Spray hand manipulator control system V3.0 VERSION

Shenzhen Huacheng Industrial Control Co.,Ltd.

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1 System configuration and installation

1.1 Basic Configuration

1,8 inch true color touch screen

2, servo control panel

3, I / O board

4, the power part (2 power supply)

1.2 System installation

1, wiring operations must be carried out by a professional electrician.

2, to confirm the power to disconnect before starting the job.

3, please install on metal and other fire-retardant materials and away from combustibles.

4, must be safely grounded.

5, the external power supply failure, the control system failure, in order to make the whole system safe, be sure to set the external control system security circuit.

6, installation, wiring, operation, maintenance, must be familiar with the contents of this manual; use must also be familiar with the relevant machinery, electronic common sense and all relevant safety precautions.

7, install the controller of the electrical box, should have a well-ventilated, oil, dust conditions. If the electronic control box is closed, it is easy to make the controller temperature is too high, affecting the normal work, to be installed fan, electric box suitable temperature is 50 $^{\circ}$ C below, do not use in condensation and freezing place.

8, the controller should be installed to avoid contactors, transformers and other accessories too close to the layout, to avoid unnecessary surge interference.

CAUTION: Improper handling may result in hazards, including personal injury or equipment accidents.

2 Operation interface

2.1 Appearance and description



2.2 Key function description

2.2.1 State selection switch

Manual control of the state is divided into three kinds, namely manual, stop, automatic.

"Manual" : The status selector switch to the left to enter the manual state, the upper

left corner of the screen icon becomes As shown in Fig Manual (1) In this state, manual operation and programming can be performed.

"Stop": The status selector switch to hit the middle of the state into the stop, the upper

Settings

left corner of the screen icon becomes Figure In this state, parameter setting is possible

"Auto": The status selector switch to the right to enter the automatic state, the upper

In this state can be fully automatic and the corresponding settings.

2.2.2 Function keys

"Start" key: Pressing this key will start the corresponding action when performing OPR and fully automatic operation.

"Stop" key: Function 1: Press this button to enter the single cycle mode. In the automatic mode, the system will stop in the single-cycle mode. After pressing the [Stop] key again, the robot Stop motion.

Function 2: In the event of an alarm, press this key in the stop state to clear the alarm display that has been resolved.

"Origin" key: In the stop state, press this key, then press "start" key to start the home return operation.

Note: You can select the way of homing and the order of homing in this key. For details, please refer to 3.2.1.17 Function description of origin command.

"Reset"key: Press the [Reset] key and then press the [Start] key to return all the axes to the home position.

Note: You can also add other commands to this key, for example, to turn off an output point when you press the reset button. For details, see section 3.1.

"Acceleration / deceleration" key: These two keys can be used to adjust the global speed of manual and automatic.

2.2.3 Axis action keys

X + (**X1** +)key: Pressing this key moves the axis in the positive direction at the current speed.

X- (X1-) key: The axis moves at the current speed in the negative direction.

Y1- (Y1-) key: The axis moves at the current speed in the negative direction.

Y1- (Y1-) key: The axis moves at the current speed in the positive direction;

Z + (**Z** +) key: Pressing this key moves the axis in the positive direction at the current speed.

Z- (Z-) key: The axis moves at the current speed in the negative direction.

U + (**A** +)key: Pressing this key moves the axis in the positive direction at the current speed.

U- (A-)key: The axis moves at the current speed in the negative direction.

V + (B +)key: Press this key to move in the positive direction at the current speed.

V- (B-) key: The axis moves in the negative direction at the current speed.

W + (**C** +)key: Pressing this key moves the axis in the positive direction at the current speed.

W- (C-)key: The axis moves at the current speed in the negative direction.

There are two types of axis motion, one is the world coordinate motion and the other is the joint movement. Pressing the axis type in manual mode and pressing the axis action button will activate the corresponding axis.

Operating procedures:

1, in manual mode, click this icon once to open the manual keyboard button.

2, the icon after opening the icon below, in this figure, select the axis movement type and press the appropriate axis keys (keyboard keys or hand control button), the corresponding axis will act.

3,Manual speed control: in manual mode can press the acceleration and deceleration keys can be adjusted speed, can also be fixed in the manual speed, the corresponding setting can be entered in the stop state "parameter" \rightarrow "machine settings" \rightarrow "run parameters (Chapter 4.2.1) of the Standalone Control Manual option.

| √ fullk | eybd | partkeyb | d | | Speed | 10.0 % |
|----------------|---------|-----------|-----------|--------------------------------|-------|--------|
| JZ- | JZ+ | JV- | JV+ | Tune Sel Tune Speed: 🖌 🕅 x5 | | |
| -YL | ЈҮ+ | -ענ | JV+ | X10 X50 | | |
| јх- | JX+ | J₩- | J\#+ | | | |
| Line Z- | Line Z+ | Rotate V- | Rotate V+ | | | |
| Line Y- | Line Y+ | Rotate V- | Rotate V+ | | | |
| Line X- | Line X+ | Rotate W- | Rotate W+ | | | |

2.2.4 Fine adjustment knob

Function: You can use this knob to precisely move the axis when the manual mode is fine-tuned.

To do this, click the Open button, click the [Tune sel] option, select the tune speed, select the axis to be fine-tuned in the left box, or press the axis button (on the hand controller) The fine adjustment knob moves the axis one point at a time to the target point.

| fullk | .eybd | partkeyb | d | Speed 10.0 % |
|-------|-------|----------|-------|-------------------------|
| JZ | JV | WDZ | WDV 4 | Tune Sel Tune Speed: |
| JY | ντ | WDY | WDV | X10 X50 |
| ХĽ | JW | WDX | WDW | |

Tune speed:

X1: The movement of a grid axis is 0.01mm or the axis is rotated by 0.01 degree.

X5: moving a grid axis 0.05mm or axis rotation 0.05 degrees.

X10: moving a grid axis movement 0.1mm or axis rotation 0.1 degrees.

X50: moving a grid axis moving 0.5mm or axis rotation 0.5 degrees.

World Coordinates: The position and attitude of the end point of the tool with the center of the robot base as the origin.

Joint coordinate: The coordinate value of the motor coordinate converted by the mechanism coupling relationship.

2.3 Main screen and axis definition

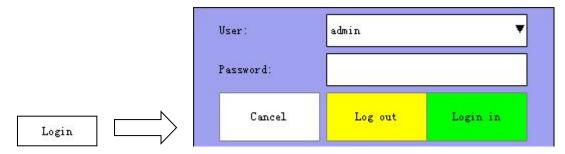
| Status Display IO Monitor | Alar | m record button | |
|--|---------------------|------------------------|---------------|
| W PanelRobot | | | |
| Manual 🚯 | I/O Records | sitest Alara | log super |
| | | 2016-11-07 | 16:16:27 星期一 |
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| Alarm content, information tips, world coord | dinate position joi | at coordinate position | display area |
| Alarm content, mormation tips, word coord | | | |
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| Please press origin key and th | hen press st | art key to fi | nd origin 🔀 |
| | | | |
| Editor S/H Insert Delete | U. | Down Fix Ind | lex Save |
| | | | |
| | | | |
| | e (1 57 | | |
| This line shows the location | of the world coo | ordinates | |

2.3.1 Main screen description

This line shows the position of the joint

1, Rights management

Login: Click "Login" to enter the login interface, first select the user type, enter the password, then click "login". To exit to the minimum privilege click on "Log out". Log in before you set up the system, because different user names have different administrative rights.



Operator (op): The permission can only be moved in the manual state can not enter the teaching page to teach the page, automatic state can start the robot, adjust speed, stop state can enter the home return.

Administrator (admin): This permission can only move the axis in the manual state can not enter the teaching page for teaching, automatic state can start the robot, adjust the speed, stop state can enter the home return.

(Super): The user can perform all the operations except for user management, the default login password 123456.

Super administrator (root): the user can perform all the operations under the default login password 12345678.

Permissions Size: Operator <Administrator <Administrator <Super Administrator

2, I / O monitoring: Click once to see I / O points and intermediate variable on-off state, click the second page retraction.

3, Module number: Click on the module number to enter the model management page can be "new", "load", "copy", "delete" specific methods of operation are as follows:

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

Copying program: After entering a new name in the new module name text box, click the saved model name, and then click the [Copy] button to copy the stored model number program to the new model number program .

Load the program: Click the stored model number, and then click "Load" button, you can load the selected model number, run automatically when running the program.

Deleting a program: Click the stored module number, and then click the [Delete] button to delete the module. The currently loaded module can not be deleted.

Export program: Click the saved module number, and then click [export to U disk] button, you can export the selected model.

Import program: insert U disk to USB port of manual controller Click "Import from U disk" button, select the module to import. Click "Open" button and then "Load" to import the module.

4, Alarm log: click once will appear alarm log page, the page records the most recent alarm records, click the second page retraction.

2.4 Operating mode

The manipulator has manual, stop, automatic three states, the status selector switch to the left gear position for the manual state, in which the state of the robot manual operation. Rotate the status selector switch to the neutral position to stop the robot. In this state, the robot will stop all the movements and return to the home position. Rotate the status selector switch to the right position and press the "Start" button once, the robot will enter the automatic running state.

2.4.1 Return to the origin

In order for the robot to operate correctly and automatically, the OPR operation is performed every time the power is turned on and stopped. The OPR operation will drive each axis of the robot to its home position.

Return to the origin operation method:

Condition 1: Operation flow without origin setting:

1. Move all axes to the home position in the manual mode.

2. In the stop state, go to [Parameter Setting] \rightarrow [Mechanical Setting] \rightarrow [Motor Parameter] page, click "Set as Origin" or "Set as Origin" button, and then click "Save Origin" button.

Condition 2: The flow of operation has been set to the origin:

Press the "OPEN" key in the stop state to display the selection dialog box as shown in the following figure. Select the option according to the actual situation (if you do not understand the options, please click the [Help] button) The robot starts the OPR operation.

"Display Help" Details:

□ Near the origin: The position is probably used in the vicinity.

□ Emergency shutdown before shutdown: only to determine the shutdown has been captured before the emergency stop can be used.

□ re-homing: has not returned in the vicinity of the origin of the time, once again when the original point of use.

Note: You can not perform manual, automatic operation and parameter setting for the robot during the OPR. In case of an emergency, press the [STOP] key to stop the OPR or press the [Emergency button] button.

3 Manual status

The hand control knob on the third gear hit the manual state into the following interface:

| CanelRobot | | | | | | |
|--------------|----------------|--------------|------------|---------------------|-------------------|-----------|
| 🕛 🖊 Ma | nual 🔥 |) | 1/0 | Records:test | Alarm log | super |
| Operation | Program | Settin | igs | | 2016-11-07 16:19: | 13 星期一 |
| Editing main | ▼ New M CMD | Main Module | ▼. | New Module | | |
| 0:0 Progr | ram End | | | | | Edit |
| | | | | | | , NC |
| | | | | | | |
| | | | | | | |
| | | Manual k | eyboard bu | tton (this button i | s only displayed | in manual |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Reference P | oint Edit butt | on (this but | on will on | y be displayed | if you are in m | nanual |
| mode) | | | | | | |
| | | | | | | |
| ♀ → | | | | | | |
| Please pres | s origin l | key and t | hen pre | ss start ke | y to find c | origin < |
| Editor S/H | Insert | Delete | Up | Down | Fix Index | Save |

3.1 Program

Modulus of the composition: a set of modules contains a main program and eight subroutines can be selected according to their actual use.

Program selection method: Pull down the "Edit" menu, select the program (click once that means selected).

Special subroutine: Subprogram 8, the program itself in the default subroutine 8, regardless of the state (automatic / manual / stop) will automatically run.

Tip: In the case of the program to teach to run automatically when the subroutine and the main program is running at the same time.

"Programmable Keys": You can program in a self-defined key name.

New Programmable Keys: Click "New Programmable Keys" \rightarrow Edit Key Name Click OK \rightarrow Pull Down "Edit" Menu Move the page up and down to find the programmable key, click once the name of the button has been edited into the teaching page teach.

Special programmable keys:

"ORIGINAL" If you perform homing in the stop mode (pressing the home key again to start), the system will execute the program that has been edited in the "Origin" key if the sequence of homing or other actions is instructed in this key.

"Reset" Pressing the [Reset] key once in the stop state, the system will execute the program which has been edited in the reset button.

Deleting Programmable Keys: Select the name of the button in the drop-down "Edit" and then click the [Delete Programmable Keys] button.

| C Panel | Robot | onvol | | 1/0 | | ecords:ttt | | Alarm log | |
|------------|----------------|----------------|--------------|--------|-------|-------------|-----|-----------------|-----------|
| Ope | eration | anual Progr | am Se | ttings | | ecords, tit | | 2016-11-04 11:2 | 29:37 星期五 |
| Editing | main | | M CMD Main M | | V New | / Module | | | |
| 0: | Sub-1 | | | | | | | | |
| | Sub-2 | | | | | | | | |
| | Sub-3 Sub-4 | | | | | | | | |
| | Sub-5 | | | | | | | | |
| | Sub-6 Sub-7 | | | | | | | | |
| | Sub-8 | | | | | | | | |
| | | ustom Origin | | | | | | | |
| | M CMD[1]:C | ustom Return | | | | | | | |
| ∀ ≁ | | | | | | | - | | |
| Plea | se pre | ss origi | in key and | 1 then | press | start | key | to find | origin < |
| Edit | or S/H | Insert | Delete | | Up | Down | | Fix Index | Save |

3.1.1 Programming interface

| 🌾 PanelRobot | | | | | | |
|--------------|----------------------|------------------|------------------|-------------------|---------------------|----------------|
| 6 | Manual 📑 | | I/O Re | cords:ttt | Alarm log | super |
| Operation | Program | Setti | ngs | | 2016-11-04 11:33:00 | · 星期五 ← III |
| Editing main | ▼ New M C | CMD Main Module | New New | Module | | |
| 0:1 X | :0 Speed:80.0 Delay: | :0.00 | | | | |
| 1:2 Ү | :0 Speed:80.0 Delay: | :0.00 | | | | |
| 2:3 Z | :0 Speed:80.0 Delay: | :0.00 ← | Program conte | ent | | |
| 3:0 Pr | rogram End | | | | | Edit |
| | | nis number is th | e operator in th | e first few steps | s to | |
| Serial numb | | sert this progra | m, if you need t | o click on the | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| 0- | | | | | | |
| | | | | | 1977 - 19 | |
| Please pre | ess origin | key and t | hen press | start key | to find or | cigin 🧹 |
| Editor S/H | Insert | Delete | Vp | Down | Fix Index | Save |

"Trial": press this button, the program will run this step.

"Up": Click on the program to move to the previous line.

"DOWN": Click to move to the next line.

"Copy": Click the [Copy] button to pop up the contents of the selected copy of the selection box as shown below:



NOTE: The number entered in the "Selected Line" edit box indicates the program number

Copy the use case: Suppose you need to copy the program number 0 and 1, the procedure is as follows

Step 1: Click the Copy button, enter 1 in the "Selected Row" edit box and then click the [Copy Selected Row to Current Row] button.

| 0:0 | X:0 Speed:80.0 Delay:0.00 | 1 | | | | | | | |
|-----|---------------------------|---|--------|-----------------|--------------|-----|-------|------|------|
| 11 | Y:0 Speed:80.0 Delay:0.00 | | | | Run | CVW | Paste | Edit | c/vc |
| 2:2 | Program End | | | Copy Curr | ent Line | | | | |
| | | | Seq[1] | Copy Between Se | eq and Curre | nt | | | |

Step 2: Select the next line you want to paste the program Click the [Paste]

button

| 4:2 | Program End | | Edi |
|-----|---------------------------|---------------|-----|
| 3:1 | ¥:0 Speed:80.0 Delay:0.00 | | |
| 2:0 | X:0 Speed:80.0 Delay:0.00 | | |
| 1:5 | Y:0 Speed:80.0 Delay:0.00 | | |
| 0:4 | X:0 Speed:80.0 Delay:0.00 | _Pasted after | |

Note: If the copy of the "end of the module" sentence paste into the program is invalid.

"Paste": Paste the copied program in a single click.

"Modify": Click once to modify the program content from the new definition.

[Shield]: click that shield, if you want to cancel and then a "shield" can be.

"Delete": Click delete to delete the program.

"Collation No.": Click the number in the auto-finishing sequence.

3.1.2 Action menu

Click "Action" to enter the action type interface to teach, as shown below:

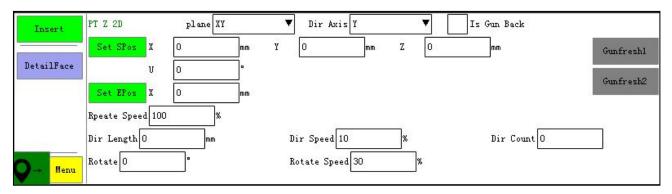
Action menu: The action menu contains 8 spray patterns and 17 basic actions. Click once on the "Open" menu and then the second "Close" menu.

| 🌾 PanelRobot | | | | | | |
|----------------|----------------------|---------------------|--------------------------|---------------|---------------------|-----------------------|
| 6 | Manual 🧯 | 10 · | 1/0 | Records:ttt | Alarm log | super |
| Operatio | n Program | n Settin | ngs | | 2016-11-04 13:42:46 | 6 星期五 ← []] |
| Editing main | Vew M | CMD Main Module | ▼ 1 | New Module | | |
| 0:0 | X:O Speed:80.0 Delay | ::0,00 | | | Run CUW Paste | e Edit C/VC |
| 1:1 | Y:O Speed:80.0 Delay | :0.00 | | | an alka | (|
| 2:2 | Program End | | | | | |
| Insert Menu | | PT Z 2D FT Arc 2 | PT Saw 2D PT Fare Saw | PT Are Dir DI | ne ceycle | Base CMD |
| Please p | ress origin | key and t | hen pres | s start key | to find o | rigin < |
| Editor S/H | Insert | Delete | Մբ | Down | Fix Index | Save |

3.1.2.1 Spray mode

Linear spraying action:

1,straight L-shaped



Plane: Pull down the triangular arrow to select the plane to spray.

Dir axis: Pull down the triangular arrow to select the axis to move.

Is gun back: After checking, it means that the axis of the control gun will return to the origin position and then go to the next starting point to finish spraying.

Set the starting point(Set Spos): in the manual state, move the axis to the starting point and then click "Set the starting point(Set Spos)" button to Set the starting point(Set Spos) of the coordinates of the location edit box.

Set the end point(Set Epos): In the manual state, move the axis to the end point and then click "Set EPos" button to set the coordinates of the end of the location of the edit box.

Repeat Speed: Sets the speed at which repetitive actions are performed.

Dir length: Set the length of the inch axis.

Dir speed Set the moving speed of the jog axis.

Cycles: Sets the number of action cycles.

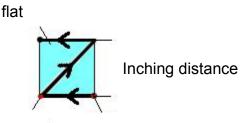
Rotate: Sets the angle at which the turntable rotates.

Rotate Speed: Sets the speed at which the dial rotates when it rotates.

"Gun fresh1" button: Click this button once to turn green atomization 1(Y014), oil volume 1(Y015), spray amplitude 1(Y016) These three output points will have the output (the corresponding output light will be on) And then click the button once to become gray.

Note: This button is here for the convenience of the user during debugging.

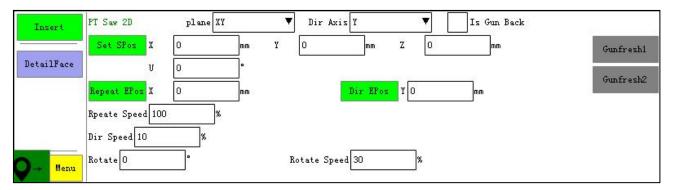
"Gun fresh2" Click this button once to turn green atomization 2(Y017), oil volume 2(Y020) spray amplitude 2 (Y021)These three output points will have the output (the corresponding output light will be on) Once the button turns gray.



terminal point

starting point

2、Straight serrated



Plane: Pull down the triangular arrow to select the plane to spray.

Dir axis: Pull down the triangular arrow to select the axis to move.

Is gun back: After checking, it means that the axis of the control gun will return to the origin position and then go to the next starting point to finish spraying.

Set the starting point(Set Spos): in the manual state, move the axis to the starting point and then click "Set the starting point(Set Spos)" button to Set the starting point(Set Spos) of the coordinates of the location edit box.

Set the end point(Set Epos): In the manual state, move the axis to the end point and then click "set end point" button to set the coordinates of the end of the location of the edit box.

Repeat Speed: Sets the speed at which repetitive actions are performed.

Dir speed Set the moving speed of the jog axis.

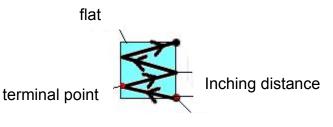
Cycles: Sets the number of action cycles.

Rotate: Sets the angle at which the turntable rotates.

Rotate Speed: Sets the speed at which the dial rotates when it rotates.

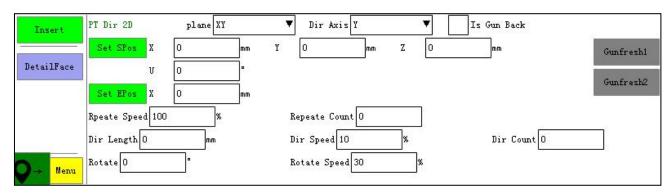
"Gun fresh1" button: Click this button once to turn green atomization 1(Y014), oil volume 1(Y015), spray amplitude 1(Y016) These three output points will have the output (the corresponding output light will be on) And then click the button once to become gray. Note: This button is here for the convenience of the user during debugging.

"Gun fresh2" Click this button once to turn green atomization 2(Y017), oil volume 2(Y020) spray amplitude 2 (Y021)These three output points will have the output (the corresponding output light will be on) Once the button turns gray.



starting point

3、Linear motion



Plane: Pull down the triangular arrow to select the plane to spray.

Dir axis: Pull down the triangular arrow to select the axis to move.

Is gun back: After checking, it means that the axis of the control gun will return to the origin position and then go to the next starting point to finish spraying.

Set the starting point(Set Spos): in the manual state, move the axis to the starting point and then click "Set the starting point(Set Spos)" button to Set the starting point(Set Spos) of the coordinates of the location edit box. **Set the end point(Set Epos):** In the manual state, move the axis to the end point and then click "set end point" button to set the coordinates of the end of the location of the edit box.

Repeat Speed: Sets the speed at which repetitive actions are performed.

Rotate Count: Sets the number of reciprocating sprays.

Dir length: Set the length of the inch axis.

Dir speed Set the moving speed of the jog axis.

Dir Count: Sets the number of action cycles.

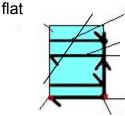
Rotate: Sets the angle at which the turntable rotates.

Rotate Speed: Sets the speed at which the dial rotates when it rotates.

"**Gun fresh1**" button: Click this button once to turn green atomization 1(Y014), oil volume 1(Y015), spray amplitude 1(Y016) These three output points will have the output (the corresponding output light will be on) And then click the button once to become gray. Note: This button is here for the convenience of the user during debugging.

"Gun fresh2" Click this button once to turn green atomization 2(Y017), oil volume 2(Y020) spray amplitude 2 (Y021)These three output points will have the output (the corresponding output light will be on) Once the button turns gray.

The second spray on the same track

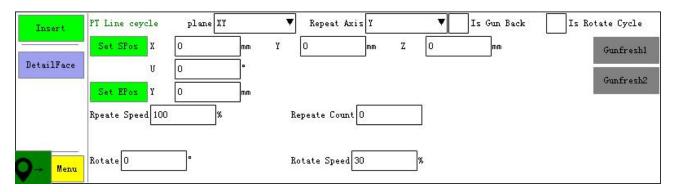


The first spraying Inching distance

terminal point

starting point

4、 Linear reciprocating type



Plane: Pull down the triangular arrow to select the plane to spray.

Dir axis: Pull down the triangular arrow to select the axis to move.

Is gun back: After checking, it means that the axis of the control gun will return to the origin position and then go to the next starting point to finish spraying.

Rotate Follow: When checked, the rotary axis is also rotated when the gun is sprayed.

Set the starting point(Set Spos): in the manual state, move the axis to the starting point and then click "Set the starting point(Set Spos)" button to Set the starting point(Set Spos) of the coordinates of the location edit box.

Set the end point(Set Epos): In the manual state, move the axis to the end point and then click "set end point" button to set the coordinates of the end of the location of the edit box.

Repeat Speed: Sets the speed at which repetitive actions are performed.

Rotate Count: Sets the number of reciprocating sprays.

Cycles: Sets the number of action cycles.

Rotate: Sets the angle at which the turntable rotates.

Rotate Speed: Sets the speed at which the dial rotates when it rotates.

"Gun fresh1" button: Click this button once to turn green atomization 1(Y014), oil volume

1(Y015), spray amplitude 1(Y016) These three output points will have the output (the

corresponding output light will be on) And then click the button once to become gray.

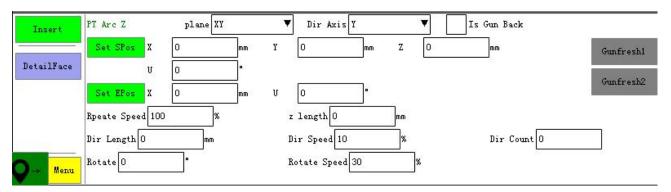
Note: This button is here for the convenience of the user during debugging.

"Gun fresh2" Click this button once to turn green atomization 2(Y017), oil volume 2(Y020) spray amplitude 2 (Y021)These three output points will have the output (the corresponding

output light will be on) Once the button turns gray.

Curved spray action

1、Curve Z-shape



Plane: Pull down the triangular arrow to select the plane to spray.

Dir axis: Pull down the triangular arrow to select the axis to move.

Is gun back: After checking, it means that the axis of the control gun will return to the origin position and then go to the next starting point to finish spraying.

Set the starting point(Set Spos): in the manual state, move the axis to the starting point and then click "Set the starting point(Set Spos)" button to Set the starting point(Set Spos) of the coordinates of the location edit box.

Set the end point(Set Epos): In the manual state, move the axis to the end point and then click "set end point" button to set the coordinates of the end of the location of the edit box.

Repeat Speed: Sets the speed at which repetitive actions are performed.

z length: the z length, the positive number is the convex arc, and the negative number is the concave arc.

Dir length: Set the length of the inch axis.

Dir speed :Set the moving speed of the jog axis.

Cycles: Sets the number of action cycles.

Rotate: Sets the angle at which the turntable rotates.

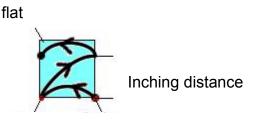
Rotate Speed: Sets the speed at which the dial rotates when it rotates.

"Gun fresh1" button: Click this button once to turn green atomization 1(Y014), oil volume 1(Y015), spray amplitude 1(Y016) These three output points will have the output (the

corresponding output light will be on) And then click the button once to become gray.

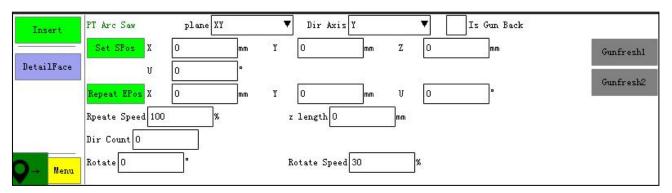
Note: This button is here for the convenience of the user during debugging.

"Gun fresh2" Click this button once to turn green atomization 2(Y017), oil volume 2(Y020) spray amplitude 2 (Y021)These three output points will have the output (the corresponding output light will be on) Once the button turns gray.



terminal point starting point

2、Curve jagged



Plane: Pull down the triangular arrow to select the plane to spray.

Dir axis: Pull down the triangular arrow to select the axis to move.

Is gun back: After checking, it means that the axis of the control gun will return to the origin position and then go to the next starting point to finish spraying.

Set the starting point(Set Spos): in the manual state, move the axis to the starting point and then click "Set the starting point(Set Spos)" button to Set the starting point(Set Spos) of the coordinates of the location edit box.

Set the end point(Set Epos): In the manual state, move the axis to the end point and then click "set end point" button to set the coordinates of the end of the location of the edit box.

Repeat Speed: Sets the speed at which repetitive actions are performed.

z length: the z length, the positive number is the convex arc, and the negative number is the concave arc.

Cycles: Sets the number of action cycles.

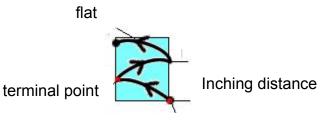
Rotate: Sets the angle at which the turntable rotates.

Rotate Speed: Sets the speed at which the dial rotates when it rotates.

"Gun fresh1" button: Click this button once to turn green atomization 1(Y014), oil volume 1(Y015), spray amplitude 1(Y016) These three output points will have the output (the corresponding output light will be on) And then click the button once to become gray.

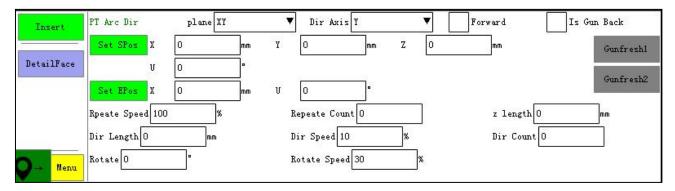
Note: This button is here for the convenience of the user during debugging.

"Gun fresh2" Click this button once to turn green atomization 2(Y017), oil volume 2(Y020) spray amplitude 2 (Y021)These three output points will have the output (the corresponding output light will be on) Once the button turns gray.



starting point

3、Curve inching



Plane: Pull down the triangular arrow to select the plane to spray.

Dir axis: Pull down the triangular arrow to select the axis to move.

Is gun back: After checking, it means that the axis of the control gun will return to the origin position and then go to the next starting point to finish spraying.

Set the starting point(Set Spos): in the manual state, move the axis to the starting point

and then click "Set the starting point(Set Spos)" button to Set the starting point(Set Spos) of the coordinates of the location edit box.

Set the end point(Set Epos): In the manual state, move the axis to the end point and then click "set end point" button to set the coordinates of the end of the location of the edit box.

Repeat Speed: Sets the speed at which repetitive actions are performed.

z length: the z length, the positive number is the convex arc, and the negative number is the concave arc.

Dir length: Set the length of the inch axis.

Dir speed :Set the moving speed of the jog axis.

Cycles: Sets the number of action cycles.

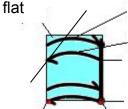
Rotate: Sets the angle at which the turntable rotates.

Rotate Speed: Sets the speed at which the dial rotates when it rotates.

"Gun fresh1" button: Click this button once to turn green atomization 1(Y014), oil volume 1(Y015), spray amplitude 1(Y016) These three output points will have the output (the corresponding output light will be on) And then click the button once to become gray.

Note: This button is here for the convenience of the user during debugging.

"Gun fresh2" Click this button once to turn green atomization 2(Y017), oil volume 2(Y020) spray amplitude 2 (Y021)These three output points will have the output (the corresponding output light will be on) Once the button turns gray.



The second spray on the same track

The first spray Inching distance

terminal point starting point

DIY

| Insert | DIY Action Set SPos X | Actions | Y | | Is Gun Ba | ck [| Is Rotat | e Cycle | Gunfreshl |
|------------|--------------------------|---------|-------|-------------|-----------|------|----------|---------|-----------|
| DetailFace | υ | 0 | | | | | | | Gunfresh2 |
| | N 0 10 | | | | | | | | |
| D→ Menu | Dir Count O Rotate O | • | I | Rotate Spee | ed 30 | % | | | |

Action: Drop-down Select the action that has been customized in the programmable buttons.

Set the starting point(Set Spos): in the manual state, move the axis to the target point and then click "Set the starting point(Set Spos)" button to teach the coordinates of the target point to the program.

Is gun back: After checking, it means that the axis of the control gun will return to the origin position and then go to the next starting point to finish spraying.

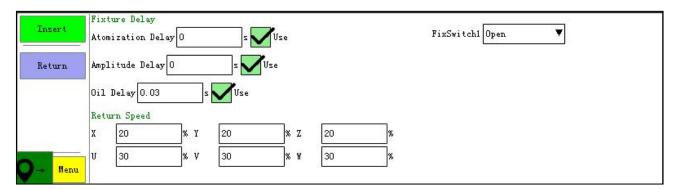
Rotate Follow: When checked, the rotary axis is also rotated when the gun is sprayed.

Cycles: Sets the number of action cycles.

Rotate: Sets the angle at which the turntable rotates.

Rotate Speed: Sets the speed at which the dial rotates when it rotates.

Details of the interface parameters:



Atomization Delay: check the "use" to set the delay time after the atomization valve.

Anplitude Delay: check the "use" can be set after the Anplitude Delay delay time.

Oil Delay: Check this to "use" to set the delay time of the oil valve.

FixSwich1:

1, the left(L): the gun moves to the left when the close to.

2,the right(R); gun: gun to move to the right to close it;

3,normally open(open): the gun is in full open state;

4, normally closed(close): the gun is always off;

5, bilateral: Close to both sides.

Return speed: It is used to set the speed for each axis to return to the starting point.

3.1.2.2 Axis action

Click the



button to enter the following interface.

| 🌾 PanelRobot | | | | | | <u>- 🗆 ×</u> |
|---------------|----------------------|----------------|-----------|--------------|--------------------|--------------|
| Ь 🖊 | Manual 📑 🔒 | | I/0 R | ecords:ttt | Alarm log | super |
| Operation | Program | Setti | ngs | | 2016-11-04 15:52:3 | 8 星期五 |
| Editing main | Vew M C | MD Main Module | ▼ Nev | / Module | | |
| U.1 X | :U Speed:80.0 Delay: | 0.00 | | | | |
| 1:2 У | :0 Speed:80.0 Delay: | 0.00 | | | | |
| 2:3 S | ync Begin | | | | | |
| 3:4 Z | :0 Speed:80.0 Delay: | 0.00 | | | | |
| 4:5 V | :O Speed:80.0 Delay: | 0.00 | | | | |
| 5:6 S | ync End | | | | | |
| 6:0 P | rogram End | | | | | Edit |
| Insert | Set In 🗸 | Sync Rel Poi | int | | | |
| Output Action | x | deg 80.0 % | 0.00 s | de | eg 80.0 % 0.0 | 00 s |
| | У | deg 80.0 % | 0.00 s S | ignal Stop X | 010:X010 🛛 🔻 | Fast Stop |
| Wait | Z | deg 80.0 % | 0.00 s E | arly End Pos |) | 343 |
| Condition | ν 🗌 |]deg 80.0 % | 0.00 s | SD Pos |) ESD 10.0 | * |
| ♥→ Menu | v [|]deg 80.0 % | 0.00 s | el | | |
| Please pro | ess origin | key and t | hen press | start key | to find o | rigin < |
| Editor S/H | Insert | Delete | Up | Down | Fix Index | Save |

Note: Clicking on the small box turns $\sqrt{}$ to indicate that it is selected.

Insert: In the instruction page, select the location where you want to insert the action and choose to teach the action. Click Insert to insert the action into the program.

Settings: When the axis and the target location click "Settings" and then click "Insert" to teach the location of the target point to the program.

Synchronization: Select several axes and then select "Synchronize" the axis will be in motion at the same time movement.

"End Position": Inserting this step into teaching indicates that the next movement has started when the axis has not reached the target position when it reached the end position.

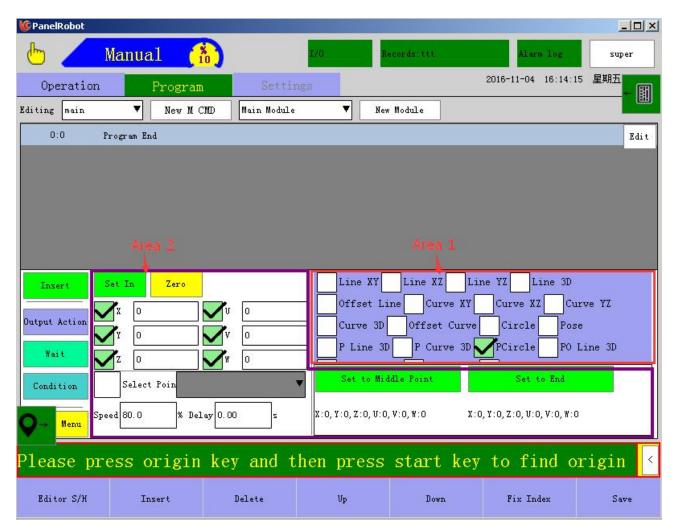
Use case: If the advance position is set to 200 and the position is set to 1000, the axis moves to the position of 800 (1000-200) and the next step is carried out, and the procedure continues to 1000.

"Advance Deceleration Position": Insert this step in the teachings to indicate that the axis will decelerate at the set speed when it reaches the advanced deceleration position. Use case: If the advance position is set to 200, the advance deceleration rate is 5%, the position is set to 1000, and the speed is set to 80%. Then the axis from 0-800 to 80% of the speed of operation, 800-1000 to 5% speed.

3.1.2.3 Path

Click the

button to enter the following interface.



Area 1 is the type of action to insert:

Line 2D (Line XY, Line XZ, Line YZ): Holds the position in a plane from the current position to the "end point" position.

Line 3D: In the space, from the current position to "set to end" position to maintain a position to go straight.

Curve 2D (Curve XZ, Curve XZ, Curve YZ): Holds the arc in a plane from the current position to the position set to the intermediate point and the position set as the end point.

Curve 3D: In the space, from the current to "set to the middle point" position and "set to the end of the" position to maintain a position to take a curve.

Posture: from the current position into the target position.

Relative line: The current point as a starting point, the direction of the offset coordinates.

Relative Curve: The current point as a starting point, the direction of the offset coordinates.

Posture straight line: from the current point of conversion into the target position to "set the end" of the location of a straight line.

Pose curve: from the current point of change into the target position to "set to the middle point" and "set to the end" of the position to take the curve.

Pose full circle: from the current point of conversion into the target position to "set to the middle point" and "set to the end of the" circle.

Free path: no track movement, the movement of the axis at the same time moving simultaneously.

Relative Joint: Offset in the axial direction relative to the joint.

Relative posture line: Starting from the current point, U, V, W keep a posture in the direction of coordinate offset.

Relative posture curve: from the current point as a starting point, U, V, W to keep a posture in the direction of coordinate offset.

Full circle: Draws a circle with three known points.

Area 2 is to set the coordinates of the location method, set in two ways:

The first one: If it is the current manual control to display the coordinates of the coordinates of the edit position to edit the box you need to first hit the [set] button and then click [set the end] can be, if you want to zero is a direct click [Zero] button.

Second: use the reference point, check the reference point selection box 111 drop-down triangle arrows to select "point", and then click "set to the middle point" or "Set the end point(Set Epos)" button to replace the coordinates of the target point Coordinate value can be.

Reference point button Edit method:

Step 1: Check the box to use it.

Step 2: Click this icon in the lower left corner to open the reference point edit button interface, as shown below:

| et In Jog Pos | FPO: (X:0, Y:0, Z:0, U:0, V:0, W:0) | |
|---------------|-------------------------------------|--|
| | LP1: (X:0, Y:0, Z:0, V:0, V:0, W:0) | |
| | DP2: (X:0, Y:0, Z:0, U:0, V:0, W:0) | |
| |] | |
| | | |
| | | |
| | | |
| New Free | | |
| New Locus | | |
| | | |

Reference point role: to facilitate the user for the location of a point to re-use.

Note! : The free path can only refer to the joints, and the relative joints can only refer to the offset points. The rest of the action types can only refer to path points.

Points of the editing process:

Step 1: Position Instruction: Edit the value directly Move the axis to the target point and then click "Set World Position or "Set Joint Position" (choose according to the type of new point).

Step 2: Create a new point name in the Point Name dialog box.

Step 3: Click once to create a new type point (new node, the new path, the new offset point) to edit the point of editing a blank point to the dialog box.

Delete method: select the point you want to delete into a light blue and then click the "Delete" button.

Replace Location Method: Edit the "New Location" and click the "Replace Location" button to complete the replacement.

3.1.2.4 Output action



button to enter the following interface:

| 6 | Manua | 1 | | I/0 | Records:ttt | | Alarm log | _ 🗆 🗙 |
|---------------|--------------------------------------|--|-----------------------------|-------------------|--|------------------------------|----------------------------|----------------------|
| Operation | n I | Program | Settings | s | | 2016-11 | 1-04 16:28:01 | 星期五 ← []] |
| diting main | v | New M CMD | Main Module | ¥ | New Module | | | |
| 0:0 | Program End | 1 | | | | | | Edit |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| Insert | ¥ | M | | | | | | |
| | | | | | Tim | e Y | | |
| | ¥010 | Normal YO | 10 10 | 011 | Tim Normal YO11 | e Y | Normal | ¥012 |
| Path | | | | 1 | | | Normal | |
| Path Wait | ¥010 | Normal YO | 13 1 YO |)14 | Normal YO11 | Y012 | 1 | ¥015 |
| | Y010 | Normal YO Normal YO | 13 YO | 014 | Normal YO11 Normal YO14 | Y012 | Normal | Y015 Y020 |
| Wait | Y010 Y013 Y016 Y021 | Normal Y01 Normal Y01 Normal Y01 Normal Y02 | 13 10 16 10 21 10 | 014 | Normal YO11 Normal YO14 Normal YO17 | Y012 Y015 Y020 | Normal Normal Normal | Y015 Y020 |
| Wait | Y010 Y013 Y016 Y021 | Normal Y01 Normal Y01 Normal Y01 Normal Y02 | 13 YO |)14)17)22 | Normal Y011 Normal Y014 Normal Y017 Normal Y022 | Y012 Y015 Y020 Y023 | Normal Normal Normal | Y015 Y020 Y023 |
| Wait Check | Y010 Y013 Y016 Y021 Y021 | Normal YO1 Normal YO1 Normal YO2 Normal YO2 | 13 YO 16 YO 21 YO | 014 | Normal Y011 Normal Y014 Normal Y017 Normal Y022 | Y012 Y015 Y020 Y023 | Normal Normal Normal | Y015 Y020 Y023 |

3.1.2.5 Check

Click the button to enter the following interface,On this page you can

select the valve to be tested.

| 🕼 PanelRobot | | | | | 14444 | | | 146 | | |
|---------------|------------|----------|-------------|-------|-------|------------|-----|------------|----------|--------------|
| b 🦯 🛛 | Manual | | | I/O | Re | ecords:ttt | | Alar | n log | super |
| Operation | Pro | ogram | Setti | ngs | | | | 2016-11-04 | 16:31:15 | 星期五 ← []] |
| Editing main | ▼ N | ew MICMD | Main Module | r. | ▼ New | Module | | | | |
| 0:0 P | rogram End | | | | | | | | | Edit |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| Insert | | | | | | | | | | |
| Path | | | | | | | | | | |
| Wait | | | | | | | | | | |
| Output Action | | | | | | | | | | |
| | | | | | | | | | | |
| ♥ Menu | Start 🗸 | End De | lay: 0.0 | s | | | | | | |
| Please pro | ess ori | gin key | v and t | hen j | press | start | key | to fi | nd or | igin 🤞 |
| Editor S/H | Insert | | Delete | | Մթ | Down | | Fix Ind | lex | Save |

3.1.2.6 Condition

Click the



button to enter the following interface:

| 🎯 PanelRobot | te contra contra de la | | | | | |
|---------------|------------------------|------------------|-----------|------------|-------------------|-------------|
| Ь 🦯 | Manual 🕺 👫 |) | I/0 R | ecords:ttt | Alarm log | super |
| Operation | Program | Settin | igs | | 2016-11-04 16:34: | 11 星期五 |
| Editing main | Vew M C | D Main Module | ▼ Nev | Module | | |
| 0:0 F. | lag[0]:111 | | | | | |
| 1:1 X | :44.000 Speed:80.0 De | elay:0.00 | | | | |
| 2:3 0 | utput:YO300N Delay:0. | 0 | | | | |
| 3:4 I | F:Y0130N Limit:1.0 G | o to Flag[0]:111 | | | | |
| 4:2 Y | :0 Speed:80.0 Delay:(|), 00 | | | Run CUW Past | e Edit C/UC |
| 5:5 P | rogram End | | | | , | |
| Insert | | se Flag X | Mem Ju | np | | |
| Path | Y010:Y010 | | Y011:Y011 | | Y012:Y012 | |
| Output Action | Y013:Y013 | | Y014:Y014 | | Y015: Y015 | |
| Check | Y016:Y016 | | Y017:Y017 | | Y020 : Y020 | |
| | Y021 : Y021 | | 1022:1022 | | Y023 : Y023 | |
| ♥→ Menu | | F Limit | : 1.0 s | Flag | | • |
| Please pre | ess origin | key and t | hen press | start key | to find c | origin < |
| Editor S/H | Insert | Delete | Up | Down | Fix Index | Save |

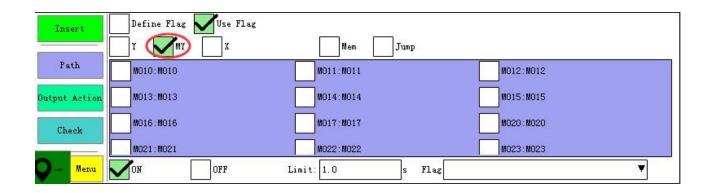
How to use labels:

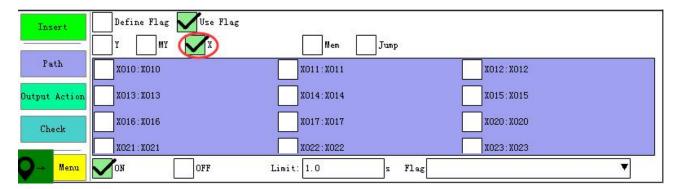
1, check the $\sqrt{}$ definition label "option, click the label edit box" label _____ "pop-up keyboard edit name.

2, in the program need to jump into the location of the previous step from the good tag name.

3, check $\sqrt{}$ "use labels" option to enter the condition selection interface:

| Insert | Define Flag | Mem Jump | |
|------------------------------|--------------------|-------------------|-------------|
| Path | Y010: Y010 | Y011:Y011 | Y012:Y012 |
| Output Action | V 013: Y013 | Y014: Y014 | Y015:Y015 |
| Check | Y016: Y016 | Y017: Y017 | Y020 : Y020 |
| | ¥021 : Y021 | ¥022: ¥022 | ¥023 : ¥023 |
| $\bigcirc \rightarrow $ Menu | OFF OFF | Limit: 1.0 s Flag | |





| Insert | Define Flag Y MY X Jump |
|------------------------------|--|
| Path Output Action | Const Data Left Addr: startPos 0 size 32 baseAddr 1 decimal 0 |
| Check | Right Data: |
| $\bigcirc \rightarrow $ Menu | Limit: 1.0 s Flag |

| Insert | Define Flag Y MY X Mem Jump | |
|---------------|--------------------------------|---|
| Path | | |
| Output Action | | |
| Check | | |
| Q→ Menu | OFF Limit: 1.0 s Flag | ▼ |

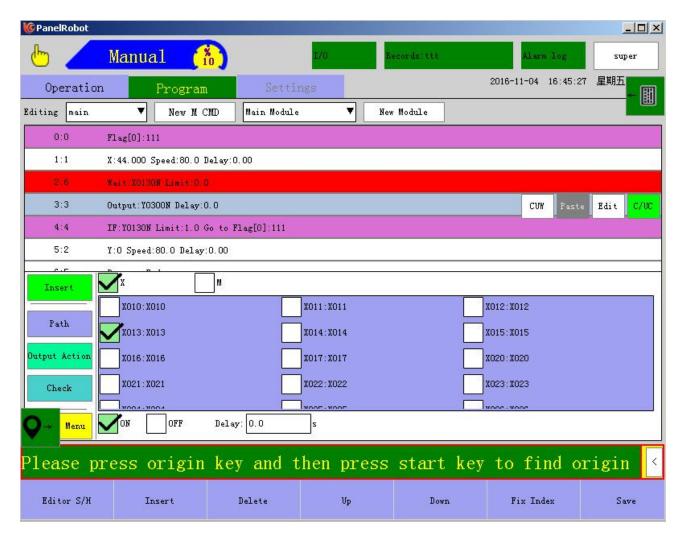
 1_{\times} Edit the conditions in the need to insert the location after click [insert] button.

3.1.2.7 Wait

Click the



button to enter the following interface:



Wait for signal insertion method: select the type of wait point \rightarrow select the wait point of the off \rightarrow set the delay time \rightarrow click "Save" button \rightarrow instruction page in the need to insert the location of the next click "insert".

Remark: When the action is executed to this step, the system will alarm if the output is not ON or OFF within the set waiting time.

3.1.2.8 Counter

Click the

button to enter the following interface:

| @PanelRobot | Manual 🔒 | • | I/0 R | scords:ttt | Alarm log | _OX |
|-------------------|--------------------------------------|-------------------|-----------|--------------|--------------------|-----------------|
| Operation | n Program | Setti | ngs | | 2016-11-04 16:46:4 | 48 星期五 ← III |
| diting main | ▼ New M C | MD Main Module | ▼ Nev | Module | | |
| 1:1 | Fiagl0]:111 X:44.000 Speed:80.0 I |)elay:0.00 | | | | |
| 2.6 | Wait:X0130W Limit:0.0 | i. | | | | |
| 3:3 | Output:Y0300N Delay:0 |). O | | | | |
| 4:7 | Plus 1Counter[0][T:5] | [[C:1]:1 | | | CVW Past | e Edit C/UC |
| 5:4 | IF:Y0130N Limit:1.0 | Go to Flag[0]:111 | | | | |
| 6:2 | Y:O Speed:80.0 Delay: | 0.00 Nam | - Cu | rrent Target | | |
| Insert Path | Set Counter | 0:1 | 1 | 5 | 1 New Delete | |
| Wait Condition | | | | | | |
| lease p | ress origin | key and t | hen press | start key | to find c | rigin |
| Editor S/H | Insert | Delete | Up | Down | Fix Index | Save |

Counter category: plus 1 counter type zero-type counter.

New counter method: Select the counter type \rightarrow new counter name \rightarrow click the "new"

button \rightarrow click "save" button \rightarrow complete.

Current: The current counter count value, the value can be set according to the user's actual situation.

If the current value of the counter is set to 2, the robot will start from the second object and start to stack the second object. If the counter is defined by the current value, .

Target: The target output for the counter.

3.1.2.9 Sync

| Click tl | | utton to ente | r the following | interface: | | |
|----------------|----------------------|----------------|-----------------|------------|--------------------|---------|
| 🌾 PanelRobot | | | | | _ | |
| 6 | Manual 🦕 | | I/O R | ecords:ttt | Alarm log | super |
| Operation | n Program | Setti | ngs | | 2016-11-04 16:47:5 | 77 星期五 |
| Editing main | Vew M | CMD Main Modul | e 🔻 Nev | Module | | |
| 0:12 | X:10.000 Speed:80.0 | Delay:0.00 | | | | |
| 1:13 | Y:22.000 Speed:80.0 | Delay:0.00 | | | | |
| 2:14 | Sync Begin | | | | | |
| 3:15 | X:0.000 Speed:80.0 D | elay:0.00 | | | | |
| 4:16 | Y:0.000 Speed:80.0 D | elay:0.00 | | | | |
| 5:17 | Sync End | | | | | |
| Insert Menu | Sync Begin | | | | | |
| Please p | ress origin | key and | then press | start key | to find o | rigin < |
| Editor S/H | Insert | Delete | Ψp | Down | Fix Index | Save |

Inserting a sync start and a sync end before and after a program indicates that the program is combined to move simultaneously.

Note: 1, synchronization can not be nested with each other.

2, jump can not use the synchronization function.

3, the beginning of synchronization and synchronization of the end of certain

combinations appear, there must be synchronized to start teaching a synchronous end.

3.1.2.10 Comment

Click the

Comment

button to enter the following interface:

Note that the meaning of the mark, when the user teaches a lot of programs if too much looks will look messy, then the different procedures before and after the corresponding comments to facilitate the search problem.

| 🌾 PanelRobot | | | | | | |
|---------------|-----------------------|----------------|------------|------------|--------------------|-------------|
| 6 | Manual 📢 | | I/O R | ecords:ttt | Alarm log | super |
| Operation | Program | Setti | ngs | | 2016-11-04 16:52:0 | 22 星期五 |
| Editing main | New M C | MD Main Module | e 🔻 New | Module | | |
| # 0:18 | pos 00000000000 | | | | | |
| 1:12 | X:10.000 Speed:80.0 I |)elay:0.00 | | | Run CVW Past | e Edit C/UC |
| 2:13 | Y:22.000 Speed:80.0 I |)elay:0.00 | | | nn | |
| 3:14 | Sync Begin | | | | | |
| 4:15 | X:0.000 Speed:80.0 De | elay:0.00 | | | | |
| 5:16 | Y:0.000 Speed:80.0 De | elay:0.00 | | | | |
| C+17 | omment: | | | | | |
| Insert | os 0000000000 zo | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| O→ Menu | | | | | | |
| V → Menu | | | | | |] |
| Please p | ress origin | key and t | then press | start key | to find c | rigin < |
| Editor S/H | Insert | Delete | Up | Down | Fix Index | Save |

Note Edit method: in the blank click into the name edit box \rightarrow edit the name and click "Save" key \rightarrow select the location to insert the next line, click "insert".

3.1.2.11 Stack

Click

Stack

button to enter the stack edit page, as shown below:

| PanelRobot | Manual 👫 | | 1/0 | Records:ttt | | Alarm log | X |
|---------------|-----------------|---------------|------------|-------------|-----|------------------|----------|
| Operation | Program | Setti | ngs | | : | 2016-11-04 16:55 | :49 星期五 |
| Editing main | ▼ New M C | D Main Module | • 🔻 | New Module | | | |
| 0:5 P1 | rogram End | | | | | | Edit |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Insert | Use Stack 🗸 Def | ine Stack | | ▼ New | | | |
| | | | | | | | |
| Output Action | | | | | | | |
| Path | Normal | Box | | Data Source | | | |
| | | | | | | | > |
| Counter | | | | | | | |
| ♥→ Menu | | | - <u>.</u> | | 8 | | |
| Please pre | ess origin | key and t | then pre | ss start | key | to find | origin < |
| Editor S/H | Insert | Delete | Up | Down | | Fix Index | Save |

Stacking type classification:1,Normal; 2,Box;3,Data Source

Normal stacking

General stacking can be divided into two categories: rectangular shape, as the name suggests can be square out of the items; offset stack, can be stacked into a diamond shape can also be stacked on a slope (Z-axis offset).

Stacked rectangular shape of the operation method:

1, first click the "New" button to create a new stack name or open the file name has been built.

2, click " \rightarrow " to enter the stack editing interface.

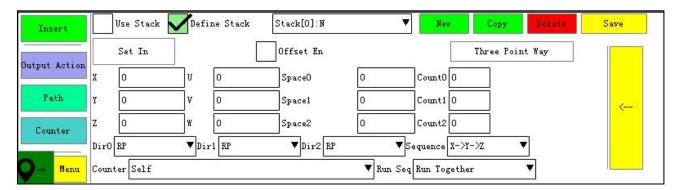
3, Set the starting point coordinates and spacing.

There are two ways to set up:

Use the three-point method to set: three-point method is to use has been set to

automatically calculate the three points offset, spacing.

The first step, in the manual state click "three-point method set" button to enter the edit page shown below.



In the second step, move the robot to the starting position of the stack and then click the "Set In" button to set the current coordinate value into the coordinates edit box of each axis.

In the third step, move the manipulator to the next point in the X1 axis direction and then click the [Set] button to set the coordinate value to the X1, Y1 coordinates edit box. Then move the robot to the next point in the Y1 axis direction and then click the [Set] button to set the coordinate value to the X1, Y1 coordinates edit box.

Step 4 Click the [OK] button to return to the previous page for other settings.

Do not use the three-point method: Calculate the spacing manually.

In the first step, enter the interface as shown in the figure below. Move the robot to the stacking start point manually and then click the [Set] button to set the current coordinate value to the coordinate edit box of each axis.

In the second step, manually measure the spacing between the points in each axis and edit the spacing values into the corresponding edit boxes.

In the third step, set the direction of stacking of each axis, and the positive direction refers to the direction of the axis position + (press the axis button on the hand controller to identify the direction of the axis position).

5, set the stack count, order, counter and run the order, the interface as shown below:

| | | Set In | | | Offset En | Offse | t Z with Y | Three Po | int Way | |
|------------|------|--------|-----|--------|-----------|-------|------------|----------|----------|--|
| put Action | x | 0 | Ju | 0 | X Offset | 0.000 | SpaceO | 0.000 | Count0 0 | |
| Path | Y | 0 | v | 0 | Y Offset | 0.000 | Space1 | 0.000 | Count1 0 | |
| ounter | z | 0 | W | 0 | Z Offset | 0 | Space2 | 0 | Count20 | |
| | DirC | PP | ▼D: | ir1 PP | ▼Dir2 | RP | ▼ Sequence | X->X->Z | ¥ | |

Count: Set the number of heap points on the axis.

Run Sequence: Sets the order in which each axis is stacked.

Counter selection: "self" means that the program runs a mode, the system default counter has been increased by 1; custom counter (in the action menu -> [counter] to set).

6, edit the data and click [Save] button.

7, playing $\sqrt{}$ "using the stack" in the "stack" in the choice of using the stack, and set the stack speed, choose a good location in the program click on "set" to edit the stack to teach.

8, if the use of custom counters to be inserted in the process of teaching the stack counter plus 1 otherwise the counter does not count.

The offset heap method of operation:

The use of offset stacks can be piled into a diamond shape or stacked on a sloped surface (Z-axis offset)

1, first click the "New" button to create a new stack name or open the file name has been built.

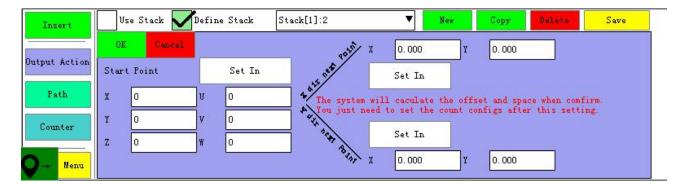
2, click " \rightarrow " to enter the stack editing interface.

- 3. Check the [Use Offset] option
- 4, Set the starting point coordinates and spacing.

Diamond-shaped heap when the starting point and spacing of the set there are two ways:

Use the three-point method to set: three-point method is to use has been set to automatically calculate the three points offset and distance.

The first step, in the manual state click "three-point method set" button to enter the edit page shown below.



In the second step, move the robot to the starting position of the stack and then click the [Set] button to set the current coordinate value into the coordinates edit box of each axis. **In the third step**, move the manipulator to the next point in the X1 axis direction and then click the [Set] button to set the coordinate value to the X1, Y1 coordinates edit box. Then move the robot to the next point in the Y1 axis direction and then click the [Set] button to set

the coordinate value to the X1, Y1 coordinates edit box.

Step 4 Click the [OK] button to return to the previous page for other settings.

Not using the three-point method: manually calculate the offset distance and spacing of the axis.

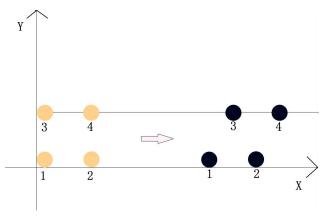
In the first step, enter the interface as shown in the figure below. Move the robot to the stacking start point manually and then click the [Set] button to set the current coordinate value to the coordinate edit box of each axis.

In the second step, manually measure the distance and offset between points in each axis and edit the spacing and offset values into the corresponding edit boxes.

The third step is to set the stacking direction of each axis, and the positive direction refers to the direction of the axis position + (press the axis key on the hand controller to identify) the reverse refers to the direction of the axis position.

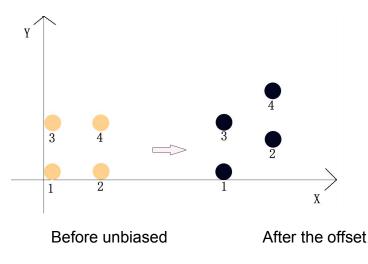
X, Y offset effect map:

The effect of the X offset is shown below, with the left unbiased and the right shifted by the X offset.



Before unbiased After the offset

The effect of the Y offset is shown below, with the left unbiased and the right shifted by X offset.



Inclined pile starting point, pitch setting mode:

The first step is to move the manipulator to the stack start position manually and then click the [Set] button to set the current coordinate value to the coordinates edit box for each axis.

In the second step, set the offset distance in the Z direction (default is Z in the X direction).

If you want to offset Z in the Y direction, check the [Y direction offset Z] option.

The third step, set the stacking direction, count, order, counter and run the order.

Direction: Direction, direction of axis position +, direction of minus axis, axis direction.

Count: Sets the number of points to be stacked on the axis.

Run Sequence: Sets the order in which each axis is stacked.

Counter selection: "self" means that the program runs a mode, the system default counter has been increased by 1; custom counter (in the action menu -> [counter] to set).

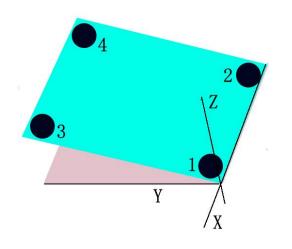
The fourth step, edit the data and click [Save] button.

The fifth step, playing $\sqrt{}$ "using the stack" in the "stack" in the choice of using the stack, and set the stacking speed, choose a good location in the program click on "Settings" to edit the stack to teach.

The sixth step, if you use a custom counter to be inserted in the process of teaching the stack counter plus 1 or counter does not count.

Slope offset Stacking Example:

Suppose you need to pile up four circles in the following heap position .



Teaching Page Setup:

| iting main | ▼ | New M CMD | ain Module 🛛 🔻 | New Module | | |
|-------------|--------------------------------|--------------------------------|-----------------------|-----------------|----------------|-------------|
| 0:3 | Flag[0]:0000 | | | | | |
| 1:1 | NormalStack[O Counter[O][T: |)]:N Speed:80.0 4][C:0]:444 | | | | |
| 2:2 | Plus 1Counter | ·[0][T:4][C:0]:444 | 1 | | | |
| 3:5 | Output: YO210N | V Delay:0.0 | | | | |
| 4:4 | IF:Counter[0] | [T:4][C:0]:444 Ar: | rive Go to Flag[0]:00 | 000. | | |
| 5:0 | Program End | | | | | E |
| Insert | Use Stack | Define Stack | Stack[0]:N | ▼ Net | « Сору I | lelete Save |
| | Set In | | Offset En | Offset Z with Y | Three Point Wa | ay |
| tput Action | x o | υ ο | X Offset O | Space0 | 0 Co1 | un t0 2 |
| Path | ¥ О | v | Y Offset 0 | Space1 | 0 Cor | unt1 2 🦳 |
| Counter | z O | | Z Offset 10.00 | 00 Space2 | 10.000 Con | unt21 |
| | Dir0 PP | ▼Dir1 PP | ▼Dir2 RP | ▼ Sequence | x->y->z 🔻 | |
| Counter | | | | | | int2 1 |

Note: 1, because the counter is selected from the definition of the technology will need to teach more than one stack after the counter plus 1

2, if the counter is full, such as after the start of the new conditions, the need to use

conditions to clear the jump, conditional Jump page settings as shown

below:

| Editing main | ▼ New M CMD Main Module ▼ New Module | |
|--|---|------|
| 0:3 | Flag[0]:0000 | |
| 1:1 | NormalStack[0]:N Speed:80.0 Counter[0][T:4][C:0]:444 | |
| 2:2 | Plus 1Counter[0][T:4][C:0]:444 | |
| 3:5 | Output:Y0210N Delay:0.0 | |
| 4:4 | IF:Counter[0][T:4][C:0]:444 Arrive Go to Flag[0]:0000. | |
| 5:0 | Program End | Edit |
| Insert Path Output Action Check | Define Flag Y MY X Counter Mem Jump Counter[0][T:4][C:0]::444 | |
| Q→ Menu | ✓>=T Auto Clear Flag[Flag[0]:0000 | 10 |

Boxing and in-box stacking

Packing and in-box stacking Method of use:

- 1, select the "box and box stacking" option.
- 2, click " \rightarrow " to enter the stack editing interface.

3, first click the "New" button to create a new stack name.

4, in this interface set up under the first box, the spacing between products, quantity, order, direction, and the choice of counter.

5, click " \rightarrow " to enter the next editing interface This interface is set between each stacking box spacing, number, order, direction and the choice of counter.

- 6, set all the data Click the Save button.
- 7, playing $\sqrt{}$ " "use stack "stack" in which to choose which stack, and set the stack speed,

select a good location in the program click on "set" to edit the stack to teach.

"Use Offset": When selected, offset the previous stack point by the set distance.

| 🌾 PanelRobot | | | | | | | | |
|--|--|--------------------------------------|--|---|-------------------------------------|---|------------|---------------|
| 6 | Manua | 1 🔥 | A 1 | I/0 I | lecords:test | Alarm | log | super |
| Operati | on a | Program | Settings | | | 2016-11-07 | 15:40:08 🛓 | ÊĦ─ ← []] |
| Editing main | • | New M CMD | Main Module | V Ne | w Module | | | |
| 0:0 | Program En | d | | | | | | Edit |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| Insert | Use Stad | ck 🔽 Define : | Stack Stack[1] | : BOX-BOX | ▼ New | Copy De. | lete : | Save |
| | Set In | | Offset | En | | Three Point Way | • | |
| Output Action | x o | νο | SpaceO | 0 | CountO 2 | 16.0 | | |
| Path | у О | v o | Space1 | 0 | Count1 2 | | | > |
| Counter | z o | ¥ [0 | Space2 | | | | | |
| and the second sec | Dir0 PP | ▼Dir1 P | P This | -21 RP | | | | |
| | Counter Coun | | | r2 RP | ▼Sequence X-> | | | |
| Q→ Menu | | ter[0][T:4][C:0 |]:444 | ▼ Ru | n Seq Run Togeth | her V | | |
| | | ter[0][T:4][C:0 |]:444 | ▼ Ru | n Seq Run Togeth | | nd ori | gin < |
| | press o | ter[0][T:4][C:0 |]:444 | ▼ Ru | n Seq Run Togeth | her V | | gin < Save |
| Please | press o | ter[0][T:4][C:0 | ey and the | en press | start k | her ▼ ∢ey to fin | | |
| Please | press o | ter[0][T:4][C:0 | ey and the | en press | start k | her ▼ ∢ey to fin | | |
| Please | press o | ter[0][T:4][C:0 | ey and the | en press | start k | her ▼ ∢ey to fin | | |
| Please Editor S/H | press o | ter[0][T:4][C:0] | I:444 by and the Delete | ▼Ru en press Up | n Seq Run Togeth start k Down | her V Key to fil Fix Ind | lex | Save |
| Please | press o In | ter[0][T:4][C:0 | Delete Stack Stack[1] | Run en press Up Up Up Up Up | start k | her V Key to fil Fix Ind Copy | elete | |
| Please Editor S/H | Dress O In: Use Stac Set In | ter[0][T:4][C:0] | Delete | Run en press Up Up Up Up Up | n Seq Run Togeth start k Down | her V Key to fil Fix Ind | elete | Save |
| Please Editor S/H | press o In | ter[0][T:4][C:0 rigin ke sert | Delete Stack Stack[1] | Run en press Up Up Up Up Up | n Seq Run Togeth start k Down | her V Key to fil Fix Ind Copy | elete | Save |
| Please Editor S/H Insert Output Action Path | Dress O In Use Stac Set In SpaceO | ter[0][T:4][C:0 rigin k (sert | I:444 Delete Stack Stack[1] Offset Count0 | Run en press Up Up Up Up Up | n Seq Run Togeth start k Down | her V Key to fil Fix Ind Copy | elete | Save |
| Please Editor S/H Insert Dutput Action | Dress o In: Use Stac Set In SpaceO Space1 | ter[0][T:4][C:0 rigin k (sert | I:444 Delete Stack Stack[1] Offset Count0 Count1 Count2 O | Run en press Up Up Up Up Up | n Seq Run Togeth start k Down | her Key to fil Fix Inde Copy Three Point Way | elete | Save |

Data source stacking

Data source stack usage:

- 1, select the "data source stack" option.
- 2, first click the "New" button to create a new stack name.
- 3, click " \rightarrow " to enter the stack editing interface.

4, select the data source type, the data source type is divided into two types of irregular points (for irregular stacking), such as select this and then click "Edit Point" into the edit point box on the specific editing specific user ID.

5, playing $\sqrt{}$ " "use stack "stack" in which to choose which stack to use, and set the stack speed, select a good location in the program click on "set" to edit the stack to teach.

| W PanelRobot | | | | | 240 | <u>_</u> _× |
|---------------------|-----------------|----------------|-----------|------------|--------------------|-------------|
| Ь 🖊 | Manual 🔒 | | 1/0 Re | cords:test | Alarm log | super |
| Operation | Program | Setting | gs | | 2016-11-07 15:42:0 | ○ 星期一 |
| Editing main | ▼ New M C | MD Main Module | ▼ New | Module | | |
| 0:0 | Program End | | | | | Edit |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Insert | Vse Stack 🗸 Def | ine Stack | | ▼ New | | |
| | | | | | | |
| Output Action | | | | | | |
| Path | Normal | Box | Data : | Source | | > |
| Counter | | | | | | |
| | | | | | | |
| ♥→ Menu | | | | | | |
| Please pi | ress origin | key and th | nen press | start key | v to find o | rigin 🧹 |
| Editor S/H | Insert | Delete | Vp | Down | Fix Index | Save |

| Insert | Use Stack 🗹 Define | Stack Stack[2]:SD | Vew | Сору | Delete | Save |
|---------------|--------------------------------|-------------------|-------------------|------|--------|------|
| | Edit Pos | | Offset Z with Y | | | |
| Output Action | Data Source Custom Pos | | | | ▼ | |
| Path | Counter Counter [0] [T:4] [C:0 |]:444 | ▼Run Seq Run Toge | ther | ▼ | < |
| Counter | | | | | | |
| Q→ Menu | | | | | | |

Data source type option "irregular points" and then click "edit point" button to enter the point editing interface as shown below:

| Set In | Total:6 Sync Replace | Close |
|--------|---|---------|
| 20.000 | 1: (X:0, Y:0, Z:0, V:0, V:0, W:0) | |
| 52.000 | 2: (X:20, 000, Y:0, Z:0, V:0, V:0, W:0) | |
| 6.000 | 3: (X:20.000, Y:52.000, Z:0, V:0, V:0, W:0) | |
| 99.000 | 4: (X:20,000, Y:52,000, Z:6,000, U:0, V:0, W:0) | |
| 77.000 | | |
| 5.000 | 5: (X:20,000, Y:52,000, Z:6,000, U:99,000, V:0, W:0) | |
| New | 6: (X:20,000, Y:52,000, Z:6,000, V:99,000, V:77,000, W:5,000) | |
| | | |
| Save | | |
| | Point Name: 6 Delete | Replace |

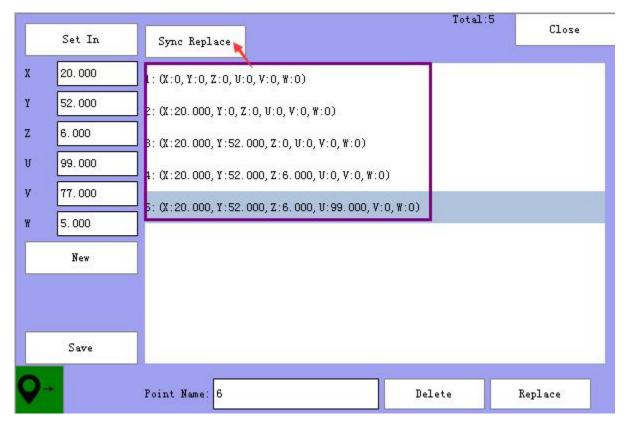
"Replace position": Click the edited position Click "Replace position" button to replace the old coordinate position with the current position.

"Synchronization Replacement": If the user has the position drawing and the starting coordinate of the drawing is inconsistent with the origin coordinate of the manipulator, it can be easily set in the irregular point by synchronous replacement.

Here's how:

1, first edit the target points Assumptions need to edit the five points as

follows:



2. Click the first point to change the coordinate value of the current point to the coordinate value of the origin (first point) of the drawing, and then click the [Save] button, as shown in the following figure:

Dedicated user ID display interface:

| Insert | Use Stack Define Stack Stack[2]:SD 🔹 New Copy Delete | Save |
|---------------|---|------|
| | Pos And Cmp Only Cmp Offset Z with Y | |
| Output Action | Data Source www.geforcevision.com.cam::GeforceVision-Cam::[HID:100] | |
| Path | Counter [0][T:4][C:0]:444 ▼ Run Seq Run Together ▼ | < |
| Counter | | |
| counter | | |
| 🔾 → Menu | | |

3.1.2.12 Custom Alarm

Click

Custom Alarm

button to enter the following interface:

| 🌾 PanelRobot | | | | | | |
|--------------|---|----------------|-----------|-----------|--------------------|-------------|
| 6 | Manual 😽 | 0 | I/O Re | cords:ttt | Alarm log | super |
| Operation | Program | Settin | ngs | | 2016-11-04 17:06:1 | 11 星期五 |
| Editing main | Vew M C | MD Main Module | ▼ New | Module | | |
| | NormalStack[0]:1 Spec Counter[1][T:8][C:0] | | | | CVW Past | e Edit C/UC |
| 1:19 P | Plus 1Counter[1][T:8] |][C:0]:2 | | | | |
| 2:23 A | Alarm:5004:5004 | | | | | |
| 3:5 P | Program End | | | | | |
| | | | | | | |
| Insert 500 | 00: 5000 | | | | | |
| | 01: 5001 | | | | | |
| | 02: 5002 | | | | | |
| | 03: 5003 | | | | | |
| | 04: 5004 | | | | | |
| | 05: 5005 06: 5006 | | | | | |
| | 07: 5007 | | | | | |
| Menu Menu | 00: 5000 | | | | | |
| Please pr | ess origin | key and t | hen press | start key | to find c | rigin < |
| Editor S/H | Insert | Delete | Մբ | Down | Fix Index | Save |

3.1.2.13 Module

Click



button to enter the following interface:

| 🌾 Paneli | Robot | | | | | | | | |
|----------|--------|---------------|----------------|----------------|--------|-------------|-----|------------------|----------|
| Ь | | Manua | 1 🔥 | | 1/0 | Records:ttt | | Alarm log | super |
| Ope | ratio | n I | Program | Setti | ngs | | | 2016-11-04 17:10 | 0:11 星期五 |
| Editing | main | ▼ [| New M CMD | Fun[0]:www | ¥ | New Module | | | |
| 0: | 4 | X:22.000 Sp | peed:80.0 Dels | y:0.00 | | | | | |
| 1: | 8 | Call Fun[0] |]:www And then | return to next | line | | | | |
| 2: | 5 | Y:66.000 Sp | peed:80.0 Dels | y:0.00 | | | | | |
| 3: | 6 | Z:44.000 Sp | peed:80.0 Dels | y:0.00 | | | | | |
| 4: | 0 | Module End | | | | | | | Edit |
| | | | | | | | | | |
| Inse | rts | Call Module | Fun[0]:w | ** | ¥ | | | | |
| | | Return To Fla | ag Next Lin | e | • | | | | |
| | | | | | | | | | I |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Q→ | Menu | | | | | | | | |
| Plea: | se p | ress o | rigin k | ey and t | hen pr | ess start | key | to find | origin < |
| Edit | or S/H | Ins | sert | Delete | Up | Dow | n | Fix Index | Save |

Module New: Click "New Module" button \rightarrow New Module Name \rightarrow [Save] \rightarrow In the current module to teach into the program \rightarrow "Save"

Deleting a module: Pull down the module menu, select the module name and click the [Delete module] button.

Module Insert Method: Pull down the "Call Module" menu Select the module to be called \rightarrow Pull down the "Return Label" menu Select the return type (Note: If you select the label type, define the label and insert it in advance) \rightarrow Select The next step of the location click [insert] can.

3.1.2.14 Vision

Click Click butt

button to enter the following interface:

| 🌾 PanelRobot | | | | | | -D× |
|--------------|--------------------|---------------|-----------|-------------|---------------------|----------------|
| 6 | Manual 🚺 | | I/0 R | ecords; ttt | Alarm log | super |
| Operation | Program | Settin | igs | | 2016-11-04 17:36:52 | 2 星期五 ← []] |
| Editing main | ▼ New M C | MD Fun[0]:www | Ver New | v Module | | |
| 0:0 M | odule End | | | | | Edit |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Insert | a Source | | | | • | |
| | Catch Wait Data | | | | | |
| | _ mait Data | | | | | |
| | | | | | | |
| | | | | | | |
| Q→ Menu | | | | | | |
| Please pre | ess origin | key and t | hen press | start key | to find o | rigin < |
| Editor S/H | Insert | Delete | Up | Down | Fix Index | Save |

3.1.2.15 Path speed

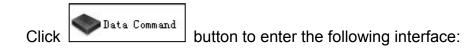
Click

button to enter the following interface:

| 🌾 PanelRobot | | | | | | |
|--------------|------------|---------------|------------|------------|--------------------|---------|
| b 🖊 I | lanual 🛛 🚺 | | I/O R | ecords:ttt | Alarm log | super |
| Operation | Program | Setti | ngs | | 2016-11-04 17:37:1 | 5 星期五 |
| Editing main | ▼ New M C | MD Fun[0]:www | ▼ Nev | v Module | | |
| 0:0 M | odule End | | | | | Edit |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Pat | n Speed: | | | | | |
| Sta | rt Speed | % | | | | |
| End | Speed | % | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| ♥→ Menu | | | | | | |
| Please pro | ess origin | key and t | then press | start key | to find o | rigin < |
| Editor S/H | Insert | Delete | Vp | Down | Fix Index | Save |

Scope: applies only to the line in the path and curve type of movement.

3.1.2.16 Data command



| 6 PanelRobot | | | | | | |
|--------------|----------------------|---------------|-----------|------------|---------------------|---------|
| 6 | Manual 🚮 | | I/O R | ecords:ttt | Alarm log | super |
| Operation | Program | Setti | ngs | | 2016-11-04 17:38:13 | 星期五 |
| Editing main | ▼ New M C | MD Fun[0]:www | ▼ New | / Module | | |
| 0:0 M | odule End | | | | | Edit |
| | | | | | | in an |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Insert | Const Data | Addr Data | | | | |
| Add | r Target: startPos 🛛 | size 🕄 | 32 baseAd | dr 1 dec | rimal 0 | |
| Dat | a: 0 | | | | | |
| | - = _+== | x=+= | | | | |
| ♥→ Menu | | | | | | |
| Please pro | ess origin | key and t | hen press | start key | to find or | igin < |
| Editor S/H | Insert | Delete | Vp | Down | Fix Index | Save |

3.1.2.17 Origin

Click

button to enter the following interface:

| PanelRobot | Manual 🔒 | | I/O R | eerds)ttt | Alarm log | X |
|--------------|------------|----------------------|-----------|--------------|--------------------|---------|
| Operation | Program | Settin | ngs | | 2016-11-04 17:40:2 | 4 星期五 |
| Editing main | Vew M C | MD Fun[0]:www | V New | Module | | |
| 0:0 M | odule End | | | | | Edit |
| | | | | | | 174 |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | X Typel | 1 80.0 % 0.00 |) s W | Type1 ▼ 80.0 |) % (0.00); | 5 |
| Insert | Y Typel V | | | | n <u>[20220</u> | |
| | Z Typel | | | | | |
| |] | | | | | |
| | JV Type1 | | | | | |
| | V Type1 | 80.0 % 0.00 | 2 | | | |
| Q→ Menu | | | | | | |
| Please pro | ess origin | key and t | hen press | start key | to find o | rigin 🧹 |
| Editor S/H | Insert | Delete | Vp | Down | Fix Index | Save |

Function of origin command: In this interface, you can set the sequence and speed of axis homing.

Must be M CMD[0]:Custom Origin edited in this programmable button (pull down the "Edit" triangle button to select)

Insert Description:

1, inserted in the order of teaching represents the homecoming order.

2, set the speed of the axis back to the origin (Note: the speed of the origin should not be too fast to avoid collision).

3, insert the synchronization in the program start and end of the synchronization can be homogenized at the same time the axis action. 4, set up after you remember to save the data.

3.1.2.18 Extent

Click •••Extent button to enter the following interface:

| 🌾 PanelRobot | | | | | | |
|--------------|-------------------------|--------------|---------------|------------|---------------------|----------------|
| 6 | lanual 👫 | | I/0 R | ecords:ttt | Alarm log | super |
| Operation | Program | Settin | ngs | | 2016-11-04 17:40:45 | 5 星期五 ← []] |
| Editing main | Vew M CI | D Fun[0]:www | ▼ Nev | v Module | | |
| 0:0 M | odule End | | | | | Edit |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Insert 🗸 | Axis Ply Anal | og Control | Axis Sel | ×. | | |
| |]Delta Jump Control | | AxisFly Pos1 | 0.000 | Set In | |
| |] | | AxisFly Pos2 | 0.000 | Set In | |
| | Safe Range Control | Single Stack | AxisFly Speed | 80.0 % | | |
| | | | AxisFyl Num | 1 Times | | |
| | | | Delay | 0.00 s | | |
| | | | | | | |
| ♥→ Menu | | | | | | |
| Please pre | ess origin | key and t | hen press | start key | to find o | rigin < |
| Editor S/H | Insert | Delete | Up | Down | Fix Index | Save |

Analog control: After selecting the check box, you can set the analog quantity. (Tip 1: Enable the analog input before using this function.) Note 2: The adjustment of the analog quantity can be operated by the "Cycle, Output Counter" button in the automatic mode.

Channel: The system supports up to 6 channels.

Delay: Set the analog delay time.

3.2 Manual operation

3.2.1 Signal output

In this interface, you can force a certain output point output, click the [pass] button corresponding to the light will turn green, if the corresponding output signal lights will be on.

Special Note

Wash / Rob 1: Click this button to atomize 1 (Y014), spray 1 (Y015), oil 1 (Y016)These three lights will turn green.

2: Click this button to atomize 2(Y017), spray 2(Y020), oil 2(Y021) The three lights will turn green.

| 🌾 PanelRobot | | The second second second | | | <u>- </u> |
|----------------------------|----------------|--------------------------|--------------|---------------------|--|
| h Mar | ual 🔥 | 1/0 | Records:ttt | Alarm log | super |
| Operation | Program | Settings | | 2016-11-04 17:41:09 | 星期五 ← []] |
| Output Y Debugpr: | int Custom Btn | | | | |
| Normal YO10 | 0n | Normal | Y011 | On | Gunfresh1 |
| Normal Y012 | 0n | Normal | Y013 | 0n | Gunfresh2 |
| Normal Y014 | 0n | Normal | Y015 | 0n | |
| Normal YO16 | 0n | Normal | Y017 | 0n | |
| Normal YO2O | 0n | Normal | Y021 | 0n | |
| Normal YO22 | 0n | Normal | Y023 | 0n | |
| Normal YO24 | 0n | Normal | Y025 | 0n | |
| ♀ → ^{¥026} | On | Normal | Y027 | On | 2 |
| Please press | s origin key | and then pres | ss start key | to find or | igin < |
| | | | | | |

3.2.2 Programmable keys

In this interface, press the button has been edited by the programmable button will be to implement the robot has been editing the program.

| 🌾 Panel Robo | t | | | | | | | | | | | | IN |
|--------------|----------|--------------------------|-----|------|------|-------|------------|-----|---------|---------|---------|----------|----|
| 6 | Man | ual 🔒 | | | 1/0 | R | ecords:ttt | | | Alarm l | °¢ | super | |
| Operat | ion | Program | | Sett | ings | | | | 2016-11 | -04 17 | 1:41:27 | 星期五 ← | |
| Output Y | Debugpri | nt <mark>Custom I</mark> | 3tn | | | | | | | | | | |
| Custom Orig | in | Custom Retur | 'n | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Q - | | | | | | | | | | | | | |
| Please | press | origin | key | and | then | press | start | key | to | fin | l or | igin | < |
| | | | | | | | | | | | | | |

4 Stop state

The third gear knob to hit the middle position into the "stop" state interface

You can view the settings of all parameters in the stop status but can not perform manual operation.

4.1 Parameter setting

Click "Settings" button to enter the following interface, in this interface you can set the product, machine and manual controller.



4.1.1 Product settings



Click the **Product** button to enter the following interface shown in , in this interface under the product-related things can be set.

| 🌾 Panel Robo | ıt | | | | | | | | | <u> </u> |
|--------------|--------|-------------|-----------|------------|-------|------------|-----|------------|------------|----------|
| 88 / | Sett | ings (| | 1/0 | R | ecords:ttt | | A1 « | rm log | super |
| Operat | ion | Frogram | Se | ttings | | | | 2016-11-04 | 4 17:44:56 | 星期五 |
| roduct S | etting | achine Sett | ings Pane | l Settings | ; | | | | | |
| ProgramO | Vse | T | cuont: | | ımb | Clear Coun | e l | | | |
| Program1 | Vse | • | Target: | | ımb | | | | | |
| Program2 | Vse | • | | | | | | | | |
| Program3 | Vse | • | | | | | | | | |
| Program4 | Vse | • | | | | | | | | |
| Program5 | Vse | • | | | | | | | | |
| Program6 | Vse | • | | | | | | | | |
| Program7 | Vse | • | | | | | | | | |
| Program8 | Vse | • | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| P1ease | press | origin | key an | d then | press | start | key | to f | ind or | igin < |
| | | | | | | | | | | Return |

Program: a program can use multiple programs at the same time, the system initially default to the main program and subroutine are used, such as do not want to use the drop-down triangle to select it as not used.

Special Note:

1, the main program and the subroutine is running at the same time.

2, can be used separately The subroutine part does not use the main program to carry on the programming.

3, special subroutine - sequence subroutine 8 [Sub=8], in this interface, select the "use" or "do not use" option on the subroutine 8 is invalid. Because the system itself has been the default subprogram 8 in any state (automatic / manual / stop) will automatically run.

Count: The number of objects to be sprayed during a complete spray.

Target: Sets the number of cycles for a complete painting process.

Clear Count: Press this button once to clear the current production value.

4.1.2 Valve setting



Click the Valve Settings button to enter the following interface, in this interface can be

related to set the valve.

| 🌾 PanelRobo | t | | | | | | | all sold a | | |
|-------------|------------------------|-------------|------------|------------|-------|------------|-----|------------|----------|--------|
| 8 | Sett | ings 🔒 | • | 1/0 | R | ecords:ttt | | Ala | em log | super |
| Operat | ion | Program | Se | ttings | | | 2 | 2016-11-04 | 17:47:02 | 星期五 |
| Product Se | ettings <mark>M</mark> | achine Sett | ings Panel | . Settings | | | | | | |
| Confirm | n | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
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| | | | | | | | | | | |
| | | | | | | | 1 | | 4 | |
| Please | press | origin | key and | d then | press | start | key | to fi | nd or | igin < |
| | | | | | | | | | | Return |

4.2 Mechanical settings

Click the **"Mechanical Setting** "button to enter the following interface, in this interface can be related to the machine parameter settings.

| 🌾 PanelRobot | | | | | <u>-0×</u> |
|------------------|-----------------|----------------|----------------|---------------------|------------|
| 🛞 🖌 Set | tings 🔥 | I/0 | Records: ttt | Alarm log | super |
| Operation | Program | Settings | | 2016-11-04 17:47:36 | 星期五 |
| Product Settings | achine Settings | Panel Settings | | | |
| | Running Configs | Here a configs | Struct Configs | System Configs | |
| Please pres | s origin key | and then | press start | key to find or | igin 🧹 |
| | | | | | Return |

4.2.1 Operating parameters



Click the Running Configs button to enter the following interface, in this interface can be

run under the relevant parameters.

| 🌾 PanelRobot | | | | | 10 | - 🗆 × |
|--------------------|------------------|----------------|--------------------|-----------|------------|--------|
| 🛞 🖉 Set | tings 🔥 | 1/0 | Records:ttt | Al | arm log | super |
| Operation | Program | Settings | | 2016-11-0 | 4 17:48:20 | 星期五 |
| Product Settings | lachine Setting: | Panel Settings | | | | |
| Tolerance 500000 | Pulse Turn Auto | Speed 10 | & Alarm Times 0 | Times | | |
| Independent Manual | L Speed | | | | | |
| X Manual Speed 0.0 | Y Manual Spee | ed 0.0 | Z Manual Speed 0.0 |) | | |
| V Manual Speed 0.0 | V Manual Spee | ed 0.0 | W Manual Speed |) | | |
| | | | | | | |
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| | | | | | | |
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| | | | | | | |
| | | | | | | |
| | | | | | | |
| Please press | s origin key | and then | press start | key to f | ind or | igin < |
| | | | | | | Return |

Tolerance: The difference between the transmit pulse and the feedback pulse.

Turn Auto Speed: three-block knob to run automatically when the default run speed settings.

Alarm Times: Set the alarm output Y013 flashing several times.

Independent Manual speed: Check this to set the speed of each axis in manual mode.

4.2.2 Motor parameters

| 🌾 PanelRobot | | | | | |
|---|---|------------------------|---|------------|------------------------------|
| 🛞 🖊 Set | tings 🔥 | 1/0 | Records: ttt | Alar | m log super |
| Operation | Program | Settings | | 2016-11-04 | 17:48:42 星期五 |
| Product Settings | lachine Setting: | Panel Settings | | | |
| x yn Y | Un Z | Un U Un | V Un W | Un | |
| Encoder Type Encoder Read Way Axis Type Motor Dir Pulse Count Per Circle Reduction Ratio Positive Limit Negative Limit Positive Limit Negative Limit Point Negative Limit Point | Encode Typel V Encode RW1 V Rotate V PP V 10000 a 1.01 100 mm -300 mm 11 A ON 2 A ON | Test Pulse Z Pul | tor Test Pulse Number: 10000 Sent: 0 received: 0 se: 0 Motor+ | Motor- | Test Clear Set All Origin |
| Please pres | s origin key | and then | press start | key to fi | nd origin < |
| | | | | | Return |

Axis use: All axes are selected as the default use, if not, please check the "do not" check box.

Encoder Read Way: At present, "Huichuan", "Anchuan", "Taida" three brands.

Axis Type: The current type is divided into three "absolute", "incremental", "none."

Motor Dir: classified as three "pulse", "CAN", "RS485".

Motor Dir: The axis type is divided into rotation and straight.

Pulse Count Per Circle: Set the number of pulses per revolution of the servo motor.

Reduction Ratio: Sets the reduction ratio of the servomotor.

The deceleration ratio is the ratio of the instantaneous input speed to the output speed in the reduction mechanism, denoted by the symbol "i".

If the input speed is 1500r / min, and the output speed is 25r / min, then the speed reduction

ratio is: i = 1, the speed ratio of the input speed and output speed is 1: 60: 1.

Positive Limit: The maximum distance the axis moves.

| Value | Input | Value | Input | Value | Input | Value | Input |
|-------|---------|-------|-------|-------|-------|-------|-------|
| 0 | Not use | | | | | | |
| 1 | X10 | 9 | X20 | 17 | X30 | 25 | X40 |
| 2 | X11 | 10 | X21 | 18 | X31 | 26 | X41 |
| 3 | X12 | 11 | X22 | 19 | X32 | 27 | X42 |
| 4 | X13 | 12 | X23 | 20 | X33 | 28 | X43 |
| 5 | X14 | 13 | X24 | 21 | X34 | 29 | X44 |
| 6 | X15 | 14 | X25 | 22 | X35 | 30 | X45 |
| 7 | X16 | 15 | X26 | 23 | X36 | 31 | X46 |
| 8 | X17 | 16 | X27 | 24 | X37 | 32 | X47 |

Negative limit: The minimum distance the axis moves.

Negative limit point: This item can define the negative limit point of X axis. The default is the normally closed point. If the check mark is set to long open point, input the specified value in the box to specify an input point as X axis negative limit point, Detailed numerical control please refer to the following table:

| Value | Input | Value | Input | Value | Input | Value | Input |
|-------|---------|-------|-------|-------|-------|-------|-------|
| 0 | Not use | | | | | | |
| 1 | X10 | 9 | X20 | 17 | X30 | 25 | X40 |
| 2 | X11 | 10 | X21 | 18 | X31 | 26 | X41 |
| 3 | X12 | 11 | X22 | 19 | X32 | 27 | X42 |
| 4 | X13 | 12 | X23 | 20 | X33 | 28 | X43 |
| 5 | X14 | 13 | X24 | 21 | X34 | 29 | X44 |
| 6 | X15 | 14 | X25 | 22 | X35 | 30 | X45 |
| 7 | X16 | 15 | X26 | 23 | X36 | 31 | X46 |
| 8 | X17 | 16 | X27 | 24 | X37 | 32 | X47 |

Origin : This setting is when the axis in the homing to move forward or backward to find the origin, the default is to move forward, if you want to set the direction of movement please check the "reverse move."

Acceleration time(ACC 1): Set the acceleration time of the servo motor.

Deceleration time(ACC 2): Set the deceleration time of the servo motor.

Maximum speed(Max RPM): Set the maximum speed of the servo motor

Motor +: the motor forward test, test and feedback are displayed 10000, said the test was successful.

Motor -: the motor reversal test, the test showed 10000, 55536 feedback showed that the

test was successful.

Set to Origin: move a single axis or all axes to the origin and click "Set as Origin" or "Set All Origin" and click "Save".

4.2.3 Structural parameters

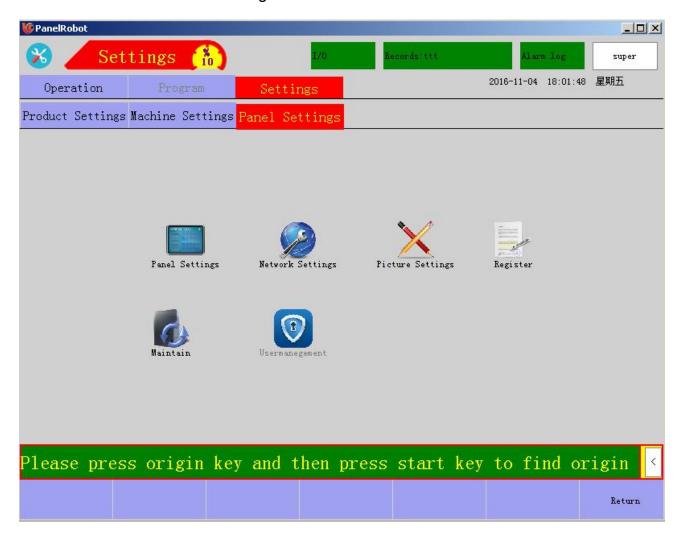


Click Struct Configs the button to enter the following interface, in this interface can be related to the configuration parameters.

| 🌾 PanelRobot | | | | | | | |
|---------------|--------------------------|--------------|-------------|------------|----------------|---------------------|--------|
| 8 | Settin | gs 🔥 | | 1/0 | Records:ttt | Alarm log | super |
| Operation | | Frogram | Setting | s l | | 2016-11-04 18:00:41 | 星期五 |
| Product Sett | ings <mark>l</mark> ach: | ine Settings | Panel Sett | ings | | | |
| SACC 1 | 0 | % SACC Time | 0.000 | m/s² | | | |
| SACC 2 | 0 | % SDec Time | 0.000 | m/s² | | | |
| SDEC 1 | 0 | % SACC Max | 0.000 | m/s | | | |
| SDEC 2 | 0 | % Analog | En | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Machine 0.000 | nm L23 | 3 330.000 | mm L4 | 131.000 mm | Axis2 Di 0.000 | • Axis6 Di 0.000 | • |
| Machine 0.000 | mm Ma | chine 0.000 | mm_L12 | 0.000 mm | Axis3 Di 0.000 |]• | |
| L01 410.000 | mm L34 | 4a 125.000 | mm 124 | 0.000 mm | Axis4 Di0.000 |]• | |
| Machine 0.000 | mm L34 | 4Ъ 383.000 | mm Axis1 Di | 0. 000 ° | Axis5 Di0.000 |]• | |
| Please_m | Cess o | rigin ker | v and th | en nress | start kev | to find or | igin < |
| r rease pi | . 055 0 | rigin kej | | ten prese | s Start Key | | |
| | | | | | | | Return |

4.3Manual setting

Click "**Panel Settings**" button to enter the following interface, in this interface can be related to the control device settings.



4.3.1 Manual setting



Click the Panel Settings button to enter the following interface, in this interface can be

related to the controller settings.

| le PanelRobot | | | | | | |
|-------------------|------------------|-------------------------------|------------|-----------------|------------------|---|
| 🛞 🖊 Se | ettings 🧃 | | /0 Records | | larm log super | |
| Operation | Program | Settings | | 2016-11 | -04 18:02:10 星期五 | |
| Product Settin | gs Machine Sett | <mark>ings</mark> Panel Setti | ngs | | | |
| Language 中文 | English | | | | | |
| Key Tone Key | Tone Off 🗹 Key 1 | one On | | Touch Calibrate | | |
| Brightness - | | + | | | | |
| Screensaver Time5 | min | | | | | |
| Date time | 2016 year | 11 mon 4 day | 18 hour | 2 minute | 5 sec | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Dlasca pro | ec origin | key and the | n proce et | art kov to | find origin | |
| r rease pre | ess of rgill | key and the | n press st | art key to | | Ĺ |
| | | | | | Return | n |

Language: Select Chinese or English.

Key tone: key tone on, off switch.

Date time: The system displays the date and time, select the date and time, press the plus or minus keys to change.

Screensaver time: Set the time when the Screensaver time is on.

Brightness: Adjusts the brightness of the display.

Touch Calibrate: click and follow the prompts to operate can be corrected, or random rotation of the three-wheel knob and then use the hand controller shortcut keys in order to press $F5 \rightarrow F3 \rightarrow F4 \rightarrow F3 \rightarrow F2 \rightarrow F3 \rightarrow F1 \rightarrow F5$ into the school screen Interface, follow the prompts to screen.

4.3.2 Network Configuration



Click the Network Settings button to enter the following interface, in this interface can be related to the network settings.

| 🌾 PanelRobot | | | | | | | | |
|--------------------|-----------------|----------------------------|----------|-------------|---------|------------|---------|--------|
| 🛞 🖊 S | ettings 🧯 | <u>čo</u>) | I/O | Records: tt | t | Alarm J | Log | super |
| Operation | Program | Sett | ings | | 20 | 16-11-07 1 | 0:20:24 | 星期→ |
| Product Settin | ngs Machine Set | tings <mark>Panel S</mark> | Settings | | | | | |
| Network En | | | | | | | | |
| Local Addr: [| 192 . 168 | . 10 . 201 | | | | | | |
| Host Addr: [| 192 . 168 | . 10 . 197 | 9760 | | | | | |
| CommunicateMode Se | rve 🔻 | | | | | | | |
| Save | | | | | | | | |
| Send Test | | | | | | | | |
| text | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| Please pr | ess origin | key and | then pr | ess star | t key t | to fin | d ori | gin < |
| | | | | | | | | Return |

Instructions:



- 2, set the robot IP address.
- 3, fill in the target peripheral IP address.
- 4, select the communication mode.
- 5, click [save] button to save the set data.
- 6. Click the [Send Test Data] button.

7, waiting for external feedback to the hand controller data that the network configuration is successful.

4.3.3 Picture settings



Click the Picture Settings button to enter the following interface, in this interface, the

controller can start the picture and standby picture to update.

| W PanelRobot | | and the second second | | | _ 🗆 🗙 |
|---------------------|--------|-----------------------|--------|---------------------|-------|
| 🛞 参数 | 故设定 🚹 | 1/0监视 | 程序:he | 报警记录 | super |
| 手动操作 | 编程 | 参数设定 | | 2016-10-09 09:36:13 | 星期天 |
| 产品设定 | 机器设定 | 手控设定 | 0 | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | - 10 | | |
| 扫描图片 | | 设为启动图片 | 设为待机图片 | | |
| | | | | | |
| 请按原点键象 | 《后按启动键 | 原点复归. | | | < |
| | | | | | 返回 |

Start page and standby page Update method:

1, Production Pictures:

Image size: Start page image: Width * Height is 800 * 600 (unit: pixels).

Standby page image: width * height of 800 * 400 (unit: pixels).

Format: png format

- 2, In the U disk with the directory new HCUpdate_pic, copy the picture to the folder
- 3, Insert the U disk to the manual control device to enter the picture settings interface, click

on the scan picture, select the picture, select the start page or set to standby page

4, If the standby page, change the status of the third gear can be set to boot the success of the start up page view you need to re-power to view.

4.3.4 Registration



Click the Register button to enter the following interface, in this interface can be registered under the age hand controller.

| PanelRobot | | | | | | | | | | | × |
|---------------|---------|-------------|------------------------|------------|---------|------------|-------|----------|----------|--------|---|
| 88 🧹 | Sett | ings 🔓 | | 1/0 | R | ecords:ttt | | Alarn | log | super | |
| Operatio | on | Program | | Settings | | | 20 | 16-11-07 | 10:40:38 | 星期一 | |
| Product Set | tings M | achine Sett | ings <mark>Pa</mark> ı | nel Settin | gs | | | | | | |
| Register Code | | Regi | ster | | | | | | | | |
| Please j | press | origin | key a | and ther | n press | start | key t | to fi | nd or | igin | < |
| | | | | | | | | | | Return | |

Registration method: Enter the registration code Click "Register" button to register successfully.

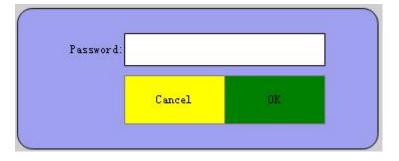
Special note: After entering the registration interface, the lower left corner and the lower

right corner, respectively, there are two hidden buttons.

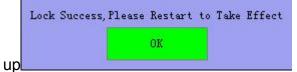
Hidden Button 1 Function: Click this button to set different registration codes for different usage periods.

How to use: The first step, click the hidden button 1 to open the blue box to open the following figure password login screen. Enter the password in this interface. Click the [OK] button.

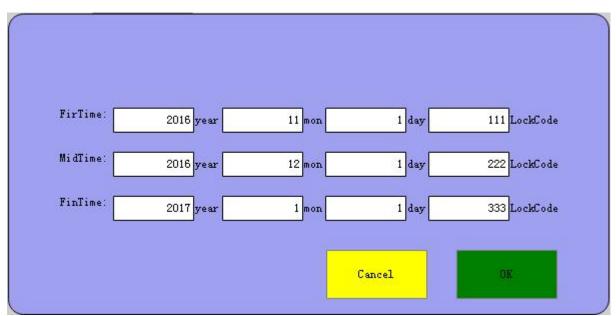
Tip: The account that can set this password must have root privileges



The second step is to set the corresponding registration code for different time periods as shown in the following figure. After setting, click [OK] button, then the system will pop



the screen. If you want to modify the settings,

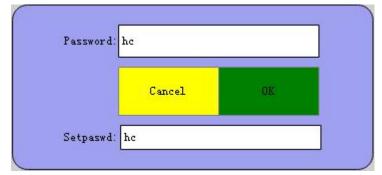


please see the hidden button 2 to use.

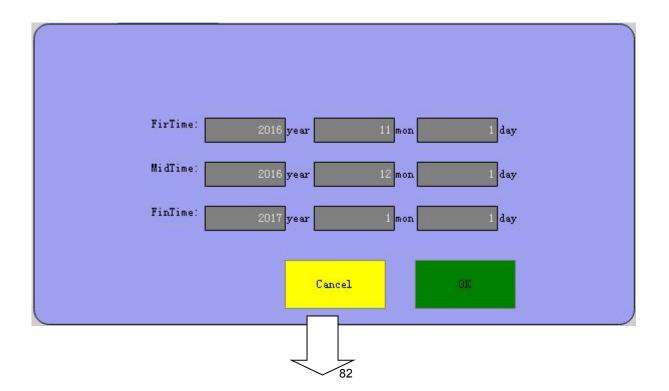
Hide button 2 function: modify the registration time and registration code.

Modify the use of the steps: The first step, click the hidden button 1 to open the blue box as shown below the password login screen. Enter the password in this interface. Click the [OK] button.

Tip: The account that can set this password must have root privileges



The second step, the login is complete, enter the following interface, in this interface edit box is locked, click on the hidden button 2 blue box live area pop-up keyboard input box, the default password is 88888, the password input keyboard edit box and then pop up a Confirmation box Click OK button to restart the system to click the hidden button 1 area to reset the time and password.



| Form | | | | |
|-------------------------------|------|---|-----|-----|
| Min:0 Max:400000 Prec:1 | 0000 | | | |
| 7 | 8 | 9 | + | - |
| 4 | 5 | 6 | Е | s |
| 1 | 2 | 3 | Car | cel |
| CE | o | • | E | nt |



| 🌾 PanelRobot | | | | | | | |
|------------------|------------------|---------------|-------|------------|-----------|------------|--------|
| 🛞 🖉 Set | tings 🔥 | 1/0 | R | ecords:ttt | AL | arm log | he |
| Operation | Program | Settings | | | 2016-11-0 | 7 10:57:07 | 星期一 |
| Product Settings | Machine Settings | Panel Setting | s | | | | |
| Register Code O | | | | | | | |
| | Register | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | Hide But | ton 1 |
| | | | | | | | |
| Please pres | s origin ke | y and then | press | start k | ey to f | ind or | igin < |
| Hi | de Button 2 | | | | | | Return |

4.3.5 Maintain



Click the Maintain button to enter the following interface. In this interface, you can

update the controller version and backup and restore parameters.

| 🌾 PanelRobot | | | | | | | | | | | | | IX |
|-----------------------------|----------|--------------------------------------|----------------------|---------------------|--------|----------|------------|-----|--------|-----------|---------|--------|----|
| 88 🥖 | Sett | ings 🔒 | | | I/0 | Re | scords:ttt | | | Alarm log | | he | |
| Operation | n | Program | | Settir | ngs | | | | 2016-1 | 1-07 11:0 | 0:45 🫓 | 星期一 | |
| Product Sett | tings Ma | achine Sett | ings <mark>Pa</mark> | nel Set | tting | s | | | | | | | |
| UI Version: PENTU Update | | <u>ot-1.1.4</u> ;Contro p/Restore | oller Vers: | ion: <u>1. 0. 1</u> | | | | | | | | | |
| | _/ | | Γ | | | | | | | Scan | Updater | 8 | |
| Manual ve | ersion r | number | | Main co | ontrol | board nu | mber | | | Start | Vpdate | e | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | A | 24 | | | 24 | | | | | |
| Please p | ress | origin | key a | and t | hen | press | start | key | to | find | ori | gin | < |
| | | | | | | | | | | | | Return | |

Version upgrade method: plug in the U disk, a few seconds, click "scan update "to select the version you want to upgrade and then click "start update".

The upper left corner of this screen displays the current manual version number and the master version number.

4.3.6 User Management

Click the button to enter the following interface, in this interface you can create, modify, delete the user name.

| 🌾 PanelRobot | | | | | | <u>- </u> |
|-----------------|---------------------|--------------------------------|-------------------------------------|---------|-----------------------------------|--|
| 🛞 🖉 Se | ttings 👫 | 1/0 | Records:ttt | | Alarm log | he |
| Operation | Program | Settings | | 2016-11 | 1-07 11:07:18 | 星期一 |
| Product Setting | s Machine Settir | <mark>ogs</mark> Panel Setting | s | | | |
| namelist: | super root hc | pa | ername: hc ssword: 123 cancel | delete | op mold syste root ok | |
| Please pre | ss origin l | cey and then | press start | key to | find or | igin < |
| | | | | | | Return |

System operator default password:

Op: 123

Admin: 123

Super: 123456

Root: 12345678

Permission Interpretation and Size Ranking: Op <Mold <System <User

Op: The permissions are: in the manual state can move the axis, but can not enter the teaching page to teach; automatic state can start the robot, adjust the speed; stop state can enter the home return.

Mold: This privilege has all the permissions of the Op; the settings associated with the model number.

System: This permission has: Op and Mold all rights; May revise the system parameter User: All operations are possible.

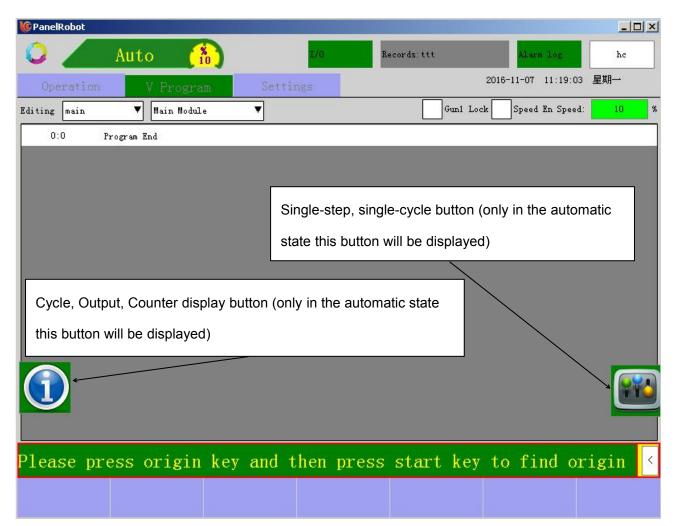
Create a new user name: Edit user name \rightarrow set password \rightarrow check the permissions \square Op \rightarrow click "OK".

- □ Admin
- □ Super
- \square System
- □ User

Delete User Name: Click the user list \rightarrow click [Delete] button.

5 Automatic state

The third gear switch to the far right to enter the automatic state, enter the state and then once again "Start" key to enter the automatic operation of the robot state.



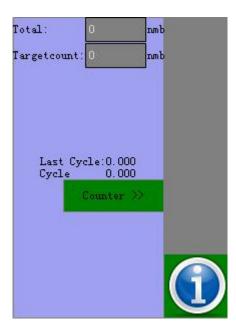
Lock gun: Check the gun will automatically shut down after the operation can not be used.

Speed control enable: After selecting the upper and lower keys on the hand controller, the system can adjust the speed.

Step mode: select a step as the single step starting point, and then click [single step start], the program will start from the start step has already started to carry out this step.

Single-cycle mode: the program will take a round starting position.

Cycle, output, count display button:



- 1, open this button to view the upper mold cycle time and current cycle time.
- 2, in this button to view the current output and target output.
- 3,Click the Counter button to view the counter status.

| Total: | counter[0]:444 | Target: 4 | Current: O | |
|------------|----------------|-----------|------------|--|
| Targetco | n | | | |
| Las Cyc | t 1 | | | |
| | | | | |

6 Alarm information and alarm reasons

| Alarm number | Alarm information | Processing methods |
|--------------|---|---|
| Err1 | Finish is not initialized | Start up is completed automatically cleared |
| Err2 | Host axis configuration and manually controlled-axis configurations | Select host according to demand or manual control |
| Err3 | Master axis configuration parameter error | No |
| Err4 | Not enough memory | Teaching program for too long, will reciprocate the same action using module integration. Press the stop key to clear the alarm. |
| Err5 | Teach parsing errors | Teach error manual and host application version does not match the type matches the version of the program. Press the stop key to clear the alarm. |
| Err6 | Teaching data editing errors | Edit error overload mode, or create a new model number. Press the stop key to clear the alarm. |

| | | Release the emergency stop press the stop button to clear alarms |
|----------------|---------------------------------|---|
| | | |
| F7 | En contra de co | Reason: 1, And the emergency stop switch is |
| Err7 | Emergency stop | pressed. 2, no wiring emergency stop switch |
| | | ports on the host, if not required, separately |
| | | that is, switch, you will need to \ensuremath{STOP} port is |
| | | shorted. |
| | | Press the stop key to clear the alarm. |
| Err8 | Autorun jumping errors | Reason: 1 , Teaches programs jump label is |
| | | invalid or was deleted. |
| Err9 | Failed to connect to host | Host free programs or the wrong version |
| Err10 | Teaching program errors | Press the stop key to clear the alarm. |
| F 14 | Configuration parameters are | Restart or press the stop key to clear the |
| Err11 | stored fails | alarm. |
| Err12 | Model set errors | Press the stop key to clear the alarm. |
| Err13 | Single step/Single-loop | Duese the step here to allow the allow |
| EIIIS | debugger setting errors | Press the stop key to clear the alarm. |
| F ==4.4 | From the host FLASH Data | From the heat FLACL D (|
| Err14 | read error | From the host FLASH Data read error |
| | | 1, And repair wiring |
| Err15 | IO Communication failure | |
| | | 2, Examination boards, IO |
| Err16 | Servo absolute position read | Check the host and servo wiring |
| | failed | |
| Err17 | Servo absolute position | Check the host and servo wiring |
| | failed to read the calibration | |

| Err18 | Read function code error servo absolute position | Check the host and servo wiring |
|-------|---|--|
| Err19 | Servo absolute position read timeout | Check the host and servo wiring |
| Err20 | IO 2 Communication failure | And repair wiring . Check motherboard IO. |
| Err21 | IO 3 Communication failure | And repair wiring . Check motherboard IO. |
| Err22 | IO 4 Communication failure | And repair wiring . Check motherboard IO. |
| Err23 | Hand control and inconsistent host teaching program | No |
| Err24 | FPGA Alarm, power failure restart!!!! | No |
| Err90 | Motor 1 Alarm | Motor connection failure, or the host circuit failure Reason: 1, Host, and servo-drive connector; 2,Servo alarm failure; |

| | | Motor connection failure, or the host circuit failure |
|-------|----------------------|---|
| Err91 | Motor 2 Alarm | Reason: 1, Host, and servo-drive connector; |
| | | Servo alarm failure; |
| | | Motor connection failure, or the host circuit failure |
| Err92 | Motor 3 Alarm | Reason: 1, Host, and servo-drive connector; |
| | | Servo alarm failure; |
| | | Motor connection failure, or the host circuit failure |
| Err93 | Motor 4 Alarm | Reason: 1,Host, and servo-drive connector; |
| | | Servo alarm failure; |
| | | Motor connection failure, or the host circuit failure |
| Err94 | Motor 5 Alarm | Reason: 1, Host, and servo-drive connector; |
| | | Servo alarm failure; |

| | | Motor connection failure, or the host circuit failure |
|--------|---------------------------|---|
| Err95 | Motor 6 Alarm | Reason: 1 , Host, and servo-drive connector; |
| | | Servo alarm failure; |
| | | Motor connection failure, or the host circuit failure |
| Err96 | Motor 7 Alarm | Reason: 1, Host, and servo-drive connector; |
| | | Servo alarm failure; |
| Err97 | Motor 8 Alarm | Motor connection failure, or the host circuit failure |
| Err100 | Axis 1 Sports fail | Press the stop key to clear the alarm. Movement again. Reason: 1, Teaches the same axis at the same time campaigns; 2, Main program and subroutine has the same shafts at the same time campaigns; 3,Teach single axis motion trajectory and run at the same time; |

| | Axis 2 Sports fail | Press the stop key to clear the alarm. Movement again. |
|--------|---------------------------|--|
| | | Reason: 1 , Teaches the same axis at the same time campaigns; |
| Err101 | | 2 , Main program and subroutine has the same shafts at the same time campaigns; |
| | | 3 ,Teach single axis motion trajectory and run at the same time; |
| | | Press the stop key to clear the alarm. |
| | | Movement again. |
| Err102 | Axis 3 Sports fail | Reason: 1 , Teaches the same axis at the same time campaigns; |
| | | ${f 2}$,Main program and subroutine has the same |
| | | shafts at the same time campaigns; |
| | | 3 ,Teach single axis motion trajectory and run at the same time; |
| | | Press the stop key to clear the alarm. |
| | | Movement again. |
| Err103 | Axis 4 Sports fail | Reason: 1, Teaches the same axis at the same time campaigns; 2,Main program and subroutine has the same |
| | | shafts at the same time campaigns; |
| | | Shares are some sime sume sumparant, |
| | | ${f 3}$, Teach single axis motion trajectory and |
| | | run at the same time;; |

| | | Press the stop key to clear the alarm. Movement again. |
|--------|---------------------------|---|
| | Axis 5 Sports fail | Reason: 1 , Teaches the same axis at the same time campaigns; |
| Err104 | | 2 ,Main program and subroutine has the same shafts at the same time campaigns; |
| | | 3 ,Teach single axis motion trajectory and run at the same time; |
| | | Press the stop key to clear the alarm. |
| | | |
| | | Movement again. |
| | | Reason: 1, Teaches the same axis at the |
| | | same time campaigns; |
| Err105 | Axis 6 Sports fail | 2 ,Main program and subroutine has the same |
| | | shafts at the same time campaigns; |
| | | |
| | | 3 , Teach single axis motion trajectory and |
| | | run at the same time; |
| | | Press the stop key to clear the alarm. |
| | | Movement again. |
| Err106 | | Reason: 1, Teaches the same axis at the |
| | | same time campaigns; |
| | Axis 7 Sports fail | |
| | | ${f 2}$, Main program and subroutine has the |
| | | same shafts at the same time campaigns; |
| | | 3 , Teach single axis motion trajectory and |
| | | run at the same time; |

| | | 1 |
|--------------|-----------------------------------|---|
| | | Press the stop key to clear the alarm. |
| | | Movement again. |
| | | Reason: 1,Teaches the same axis at the same |
| | | time campaigns; |
| Err107 | Axis 8 Sports fail | 2 Main program and subrouting has the same |
| | | 2 ,Main program and subroutine has the same shafts at the same time campaigns; |
| | | Sharob at the same time comparishes, |
| | | 3 ,Teach single axis motion trajectory and |
| | | run at the same time; |
| | | Press the stop key to clear the alarm. |
| Err110 | Axis 1 Speed setting error | Movement again. |
| | | |
| F 444 | | Press the stop key to clear the alarm. |
| Err111 | Axis 2 Speed setting error | Movement again. |
| Err112 | Axis 3 Speed setting error | Press the stop key to clear the alarm. |
| | | Movement again. |
| Err113 | Axis 4 Speed setting error | Press the stop key to clear the alarm. |
| | | Movement again. |
| Err114 | Axis 5 Speed setting error | Press the stop key to clear the alarm. |
| | | Movement again. |
| Err115 | Axis 6 Speed setting error | Press the stop key to clear the alarm. |
| | | Movement again. |
| Err116 | Axis 7 Speed setting error | Press the stop key to clear the alarm. |
| | | Movement again. |
| Err117 | Axis 8 Speed setting error | Press the stop key to clear the alarm. |
| | | Movement again. |

| Err120 | Axis 1 Movement speed | Press the stop key to clear the alarm. Movement again. Reason: 1 ,Tracks acceleration setting too large |
|--------|------------------------------|---|
| Err121 | Axis 2 Movement speed | Press the stop key to clear the alarm. Movement again. |
| Err122 | Axis 3 Movement speed | Press the stop key to clear the alarm. Movement again. |
| Err123 | Axis 4 Movement speed | Press the stop key to clear the alarm. Movement again. |
| Err124 | Axis 5 Movement speed | Press the stop key to clear the alarm. Movement again. |
| Err125 | Axis 6 Movement speed | Press the stop key to clear the alarm. Movement again. |
| Err126 | Axis 7 Movement speed | Press the stop key to clear the alarm. Movement again. |
| Err127 | Axis 8 Movement speed | Press the stop key to clear the alarm. Movement again. |
| Err130 | Axis 1 Limit alarm | Press the stop key to clear the alarm. Movement again. Reason: 1, Soft limit, sporting more than single-axis, reset uni axial soft limit; 2, Teaches procedures uni axial soft position out of range limit, modify the guidance program location. |

| | | Press the stop key to clear the alarm. Movement again. |
|--------|---------------------------|--|
| Err131 | Axis 2 Limit alarm | Reason: 1 ,Soft limit, sporting more than single-axis, reset uniaxial soft limit; |
| | | Single and, reset antantal bert fimit, |
| | | ${f 2}$, Teaches procedures uniaxial soft |
| | | position out of range limit, modify the |
| | | guidance program location. |
| | | Press the stop key to clear the alarm. |
| | | Movement again. |
| Err132 | Axis 3 Limit alarm | Reason: 1 ,Soft limit, sporting more than single-axis, reset uniaxial soft limit; |
| | | |
| | | 2 ,Teaches procedures uniaxial soft |
| | | position out of range limit, modify the |
| | | guidance program location. |
| | | Press the stop key to clear the alarm. |
| | | Movement again. |
| | | Reason: 1, Soft limit, sporting more than |
| Err133 | Axis 4 Limit alarm | single-axis, reset uniaxial soft limit; |
| | | 2 , Teaches procedures uniaxial soft |
| | | position out of range limit, modify the |
| | | guidance program location. |
| | | - I |

| | | Press the stop key to clear the alarm. Movement again. |
|--------|---------------------------|---|
| Err134 | Axis 5 Limit alarm | Reason: 1 ,Soft limit, sporting more than single-axis, reset uniaxial soft limit; |
| | | 2 , Teaches procedures uniaxial soft |
| | | position out of range limit, modify the |
| | | |
| | | guidance program location. |
| | | Press the stop key to clear the alarm. |
| | | Movement again. |
| | | Reason: 1, Soft limit, sporting more than |
| Err135 | Axis 6 Limit alarm | single-axis, reset uniaxial soft limit; |
| | | 2 ,Teaches procedures uniaxial soft |
| | | position out of range limit, modify the |
| | | guidance program location. |
| | | Press the stop key to clear the alarm. |
| | | Movement again. |
| | | Reason: 1 ,Soft limit, sporting more than |
| Err136 | Axis 7 Limit alarm | single-axis, reset uniaxial soft limit; |
| | | 2 ,Teaches procedures uniaxial soft |
| | | position out of range limit, modify the |
| | | guidance program location. |

| | | 1 |
|--------|------------------------------------|---|
| | | Press the stop key to clear the alarm. Movement again. |
| Err137 | Axis 8 Limit alarm | Reason: 1 , Soft limit, sporting more than single-axis, reset uniaxial soft limit; |
| | | single-axis, leset uniaxial solt limit, |
| | | 2 , Teaches procedures uniaxial soft |
| | | position out of range limit, modify the |
| | | guidance program location. |
| | | Press the stop key to clear the alarm. |
| | | Movement again. |
| Err140 | Avia 1 Negative limit alarm | Reason: 1 , Soft limit, sporting more than |
| | Axis 1 Negative limit alarm | single-axis, reset uniaxial soft limit; |
| | | 2 ,Teaches procedures uniaxial soft |
| | | position out of range limit, modify the |
| | | guidance program location. |
| | | Press the stop key to clear the alarm. |
| | | Movement again. |
| Err141 | | Reason: 1 Soft limit, sporting more than |
| | Axis 2 Negative limit alarm | single-axis, reset uniaxial soft limit; |
| | | 2 ,Teaches procedures uniaxial soft |
| | | position out of range limit, modify the |
| | | guidance program location. |
| I | 1 | 1 |

| | | 1 |
|--------|------------------------------------|--|
| | | Press the stop key to clear the alarm. Movement again. |
| Err142 | Axis 3 Negative limit alarm | Reason: 1 ,Soft limit, sporting more than single-axis, reset uniaxial soft limit; |
| | | 2 , Teaches procedures uniaxial soft position out of range limit, modify the guidance program location. |
| | | Press the stop key to clear the alarm. |
| | | Movement again. |
| Err143 | Axis 4 Negative limit alarm | Reason: 1,Soft limit, sporting more than single-axis, reset uniaxial soft limit; 2,Teaches procedures uniaxial soft position out of range limit, modify the |
| | | guidance program location. Press the stop key to clear the alarm. |
| | | Movement again. |
| Err144 | Axis 5 Negative limit alarm | Reason: 1 ,Soft limit, sporting more than single-axis, reset uniaxial soft limit; |
| | | 2 , Teaches procedures uniaxial soft |
| | | position out of range limit, modify the |
| | | guidance program location. |

| Err145 | Axis 6 Negative limit alarm | Press the stop key to clear the alarm. Movement again. Reason: 1, Soft limit, sporting more than single-axis, reset uniaxial soft limit; 2,Teaches procedures uniaxial soft position out of range limit, modify the guidance program location. |
|--------|------------------------------------|---|
| Err146 | Axis 7 Negative limit alarm | Press the stop key to clear the alarm. Movement again. Reason: 1 ,Soft limit, sporting more than single-axis, reset uniaxial soft limit; 2 ,Teaches procedures uniaxial soft position out of range limit, modify the guidance program location. |
| Err147 | Axis 8 Negative limit alarm | Press the stop key to clear the alarm. Movement again. Reason: 1, Soft limit, sporting more than single-axis, reset uniaxial soft limit; 2,Teaches procedures uniaxial soft position out of range limit, modify the guidance program location. |

| Err150 | Axis 1 Large deviation | <pre>Machine setting -> Operating parameters, Tolerance set, press the stop key to clear the alarm. Movement again. Reason: 1, Servo feedback signal not in the motor page to test motor positive inversion. 2,Tolerance is set too small, campaigns, feedback pulse and pulse output there is a gap, the tolerance value is set to a reasonable position.</pre> |
|--------|-------------------------------|---|
| Err151 | Axis 2 Large deviation | Machine setting -> Operating parameters, Tolerance set, press the stop key to clear the alarm. Movement again. Reason: 1,Servo feedback signal not in the motor page to test motor positive inversion. 2,Tolerance is set too small, campaigns, feedback pulse and pulse output there is a gap, the tolerance value is set to a reasonable position. |

| | | Machine setting -> Operating parameters, |
|--------|-------------------------------|---|
| | | Tolerance set, press the stop key to clear the |
| | | alarm. Movement again. |
| | | |
| | | Reason: 1 ,Servo feedback signal not in the |
| Err152 | Axis 3 Large deviation | motor page to test motor positive inversion. |
| | | |
| | | 2,Tolerance is set too small, campaigns, |
| | | feedback pulse and pulse output there is a gap, |
| | | the tolerance value is set to a reasonable |
| | | position. |
| | | |
| | Axis 4 Large deviation | Machine setting -> Operating parameters, |
| | | Tolerance set, press the stop key to clear the |
| Err153 | | alarm. Movement again. |
| | | |
| | | Reason: 1 ,Servo feedback signal not in the |
| | | motor page to test motor positive inversion. |
| | | |
| | | 2 , Tolerance is set too small, campaigns, |
| | | feedback pulse and pulse output there is a gap, |
| | | the tolerance value is set to a reasonable |
| | | position. |
| | | |

| | | Machine setting -> Operating parameters, Tolerance set, press the stop key to clear the alarm. Movement again. |
|--------|-------------------------------|--|
| Err154 | Axis 5 Large deviation | Reason: 1 ,Servo feedback signal not in the motor page to test motor positive inversion. |
| | | 2, Tolerance is set too small, campaigns, feedback pulse and pulse output there is a gap, the tolerance value is set to a reasonable position. |
| Err155 | Axis 6 Large deviation | <pre>Machine setting -> Operating parameters, Tolerance set, press the stop key to clear the alarm. Movement again. Reason: 1, Servo feedback signal not in the motor page to test motor positive inversion. 2, Tolerance is set too small, campaigns, feedback pulse and pulse output there is a gap, the tolerance value is set to a reasonable position.</pre> |
| Err156 | Axis 7 Large deviation | Machine setting -> Operating parameters, Tolerance set, press the stop key to clear the alarm. Movement again. |

| Err157 | Axis 8 Large deviation | Machine setting -> Operating parameters, Tolerance set, press the stop key to clear the alarm. Movement again. Reason: 1, Servo feedback signal not in the motor page to test motor positive inversion. |
|--------|----------------------------------|---|
| | | 2, Tolerance is set too small, campaigns, feedback pulse and pulse output there is a gap, the tolerance value is set to a reasonable position. |
| Err160 | Axis 1 Acceleration alarm | Press the stop key to clear the alarm. Movement again. Reason: 1 And acceleration setting too large. |
| Err161 | Axis 2 Acceleration alarm | Press the stop key to clear the alarm. Movement again. Reason: 1 And acceleration setting too large. |
| Err162 | Axis 3 Acceleration alarm | Press the stop key to clear the alarm. Movement again. Reason: 1 And acceleration setting too large. |
| Err163 | Axis 4 Acceleration alarm | Press the stop key to clear the alarm. Movement again. Reason: 1 And acceleration setting too large. |

| Err164 | Axis 5 Acceleration alarm | Press the stop key to clear the alarm. Movement again. |
|---------------|----------------------------------|---|
| | | Reason: 1 And acceleration setting too |
| | | large. |
| | | Press the stop key to clear the alarm. |
| F==105 | | Movement again. |
| Err165 | Axis 6 Acceleration alarm | Reason: 1 And acceleration setting too |
| | | large. |
| | | Press the stop key to clear the alarm. |
| | | Movement again. |
| Err166 | Axis 7 Acceleration alarm | movement again. |
| | | Reason: 1 And acceleration setting too |
| | | large. |
| | Axis 8 Acceleration alarm | Press the stop key to clear the alarm. |
| | | Movement again. |
| Err167 | | |
| | | Reason: 1 And acceleration setting too |
| | | large. |
| | | Press the stop key to clear the alarm. |
| | Axis 1 Limit signal alarm | Movement again. |
| Err170 | | Reason: 1, And ultimate disconnect signal |
| | | 2 , Limit signal normally closed or normally |
| | | open odds with the switch installation; |
| | | 3 ,And limit signal connected to the wrong port |
| | | - |

| | | Press the stop key to clear the alarm. Movement again. |
|--------|----------------------------------|---|
| | | Movement again. |
| | | Reason: 1, And ultimate disconnect signal |
| Err171 | Axis 2 Limit signal alarm | 2 ,Limit signal normally closed or |
| | | normally open odds with the switch |
| | | installation; |
| | | 3 , And limit signal connected to the wrong |
| | | port |
| | | Press the stop key to clear the alarm. |
| | | Movement again. |
| | Axis 3 Limit signal alarm | Reason: 1, And ultimate disconnect signal |
| Err172 | | 2 , Limit signal normally closed or normally |
| | | open odds with the switch installation; |
| | | 3 , And limit signal connected to the wrong |
| | | port |
| | | Press the stop key to clear the alarm. |
| | Axis 4 Limit signal alarm | Movement again. |
| Err173 | | |
| | | Reason: 1, And ultimate disconnect signal |
| | | 2 ,Limit signal normally closed or |
| | | normally open odds with the switch |
| | | installation; |
| | | 2 And limit airmal arrested to the |
| | | 3 , And limit signal connected to the wrong |
| | | port |

| | | Press the stop key to clear the alarm. Movement again. |
|--------|----------------------------------|---|
| | | Reason: 1 , And ultimate disconnect signal |
| Err174 | Axis 5 Limit signal alarm | 2 ,Limit signal normally closed or |
| | | normally open odds with the switch |
| | | installation; |
| | | 3 , And limit signal connected to the wrong |
| | | port |
| | | Press the stop key to clear the alarm. |
| | | Movement again. |
| Err175 | Axis 6 Limit signal alarm | Reason: 1,And ultimate disconnect signal |
| | | 2 ,Limit signal normally closed or |
| | | normally open odds with the switch |
| | | installation; |
| | | 3 , And limit signal connected to the wrong |
| | | port |
| | | Press the stop key to clear the alarm. |
| Err176 | Axis 7 Limit signal alarm | Movement again. |
| | | Reason: 1, And ultimate disconnect signal |
| | | 2 , Limit signal normally closed or normally |
| | | open odds with the switch installation; |
| | | 3 , And limit signal connected to the wrong |
| | | port |

| | | Duces the step here to clean the clean |
|--------|--|---|
| | | Press the stop key to clear the alarm. |
| | | Movement again. |
| | | Reason: 1, And ultimate disconnect signal |
| Err178 | Axis 8 Limit signal alarm | 2 , Limit signal normally closed or normally |
| | | open odds with the switch installation; |
| | | 3 , And limit signal connected to the wrong |
| | | port |
| | | Press the stop key to clear the alarm. |
| | | Movement again. |
| | Axis 1 Negative limit signal alarm | Reason: 1 ,And ultimate disconnect signal |
| Err180 | | |
| LITTOO | | 2 , Limit signal normally closed or normally |
| | | open odds with the switch installation; |
| | | 3 , And limit signal connected to the wrong |
| | | port |
| | | Press the stop key to clear the alarm. |
| | Axis 2 Negative limit signal alarm | Movement again. |
| Err181 | | Reason: 1 , And ultimate disconnect signal |
| | | |
| | | 2 , Limit signal normally closed or normally |
| | | open odds with the switch installation; |
| | | 2 And limit aignal connected to the surrow |
| | | 3, And limit signal connected to the wrong |
| | | port |

| | | Press the stop key to clear the alarm. |
|--------|--|---|
| | | Movement again. |
| | | |
| | | Reason: 1, And ultimate disconnect signal |
| Err182 | Axis 3 Negative limit signal | |
| EIITOZ | alarm | 2, Limit signal normally closed or normally |
| | | open odds with the switch installation; |
| | | |
| | | 3 , And limit signal connected to the wrong |
| | | port |
| | | Press the stop key to clear the alarm. |
| | | Movement again. |
| | | |
| | Axis 4 Negative limit signal alarm | Reason: 1, And ultimate disconnect signal |
| Err183 | | 2 , Limit signal normally closed or normally |
| | | open odds with the switch installation; |
| | | open odds with the switch installation, |
| | | 3 , And limit signal connected to the wrong |
| | | port |
| | | Press the stop key to clear the alarm. |
| | Axis 5 Negative limit signal alarm | Movement again. |
| | | |
| | | Reason: 1, And ultimate disconnect signal |
| Err184 | | |
| | | 2, Limit signal normally closed or normally |
| | | open odds with the switch installation; |
| | | |
| | | 3 , And limit signal connected to the wrong |
| | | port |

| | | 1 |
|---------|--|---|
| | | Press the stop key to clear the alarm. Movement again. |
| | | Reason: 1, And ultimate disconnect signal |
| Err185 | Axis 6 Negative limit signal | 2 ,Limit signal normally closed or |
| | alarm | normally open odds with the switch |
| | | installation; |
| | | 3 , And limit signal connected to the wrong |
| | | port |
| | | Press the stop key to clear the alarm. |
| | Axis 7 Negative limit signal alarm | Movement again. |
| | | Reason: 1, And ultimate disconnect signal |
| Err186 | | 2, Limit signal normally closed or normally |
| | | open odds with the switch installation; |
| | | 3 , And limit signal connected to the wrong |
| | | port |
| | Axis 8 Negative limit signal alarm | Press the stop key to clear the alarm. |
| Err187 | | Movement again. |
| | | Reason: 1, And ultimate disconnect signal |
| | | 2 , Limit signal normally closed or normally |
| | | open odds with the switch installation; |
| | | 3 , And limit signal connected to the wrong |
| | | port |

| Err190 | Axis 1 The original signal is not set | Press the stop key to clear the alarm. Reset. Cause: the axis origin signals not set system parameters. Original point teaches the Executive with the original signal. |
|--------|---|--|
| Err191 | Axis 2 The original signal is not set | Press the stop key to clear the alarm. Reset. Cause: the axis origin signals not set system parameters. Original point teaches the Executive with the original signal. |
| Err192 | Axis 3 The original signal is not set | Press the stop key to clear the alarm. Reset. Cause: the axis origin signals not set system parameters. Original point teaches the Executive with the original signal. |
| Err193 | Axis 4 The original signal is not set | Press the stop key to clear the alarm. Reset. Cause: the axis origin signals not set system parameters. Original point teaches the Executive with the original signal. |
| Err194 | Axis 5 The original signal is not set | Press the stop key to clear the alarm. Reset. Cause: the axis origin signals not set system parameters. Original point teaches the Executive with the original signal. |

| Err195 | Axis 6 The original signal is not set | Press the stop key to clear the alarm. Reset. Cause: the axis origin signals not set system parameters. Original point teaches the Executive with the original signal. |
|--------|---|--|
| Err196 | Axis 7 The original signal is not set | Press the stop key to clear the alarm. Reset. Cause: the axis origin signals not set system parameters. Original point teaches the Executive with the original signal. |
| Err197 | Axis 8 The original signal is not set | Press the stop key to clear the alarm. Reset. Cause: the axis origin signals not set system parameters. Original point teaches the Executive with the original signal. |
| Err200 | Motion failed | Press the stop key to clear the alarm. Movement again. Reason: there are some singular points in the trajectory, through single-axis motion around the singularity. |
| Err201 | Manual linear trajectory starting coordinates are not set | No |
| Err202 | Straight line trajectory endpoint coordinates manually is not set | No |

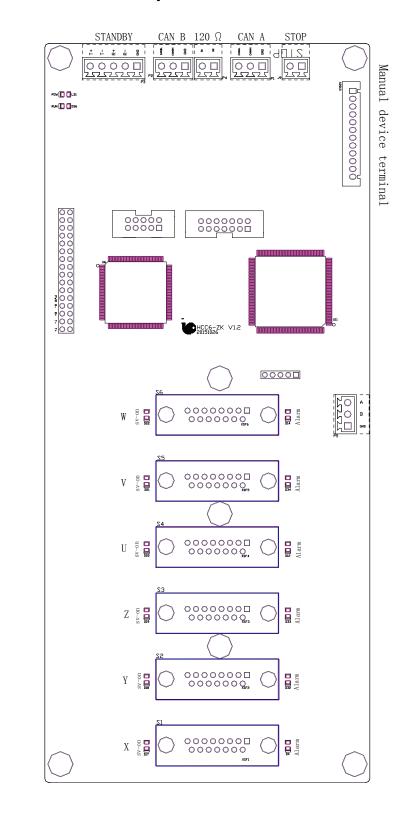
| | | |
|---------|---|----|
| Err203 | Joint exercise starting coordinates manually is not set | No |
| Err204 | Joint Movement end point coordinates manually is not set | No |
| Err205 | Move line relative coordinates manually is not set | No |
| Err206 | Joints move relative to the coordinates manually is not set | No |
| Err207 | Teach straight line trajectory starting coordinates is not set | No |
| Err208 | Teach a straight line trajectory endpoint coordinates is not set | No |
| Err209 | Teaches joint starting coordinates are not set | No |
| Err210 | Teaches joint movement end point coordinates is not set | No |
| Err211 | Guidance line relative coordinates is not set | No |
| Err212 | Teach joints move relative to the coordinate is not set | No |
| Err213 | Tracking movement of the arc starting point coordinates manually is not set | No |
| Err214 | Manual arc trajectory point coordinates in the middle is not set | No |

| Err215 | Manually track movement of the arc endpoint coordinates is not set | No |
|--------|--|--|
| Err216 | Taught arc trajectory starting point coordinates is not set | No |
| Err217 | Taught arc trajectory coordinates is not set | No |
| Err218 | Taught arc trajectory endpoint coordinates is not set | No |
| Err219 | Motion speed setting failed | Press the stop key to clear the alarm. Movement again. Reason: 1 Speed is set to 0 ; 2 , Trajectory in the movement, move on to the next motion, such as a track is running the main program, subroutine starts another trajectory. |
| Err220 | Trajectory planning of failure | Press the stop key to clear the alarm. Slow movement again. Reason: there are some singular points in the trajectory, through single-axis motion around the singularity. |
| Err221 | Trajectory planning failure | Reason: 1 Too fast, track movements, in a number of amendments to track speed, a joint motion is still too fast. |
| Err222 | Timed out waiting for stack data source | Reason: 1 , Visual picture is not successful. 2 Disconnect, Visual Communications. |
| Err223 | Stack data source error | Check the stack counter settings |

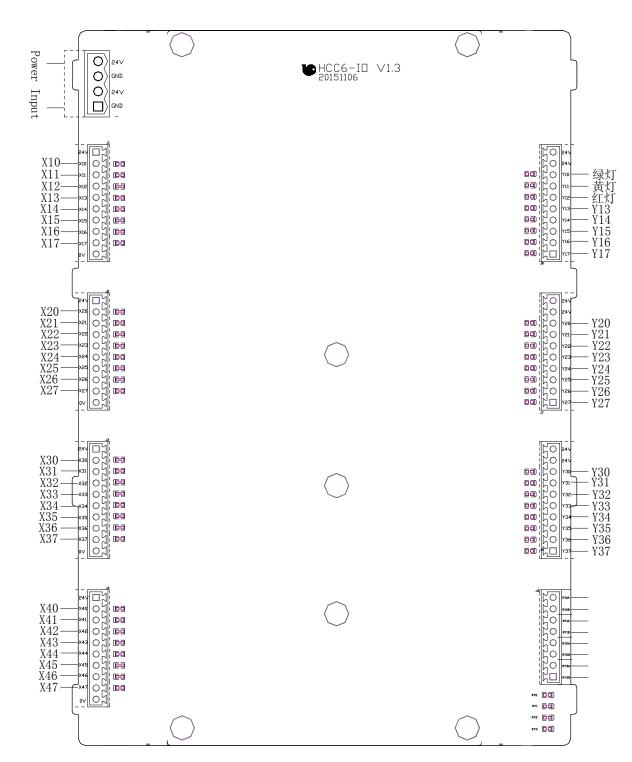
| Err300 | Counter is not defined | Press the stop key to clear the alarm. Reset. |
|--------|---------------------------------|--|
| Err500 | Axis 1 Overcurrent alarm | No |
| Err501 | Axis 2 Overcurrent alarm | No |
| Err502 | Axis 3 Overcurrent alarm | No |
| Err503 | Axis 4 Overcurrent alarm | No |
| Err504 | Axis 5 Overcurrent alarm | No |
| Err505 | Axis 6 Overcurrent alarm | No |
| Err506 | Axis 7 Overcurrent alarm | No |
| Err507 | Axis 8 Overcurrent alarm | No |
| Err510 | Axis 1 z Pulse errors | Check the servo wiring, check the servo |
| Err511 | Axis 2 z Pulse errors | Check the servo wiring, check the servo |
| Err512 | Axis 3 z Pulse errors | Check the servo wiring, check the servo |
| Err513 | Axis 4 z Pulse errors | Check the servo wiring, check the servo |
| Err514 | Axis 5 z Pulse errors | Check the servo wiring, check the servo |
| Err515 | Axis 6 z Pulse errors | Check the servo wiring, check the servo |
| Err516 | Axis 7 z Pulse errors | Check the servo wiring, check the servo |
| Err517 | Axis 8 z Pulse errors | Check the servo wiring, check the servo |
| Err520 | Axis 1 No z Pulse | Check the servo wiring, check the servo |
| Err521 | Axis 2 No z Pulse | Check the servo wiring, check the servo |
| Err522 | Axis 3 No z Pulse | Check the servo wiring, check the servo |
| Err523 | Axis 4 No z Pulse | Check the servo wiring, check the servo |
| Err524 | Axis 5 No z Pulse | Check the servo wiring, check the servo |
| Err525 | Axis 6 No z Pulse | Check the servo wiring, check the servo |
| Err526 | Axis 7 No z Pulse | Check the servo wiring, check the servo |
| Err527 | Axis 8 No z Pulse | Check the servo wiring, check the servo |
| Err530 | Axis 1 Origin offset | Origin has changed, reset the origin |

| Err531 | Axis 2 Origin offset | Origin has changed, reset the origin |
|--------------|--|--|
| Err532 | Axis 3 Origin offset | Origin has changed, reset the origin |
| Err533 | Axis 4 Origin offset | Origin has changed, reset the origin |
| Err534 | Axis 5 Origin offset | Origin has changed, reset the origin |
| Err535 | Axis 6 Origin offset | Origin has changed, reset the origin |
| Err536 | Axis 7 Origin offset | Origin has changed, reset the origin |
| Err537 | Axis 8 Origin offset | Origin has changed, reset the origin |
| Err2048 | IO Alarm start address | Press the stop key to clear the alarm. |
| Err4095 | IO Address is currently only up to the end of alarm 3583 | Press the stop key to clear the alarm. |
| Err5000 | Custom alarm started | Press the stop key to clear the alarm. |
| Err1000 0 | Custom alarm end | Press the stop key to clear the alarm. |

7 Board Port Definitions

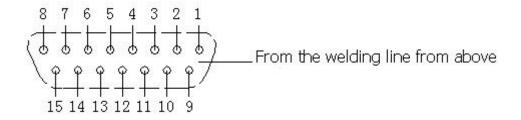


7.1 Main control board serial port definition



7.2 Port definition for the I / O board

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 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.

8.2 Example Panasonic servo motor used

| Control | | Set | |
|---------|-------------------------|-------|--|
| no | Parameter name | value | |
| Pr0.01 | Control mode set | 0 | |
| Pr0.07 | Command pulse input | 4 | |
| Pr0.07 | mode setting | 1 | |
| Pr0.08 | Motor pulses per | 10000 | |
| P10.08 | instruction | | |
| Pr0.11 | Motor pulses per output | 2500 | |
| | number | 2500 | |

Panasonic A5 Servo drive parameters

Panasonic A5 Servo drive wiring

| Control Panel terminal block interface | | Panasonic (A5) Servo drive interface | | | |
|---|-----------------------|--------------------------------------|---------------|-----------------------|--------------------------------|
| PIN numbe r | Signal definitions | Signal descriptions | PIN number | Signal definitions | Signal descriptions |
| 10 | P+ | Forward impulse | 3 | PULS1 | |
| 11 | P- | output | 4 | PULS2 | Command pulse input 1 |
| 13 | S+ | Reverse pulse | 5 | SIGN1 | Command pulse input 2 |
| 14 | S- | output | 6 | SIGN2 | Command pulse input 2 |
| 2 | A+ | A Feedback pulse | 21 | OA+ | |
| 3 | A- | input | 22 | OA- | A Pulse output |
| 4 | B+ | B Feedback pulse | 48 | OB+ | |
| 5 | В- | input | 49 | OB- | B Pulse output |
| 6 | Z+ | Z Feedback pulse | 23 | OZ+ | |
| 7 | Z- | input | 24 | OZ- | Z Pulse output |
| 1 | +24V | +24V Power supply | 7 | COM+ | External control power supply+ |
| | | 24V Power to the | 41 | COM- | External control power supply- |
| 9 | 0V | | 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+ | |

8.3 Using Mitsubishi servo motor records

Mitsubishi MR-E Servo drive parameters

(Resolution of servo motor 131072 Pulse / Turn)

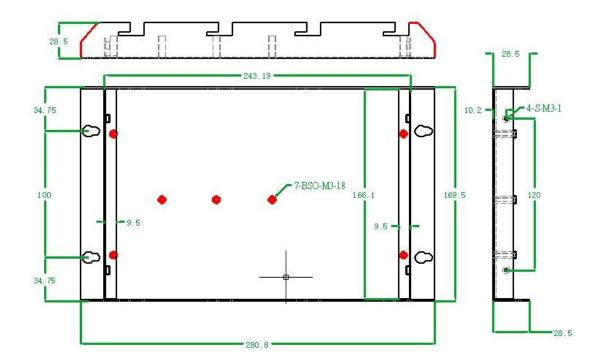
| Control no | Parameter name | Set value |
|------------|---|-----------|
| No.0 | Control mode | 0 |
| No.1 | Feature selection 1 The brake signal (CN1-12) | 0012 |
| No.3 | Electronic gear | 14 |
| No.4 | Electronic gearing denominator | 1 |
| No.21 | Command pulse option | 0000 |
| No.27 | Encoder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

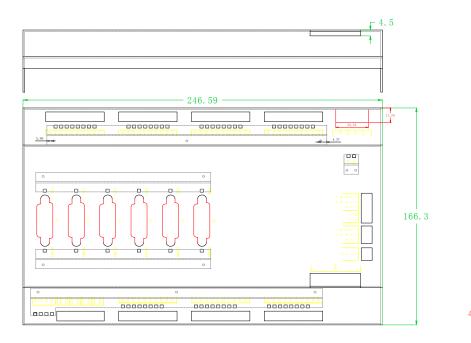
Mitsubishi MR-E Servo drive wiring

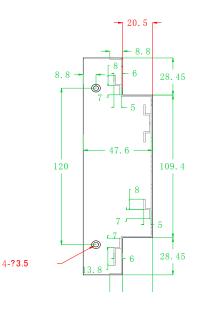
| Control Panel terminal block interface | | Mitsubishi MR-E Servo drive interface | | | | |
|--|---|---------------------------------------|-------------------|-----------------------|------------------------------|--|
| PIN numbe r | Signal definitions | Signal descriptions | PIN numbe r | Signal definitions | Signal descriptions | |
| 10 | P+ | Forward impulse | 23 | PP | Command pulse input 1 | |
| 11 | P- | output | 22 | PG | Command pulse input 1 | |
| 13 | S+ | Reverse pulse | 25 | NP | Command pulse input 2 | |
| 14 | S- | output | 24 | NG | Command pulse input 2 | |
| 2 | A+ | A Feedback pulse | 15 | LA | | |
| 3 | A- | input | 16 | LAR | A Pulse output | |
| 4 | B+ | B Feedback | 17 | LB | | |
| 5 | В- | pulse input | 18 | LBR | B Pulse output | |
| 6 | Z+ | Z Feedback pulse | 19 | LZ | Z Bules output | |
| 7 | Z- | input | 20 | LZR | Z Pulse output | |
| 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 cor | ntrol brake rela | y coil (output 0V) | 12 | MBR | Electromagnetic brakes | |
| Mitsubis | Mitsubishi servo drive Terminal CN1 : 6 (LSP)、 7(LSN) 、 8(EMG) And you want 13 (SG) Short | | | | | |



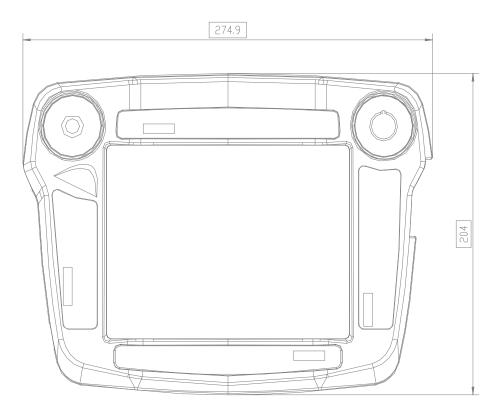
9.1 Board metal case sizes



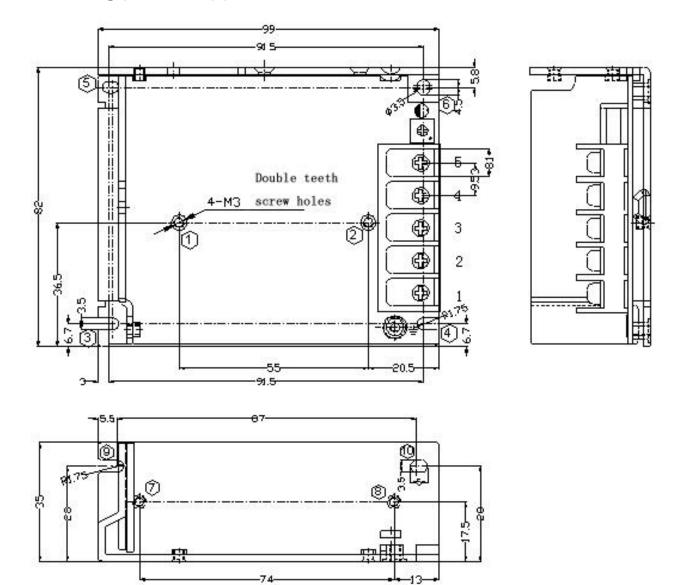




9.2 Hand controller

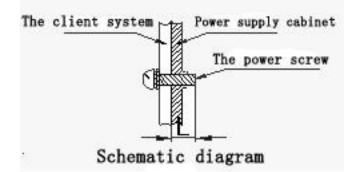


9.3 Switching power supplies installation dimensions



| The | installation | Install a no. | Screw | Lmax | Install |
|--------------|--------------|---------------|---------------|------|------------|
| installation | | | specification | | torque |
| position | | | | | |
| Floor | screws | 0-0 | M3 | 4mm | 6.5Kgf.cm(|
| installation | | 3-6 | M3 | 4mm | max) |
| The side | screws | 7-8 | M3 | 4mm | 6.5Kgf.cm(|
| | | 9-10 | M3 | 4mm | max) |

Note: n 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 | function | termi | The first material | Maximu |
|----|----------|-----------|-----------------------------|----------|
| no | | nal | installation specifications | m torque |
| 1 | Ν | 9.5 with | 22-14AWG | 12Kgf.cm |
| 2 | L | clamshell | | (max) |
| 3 | | terminals | | |

2, install and use dc input terminals

| A | function | termi | The first material | Maximu |
|----|----------|------------------------|-----------------------------|----------|
| no | | nal | installation specifications | m torque |
| 4 | +V | 9.5 with | 22-14AWG | 12Kgf.cm |
| 5 | -V | clamshell terminals | | (max) |

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