
2121	Waiting for the X35 turn off the timeout	Waiting for the X35 turn off the timeout	Check the input signal wiring is incorrect
2122	Waiting for the X36 turn off the timeout	Waiting for the X36 turn off the timeout	Check the input signal wiring is incorrect

2123	Waiting for the X37 turn off the timeout	Waiting for the X37 turn off the timeout	Check the input signal wiring is incorrect
2124	Waiting for the X40 turn off the timeout	Waiting for the X40 turn off the timeout	Check the input signal wiring is incorrect
2125	Waiting for the X41 turn off the timeout	Waiting for the X41 turn off the timeout	Check the input signal wiring is incorrect
2126	Waiting for the X42 turn off the timeout	Waiting for the X42 turn off the timeout	Check the input signal wiring is incorrect
2127	Waiting for the X43 turn off the timeout	Waiting for the X43 turn off the timeout	Check the input signal wiring is incorrect
2128	Waiting for the X44 turn off the timeout	Waiting for the X44 turn off the timeout	Check the input signal wiring is incorrect
2129	Waiting for the X45 turn off the timeout	Waiting for the X45 turn off the timeout	Check the input signal wiring is incorrect
2130	Waiting for the X46 turn off the timeout	Waiting for the X46 turn off the timeout	Check the input signal wiring is incorrect
2131	Waiting for the X47 turn off the timeout	Waiting for the X47 turn off the timeout	Check the input signal wiring is incorrect

2400	Single head valve Y10 entered X10 open timeout	Single head valve Y10 entered X10 open timeout	Check whether the input signal signal
2401	Single head valve Y11 entered X11 open timeout	Single head valve Y11 entered X11 open timeout	Check whether the input signal signal
2402	Single head valve Y12 entered X12 open timeout	Single head valve Y12 entered X12 open timeout	Check whether the input signal signal
2403	Single head valve Y13 entered X13 open timeout	Single head valve Y13 entered X13 open timeout	Check whether the input signal signal
2404	Single head valve Y14 entered X14 open timeout	Single head valve Y14 entered X14 open timeout	Check whether the input signal signal
2405	Single head valve Y15 entered X15 open timeout	Single head valve Y15 entered X15 open timeout	Check whether the input signal signal
2406	Single head valve Y16 entered X16 open timeout	Single head valve Y16 entered X16 open timeout	Check whether the input signal signal
2407	Single head valve Y17 entered X17 open timeout	Single head valve Y17 entered X17 open timeout	Check whether the input signal signal
2408	Single head valve Y20 entered X20 open timeout	Single head valve Y20 entered X20 open timeout	Check whether the input signal signal

2409	Single head valve Y21 entered X21 open timeout	Single head valve Y21 entered X21 open timeout	Check whether the input signal signal
2410	Single head valve Y22 entered X22 open timeout	Single head valve Y22 entered X22 open timeout	Check whether the input signal signal
2411	Single head valve Y23 entered X23 open timeout	Single head valve Y23 entered X23 open timeout	Check whether the input signal signal
2412	Single head valve Y24 entered X24 open timeout	Single head valve Y24 entered X24 open timeout	Check whether the input signal signal
2413	Single head valve Y25 entered X25 open timeout	Single head valve Y25 entered X25 open timeout	Check whether the input signal signal
2414	Single head valve Y26 entered X26 open timeout	Single head valve Y26 entered X26 open timeout	Check whether the input signal signal
2415	Single head valve Y27 entered X27 open timeout	Single head valve Y27 entered X27 open timeout	Check whether the input signal signal
2416	Single head valve Y30 entered X30 open timeout	Single head valve Y30 entered X30 open timeout	Check whether the input signal signal
2417	Single head valve Y31 entered X31 open timeout	Single head valve Y31 entered X31 open timeout	Check whether the input signal signal

2418	Single head valve Y32 entered X32 open timeout	Single head valve Y32 entered X32 open timeout	Check whether the input signal signal
2419	Single head valve Y33 entered X33 open timeout	Single head valve Y33 entered X33 open timeout	Check whether the input signal signal
2420	Single head valve Y34 entered X34 open timeout	Single head valve Y34 entered X34 open timeout	Check whether the input signal signal
2421	Single head valve Y35 entered X35 open timeout	Single head valve Y35 entered X35 open timeout	Check whether the input signal signal
2422	Single head valve Y36 entered X36 open timeout	Single head valve Y36 entered X36 open timeout	Check whether the input signal signal
2423	Single head valve Y37 entered X37 open timeout	Single head valve Y37 entered X37 open timeout	Check whether the input signal signal
2424	Single head valve Y40 entered X40 open timeout	Single head valve Y40 entered X40 open timeout	Check whether the input signal signal
2425	Single head valve Y41 entered X41 open timeout	Single head valve Y41 entered X41 open timeout	Check whether the input signal signal
2426	Single head valve Y42 entered X42 open timeout	Single head valve Y42 entered X42 open timeout	Check whether the input signal signal

2427	Single head valve Y43 entered X43 open timeout	Single head valve Y43 entered X43 open timeout	Check whether the input signal signal
2428	Single head valve Y44 entered X44 open timeout	Single head valve Y44 entered X44 open timeout	Check whether the input signal signal
2429	Single head valve Y45 entered X45 open timeout	Single head valve Y45 entered X45 open timeout	Check whether the input signal signal
2430	Single head valve Y46 entered X46 open timeout	Single head valve Y46 entered X46 open timeout	Check whether the input signal signal
2431	Single head valve Y47 entered X47 open timeout	Single head valve Y47 entered X47 open timeout	Check whether the input signal signal
2500	Single head valve Y10 entered X10 close timeout	Single head valve Y10 entered X10 close timeout	Check whether the input signal signal
2501	Single head valve Y11 entered X11 close timeout	Single head valve Y11 entered X11 close timeout	Check whether the input signal signal
2502	Single head valve Y12 entered X12 close timeout	Single head valve Y12 entered X12 close timeout	Check whether the input signal signal
2503	Single head valve Y13 entered X13 close timeout	Single head valve Y13 entered X13 close timeout	Check whether the input signal signal

2504	Single head valve Y14 entered X14 close timeout	Single head valve Y14 entered X14 close timeout	Check whether the input signal signal
2505	Single head valve Y15 entered X15 close timeout	Single head valve Y15 entered X15 close timeout	Check whether the input signal signal
2506	Single head valve Y16 entered X16 close timeout	Single head valve Y16 entered X16 close timeout	Check whether the input signal signal
2507	Single head valve Y17 entered X17 close timeout	Single head valve Y17 entered X17 close timeout	Check whether the input signal signal
2508	Single head valve Y20 entered X20 close timeout	Single head valve Y20 entered X20 close timeout	Check whether the input signal signal
2509	Single head valve Y21 entered X21 close timeout	Single head valve Y21 entered X21 close timeout	Check whether the input signal signal
2510	Single head valve Y22 entered X22 close timeout	Single head valve Y22 entered X22 close timeout	Check whether the input signal signal
2511	Single head valve Y23 entered X23 close timeout	Single head valve Y23 entered X23 close timeout	Check whether the input signal signal
2512	Single head valve Y24 entered X24 close timeout	Single head valve Y24 entered X24 close timeout	Check whether the input signal signal

2513	Single head valve Y25 entered X25 close timeout	Single head valve Y25 entered X25 close timeout	Check whether the input signal signal
2514	Single head valve Y26 entered X26 close timeout	Single head valve Y26 entered X26 close timeout	Check whether the input signal signal
2515	Single head valve Y27 entered X27 close timeout	Single head valve Y27 entered X27 close timeout	Check whether the input signal signal
2516	Single head valve Y30 entered X30 close timeout	Single head valve Y30 entered X30 close timeout	Check whether the input signal signal
2517	Single head valve Y31 entered X31 close timeout	Single head valve Y31 entered X31 close timeout	Check whether the input signal signal
2518	Single head valve Y32 entered X32 close timeout	Single head valve Y32 entered X32 close timeout	Check whether the input signal signal
2519	Single head valve Y33 entered X33 close timeout	Single head valve Y33 entered X33 close timeout	Check whether the input signal signal
2520	Single head valve Y34 entered X34 close timeout	Single head valve Y34 entered X34 close timeout	Check whether the input signal signal
2521	Single head valve Y35 entered X35 close timeout	Single head valve Y35 entered X35 close timeout	Check whether the input signal signal

2522	Single head valve Y36 entered X36 close timeout	Single head valve Y36 entered X36 close timeout	Check whether the input signal signal
2523	Single head valve Y37 entered X37 close timeout	Single head valve Y37 entered X37 close timeout	Check whether the input signal signal
2524	Single head valve Y40 entered X40 close timeout	Single head valve Y40 entered X40 close timeout	Check whether the input signal signal
2525	Single head valve Y41 entered X41 close timeout	Single head valve Y41 entered X41 close timeout	Check whether the input signal signal
2526	Single head valve Y42 entered X42 close timeout	Single head valve Y42 entered X42 close timeout	Check whether the input signal signal
2527	Single head valve Y43 entered X43 close timeout	Single head valve Y43 entered X43 close timeout	Check whether the input signal signal
2528	Single head valve Y44 entered X44 close timeout	Single head valve Y44 entered X44 close timeout	Check whether the input signal signal
2529	Single head valve Y45 entry point X45 turn off the timeout	Single head valve Y45 entry point X45 turn off the timeout	Check whether the input signal signal
2530	Single head valve Y46 entered X46 close timeout	Single head valve Y46 entered X46 close timeout	Check whether the input signal signal

2531	Single head valve Y47 entered X47 close timeout	Single head valve Y47 entered X47 close timeout	Check whether the input signal signal
2600	Detection of double-head valve Y10 entered X10 open timeout	Detection of double-head valve Y10 entered X10 open timeout	Check whether the input signal signal
2602	Detection of double-head valve Y12 entered X12 open timeout	Detection of double-head valve Y12 entered X12 open timeout	Check whether the input signal signal
2604	Detection of double-head valve Y14 entered X14 open timeout	Detection of double-head valve Y14 entered X14 open timeout	Check whether the input signal signal
2606	Detection of double-head valve Y16 entered X16 open timeout	Detection of double-head valve Y16 entered X16 open timeout	Check whether the input signal signal
2608	Detection of double-head valve Y20 entered X20 open timeout	Detection of double-head valve Y20 entered X20 open timeout	Check whether the input signal signal
2610	Detection of double-head valve Y22 entered X22 open timeout	Detection of double-head valve Y22 entered X22 open timeout	Check whether the input signal signal

2612	Detection of double-head valve Y24 entered X24 open timeout	Detection of double-head valve Y24 entered X24 open timeout	Check whether the input signal signal
2614	Detection of double-head valve Y26 entered X26 open timeout	Detection of double-head valve Y26 entered X26 open timeout	Check whether the input signal signal
2616	Detection of double-head valve Y30 entered X30 open timeout	Detection of double-head valve Y30 entered X30 open timeout	Check whether the input signal signal
2618	Detection of double-head valve Y32 entered X32 open timeout	Detection of double-head valve Y32 entered X32 open timeout	Check whether the input signal signal
2620	Detection of double-head valve Y34 entered X34 open timeout	Detection of double-head valve Y34 entered X34 open timeout	Check whether the input signal signal
2622	Detection of double-head valve Y36 entered X36 open timeout	Detection of double-head valve Y36 entered X36 open timeout	Check whether the input signal signal
2624	Detection of double-head valve Y40 entered X40 open timeout	Detection of double-head valve Y40 entered X40 open timeout	Check whether the input signal signal

2626	Detection of double-head valve Y42 entered X42 open timeout	Detection of double-head valve Y42 entered X42 open timeout	Check whether the input signal signal
2628	Detection of double-head valve Y44 entered X44 open timeout	Detection of double-head valve Y44 entered X44 open timeout	Check whether the input signal signal
2630	Detection of double-head valve Y46 entered X46 open timeout	Detection of double-head valve Y46 entered X46 open timeout	Check whether the input signal signal
2700	Detection of double-head valve Y10 entered X10 close timeout	Detection of double-head valve Y10 entered X10 close timeout	Check whether the input signal signal
2702	Detection of double-head valve Y12 entered X12 close timeout	Detection of double-head valve Y12 entered X12 close timeout	Check whether the input signal signal
2704	Detection of double-head valve Y14 entered X14 close timeout	Detection of double-head valve Y14 entered X14 close timeout	Check whether the input signal signal
2706	Detection of double-head valve Y16 entered X16 close timeout	Detection of double-head valve Y16 entered X16 close timeout	Check whether the input signal signal

2708	Detection of double-head valve Y20 entered X20 close timeout	Detection of double-head valve Y20 entered X20 close timeout	Check whether the input signal signal
2710	Detection of double-head valve Y22 entered X22 close timeout	Detection of double-head valve Y22 entered X22 close timeout	Check whether the input signal signal
2712	Detection of double-head valve Y24 entered X24 close timeout	Detection of double-head valve Y24 entered X24 close timeout	Check whether the input signal signal
2714	Detection of double-head valve Y26 entered X26 close timeout	Detection of double-head valve Y26 entered X26 close timeout	Check whether the input signal signal
2716	Detection of double-head valve Y30 entered X30 close timeout	Detection of double-head valve Y30 entered X30 close timeout	Check whether the input signal signal
2718	Detection of double-head valve Y32 entered X32 close timeout	Detection of double-head valve Y32 entered X32 close timeout	Check whether the input signal signal
2720	Detection of double-head valve Y34 entered X34 close timeout	Detection of double-head valve Y34 entered X34 close timeout	Check whether the input signal signal

2722	Detection of double-head valve Y36 entered X36 close timeout	Detection of double-head valve Y36 entered X36 close timeout	Check whether the input signal signal
2724	Detection of double-head valve Y40 entered X40 close timeout	Detection of double-head valve Y40 entered X40 close timeout	Check whether the input signal signal
2726	Detection of double-head valve Y42 entered X42 close timeout	Detection of double-head valve Y42 entered X42 close timeout	Check whether the input signal signal
2728	Detection of double-head valve Y44 entered X44 close timeout	Detection of double-head valve Y44 entered X44 close timeout	Check whether the input signal signal
2730	Detection of double-head valve Y46 entered X46 close timeout	Detection of double-head valve Y46 entered X46 close timeout	Check whether the input signal signal
2800	Timed out waiting for punch origin opened	Timed out waiting for punch origin opened	Checks whether the press problem
2850	Timed out waiting for punch origin closed	Timed out waiting for punch origin closed	Checks whether the press problem

3000	Waiting for the M10 allows fetch timeout	Waiting for the M10 allows fetch timeout	Host is stopped, restart
3002	Waiting for M12 allows Reset timeout	Waiting for M12 allows Reset timeout	Host is stopped, restart
4000	Trial time is up, please register	Trial time is up, please register	Purchase registration number

6.4 On line alarm information and processing method

alarm	classification	Processing flow
Failed to pick up the alarm	The reclaiming process, did not suck material	Click to extract
	To complete the alarm between reclaimer reclaimer (material release)	1, the mechanical hand switch stop state, clear alarm, automatic recovery of state 2, in front of a mechanical hand (not the artificial material) to take emergency stop, material release, clear alarm, automatic recovery, after waiting for yourself before a stamping click allow extract, run to discharge a standby position click allow storage 3, after the mechanical hand and waited in front of a stamping finished click allow extract, run to the discharge standby position allows placing 4 click, the manipulator behind a manipulator, after waiting in front of a punch, click allow.
Other alarm	To complete the discharge point between the material (material release alarm)	1, the mechanical hand switch stop state alarm off, the manipulator move to a safe position 2, automatic recovery, after waiting in front of a complete stamping operation to allow click extract, click position feeding standby allows placing 3, behind a mechanical hand, after waiting in front of a punch, click allow.

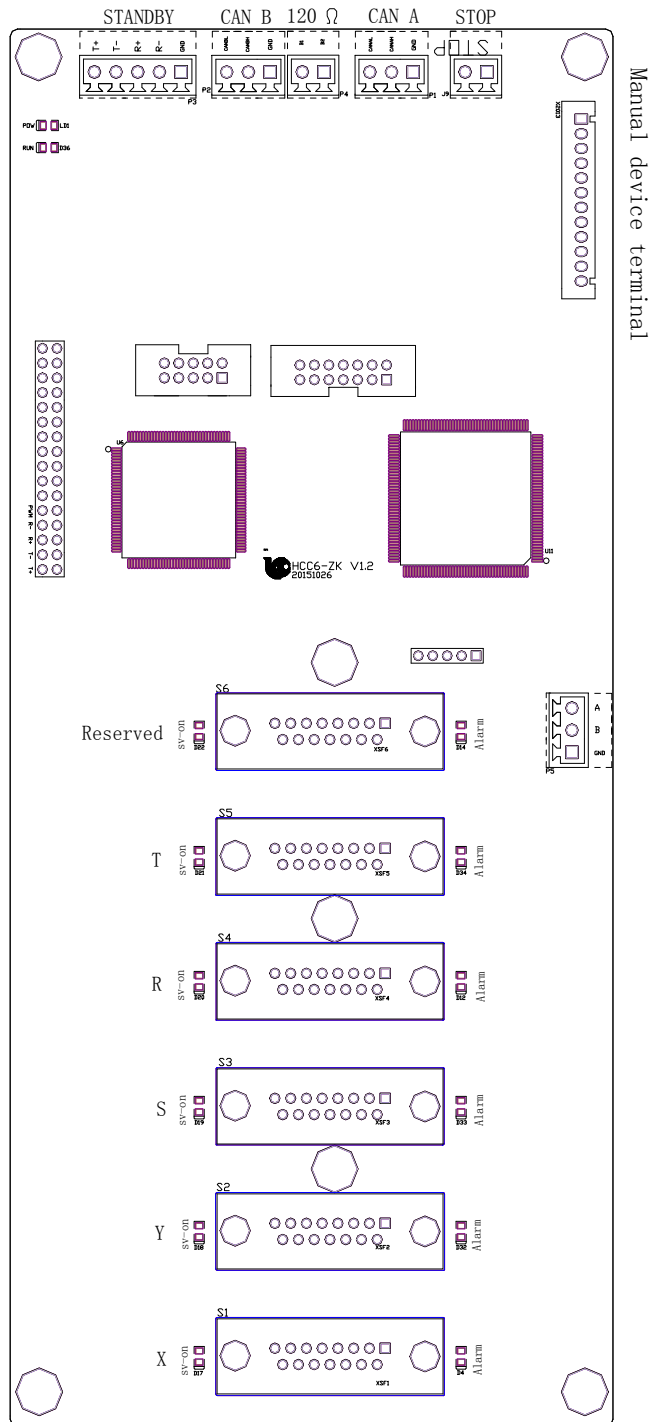
Other alarm	To complete the alarm between reclaimer Reclaimer	1, the mechanical hand switch stop state, clear alarm, automatic recovery of state 2, in front of a mechanical hand (not the artificial material) to take emergency stop, material release, clear alarm, automatic recovery, after waiting for yourself before a stamping click allow extract, run to discharge a standby position click allow storage 3, after the mechanical hand and waited in front of a stamping finished click allow extract, run to the discharge standby position allows placing 4 click, the manipulator behind a manipulator, after waiting in front of a punch, click allow.
Other alarm	To complete the discharge between the reclaimer point alarm	1, the mechanical hand switch stop state alarm off, the manipulator move to a safe position 2, automatic recovery, after waiting in front of a complete stamping operation to allow click extract, click position feeding standby allows placing 3, behind a mechanical hand, after waiting in front of a punch, click allow.

Other alarm	Discharge point to discharge material between the alarm	1, the mechanical hand stop, the manipulator move to a safe position 2, manual stamping, punching wait for completion of 3, the current mechanical hand switch stop state, clear alarm, automatic recovery of state 4, behind a manipulator to complete the operation of reclaimer location click when allowed to extract 5, before waiting in front of a manipulator punch, click allow extract, run to discharge the standby position, click the allow.
Other alarm	Discharge to reclaiming point alarm	1, the mechanical hand switch stop state, clear alarm, safety position of manipulator to automatically recover, state 2, if the punch, behind a mechanical hand in front of waiting for the completion of stamping click allow extract 3, if not complete stamping punch, need to take emergency stop, manual stamping, punching is completed, clear alarm automatic recovery, state, behind a mechanical hand in front of waiting for the completion of stamping click allow extract 3, the manipulator to complete the position allows the hammer reclaimer extract, run to discharge a standby position click allow storage

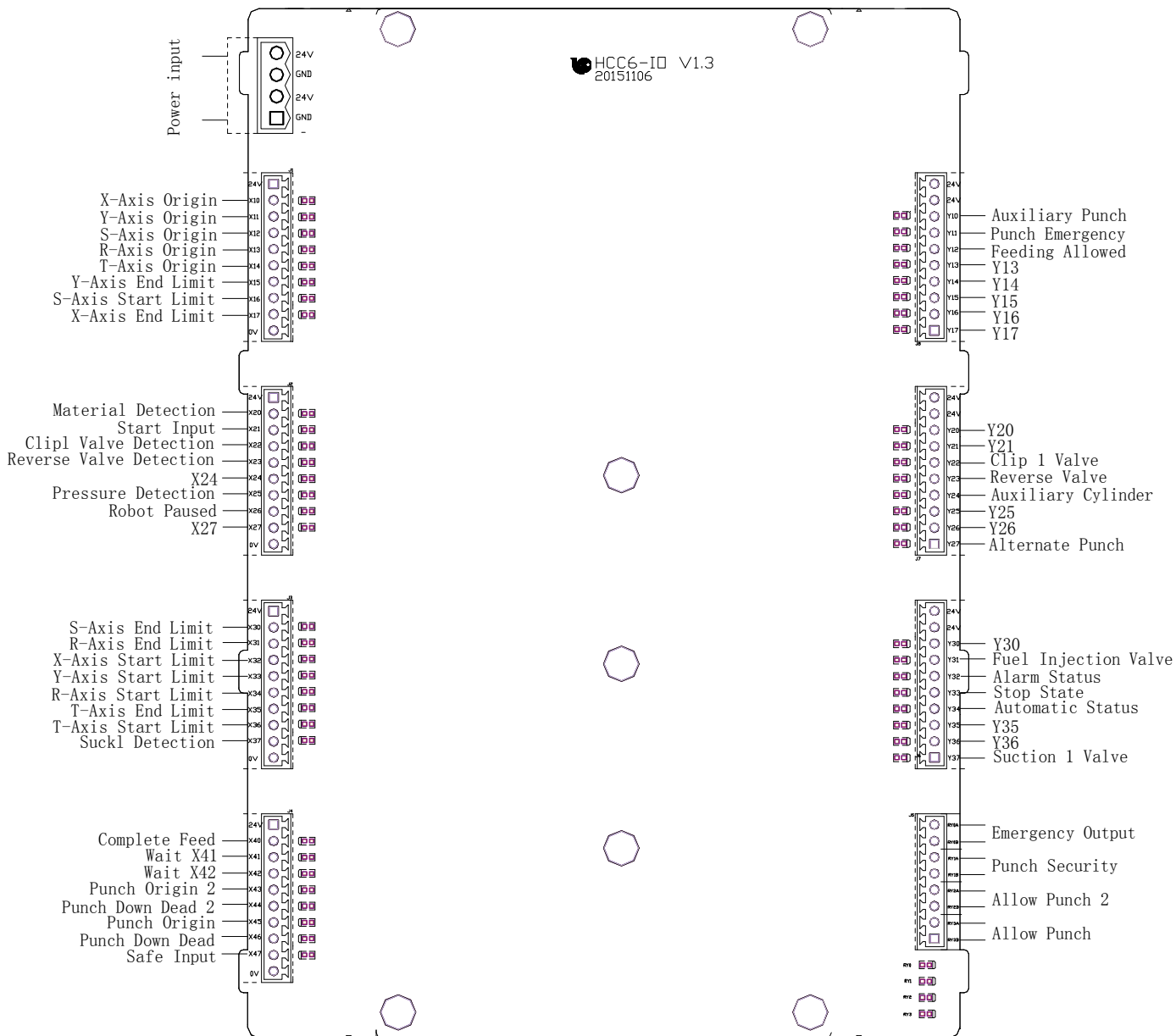
Other alarm	Punch press not back to the origin of the punch press	<p>1, take the mechanical hand stop, manual press</p> <p>2, after the completion of stamping, remove stop alarm, automatic recovery of state 3, following a mechanical hand in front of waiting for the completion of stamping, click allow extract 4, then refer to the above processing alarm processing flow (the current robot position uncertainty)</p>
safe operation	<p>1, when you click to allow the object to ensure that the punch press finish.</p> <p>2, click the allow storage, to ensure that there is no punch material (may two discharge).</p> <p>3, host computer alarm, alarm off, do not cut to stop, prevent the entire production line stop.</p>	

7 Circuit board port definitions

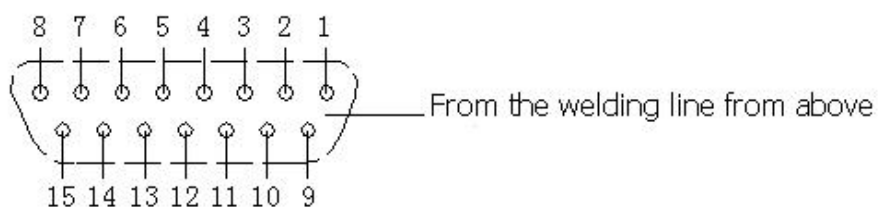
7.1 Main control panel port definitions



7.2 I/O Port definitions



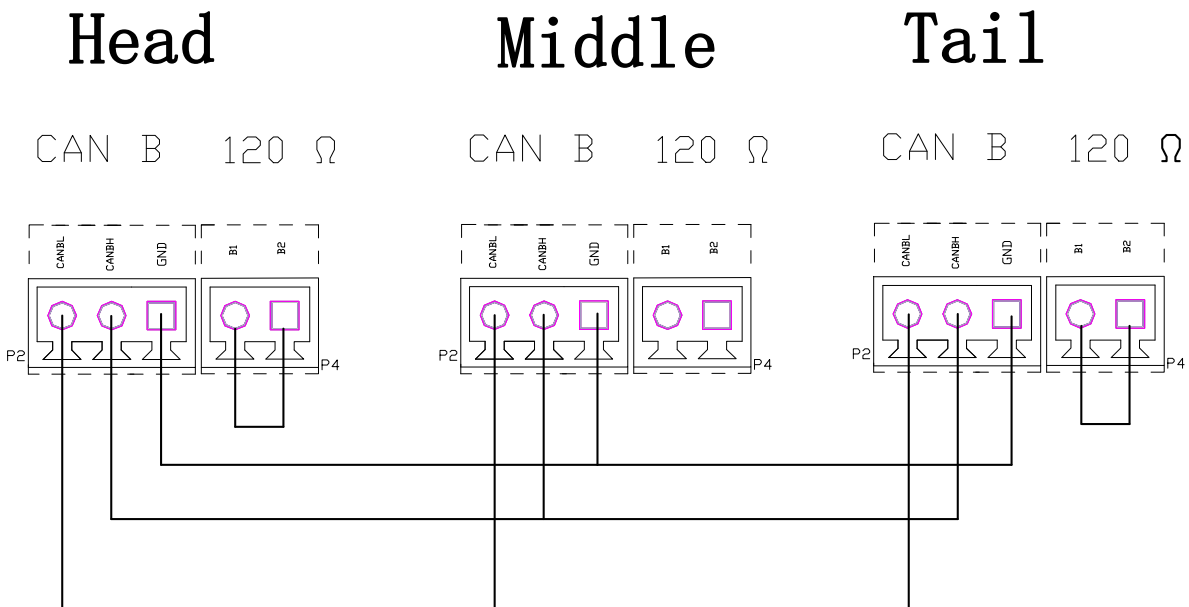
7.3 Servo drive interface definition



PIN number	Terminal definition	PIN number	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		

8 Wiring diagram

8.1 CAN communication connection diagram



Note: the machine is used for CAN communication connection.

Such as three mechanical hand online, the first and the end of the 120 will be connected to the EU, as shown above.

8.2 The servo connections and parameter setting

Control system output location command to position the servo motor control, command pulse type is forward pulse train and reverse pulse, pulse output frequency 500Kpps, Please set the correct servo drive parameters to match.

8.3 Example Panasonic servo motor used

Panasonic A5 Servo drive parameters

Control no	Parameter name	Set value
Pr0.01	Control mode set	0
Pr0.07	Command pulse input mode setting	1
Pr0.08	Motor pulses per instruction	10000
Pr0.11	Motor pulses per output number	2500

Panasonic A5 Servo drive wiring

Control Panel terminal block interface			Panasonic (A5) Servo drive interface		
PIN number	Signal definitions	Signal descriptions	PIN number	Signal definitions	Signal descriptions
10	P+	Forward impulse output	3	PULS1	Command pulse input 1
11	P-		4	PULS2	
13	S+	Reverse pulse output	5	SIGN1	Command pulse input 2
14	S-		6	SIGN2	
2	A+	A Feedback pulse input	21	OA+	A Pulse output
3	A-		22	OA-	
4	B+	B Feedback pulse input	48	OB+	B Pulse output
5	B-		49	OB-	
6	Z+	Z Feedback pulse input	23	OZ+	Z Pulse output
7	Z-		24	OZ-	
1	+24V	+24V Power supply	7	COM+	External control power supply+
9	0V	24V Power to the	41	COM-	External control power supply-
			36	ALM-	Server alerts-
			10	BRKOFF-	Motor brake-
15	ALRM	Servo-drive alarm	37	ALM+	Server alerts+
8	SON	Servo	29	SRV-ON	Servo
Lead control brake relay coil (output 0V)			11	BRKOFF+	Motor brake+

8.4 Using Mitsubishi servo motor records

Mitsubishi MR-E Servo drive parameters

(Resolution of servo motor 131072 Pulse / Turn)

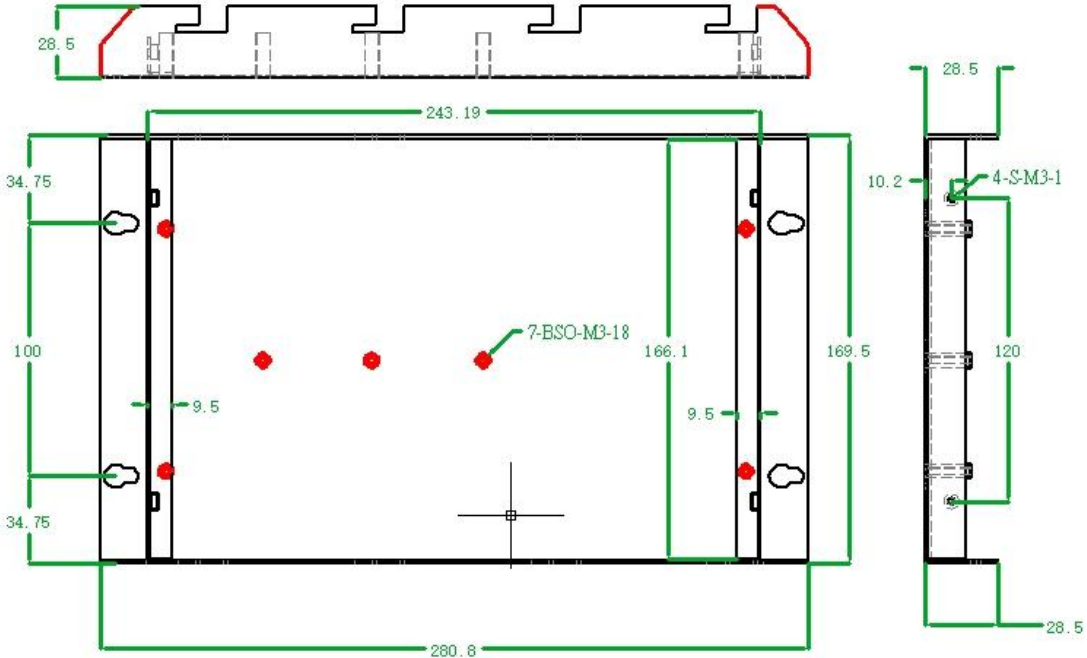
Control no	Parameter name	Set value
No.0	Control mode	0
No.1	Feature selection 1 The brake signal (CN1-12)	0012
No.3	Electronic gear	14
No.4	Electronic gearing denominator	1
No.21	Command pulse option	0000
No.27	Encoder output pulse rate	14
No.54	Feature selection 9 (output pulse rate)	1***

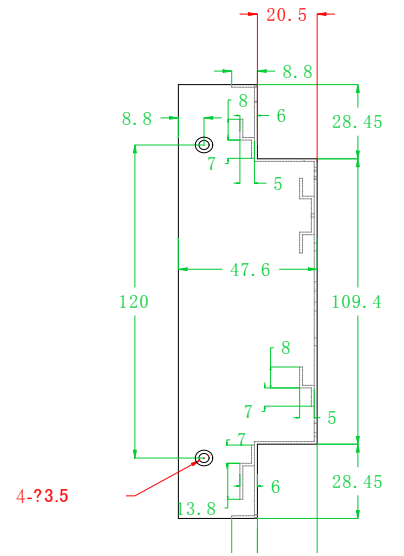
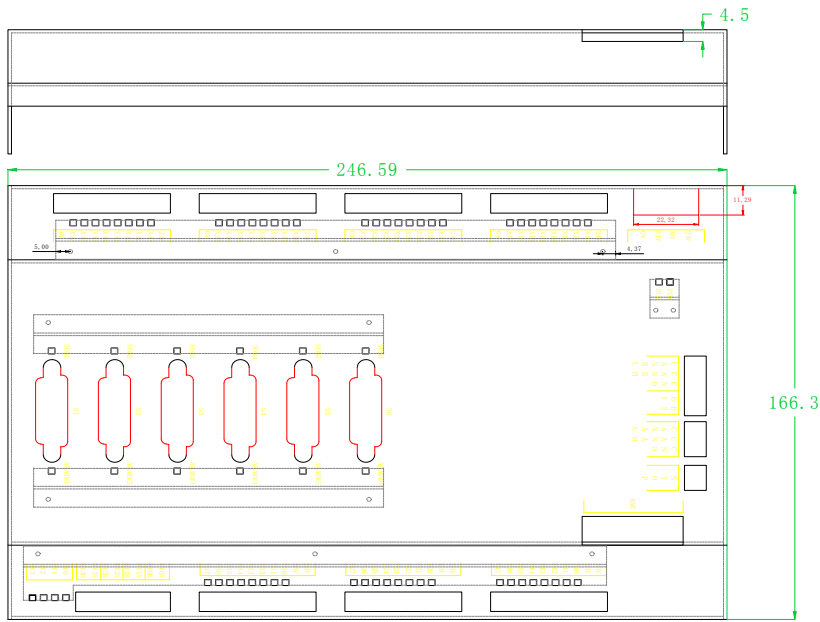
Mitsubishi MR-E Servo drive wiring

Control Panel terminal block interface			Mitsubishi MR-E Servo drive interface		
PIN number	Signal definitions	Signal descriptions	PIN number	Signal definitions	Signal descriptions
10	P+	Forward impulse output	23	PP	Command pulse input 1
11	P-		22	PG	
13	S+	Reverse pulse output	25	NP	Command pulse input 2
14	S-		24	NG	
2	A+	A Feedback pulse input	15	LA	A Pulse output
3	A-		16	LAR	
4	B+	B Feedback pulse input	17	LB	B Pulse output
5	B-		18	LBR	
6	Z+	Z Feedback pulse input	19	LZ	Z Pulse output
7	Z-		20	LZR	
1	+24V	+24V Power supply	1	VIN	External DC24V Power supply+
9	0V	24V Power to the	13	SG	External DC24V Power supply-
15	ALRM	Servo-drive alarm	9	ALM	Fault
8	SON	Servo	4	SON	Servo
Lead control brake relay coil (output 0V)			12	MBR	Electromagnetic brakes
Mitsubishi servo drive Terminal CN1 : 6 (LSP)、 7(LSN) 、 8(EMG) And you want 13 (SG) Short					

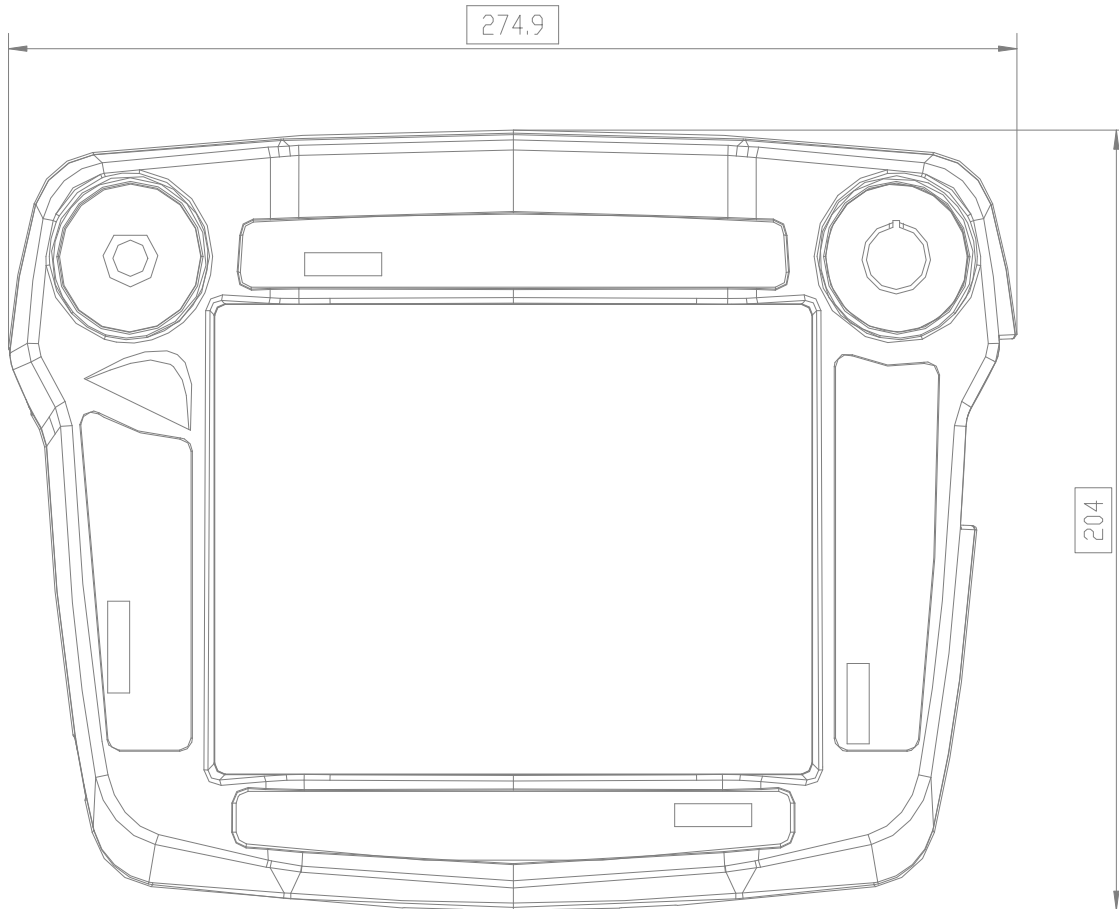
9 Size chart

9.1 Board metal case sizes

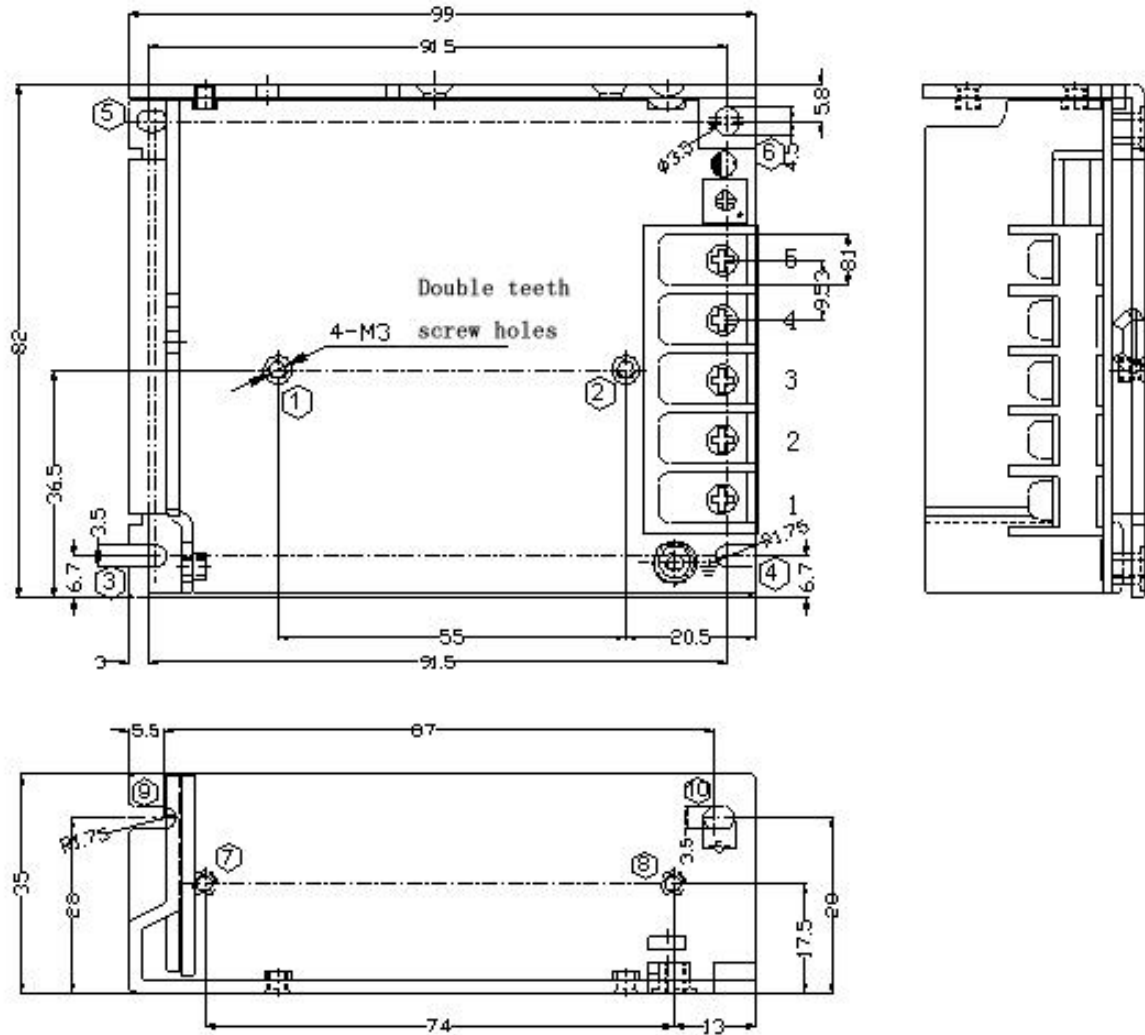




9.2 Hand controller

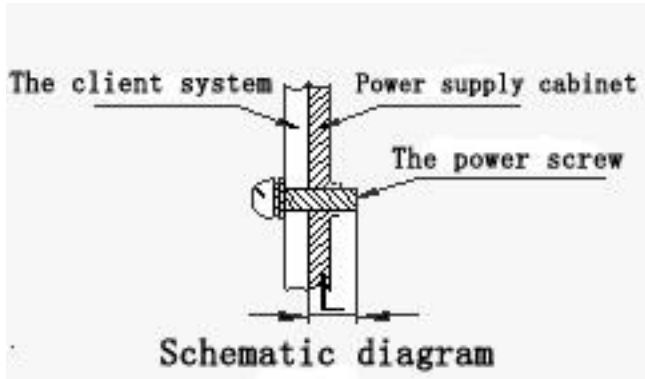


9.3 Switching power supplies installation dimensions



The installation position	installatio n	Install a no.	Screw specification	L max	Install torque
Floor installation	screws	①-②	M3	4mm	6.5Kgf.cm(max)
		③-⑥	M3	4mm	
The side	screws	⑦-⑧	M3	4mm	6.5Kgf.cm(max)
		⑨-⑩	M3	4mm	

Note: In order to ensure the safety, screws into the power supply chassis length L (As shown in the figure below) as shown in the table above are satisfied



1, the installation of the ac input terminals

A no	function	terminal	The first material installation specifications	Maximum torque
1	N	9.5 with clam shell terminals	22-14AWG	12Kgf.cm (max)
2	L			
3	⊕			

2, install and use dc input terminals

A no	function	terminal	The first material installation specifications	Maximum torque
4	+V	9.5 with clam shell terminals	22-14AWG	12Kgf.cm (max)
5	-V			

This product is improved at the same time , information may be subject to change , without prior notice.