

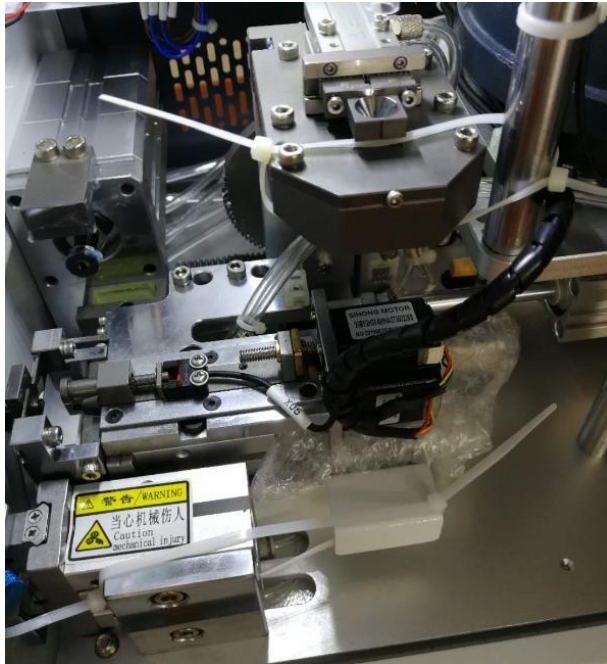
# Insulation ferrule crimping machine Operation Manual

## NTSC E0540



### Machine removal and installation

1. After taking out the machine, confirm whether there is any transportation damage or other mechanical parts falling off in the machine box.
2. After the machine is taken out, open the right box door and remove the internal transport fixed part of the cable tie (as shown below left), and take out the jig accessory box in the rubber waste box.
3. After taking out the jig accessory box, release the rubber waste box until the magnet catches it.
4. Before ventilating, the rotating and swinging mechanism keeps the vertical position (the position on the left below is vertical).
5. The air source and power interface are in front of and behind the machine.

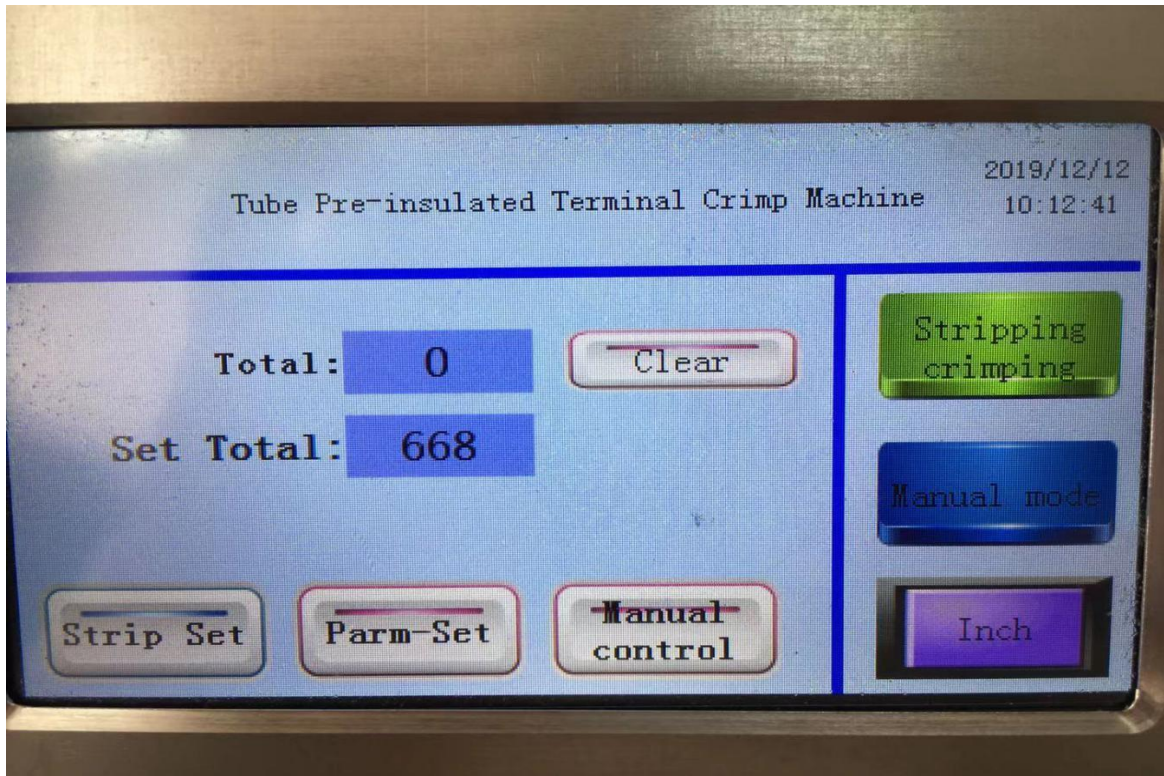


1、 Parameter

Item	Spec.
Name	pre-insulated terminal crimping machine
Model	NTSC E0540
Control mode	human-machine interface, electronic control, pneumatic control.
Operation mode	Automatic trigger operation and manual operation
Wire size	BVR wire 0.5、 0.75、 1.0、 1.5、 2.5、 4.0mm <sup>2</sup>
Terminal size	Insulator length ≤7.5mm、 conductor length≤10mm
Crimp Shape	Quadrilateral Crimp
Product replacement	Manual replacement of related parts, adjustment of vibration plate and electric memory adjustment.
Production capacity	2.5s /wire (considered as a single cycle of the machine).
Detection items	terminal presence or absence、 right side safety door open detection.
Power source	External input power AC220V / 50Hz (single-phase) 10A; internal power DC24V, DC12V
Air source	0.6-0.8Mpa (please use a stable, clean and dry air source, and keep the air source at least 0.6 Mpa).
Working temperature	10~25°C
Operating humidity	30~80%HR (non-condensing)
Dimensions	W350mm×L450mm×H400mm excluding protrusions).
weight	40KG

# 1 Interface introduction

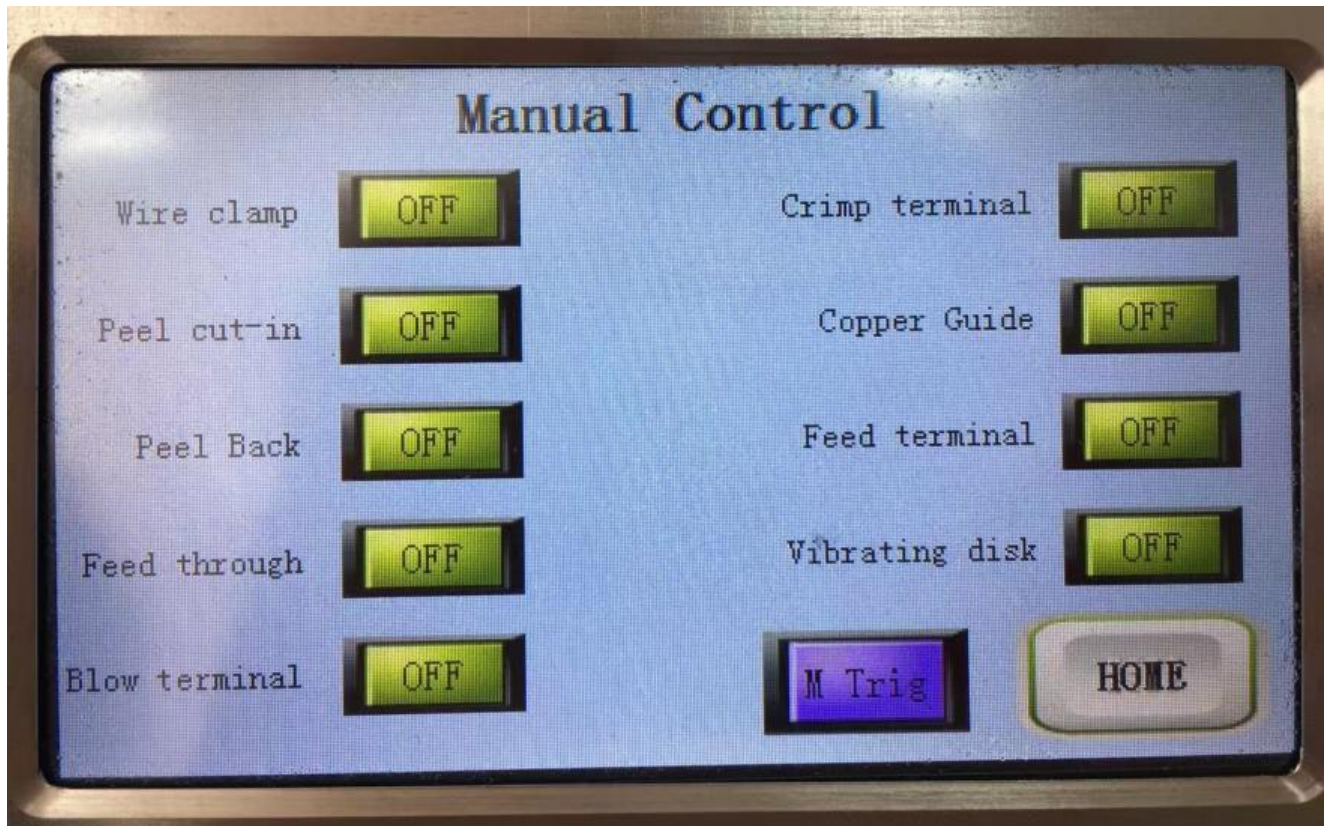
## 1-1 Home screen function introduction



- 1-1-1. Total production: The quantity counted by the machine during production operation in automatic mode.
- 1-1-2. Total reset: reset the total output; the total reset button can be displayed or closed in the administrator settings interface, but it will be displayed automatically when the total production reaches the standard. shut down.
- 1-1-3. Total setting: The quantity that can be set according to the production needs (maximum setting value is 32000), and it will prompt when the quantity produced in the automatic mode arrives.
- 1-1-4. Production capacity: The machine operates in automatic mode, (the terminal time is not included when peeling and crimping, because in the automatic case, the cycle time is parallel to the manual take-up and release time); The setting interface settings are displayed or closed.
- 1-1-5. Peeling settings: pull down the menu key, see the related interface for details.
- 1-1-6. Parameter setting: pull down the menu key. For details, please refer to the related interface introduction.
- 1-1-7. Manual control: pull down the menu button, see the related interface for details.
- 1-1-8. Peeling and crimping: This button is a function selection, you can click to switch to peeling. 1-1-9. Manual mode: This button is a function selection, you can click to switch to automatic mode
- 1-1-10. Jog: This button is used for jog control for single-step operation, and it must be effective in the "manual mode"; the function is activated when the jog button is pressed for about 2 seconds, and the background color of the button turns red after startup, Click again to proceed to the next action (click the next interval is valid for 1S).
- 1-1-11. The time in the upper right corner can be corrected in the system settings interface.

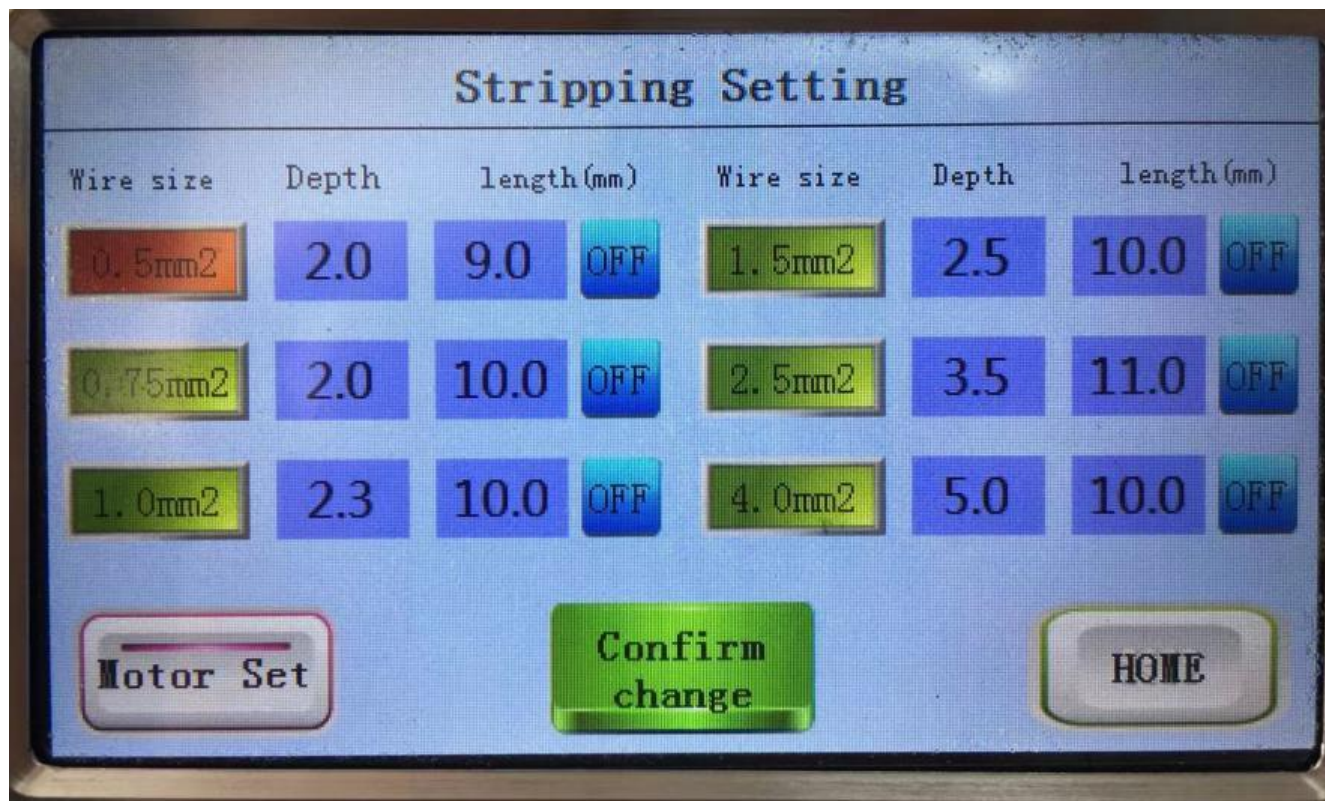


## 1-2 Manual control Introduction



- 1-2-1. Enter this interface: main screen → manual control.
- 1-2-2. 9 green buttons are jog self-locking switches, which need to be jogged again to unlock; the initial state when OFF, and the output state when ON; pay attention to safety during this operation to ensure yourself and surrounding personnel Safe, especially during two operations.
- 1-2-3. The "peeling and backing" cylinder has a safety operation detection. For example, when the "penetration terminal" is already in the operating state, the "peeling and backing" button will be locked. Clicking is invalid.
- 1-2-4. The "Manual Trigger" button is in the automatic mode. You can press and hold to start the automatic operation for a period (press and hold time is related to the value in the parameter setting), which is equivalent to the automatic triggering of the line.
- 1-2-5. Main screen: Return to the main interface.

## 1-3 Stripping Setting



- 1-3-1. Enter this interface: main screen → peeling settings.
- 1-3-2. There are a total of 6 wire number specifications for the peeling setting. There is a corresponding settable value for each wire number. Shallower.
- 1-3-3. There is a corresponding three stripping lengths for each wire number stripping length. Click the A button as shown in the figure above. Click once to switch to B, and then click to switch to C. Then click to switch back to A
- 1-3-4. The larger the peeling length value, the longer the peeling length, the smaller the value, the shorter the peeling length, and the unit of the peeling length is mm.
- 1-3-5. When selecting the line number above and modifying the peeling depth or length, all are modified. Click "Modify Confirmation" to adjust the actual position. After clicking Modify Confirmation, this key will prompt the progress, and the selection or value cannot be modified at this time.
- 1-3-6. After the machine is installed, the stripping depth and corresponding stripping length of each line can be adjusted according to different wire numbers. For example, after the stripping knife is replaced, the stripping depth may vary. The size of the variation depends on the processing accuracy of the stripping knife and Every installation position.
- 1-3-7. Motor setting: pull down the menu key, refer to the interface introduction for details. 1-3-8. Main screen: Return to the main interface.



## 1-5 Parameter set

Parameter Setting I		×10ms
Stripping cut-in to stripping withdrawal	15	
Terminal feed through to terminal crimping	15	
Terminal crimping to crimping reset	20	
Crimping reset to terminal feed through reset	15	
Terminal feed through reset to stripp withdrawal reset	10	
Crimping terminal rise to feeding terminal action	15	

Down

IO Monitor

Login

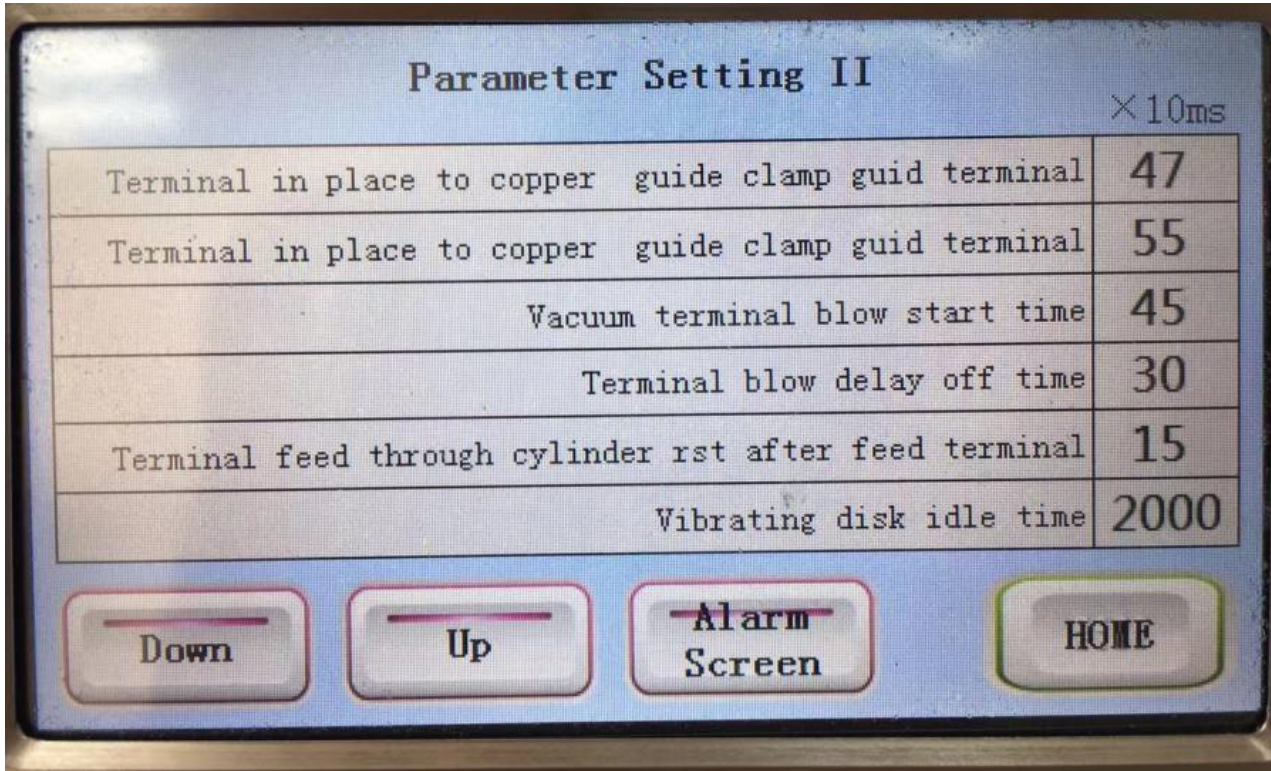
HOME

1-5-1. enter this interface: main screen → parameter setting.

1-5-2. the above setting time is the time between sequence, setting value × 10ms, except above special circumstances, no modification is needed for the time being.

1-5-3. Main screen: Return to the main interface.



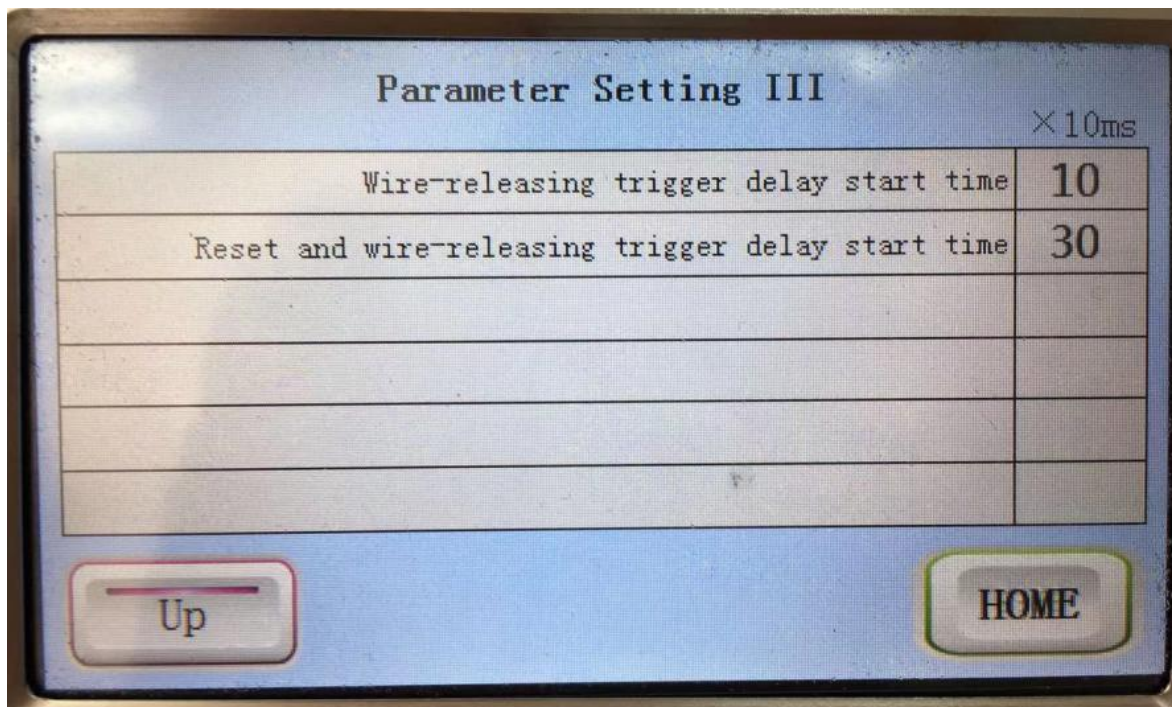


1-5-4. Enter this interface: main screen → parameter setting → next page.

1-5-5. The above setting time is the time between sequence, setting value × 10ms. Except for special cases, the above time does not need to be modified.

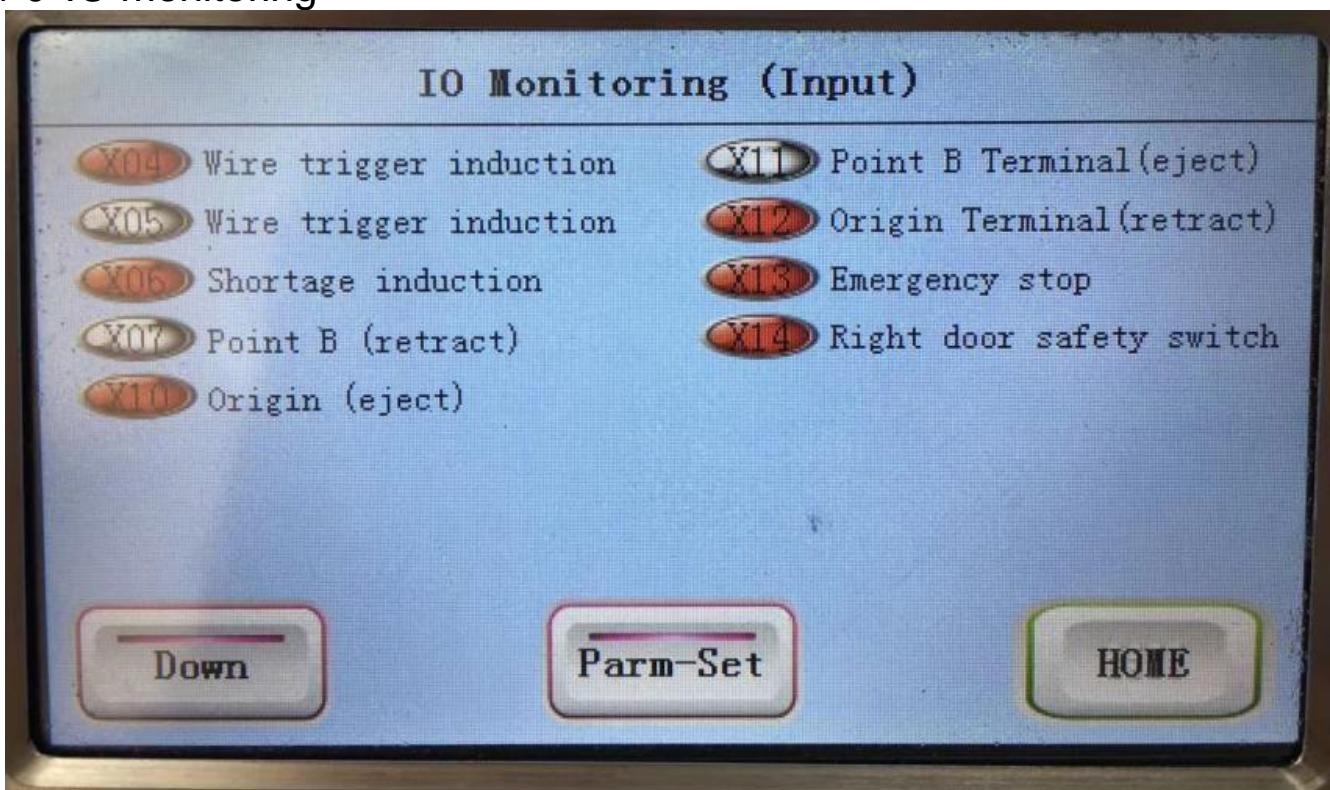
1-5-6. If the feeding terminal is not smoothly fed into the terminal guide, you can modify the "blowing terminal delay time" to observe the actual situation.

1-5-7. Main screen: Return to the main interface.



- 1-5-8. Enter this interface: main screen → parameter setting → next page → next page.
- 1-5-9. Delay start time of wire release touch: It can change the sensitivity of wire release trigger. The smaller the value is, the more sensitive it is.
- 1-5-10. Delayed start time for resetting the pay-off trigger: that is, after the crimping is completed, the next trigger will take effect after the delay, and the trigger will not be triggered again when the wire is taken slowly. You can adjust this time according to the worker's wire take speed Cooperate.
- 1-5-11. Main screen: Return to the main interface.

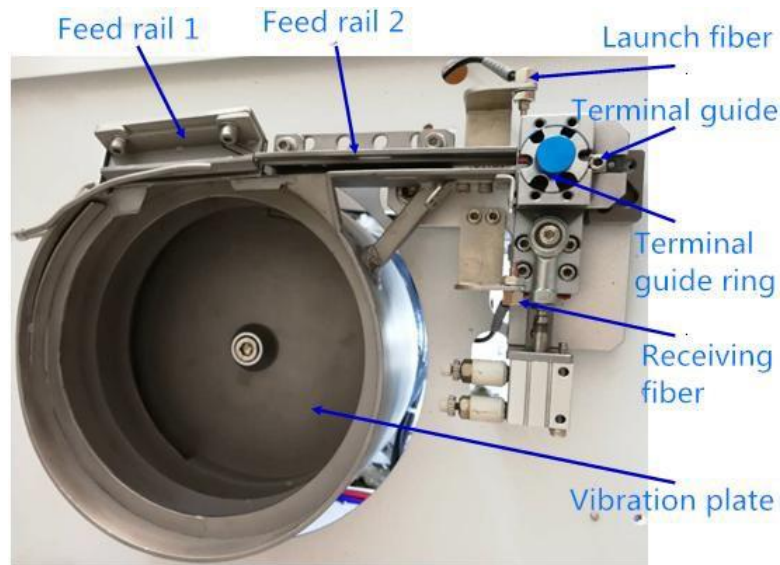
## 1-6 IO monitoring



- 1-6-1. Enter this interface: main screen → parameter setting → IO monitoring.
- 1-6-2. Under normal standby conditions, only the above 4 input monitors are displayed in red and the others are gray.
- 1-6-3. Main screen: Return to the main interface.



## 2-1 Vibration plate feed adjustment



(Figure 2-1-1)



(Figure 2-1-2)



(Figure 2-1-3)



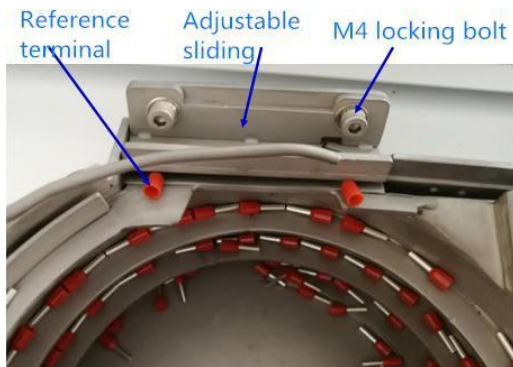
(Figure 2-1-4)

2-1-1. Figure 2-1-1 are the names of the parts supplied by the vibrating plate.

2-1-2. Figure 2-1-2 shows the controller of the vibrating disk. This screen shows the voltage H100. When the feeding speed of the various terminals is too fast or too slow, you can press the up and down buttons to adjust the voltage to the proper value. Usually, the terminal is first put. Observe whether to adjust.

2-1-3. Figure 2-1-3 This screen is displayed as frequency E50; only frequency E50 and E100 are selected. A frequency E50 has been selected when the machine leaves the factory, so no adjustment is required when changing terminals (except for special cases).

2-1-4. Figure 2-1-4 is the amplifier with or without terminal induction; the green number is the set value (default 500), the red number is the current value; the red dot to the left of the green number is red when a terminal is detected, no The terminal is off; there are buttons on the right side of the red number, and the two rightmost up and down buttons are for setting value adjustment.



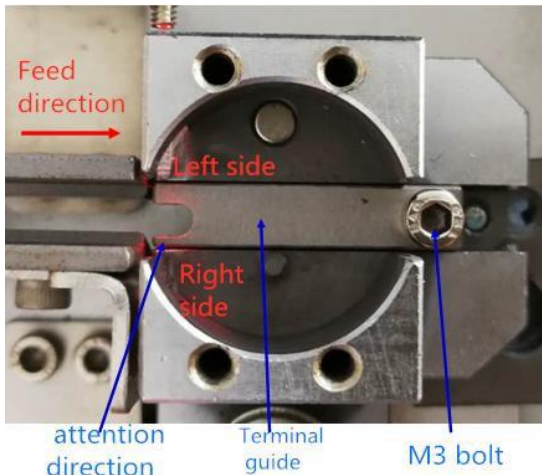
(Figure 2-1-5)



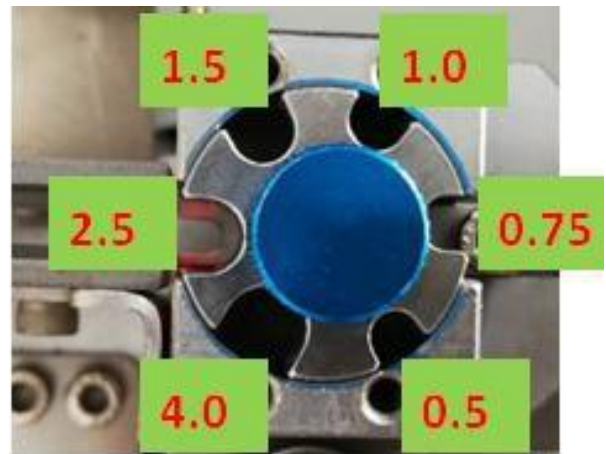
(Figure 2-1-6)

- 2-1-5. First confirm the terminal specifications that need to be changed, and confirm whether to adjust the discharge guide 1 and the discharge guide 2.
- 2-1-6. Adaptation of the discharge width of the discharge guide 1: 0.5, 0.75, 1.0 square can use 1.0 square as a reference for adjusting the width. After 1.0 square is adjusted, 0.75 and 0.5 square can also be used; 1.5 and 2.5 squares can use 2.5 squares as a reference for adjusting the width. After adjusting 2.5 squares and using them, 1.5 and 2.5 squares can also be used (the above general may be related to changes in the size of each manufacturer's terminal specifications).
- 2-1-7. Discharging guide 1: For infinite adjustment, loosen 2 M4 bolts and slide up and down to a suitable width (see Figure 2-1-5);
- 2-1-8. Discharging guide rail 2: As shown in Figure 216, there are three clamping positions of the discharging rail 2, which can be adjusted by loosening two M4 bolts; 0.5, 0.75, and 1.0 squares are the minimum clamping positions, 1.5 and 2.5 square Is the middle card position, and 4.5 square is the maximum card position.





(Figure 2-1-7)



(Figure 2-1-8)

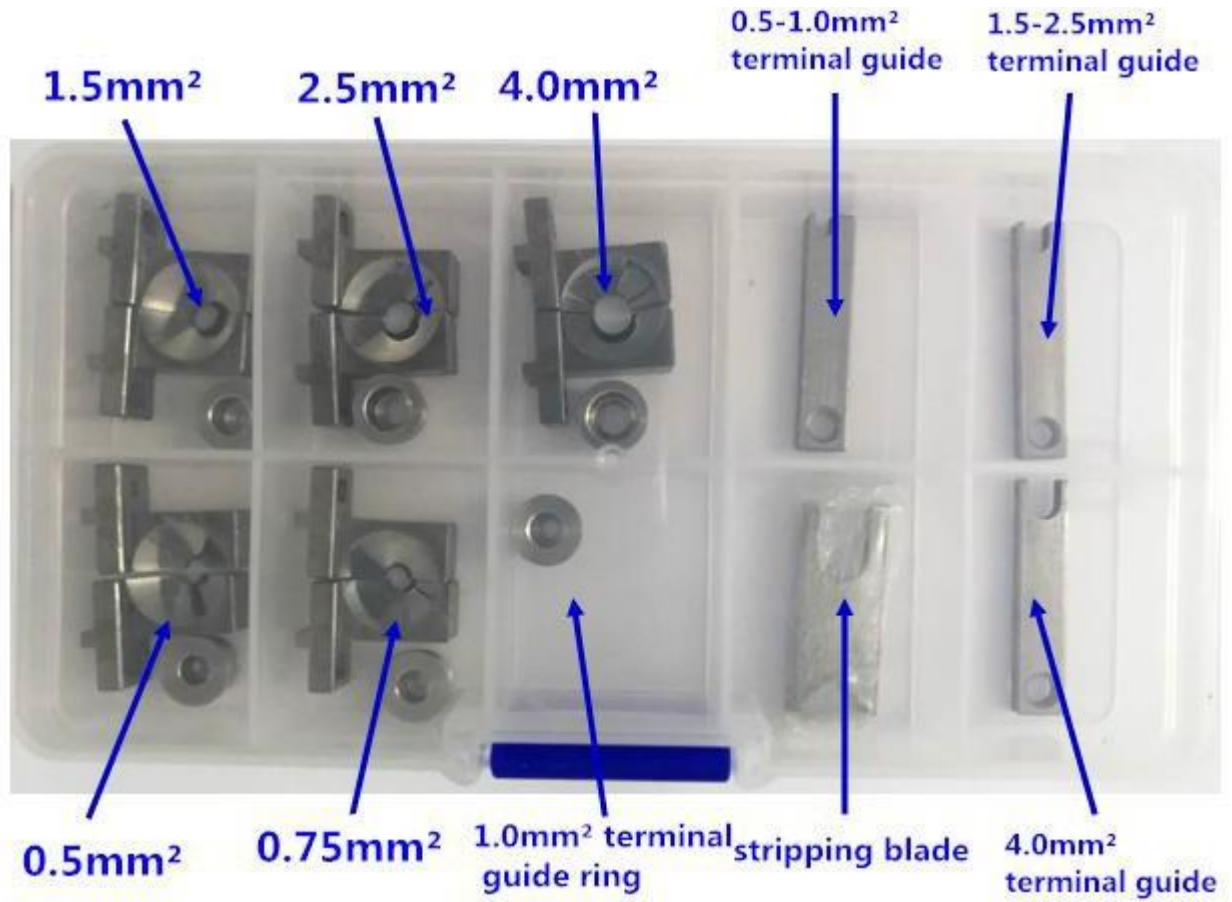
2-1-9. Figure 2-1-7 shows the installation of the terminal guide. Pay attention to the installation direction. The small sides of the small U port and the middle U port are to the right of the discharge direction; (see Figure 2-1-7). Can be replaced by loosening M3-6 bolts .

2-1-10. Confirm the terminal specifications and whether to replace them. There are three types of terminal guides: 0.5, 0.75, 1.0 square for the smallest U port, 1.5, 2.5 square for the middle U port, and 4.0 square for the maximum U port.

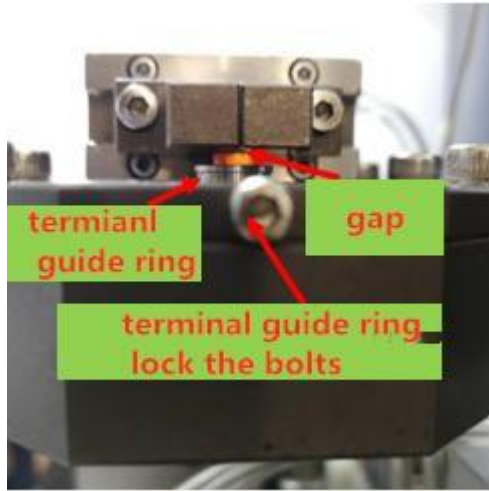
2-1-11 and Figure 2-1-8 are the terminal guide ring selection. The 6 U ports of the terminal guide ring are suitable for 0.5, 0.75, 1.0, 1.5, 2.5, and 4.0 square terminals.

2-1-12. Rotate the terminal guide ring by grasping the screw and pulling it upward, select a suitable U port, and press it into the card position again.

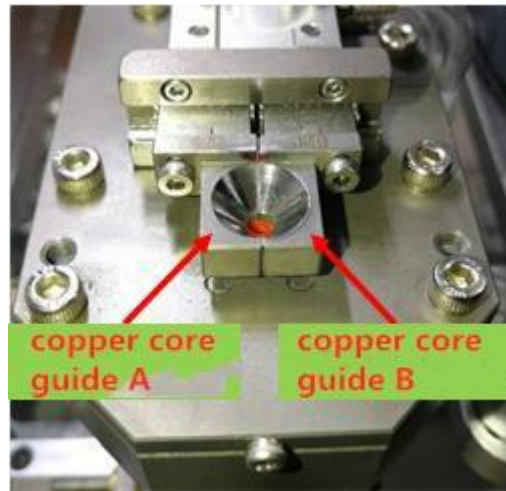
## 2-2 Gig box



### 2-3 Change jig and adjust



(Figure 2-2-1)



(Figure 2-2-2)

- 2-3-1. Confirm the terminal specifications. There are 6 specifications for the terminal guide rings of 0.5, 0.75, 1.0, 1.5, 2.5, and 4.0 square.
- 2-3-2, Figure 2-2-1, loosen the terminal guide ring M2.5-21.5 bolts (just loosen one turn), and then tighten the specifications required for replacement.
- 2-3-3. Confirm the terminal specifications. There are 5 specifications for the copper core guide of 0.5, 0.75-1.0, 1.5, 2.5, and 4.0 square.
- 2-3-4, Figure 2-2-2, loosen the copper core guide M2.5-6 bolts, and pre-lock the specifications required for replacement.
- 2-3-5. Put one selected terminal into the terminal guide ring for copper core guide A and B alignment, as shown in Figure 2-2-1, leave a gap of about 0.1mm to 0.2mm between the terminal and copper core guide. Then, lock the copper core guides A and B. The locked copper core guides A and B must be flush with each other. Observe whether the slopes of the guide cones completely match.

## 2-4 Clip adjustment



2-4-1. The clamp width can be adjusted according to the size of the wire.

If necessary, you can record the scale of each line number independently.

2-4-2 If the wire is not damaged during clamping, it can be adjusted.



## Fault inspection and treatment

### 3-1 Alarm content and processing method










Item	Alarm contents	Processing method
1	Open the right door to ensure safety before powering on!	In the case of tuning, you can turn off the detection in the administrator settings interface.
2	The material is jammed when sending the terminal.	Please check whether the mechanism of the terminal is jammed or normal. The terminal is stuck, and the terminal cylinder can be controlled by the manual control interface to handle the clamped terminal. It is also necessary to check whether the terminal has a sharp edge or deformation.
3	The vibrating plate is delivered without terminals.	Check whether the feeding of the vibrating plate is normal or empty. If there is material, you need to check whether the fiber amplifier is lit red or if the input X06 is red in the IO monitor. If the above is not available, you need to look at the fiber amplifier setting value. When there are terminals, the green number will be greater than the red number.
4	The number of production reaches the set value, please return to the main screen to clear the total number of points!	Click on the alarm reset to return to the main screen and continue to boot.
5	Emergency stop state, please release the emergency stop reset and then use.	Cannot be used in emergency state. If the alarm during emergency stop is not pressed, input X13 (normal red) can be viewed in IO monitoring. If it is not, it is a wire break or the terminal rubber seat plug is loosened.
6	Peeling is abnormal. Check for insufficient air pressure or peeling depth.	Check whether the air pressure is low. For example, when the air pressure is normal, check the input X07 (red when normal retracted) during IO monitoring. If it is not, it is a wire break or the terminal rubber seat plug is loosened.
7	The terminal is abnormal. Check that the copper core is loose or the copper core is too long and the copper core is bent.	Check if the wire bend does not penetrate the terminal. If so, you need to switch to manual mode, enter the manual control interface, jog to open the copper core guide, and then use an elbow clamp and other tools to clamp out the air pressure terminal, and then put it in a good Terminal, reset copper core guide clip → main screen → automatic mode, can produce.
8	The gel box is full. Please reset after clearing.	The number of colloid particles can be modified according to the size of the colloid particles.





9	The gel particle or trigger induction is abnormal. Please check!	Check whether there is rubber particles or the trigger sensor light is off. If it is off, it may be that the spring does not reset the wire top block.
10	Trigger sensor is normally open, please check!	The trigger sensor light goes out. If it goes out, it may be that the spring does not reset the wire top block.
11	No terminal is detected, and the terminal of the vibrating plate guide groove is confirmed.	Check if the terminal feed rail is stuck.
12	The origin of the backward cylinder is abnormal. Please check!	X10 is red when the machine is normally stopped, check for wire disconnection or the terminal rubber seat plug is loosened.
13	The origin of the lead cylinder is abnormal. Please check!	X12 is red when the machine is stopped normally. Check the wire is broken or the terminal rubber seat plug is loosened.
14	Peeling length motor returns to zero alarm!	No touch is detected, check whether the touch is normal, the wire is broken, or the terminal rubber seat plug is loosened.

Caution!!! When the above alarms need to be handled inside the machine, you must turn off the automatic mode or emergency stop. If necessary, cut off the air source to avoid injury.

## Maintenance

- 5-1. It is forbidden to blow a certain position of the machine with an air gun. If it is blown with an air gun, it may cause a control short circuit or damage to the mechanical structure. Only use a vacuum cleaner or a rag to clean.
- 5-2. keep the machine box dry and tidy.
- 5-3 Clean and add butter to the two motor screws regularly (at least every 15 days and add butter).
- 5-4. Clean and grease the crimping part of the terminal crimping cylinder regularly (at least once every 15 days).
- 5-5 the four-side crimping mechanism should be wiped with a fine cloth or cotton and alcohol at regular intervals (at least every 15 days).
- 5-6 clean and lubricate the other activities regularly (at least once every 30 days).
- 5-7 when adding butter or lubricating oil above, pay attention to controlling the amount of refueling. It is not easy, but it must be comprehensive.

<b>Ferrule crimping machine accessories and tooling list</b>				
<b>serial number</b>	<b>Name</b>	<b>Photo</b>	<b>Qty</b>	<b>Remark</b>
1	Power line		1 pc	Chinese/European/USA standard plug
2	External air pipe		1 pc	The color of the air pipe is random, Subject to reality
3	1 pneumatic suction gun, 1 suction tube, 1 cloth bag, 1 mesh bag, 3 suction heads		1 set	boxed or bulk
4	Hexagonal key (1.5、 2、 2.5、 3、 4、 5)		1 set	Hex handle, Subject to reality
5	Elbow Tweezers		1 pc	Subject to reality
6	copper guide(each 1 pc) (0.5、 0.75、 1.0、 1.5、 2.5、 4.0)		6 pair	There is 1 pair already installed on the machine
7	copper guide(each 1 pc) (0.5、 0.75、 1.0、 1.5、 2.5、 4.0)		6 pc	There is 1 pc already installed on the machine
8	Send terminal guide plate (1 each) (Small, Medium, Large) Size		3 pc	There is 1 pc already installed on the machine
9	Terminal guide ring		1 pc	Already installed on the machine

10	Drop terminal guide(small, large) hole , each 1 pc		2 pc	There is 1 pc already installed on the machine
11	2.0mm flat blade screwdriver (for adjusting magnetic switch)		1 pc	
12	Stripping blade(spare)		2 pair	There is 1 pair already installed on the machine
13	Lock fixture screw (spare) M2.5-7 and M2.5-22		6 pcs	