



Southern Machinery Sales and Service Co., Limited

User Instruction Manual of S-430AC

Auto Lead Cutter Machine

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1 Statement

Thank you for using the donghexing mechanical and electrical selective foot cutting machine series products. In order to better play the role of this equipment, save manpower, improve production efficiency, and ensure the safety and health of users, please read this manual before use.

for users who have not been exposed to automation equipment, it is inevitable that there will be a learning and familiarization process when using this equipment for the first time. In addition to the operation training for customers at the delivery site, we will also provide various technical support afterwards. At the same time, the equipment has fully considered the anti daze and easy operation, users do not need to worry when encountering faults, and operate strictly according to the instructions, which can avoid and solve most problems.

pay attention to safety when operating the machine! During normal operation, it is strictly forbidden to put hands or any other objects into the manipulator and z-axis working area. Learn to use the emergency stop button correctly.

in case of equipment failure caused by improper operation, our company will charge the maintenance fee according to the after-sales terms.Clause charge for maintenance.

If you have any questions and suggestions, please call us and we will serve you wholeheartedly.

2 Precautions

Please note the following:


It is forbidden to copy or reprint part or all of this data

If you have any questions about this information, please contact us

When using, please understand the specification and limitation of this power supply and software in detail. The company is not responsible for any damage caused by wrong operation.

As the supplier of the equipment, our company will not be responsible for the bad production and cost waste caused by the operator's operation error (track editing, cutting foot process treatment, etc.), please know.

The red font (italics) in the text must be strictly observed by equipment operators and technicians

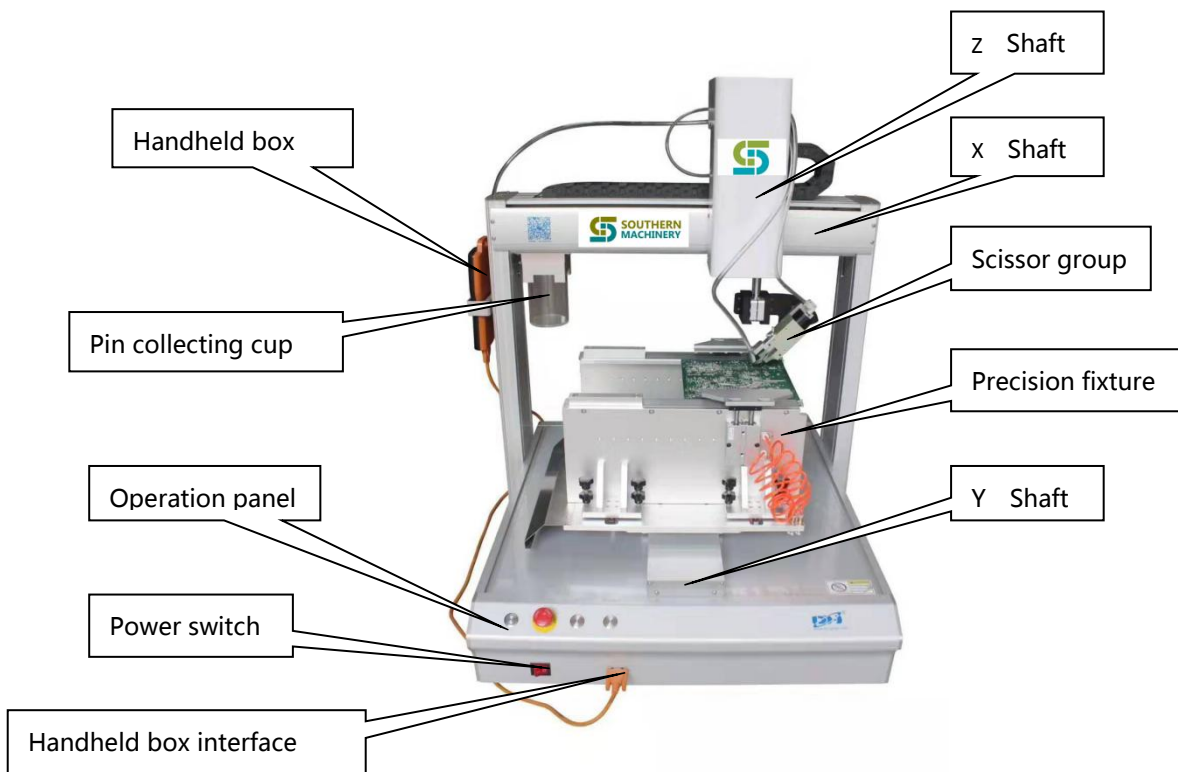
 Safety precautions	
<p>◆ <i>When using this product, whether in operation or stop, please carefully confirm the operation manual in the appendix and the warning display of the equipment before operation and maintenance</i></p>	<p>➤ <i>If the safety function fails due to negligence, it may cause injury, electric shock or failure</i></p>
<p>◆ <i>Please do not dismantle and re elect without permission</i></p>	<p>➤ <i>Without authorization, please do not change the product without authorization. The company will not be responsible for the consequences</i></p>
<p>◆ <i>Please avoid oil, water, foreign matter falling into the machine I'm very grateful to you</i></p>	<p>➤ <i>Otherwise, it may cause fire and electric shock I'm very grateful to you</i></p>
<p>◆ <i>Do not place the device in an unstable position</i></p>	<p>➤ <i>Otherwise, once the product inclines and slides, it may become the cause of personal accident</i></p>
<p>◆ <i>Please be sure to use grounding wire</i></p>	<p>➤ <i>Otherwise, it may cause fire, electric shock, injury and wrong action of the product</i></p>
<p>◆ <i>During the operation of the equipment, the hands, head and other body parts should not be close to the working area. Do not replace the workpiece when the equipment stops running</i></p>	<p>➤ <i>Otherwise, personal injury may be caused. When the z-axis drops, the hand may be caught between the scissors head and the y-axis working platform, which is very dangerous</i></p>
<p>◆ <i>Please repair and debug the electrical system by non professionals</i></p>	<p>➤ <i>Otherwise, it will reduce the safety performance of the equipment, expand the fault, and even cause personal injury and property loss</i></p>
<p>◆ <i>Please do not use it above the maximum speed set by the factory</i></p>	<p>➤ <i>Otherwise, it will be the cause of position deviation action and fault</i></p>
<p>◆ <i>Please clean the reusable accessories such as scissors, straw, pin collecting cup and muffler regularly</i></p>	<p>➤ <i>If the muffler is blocked by dust, it will be replaced and can not be reused, otherwise the suction will be reduced</i></p>

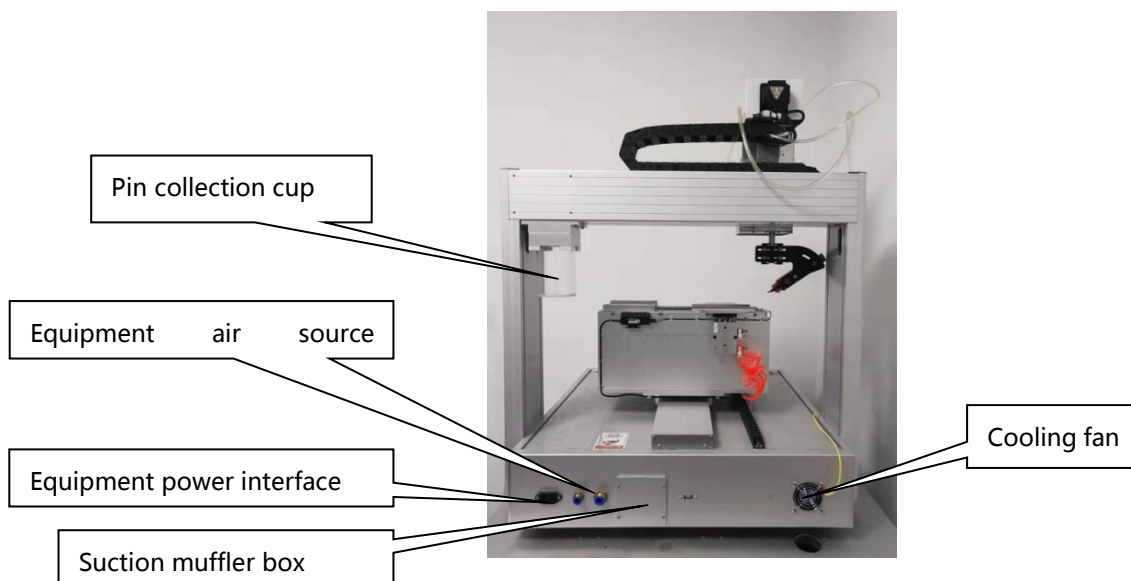
<p>◆ <i>In case of power failure of equipment and torque loss of motor, do not push the platform violently</i></p>	<p>➤ <i>Otherwise, scissors, Y-axis fixture and other parts may be damaged</i></p>
<p>◆ <i>Please turn off the power supply when replacing the workpiece fixture or repairing the machine</i></p>	<p>➤ <i>Otherwise, electric shock and personal accident may be caused</i></p>

3 Equipment introduction

The selective cutting machine is a kind of universal precision electronic equipment. It is suitable for cutting the pins of PCBA plug-ins when the pins are too long in the manufacturing process of electronic industry. It is widely used in various electronic manufacturing industries. It has the advantages of small size, convenient operation, stable performance, high efficiency and economic application.

Component description:





- 1、 Platform axis: X axis controls the scissors to move left and right. Y axis: control the precision fixture belt to move forward and backward with PCBA board. Z axis: controls the scissors to move up and down.
- 2、 Precision fixture: for clamping different PCBA products to be processed, the width can be easily adjusted.
- 3、 Handheld box: used for handheld program design, parameter modification and monitoring equipment status. After programming or modifying parameters, the handheld box can also be used for other equipment of the same type. But it can only be plugged or pulled out when the power is off, otherwise the handheld box will be damaged.
- 4、 Scissors group: R axis can adjust the shearing angle of scissors and the centering position of knife edge.
- 5、 Pin collecting cup: after cutting the pin, it can be inhaled into the collecting cup in real time and rotated out to facilitate cleaning.
- 6、 Suction muffler box: regularly open and remove the muffler for cleaning to ensure sufficient suction.
- 7、 operation panel :

name	effect
Hand scissors	Press the button to close the scissors; release the button to open the scissors
reset	Press to complete the reset action after the equipment stops
Emergency stop	Press the button, the program will stop, the device will stop immediately, release the emergency stop, the device will reset immediately.
start-up	When the device is in standby state, press the button to start the operation of the device; when the device is in operation state, press the button, and the device will stop immediately.

- 8、 Equipment air source interface: used to connect equipment air source interface.
- 9、 Cooling fan: used to heat the internal control circuit.
- 10、 Equipment power interface: used to connect external AC220V to supply power to the whole equipment. You're going to have to do something about it\Fuel oil.

4 Equipment operating instructions



When operating the handheld box, it is necessary to plug and unplug the serial port connection line when the power is off, so as to avoid burning the controller and the handheld box

1. Function introduction

1. The handheld box adopts 320 * 240 high-resolution color screen, 3.2-inch color LCD screen, all English operation interface, easy to learn and use.
2. It has graphic elements such as running point, straight line, multi segment line, three-dimensional arc (space arc), circle, runway, distance, coating, automatic fillet, irregular three-dimensional spline curve and other graphic elements; rich manual teaching function and graphic preview function.
3. It has the function of conditional jump and double mark point rotation.
4. With skip selection function, it can select multiple discontinuous instructions at the same time.
5. It can move the edited instruction to the target position.
6. With breakpoint execution function, it can be executed from the specified point.
7. It has the functions of area array copy, offset operation, batch editing, single step operation, I / O input and output.
8. With automatic execution, automatic reset, output setting, processing time timer and other functions. It has four different drawing process options, which can solve the process problems such as wire drawing (applicable to other non cutting foot models).
9. Customized logoshop software supports importing DXF and PLT files on the computer side, and automatic path optimization function.
10. After editing the action parameters, download the action parameters to the controller through the serial port, and the system can run independently offline. It can also save the action parameters to the handheld box for easy calling, and can copy and save graphics between devices.
11. The handheld box can store hundreds of processing files, and each file can support 8000 instructions, which can be called out when in use.
12. The hardware has four shear channels control, four channels of universal extended output, eight channels of input, and the time precision of cutting foot is 1ms.
13. Each action instruction has its own function of scissor closing delay, scissor opening delay and back cutting height. Flexible batch modification function can improve editing efficiency.
14. Batch modification of parameters by type is supported. A kind of
15. Storage mode: flash chip.

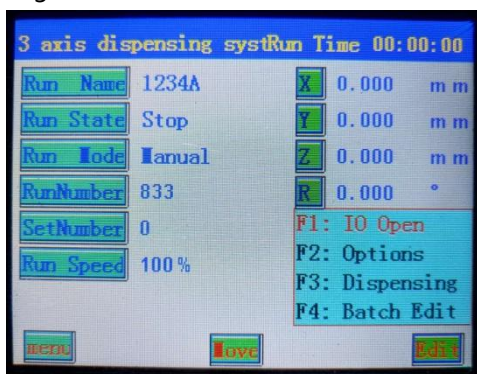
2. Power on equipment

1. After the equipment arrives at the factory, open the package or open the upper cover of the wooden box, take out the hand-held box and other accessories, and then remove the equipment and put it on the working table.

2. Plug in AC220V power line, connect two channels of 0.6MPa pressure air source respectively, and connect the handheld box
3. First connect the handheld box.
4. Then turn on the power switch (it takes about 10 seconds to enter the screen).
5. The handheld box screen enters the main interface. Release the control panel for emergency stop or press the reset button on the machine control panel. The machine will reset the origin first.

3. Introduction to the boot screen (please refer to the introduction of dispensing system for the introduction of cutting foot)

After power on, the handheld box will automatically jump to the auto boot screen - current working screen, as shown in the figure below :



Processing file: refers to the name of processing file ;

Working state: refers to the current working state of the machine, which is divided into three states: "stop, pause and run";

Working mode: refers to the operation mode of the machine, which is divided into two modes: "manual operation and automatic cycle operation";

Processing quantity: refers to the finished output of the machine; when the processing quantity = the set output, it means that the machine has finished processing quantity and stopped ;

Set output: refers to the preset output of machine operation;

Working speed: refers to the speed of equipment operation process, that is, the track speed of gluing. This speed is the percentage of the speed set during command editing, ranging from 0 to 100%; in this screen, directly pressing the arrow key "Y" can increase or decrease the working speed percentage, and pressing the "Z" key will increase or decrease the working speed percentage in 10 units. However, the working speed can not be modified in real time. Only after the speed is modified can the next operation be effective.

X : Refers to the current coordinates of the X-axis of the machine;

Y : Refers to the current coordinates of the Y axis of the machine ;

Z : Refers to the current coordinate of the Z axis of the machine;

F1 ~ F4 : For quick operation.

Press "menu" to enter "main menu" surface painting. See 3.6-16 for details.


Press move to move the device directly; As shown in the figure:



The left key "X" can jump to the first instruction in the current list, and the right "x key" can jump to the last instruction in the current list;

the "Y" key on the keyboard can move up the current command, and the down key "Y key" can move down the current command; when multiple choices are made, the Y key is the arrow key of the selected command.

on the keyboard, press "Z" to turn the page to the previous command list, and press "Z" to turn to the next page One page instruction list ;

“” Key to clear the selected command in the list ;

Keyboard "move" key can directly edit and modify the selected command coordinates (not automatically locate to the selected command coordinates) ;

The "#" key on the keyboard is used for the needle alignment operation on the selected point, and all instructions in this file will be offset accordingly after the needle is edited.

In this picture :

“ F1 ” To skip the selection function, discontinuous instructions (discontinuous instructions) can be selected for parameter editing.

Methods: select a target instruction, and then press F1, the serial number position of the instruction changes color, that is, the selection is successful. Select the second target instruction, and then press F1. According to this method, you can jump and select all target instructions for parameter editing. Cancel skip selection can be F1 (single cancel) or F4 (cancel all)

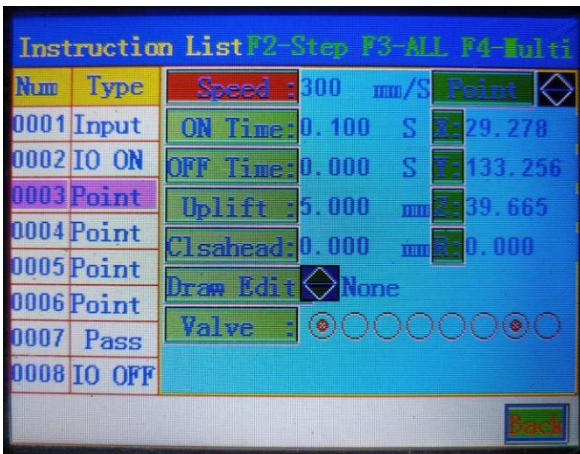
“F3” Select all commands for (i.e. select all) ,

“F4” In order to select a certain instruction (i.e. multiple selection), there is a cursor prompt.

Then press "operation" to copy the selected instruction, array copy, offset operation, batch modification, automatic fillet and other operations.

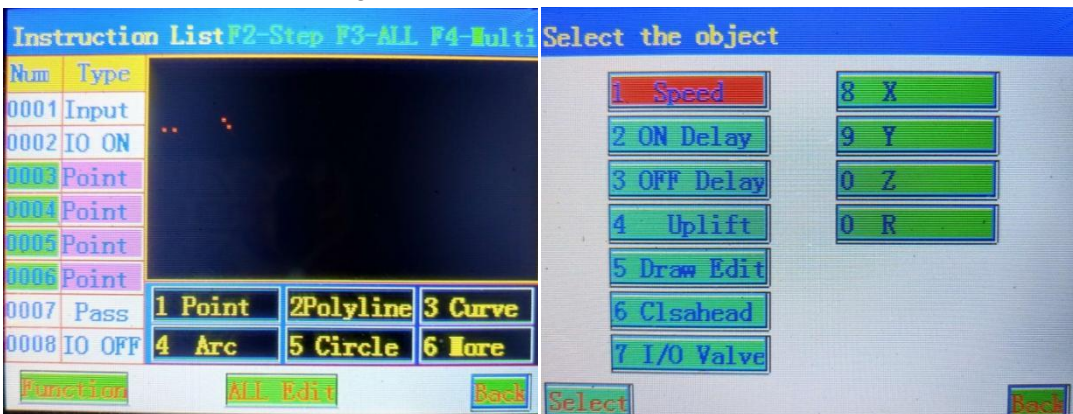
1. Copy instruction: refers to copy the selected instruction;
2. Array copy: refers to the instruction selected for matrix copy;
3. Offset operation: refers to the offset of the selected action command and the specified value of the coordinate offset;
4. Batch modification: refers to batch modification of a parameter to improve editing efficiency
5. Automatic fillet: it refers to the function of arc chamfering between line segments, but only limited to multi segment line chamfering.

In this screen, when only one command is selected by the cursor, then "parameter editing" will enter the following dialog box to modify the parameters of the current instruction. When any one or several parameters are changed, the "save" button will pop up automatically. After saving, the parameter modification is successful. As shown in the figure:

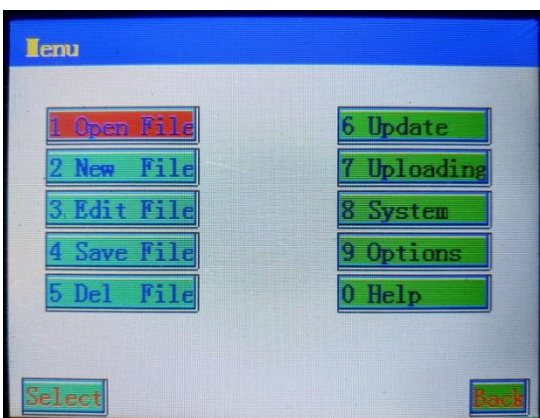


"Wire drawing process" can be divided into five options: no wire drawing, backward oblique pulling, backward pulling after lifting, forward oblique pulling and forward pulling after lifting. You can use the arrow key "Z" to switch.

when two or more instructions are selected by the cursor (i.e. multiple or all selected), the "parameter edit" will change to "batch modification", and the selected multiple instructions can be quickly modified in batchQuantity modification. As shown in the figure :



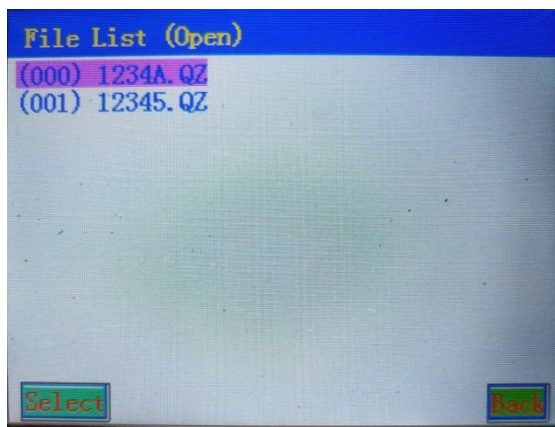
4. Introduction of main menu function , As shown in the figure :



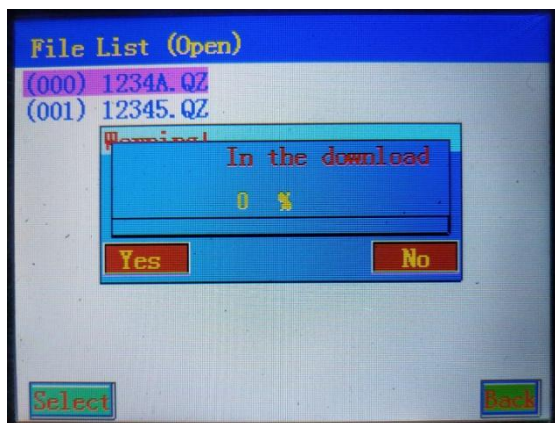
5. Open file menu

It refers to opening the existing action file of SD card; press "select or confirm" key to open the currently selected file

list , As shown in the figure below :

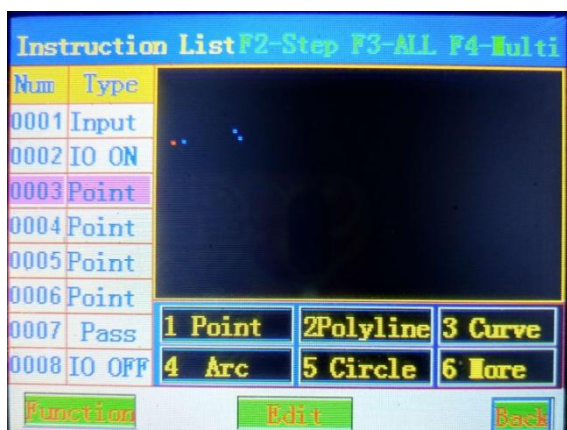


When you choose to open a file, you will be prompted whether to download the program, and "download" means to download the file instruction to the controller. As shown in the figure :



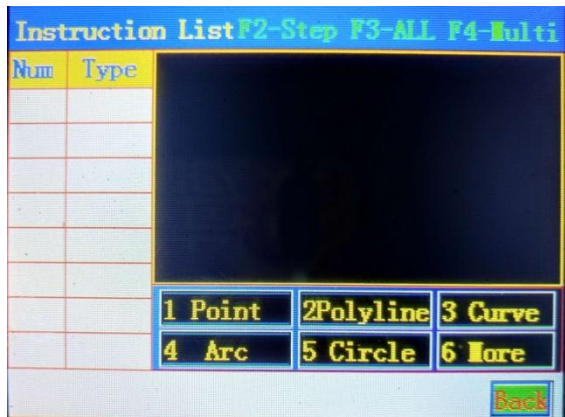
Select "yes" to jump directly to the boot screen after the download is completedMo = Basin ;

If "no" is selected, it will jump to the instruction list dialog box, and all instructions in the file will be displayed. As shown in the figure :



6. New file menu

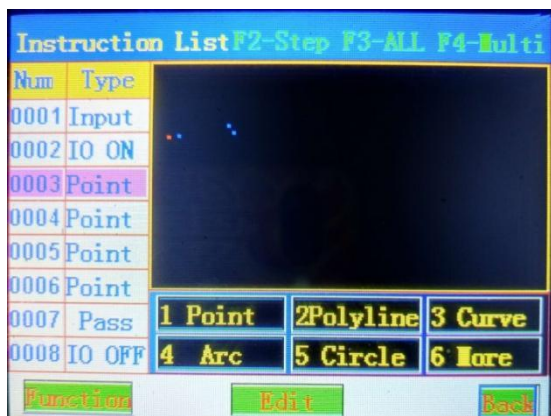
It refers to creating a new action file; after pressing the "confirm" button, you will be prompted "whether to reset the device". After selecting whether to reset, the file saving dialog box will be prompted. After entering the file name, the command editing dialog box will be entered, As shown in the figure :



Under this surface, you can add the required graphic instructions. Press the number keys 1-5 to edit the corresponding graphic elements in the figure. For more graphics, press the number key 6 to enter.

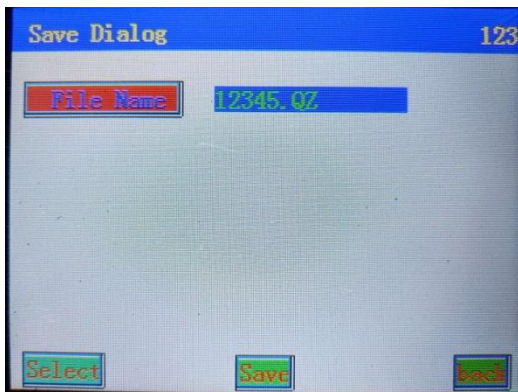
7. Edit file menu

It refers to editing the open file in the controller. As shown in the figure :



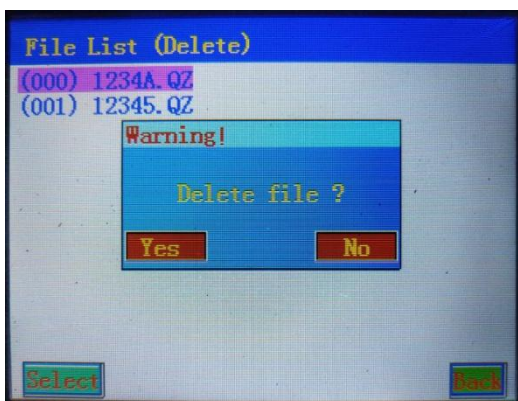
8. Save another menu

Save the opened file to another file. After inputting the file name, press the "confirm" key to save the file successfully. The file name can be numeric and English, and the "↵" key can switch the input method, As shown in the figure :



9. Delete file menu

To delete an existing file name, press Select or confirm to delete the file successfully, as shown in the following figure: select the file name to be deleted and press Select or confirm to delete the file successfully.



10. Download data menu

Download file to the controller of the device ; As shown in the figure :



11. Upload data menu

Refers to reading files from the controller of the device to the handheld box;

12. System menu

Refers to equipment parameters:

It includes: reset speed, maximum speed, acceleration, corner acceleration, user password, startup reset, X-axis pulse equivalent, Y-axis pulse equivalent, z-axis pulse equivalent, X-axis travel, Y-axis travel, z-axis travel, equipment origin direction setting, user parameters (manual acceleration, manual speed, idle movement smoothness) See 3.26-29 for details



13. Options menu

It refers to adjusting the working mode of the machine ;

It includes: execution mode, reset mode, output setting, default parameters, drawing process, stop position, Constant dropping function, idle moving speed, etc.; see 3.30-37 for details.

14. Help menu

It refers to the version and model of the controller, and detects the IO port status of the controller, and restores the preset parameter settings.

15. New function operation

1. Example: add "point"

Press the number key 1 to teach the point coordinates directly. The coordinates of the points can be moved by the arrow keys. The "left x key" à X axis moves left, "right x key" à X axis moves right, "up y key" à Y axis moves up, "down y key" à Y axis moves down, "up Z key" à z axis moves up, "down Z key" à z axis moves down. Press the "confirm" key to add the command successfully. To quit teaching, press the "back" key directly , As shown in the figure :



2.Example adding "empty instruction"

Null commands are used for breaks between polylines. After the editing of multi segment lines, the system will automatically add empty instructions.

3.Example: add "path point"

"Path point" is used for device interpolation running to the specified point, only action but not foot clipping.

4.Example: add "delay"

"Delay" refers to the delay function added between instructions.

5.For example, add "pause"

"Pause" refers to the pause function added between instructions. After the pause, you need to press the start key to execute again.

6.For example, add "condition"

When the state of the external IO port is consistent with the IO port state set in the condition, it will jump to the specified number of lines and continue to run. When the state of the external IO port does not match the IO port state set in the condition, the condition instruction is invalid and the program will run down automatically;

7.Example: add "jump"

Jump to the specified program line.

16.Instrumentation

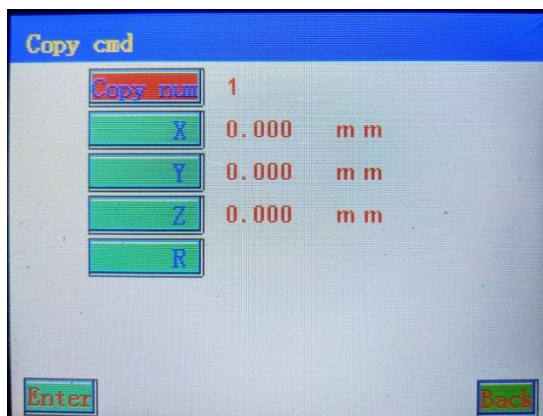
Instrumentation is inserted on the line immediately preceding the selected instruction. The method is the same as the new instruction.

17.Delete instruction

In the "command list" dialog box, directly press the " CLR " key in the keyboard to delete the selected current command. F4 key can delete multiple instructions at the same time,

18.Copy instruction operation

Copy instruction is used to copy the selected instruction, usually for matrix replication. Y key to select a single instruction to copy, F3 to select all instructions to copy, F4 to select multiple instructions to copy. after selecting the instruction to be copied, press "operation" to enter the "copy instruction" dialog box , As shown in the figure :

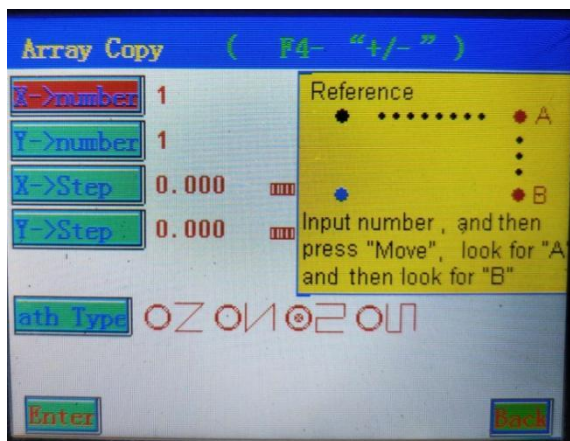


Method 1: input the quantity to be copied. If you know the distance between the command coordinates to be copied, you can directly enter the coordinate spacing of "X", "Y" and "Z" (that is, the distance between coordinates). Press "confirm" to complete the copy.

Method 2: input the quantity to be copied. If you don't know the distance between the command coordinates to be copied, you don't need to input the coordinate spacing of "X", "Y" and "Z", then press the "locate" key, move the device to the starting point of the last figure to be copied, and press the "confirm" key. The system will automatically calculate the distribution interval according to the distance and the number of copies.

19. Array copy operation (3D array copy)

Arrow key y to select a single instruction to copy, F3 to select all instructions to copy, F4 to select multiple instructions to copy. After selecting the instruction to copy, press operation to enter the copy array dialog box , As shown in the figure :



Method 1: input the number in X direction and Y direction to copy the array, then press the "move" key to move to the last point in X direction (i.e. point a in the figure) and press "confirm"; then move to the last point in Y direction (i.e. point B in the figure) and press OK to calculate the spacing automatically. Be sure to enter the copy quantity first. Path mode: running track selection.

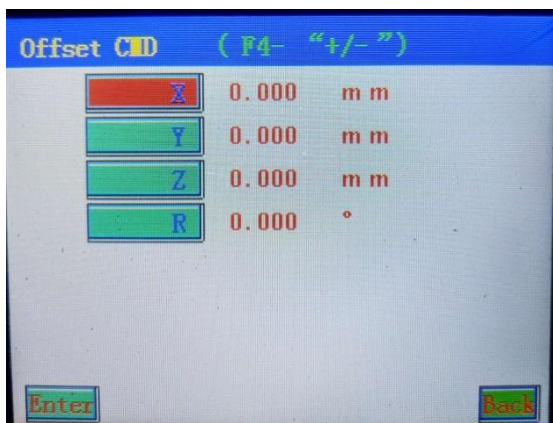
method 2: input the number of x-direction and Y-direction to copy the array, then input the x-direction spacing and Y-direction spacing to copy the array, and then select the path mode. Finally, press the "OK" key to complete the array copy.

20. Offset operation

"Offset operation" is used to offset the selected action command and offset the coordinate to the specified value.

Y key to select a single instruction to offset, F3 to select all instructions to offset, F4 to select multiple instructions to

offset. After selecting the command to offset, press operation to enter the offset operation dialog box , As shown in the figure :



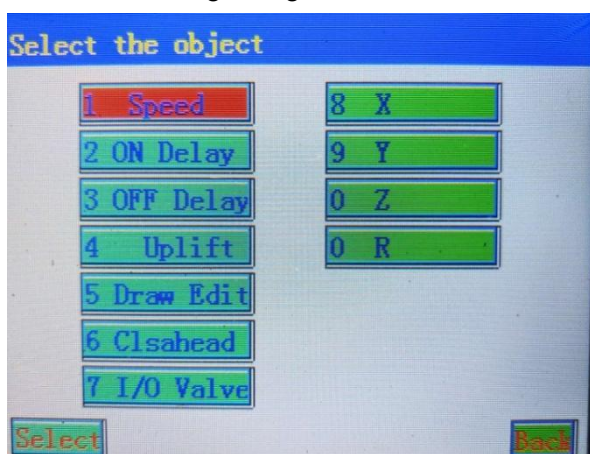
Method 1: input the specific data to offset and press OK to complete the migration operation.

method 2: when you do not know the specific data to offset, you can also move the data to be offset through the "position" key. Press the "positioning" key, move the device to the coordinates to be offset by the arrow keys, and then press the "OK" key to complete the offset operation.

21. Batch modification

Batch modify is used to modify a parameter in batch to improve editing efficiency.

The specific operation is as follows: F3 selects all instructions, F4 selects multiple instructions Press "batch modify" to enter the following dialog box:



Select the parameters to be modified one by one, and then press "confirm" to complete the modification

22. Type batch modification

"Type batch modification" is used to batch modify the same instruction type under a file. Such as batch modification of all "points" in a file.

operation method: in the command list dialog box, when the cursor points to which type, press "operation" - enter "type batch modification", then all the instructions of the same type in this file will be modified. If you want to batch modify all single points. Then the cursor points to any single point and enters a parameter in "type batch modification". All "single point" in this file are modified.

23. System

"Equipment parameter" is to set the pulse equivalent of each axis of the equipment, i.e. travel range, return to origin speed, acceleration and other parameters;

press "system" to pop up the password dialog box, password: 1234, As shown in the figure :



24. Equipment parameters

Enter the password to enter the device parameter dialog box. I'm very grateful to you, as shown in the figure:



"Reset speed": refers to the speed when the equipment is reset. Press the number key to input the speed, with the range of 10-150, in mm / s.

"maximum speed": it refers to limiting the maximum running speed of the equipment, which is input by pressing the number key, usually 500, in mm / s.

"acceleration": refers to the acceleration of the equipment, which is input by pressing the number key, usually 6000 ~ 15000, in mm / S².

"corner acceleration" refers to the corner acceleration of the equipment, which is input by pressing the number key, usually 10000 ~ 18000, in mm / S².

"user password": it is the password to enter the system. If the number key is valid, the password will be set successfully if it is saved. If it is valid, the password will be set successfully if it is saved.

"Power on reset" refers to the axis channel of equipment reset, which is selected by arrow key X.

"manual acceleration": refers to the acceleration when moving the equipment manually, unit: mm / S²; it is usually set within 500-3000;

"manual speed": refers to the speed of manual moving equipment, unit: mm / s, usually set within 10-100;

"smooth degree of idle movement": refers to the radius of arc transition, unit mm, usually set in 0-50;

25. Pulse equivalent and stroke

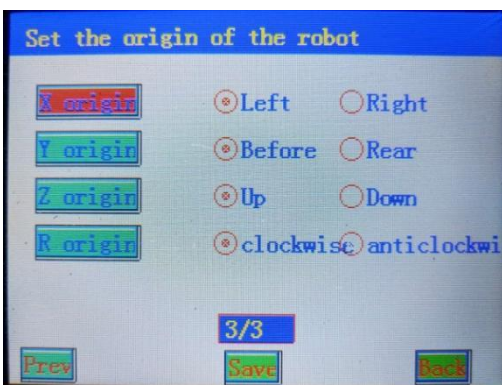


"Stroke": refers to the actual working stroke of the equipment, in mm;

"pulse equivalent" refers to the moving distance of a pulse, in mm; for details, see the pulse equivalent software calculator;

26. Equipment origin direction setting

"Equipment origin direction setting" :It refers to setting the origin of the machine .The purpose is to keep the arrow key of the handheld box consistent with the moving direction of the machine ,so as to facilitate teaching and operation,as shown in the figure:



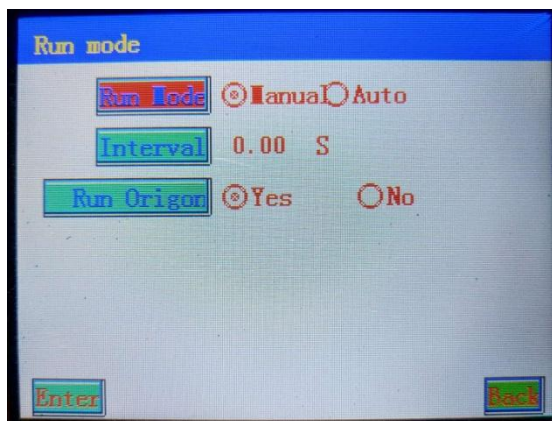
27. Execution mode operation

"Execution mode" is used to set the automatic operation mode or manual operation mode. Automatic execution mode means that after all action instructions are executed, they will be executed automatically after a specified time delay. In manual mode, it stops after executing all instructions. If you want to continue to start, you need to press the start button again.

"execution mode" is in the "options" dialog box, as shown in the figure: when "manual" is selected, it is in manual mode, and "automatic" is in automatic mode. When it is set to "automatic" mode, the first start-up needs to be started manually. Note: reset the device before changing the execution mode. Do not change the execution mode while the equipment is working.

"interval time" refers to the time specified by delay, which is valid in "automatic" mode.

"repeated execution of gun withdrawal" refers to whether the scissors are retreated to the z-axis origin position before the first command is executed. Start the action.



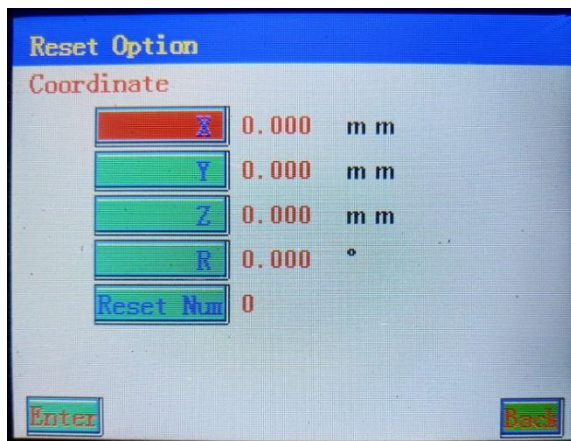
28. Reset mode operation

"Reset mode" is used to set whether the device will automatically reset after all instructions are executed, so as to ensure the absolute position of coordinate zero point, so as to eliminate the dislocation phenomenon caused by equipment step loss.

"reset mode" in the "options" dialog box, first input the reset coordinate value (approximate coordinate value close to the origin coordinate), usually 1-2mm, and then input the reset speed. The reset times refers to the number of times the device runs before the reset operation is required (when the reset number is 0, the device will not automatically reset), and press the "confirm" key to complete the reset setting operation.

this action refers to that after the equipment runs, it runs at the set reset speed to the reset coordinate, and then returns to the original point of the equipment.

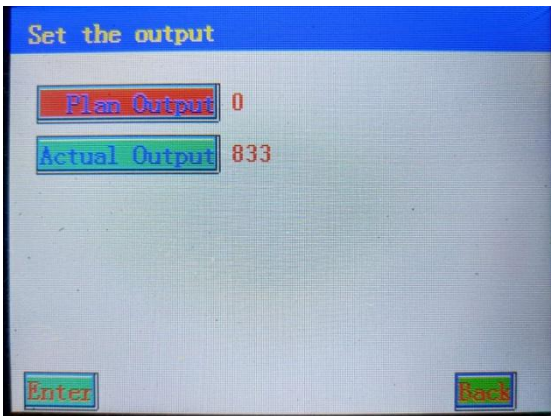
Note: when changing the reset mode, the device should be reset first. Do not change the reset mode during the operation of the device.



29. Production setting

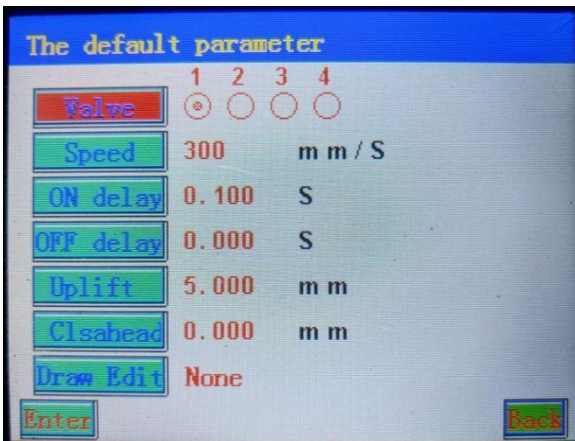
"Output setting" is used to set the number of times of work, i.e. (output), when the output has reached the expected output, the equipment will stop working. When the output is set to 0, there will be no limit on the number of times and the machine will not be shut down due to the output.

when the output is finished and the equipment is shut down, the output will be cleared directly to clear the output counter inside the equipment. Otherwise, it will be accumulated all the time, and the counter will not be cleared even if different product instructions are changed. It will be cleared.



30. Default parameter

The "default parameter" is used to set the default parameters of some action instructions. When "add" and "insert" actions, we only determine the coordinate data, while other parameters are from the default parameters. default parameters are set in the options dialog box. As shown in the figure:



"Glue gun channel": refers to the channel for controlling glue gun;

"speed" Degree: refers to the running speed;

"glue opening delay": refers to the delay time of glue opening after opening the glue gun, with the time bit of 0.100s;

"glue closing delay": refers to the time of delaying glue closing after closing the gun;

"gun withdrawing height": refers to the position of withdrawing gun, all of which are 5mm;

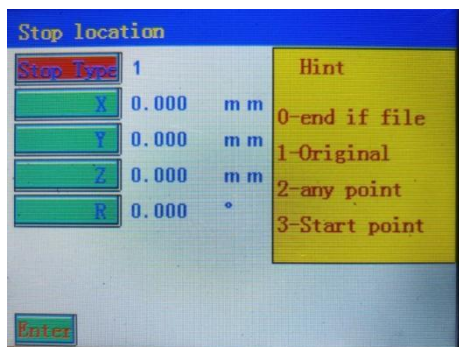
"closing gun in advance": it is effective for straight line, arc, circle, ellipse and other instructions, and refers to how long the fast approaching opening end point is advanced

"wire drawing process": refers to the wire drawing process after the glue gun is coated. This system has five wire drawing options, such as "no wire drawing", "backward oblique pulling", "lifting backward pulling", "forward oblique pulling", "lifting and then pulling forward".

There are five drawing options, such as "raise and pull forward".

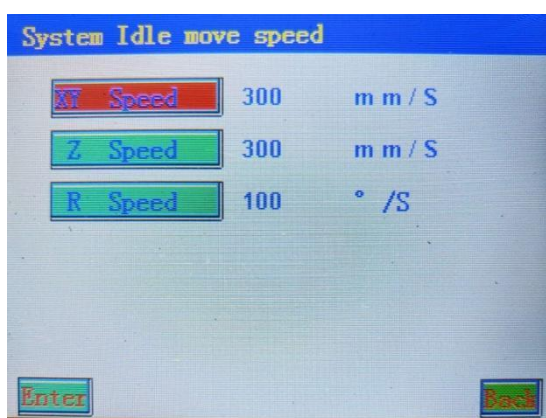
31. Stop position

It is used to set the stop position of the equipment after running.



32. Idle speed

It refers to the speed when the equipment does not move out of glue, and the idle speed of XY axis and Z axis are set in the range of 0 ~ 1000mm / s. To change the idle speed, input the value directly.



33. Needle alignment : (mainly used for coordinate offset to align coordinate after changing needle or fixture)

1. Take the first instruction as the reference for needle alignment: in the boot screen, directly press the "positioning / moving" key, and then press the arrow key to start the needle alignment. After the glue gun needle alignment is completed, press the OK key to complete the needle alignment operation, so that all instructions are offset accordingly.
2. Needle alignment based on any instruction: in the "instruction list is graphic preview" screen, select the instruction to be aligned, press the "⊙" key to start the needle alignment. After the glue gun alignment is completed, press the OK key to complete the needle alignment operation, so that all instructions are offset correspondingly.

"Mark point" needle alignment operation

"mark" point is the mark point, which is used for the needle alignment operation of the marked point on the fixture. This function is divided into: single mark point to needle and double mark point to needle;

① Single mark point alignment:

this pin alignment point must be the first instruction in the instruction list. In the instruction list dialog box, press "6 more" to add mark points.

editing the coordinates of this point is only used for needle alignment, which is not performed after downloading the program. Press the "move" key in the "boot screen" state, and the needle will automatically point to the first instruction (i.e. on the marking point).

② Double mark point alignment:

two mark points need to be added in the instruction list, and the two marked points far away from the fixture shall be selected as mark points. These two mark points will be automatically displayed in the first and second positions of the instruction list (these two mark points can be added before or after editing the instruction). Press "6 more" to add mark points in the instruction list dialog box .

editing the coordinates of these two points is only used for needle alignment, which is not performed after downloading the program. Press the "move" key in the "boot screen" state, the needle will automatically point to the first mark point, and the "Z axis descent" will pop up. Please select according to the actual needs. At this time, after positioning the coordinates, press OK, the needle will automatically point to the second mark point, and the operation method is the same as that of the first mark point.

The law is the same.

Double mark point positioning can correct the error caused by the angle and position deviation of the workpiece.

5 Common faults, problem and troubleshooting of equipment

Problem description	Possible causes / troubleshooting
Return to the original point is abnormal	<ol style="list-style-type: none"> 1. The position of the sensor is not correct and the signal cannot be detected. Adjust the position of the sensor so that it can sense the signal 2. The wire end of the sensor falls off, and the corresponding foot position is rewelded 3. Driver, motor, power failure, contact our company for maintenance Mo = Basin 4. The direction of returning to the original point in parameter setting is not correct. Change the setting of equipment origin direction in system parameters
The motor doesn't work	<ol style="list-style-type: none"> 1. Incorrect program setting, reset program 2. If the motor wire falls off and the motor has no torque or abnormal noise, re connect the motor line 3. The travel setting is not correct. Change the travel setting in the system parameters
Abnormal communication	<ol style="list-style-type: none"> 1. If the connection interface of the handheld box is damaged, check whether the connected DP port can be reliably connected 2. When the equipment is in operation, it only responds to the commands "reset" and "pause", and other commands do not respond. When the equipment is shut down, it will be in operation
The device does not start	<ol style="list-style-type: none"> 1. First of all, we can adjust the position of the sensor by checking whether the position sensor is sensing PCBA. 2. Check whether the output has been completed by connecting the handheld box. If the output has been completed, clear the output to zero 3. Check whether the start button is normal or not. You can use the handheld box to

	<p>control the device to start, to eliminate this fault</p> <ol style="list-style-type: none"> 4. If the handheld box can not be started, use the handheld box to upload instructions from the controller to check whether there are action commands in the controller 5. Check whether the device is authorized. When connecting the handheld box and pressing the "start" button, the registration dialog box will pop up, indicating that the device is not authorized to use. Please contact our company
Shear irregularity	<ol style="list-style-type: none"> 1. Make sure the scissors are sharp. 2. confirm whether the air pressure is sufficient. 3. Set the shear closing time and check whether the long opening time is correct.
Insufficient suction	<ol style="list-style-type: none"> 1. Check whether the air pressure is enough 2. Is the trachea blocked. 3. Clean the muffler. 4. Is the collecting cup sealed

6 Equipment maintenance

- 1、 Clean the dust, sundries and oil stains on the machine every day and keep it clean and tidy;
- 2、 Check whether the power supply and air pressure are normal, whether the sealing of pneumatic parts is normal, and keep the needle clean;
- 3、 Check the smoothness of each shaft manually in case of power failure;
- 4、 Check whether all parts of the equipment are complete, whether the screws are loose, whether the function buttons can work normally, and whether the emergency stop switch can stop the equipment accurately.

7 List of equipment consumables

1. Muffler
2. Trachea
3. Body and head of scissors
4. Pin collecting cup seal ring

I/O explain

Input channel 1: put the plate in place, optical fiber

output channel 2: Scissors

channel 5: vacuum suction

channel 6: pressing cylinder

please refer to the handheld device help for details!

Programming steps:

- 1、 New file: ① confirm to reset → ② name → ③ save → ④ automatically enter the programming interface;
- 2、 Output: ① "6 more" → ② "16 input and output" → ③ wait for the output and press "1" to light up → ④ complete;
- 3、 I/O on: ① "6 more" → ② "16 input and output" → ③ I/O on, press "1, 2, 6" to light up → ④ complete;
- 4、 Press PCBA: ① right click "return" to auto save → ② left click menu → ③ "0 help" → ④ press "5" to light up and press down → ⑤ finish;
- 5、 The main page enters the programming interface again: ① right click "Edit" to enter;
- 6、 Single point: ① "1 single point" → ② move the required shear position → ③ left click to confirm;
- 7、 Edit the first single point parameter: ① the opening time in advance is 0.100, ② the withdrawing height is 5.00mm, ③ the output is changed to "1" to light up, and ④ to save;
- 8、 Single point programming again : ① "1 single point" to point
② "1 single point" to point
③ "1 single point" to point
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- 9、 Path point (standby bit) : ① "6 more" → ② "19 path point" → ③ move (usually reset position) → ④ confirm;
- 10、 I/O off: ① "6 more" → ② input and output → ③ I/O off "1, 2, 6" lights up → ④ confirm;
- 11、 Right click to return to save;
- 12、 Start up program, test program, optimize single point, improve operation quality and work efficiency;