Meet the Needs of the SMT Age

Please read this user manual carefully before running

SOUTHERN MACHINERY

SCN250 90° Turning Conveyor

USER MANUAL

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CONTENTS

1.0 safety warning

1.1 Please read this manual carefully.

1.2 Please strictly follow the installation requirements in this instruction and the guide to operation. The installation and use of this equipment.

1.3 Please equip a person to operate the equipment

1.4 Connect the antistatic wire securely and ground it.

1.5 Do not modify the hardware and software programs in the electrical box, and the transformation is dangerous.

1.6 Please keep this manual in a safe place and maintain the equipment as required by the manual.

2.0 product presentation

2.1 Name: **SCN250 90° Turning Conveyor**

2.2 model: **SCN250**

2.3 Product features

Corner orbit transfer for SMT industry PCB board or fixture, multi-line merge shunt

This machine features:

Panasonic PLC, stepping, precision ball screw

It can realize 90 degree rail transfer of PCB board, multi-line merge, split, etc.

You can select the corresponding mode according to the specific white line situation.

*SMEMA standard four-core signal cable for direct connection to other devices

3.0 Technical specifications

1. Dimension (L*W*H) ： 650*650*1200mm
2.PCB Size：50*50~330*250mm
3.Conveyor Height：900±20mm
4.PCB Direction ： R →L（OR L→R ）
5.Power Supply ： Single Phase 220VAC, 50/60Hz
6.Power ： 0.2KW
7.Belt type.Round or oblate belt ESD
8.Communication Plug: SMEMA Signal
9.Net Weight：150KG

4.0 Machine operation

4.1 Precautions before starting up

1. For safety reasons, physical contact with moving parts is prohibited.

2. Check for any debris in the machine.

3. Detect any debris or PCB on the track.

4.2 Machine boot interface

Turn on the device power, touch the screen to enter the boot page, click the "Chinese" or "English" button to enter the "home page"

4.3 Main page

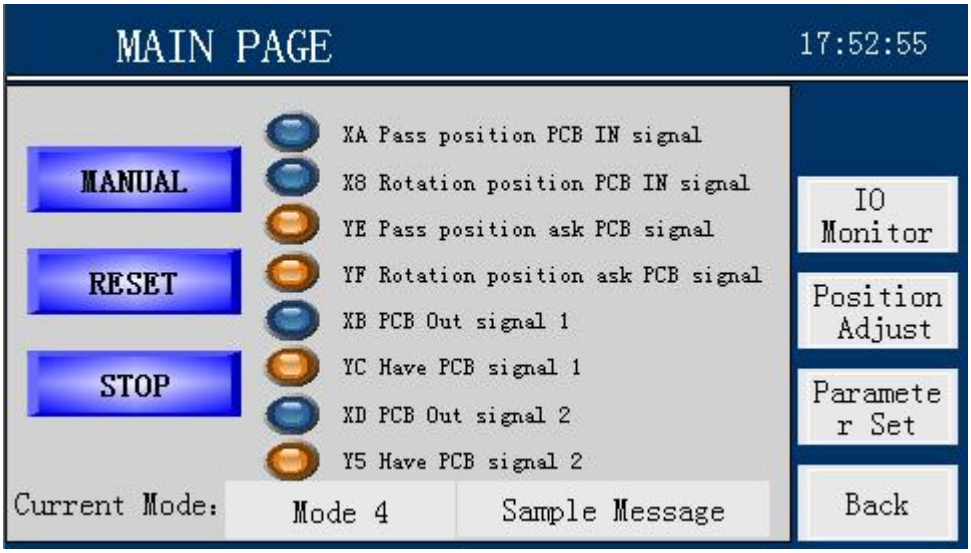


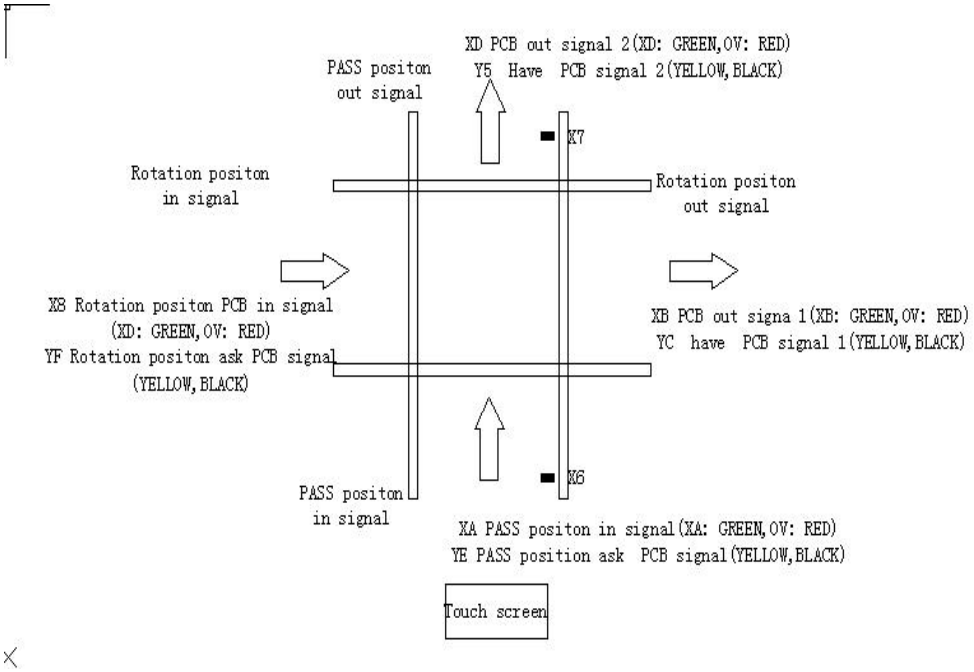
figure 2

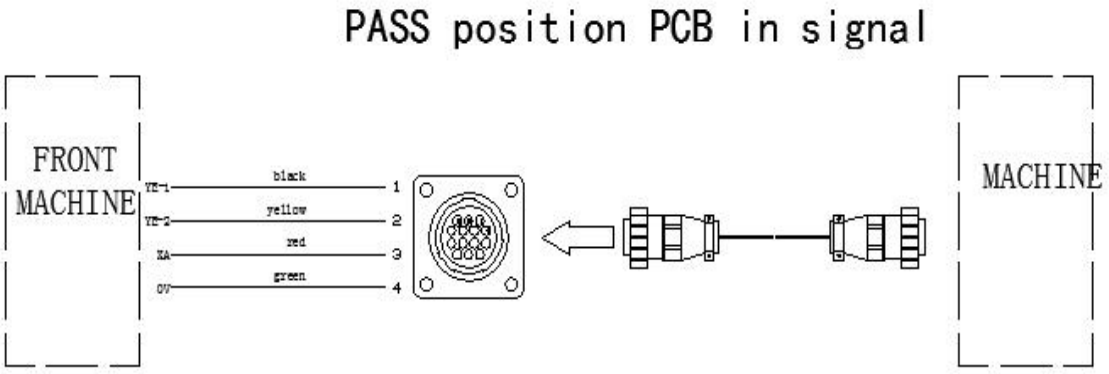
4.4 button description

- Auto – After the device resets to zero, click the button and the device enters the automatic running state.

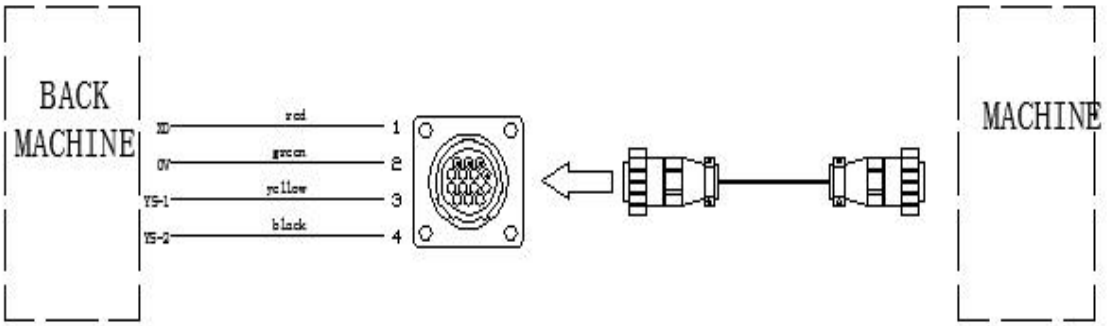
- Reset - click the button in the stop state, the device returns to zero; when the device automatically runs the fault alarm beep, the abnormality is processed, and the button device is used to cancel the alarm state and continue to run.
- STOP——Click the button, the device stops all running status
- Manual page - click to enter the manual operation screen
- Parameter setting - click to enter the parameter setting page
- I/O Monitoring - Click to enter the I/O Monitoring page
- Back - click to enter the startup page
- Position adjustment - click to enter the location settings page

4.5 Signal description

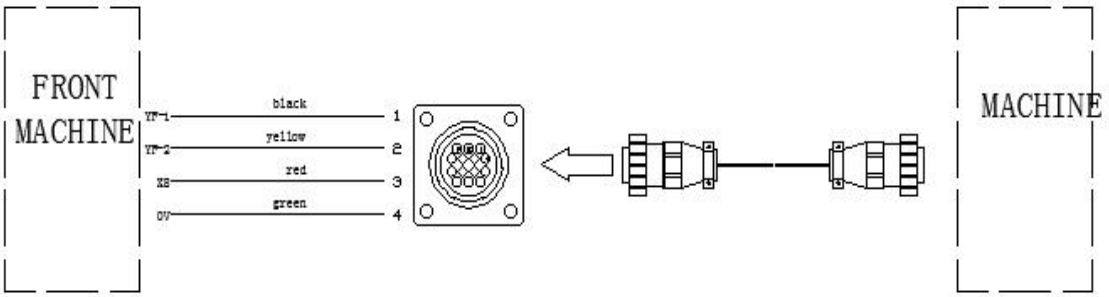




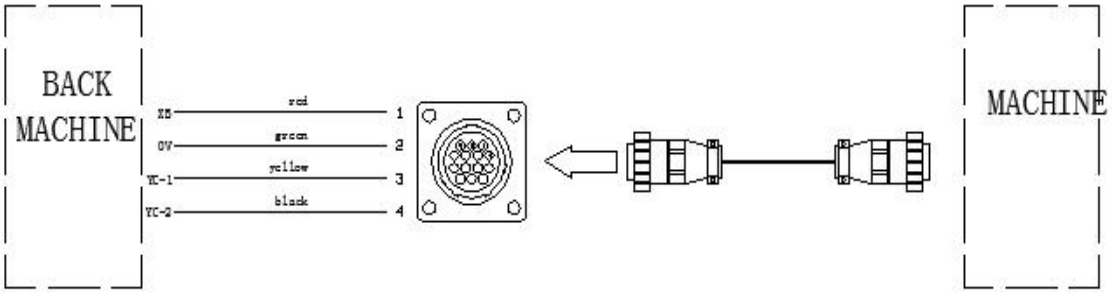
PASS position out signal



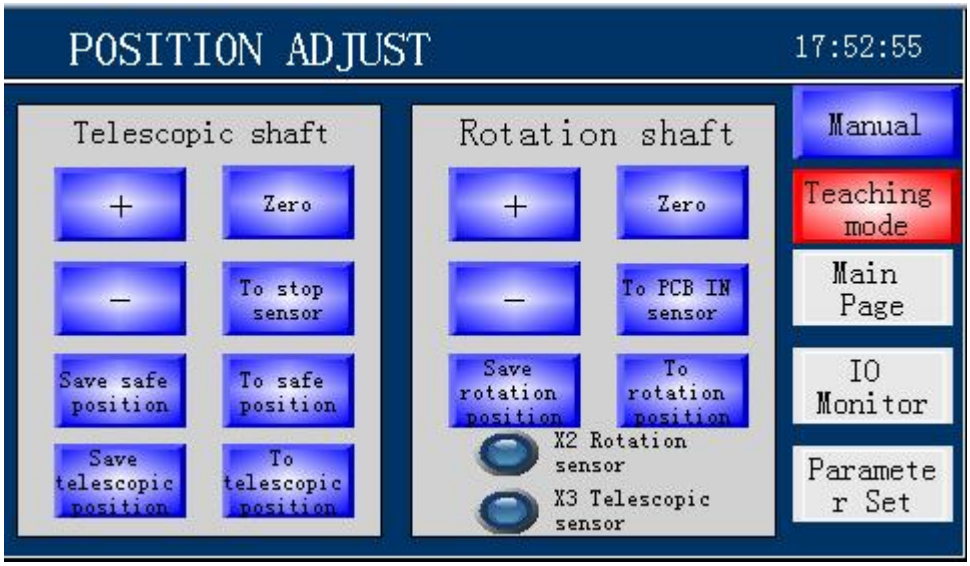
Rotation position in signal



Rotation position out signal



4.6 Position adjust



1. **Position adjustment step description**

2. Click Reset. After the device returns to zero, click the “Position Settings” button to enter the location setting page. Click the “Manual Run” button on the location setting page, the device enters the manual running state, and clicks the “Teaching Mode" button to become Blue enters jog position adjustment teaching mode.

3. Click the "-" and "+" buttons inside the telescopic axis to move the track of the telescopic axis to a safe position. Press and hold the "Save Safety Bit" button to hear the beep and the safe position adjustment is completed..

4. . Click the "-" and "+" buttons inside the rotary axis to rotate the rotary axis to the angle of the lower machine..

5. Long press the "Save rotary position" button to hear the beep and the corner position is saved.

6. Click the “-” and “+” buttons inside the telescopic shaft to move the telescopic shaft to the position close to the exit rail. Press and hold the “Save telescopic position” button to hear the buzzer. The telescopic output position is saved.

7. Note: The above steps are the steps to initially adjust all positions, or you can adjust the corresponding position separately..

8. adjust the width of the PCB track

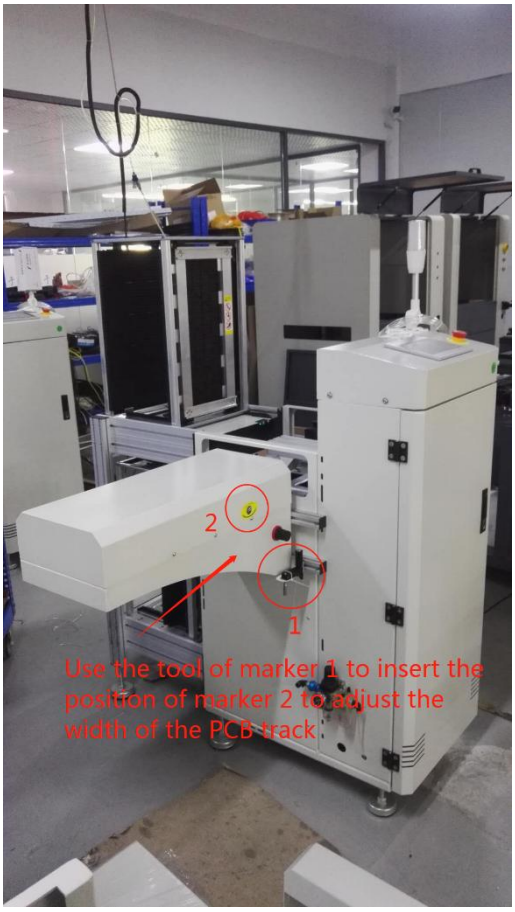
(1). Please zero the rotary and telescopic axes

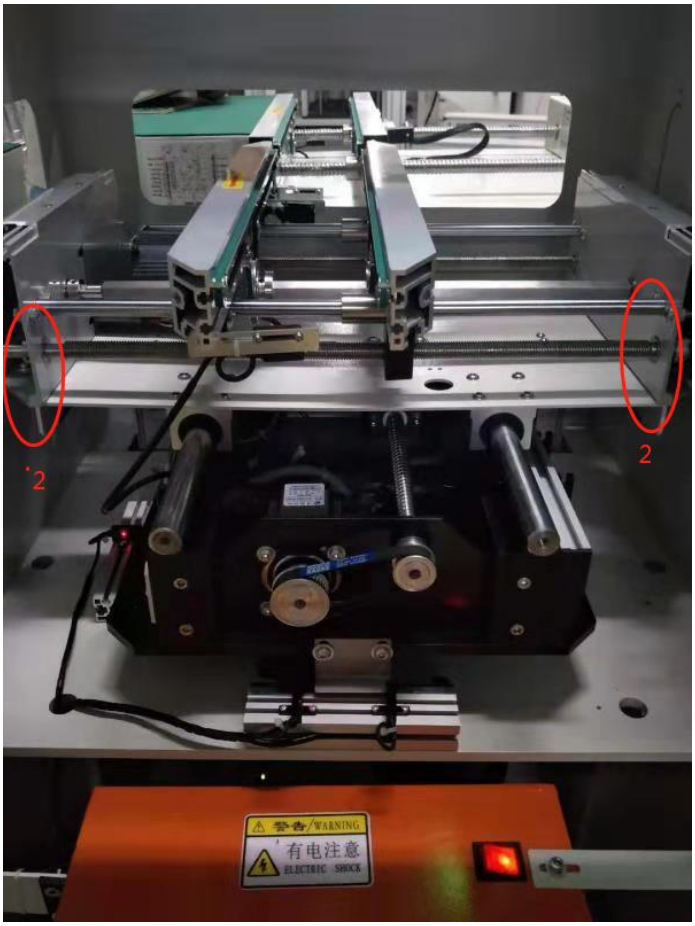
(2) open the machine control box door.

(3) Use the tool of marker 1 to insert the position of marker 2 to adjust

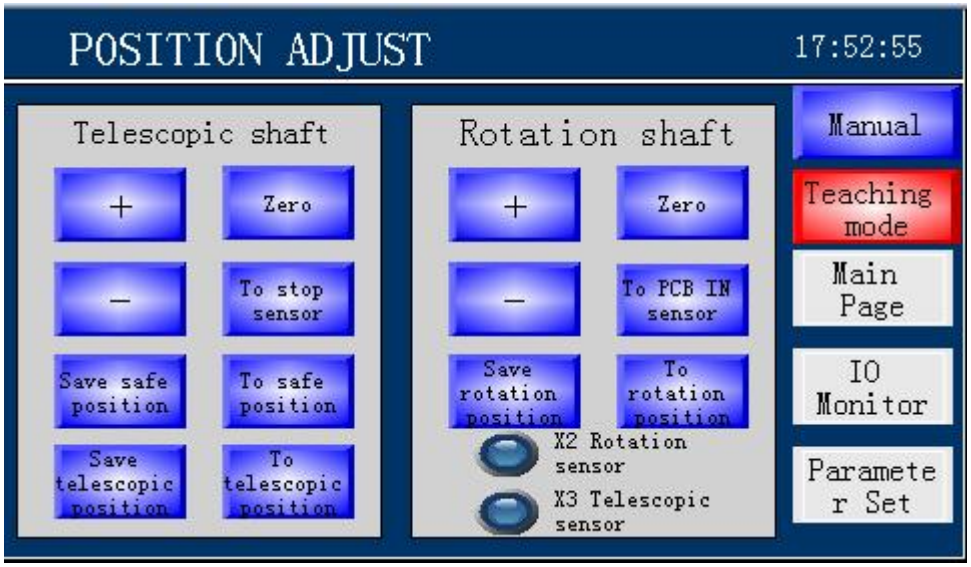
the width of the PCB track(The method is the same as the loader adjustment width)

(4)Please refer to the picture





4.7 Button description



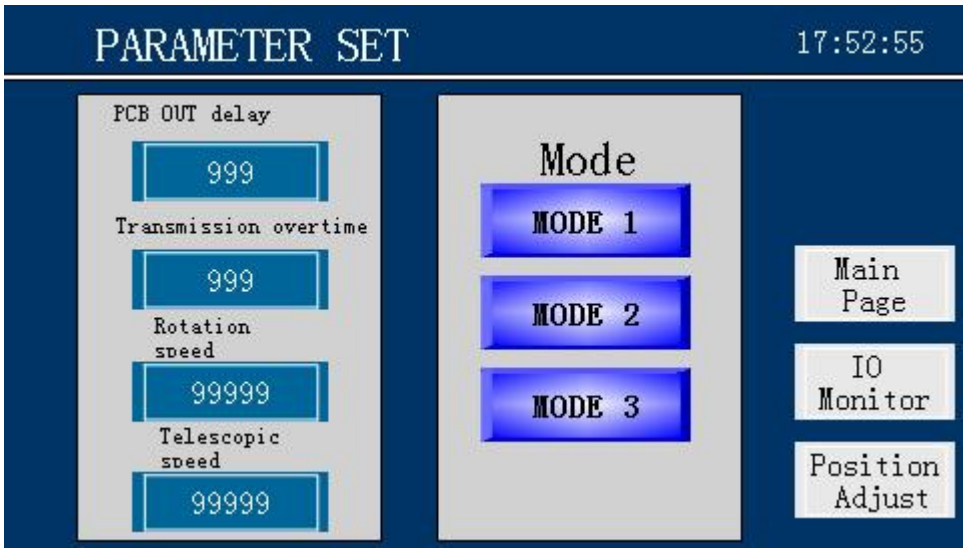
To safety position - in the non-teaching mode, click "to the safety position", the telescopic axis moves to the safe position (only when the telescopic axis is in the safe position, the rotary axis can rotate, otherwise the rotation command is invalid).

To the Rotate osition – in the non-teaching mode, first move the telescopic axis to the safe position, click “to the Rotate position”, and rotate the axis to the corner position. (Only when the telescopic axis is in

the safe position, the rotary axis can rotate. Otherwise the rotation command is invalid).

Return to zero - in non-teaching mode, click the button and the corresponding moving axis will be zero. (Only when the telescopic axis is in the safe position, the rotary axis return to zero command is valid.) .

4.8 Parameter Setting Description



- **Input box and button function description**
- **Outboard delay setting - when the track is automatically run out, the PCB leaves the stop sensor**

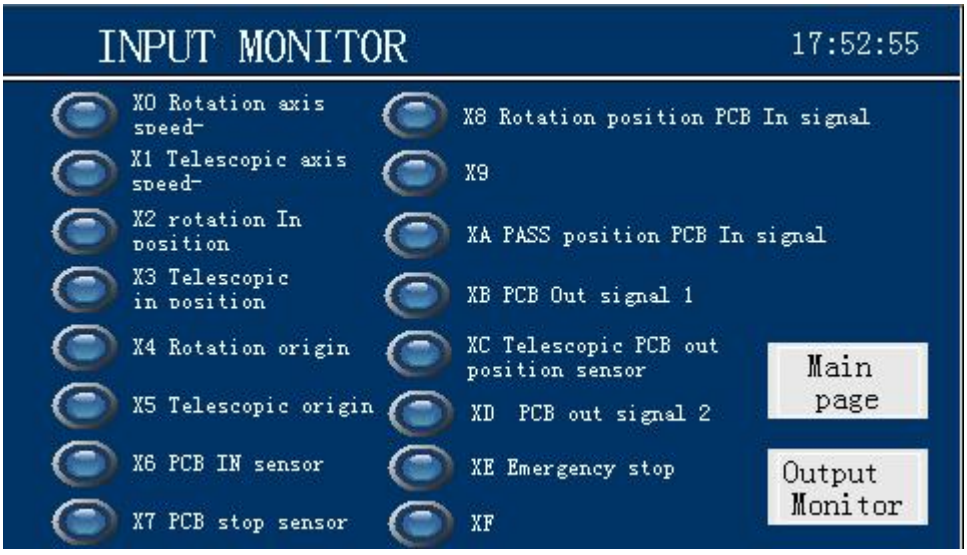
and reaches the set time to stop the output of the board..

- Transmission timeout alarm setting - during automatic operation, the board transfer time is up to the set time, and the device alarms buzzer.
- Rotating corner speed setting - the speed of continuous motion when the corner axis is running automatically.
- Telescopic shaft speed - the speed of continuous movement of the telescopic shaft during automatic operation.
- Mode 1 - the device enters the board from the through position and exits from the right side of the corner position.
- Mode 2 - the device enters the board from the through position and exits from the left side of the corner position.
- Mode 3——The device enters the board from the left side of the straight through position and the corner

position, and the board is turned out from the right side of the corner position..

- Mode 4 - The device enters the board from the through position, and the right side of the straight through position and the right side of the corner position.

4.9 Input and Output IO Monitoring Instructions



It can monitor the working status of each electrical component of the device, red is not working, green is working

5.0 machine failure description

5.1 Handling faults and repairing equipment must do the following:

5.1.1. Familiar with the installation position of each mechanical device and electrical equipment in the equipment, and understand its performance and function.

5.1.2. Correctly analyze the cause of the fault.

5.1.3. Find the faulty part and the failed component

5.1.4. Targeted overhaul.

5.2 Causes and troubleshooting of common faults

Fault content	cause of issue	Handling
PCB in Stuck	The height is not the same as the height of the upstream machine	Use a spanner wrench to adjust the threaded rod to make the height consistent
Belt does not turn	Motor is damaged or the belt is too loose	Replace the motor or adjust the tension to tighten the belt
The main power switch indicator is off.	The switch is broken, the thread is loose, and the power cord is broken.	Unplug the plug and open it to make the panel, check if the thread is loose. If it is loose and re-crimped, if it is not loose, please replace the button

Warning: Please disconnect the power supply for repair or replacement of electrical components, and do not operate with electricity.

6.0 maintenance

☐ **every week**

- Check that the transport belt is too loose and keep the belt clean.

- Wipe off dirty oil with a cloth or paper and lubricate the ball screw.
- Test whether the product is delivered smoothly.
- Check the belt track for wear.
- Oil the lead screw for at least 2 weeks.

1	Equipment cover	Ensure the appearance of the shell, no dust	Every day / time
2	Width adjustment shaft	Can be cleaned with WD-40 anti-embroidering oil, no debris	Every day / time
3	Conveyor chain cleaning	Can't have electronic components, adhesive paper, etc.	Every day / time

Oil filling project:

1	All ball nuts	Lubricating grease (with grease gun)	Monthly/time
2	Rotary bearing	Lubricating grease (jet lubrication)	Monthly/time
3	All guides, screw	Lubricating grease (hand-lubricated)	Monthly/time
3	PCB conveyor chain	Lubricating grease (jet lubrication)	6Monthly/time

Adjustment project:

1	PCB conveyor chain	Adjusted by the inner bearing of the rail during slack	Quarterly/time
2	Track width	Is it consistent?	Quarterly/time