

SBI330 Automatic Flipping Machine

user's manual

* Please read this manual carefully before use to ensure the correct use of the product.

Thanks to the purchase of our products, the company would like to express our heartfelt thanks. The manual describes the hardware composition, equipment operation, electrical drawings, and maintenance. Please fully understand this manual content and use it correctly.

Although the contents of this manual are correct, please contact the company if you find any questions or mistakes.

warn:

- The equipment can only be operated by professional maintenance and maintenance personnel or qualified personnel
- Before electrification, confirm that the external input power supply matches the rated voltage and power of the equipment
- Please ground the equipment reliably
- All mechanical transmission of this equipment shall pay attention to personal safety during operation

pay attention to:

- Please read the user manual carefully before operating the equipment and remember the precautions
- Do not install this device near the EMI source
- Do not modify the hardware and software programs in the electric box, and the transformation is dangerous
- Keep this manual properly and maintain the equipment according to the manual requirements

container loading list:

- One main body of equipment
- One native machine (user manual)
- If the customer has special requirements, please refer to the purchase contract

catalogue

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Chapter 1. Brief introduction

1.1 overview

For the SMT industry PCB board cleaning, static electricity elimination, static electricity detection.

Features of this machine:

- User friendly membrane control panel.
- PEnclosed design wiith turn limiter ensures highest level of safety.
- Parallel and smooth width adjustment(lead screw).

1.2 technical parameter

project	main parameter
Transport direction	L→R or R→L
Power	AC220 50 / 60Hz Max.300W
Control method	Touch screen with Panasonic PLC Control
Delivery method	Belt type
PCB thickness	0.7~30mm
Delivery height	850~950mm (foot cup is adjustable).
Machine number	
Touch screen password	

Preparation items before use

- Please use a 220V single-phase 50Hz capacity above 200W fixed power supply
- The machinery must be safely grounded and must be connected to the earth bus
- The ground wire must be well fixed in the metal part of the fuselage
- To ensure safety, prohibit moving bodies close to equipment in operation
- Do not install the machinery in the dust, oil mist, conductive dust powder, corrosive gas, flammable gas, moisture, shock vibration, strong interference, high temperature and outdoor environment
- Avoid corrosive solvent wiping machine and use neutral cleaner
- Please keep this specification for future maintenance and maintenance



pay attention to:

- ☞ There is no reliable grounding and a possible risk of electric shock.

Chapter 2.machine operation

2.1 Precautions for boot

1. To ensure safety, prohibit the body from contact with parts in operation
2. Check the machine for debris.
3. Check for debris or PCB on the track.

2.2 operation declaration

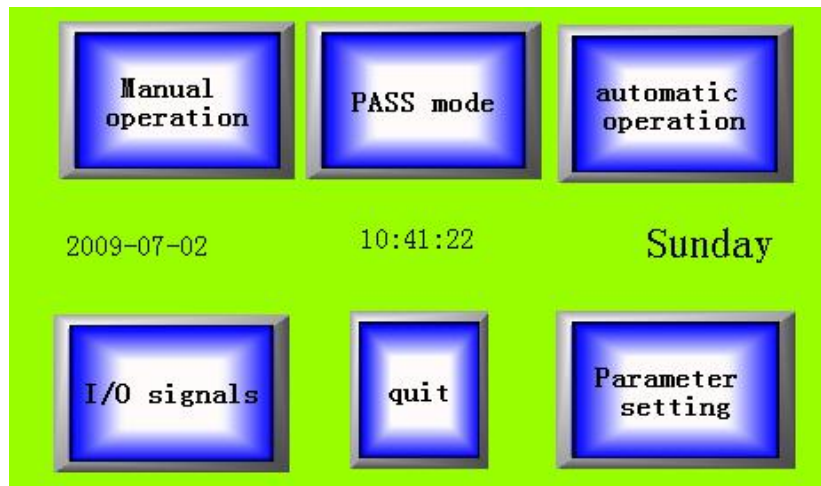
2.2.1 Boot Page

Turn on the power supply of the device, touch the screen into the boot page, click the button 'next page' to enter the "Main Menu"



SBI330 Boot Page

2.2.2 Main Menu



SBI330 Main Menu

■ Button instructions

- **Manual operation** —— click button, the device enters the Manual work interface
- **Pass mode** —— click button, the device enters the Pass mode interface
- **Automatic operation** —— click button, the device enters the Fully automatic work interface
- **I/O signals** —— click button, the device enters the I/O signals interface
- **Quit** —— click button, the device will return to the boot page
- **Parameter setting** —— click button, the device enters the Parameter setting interface

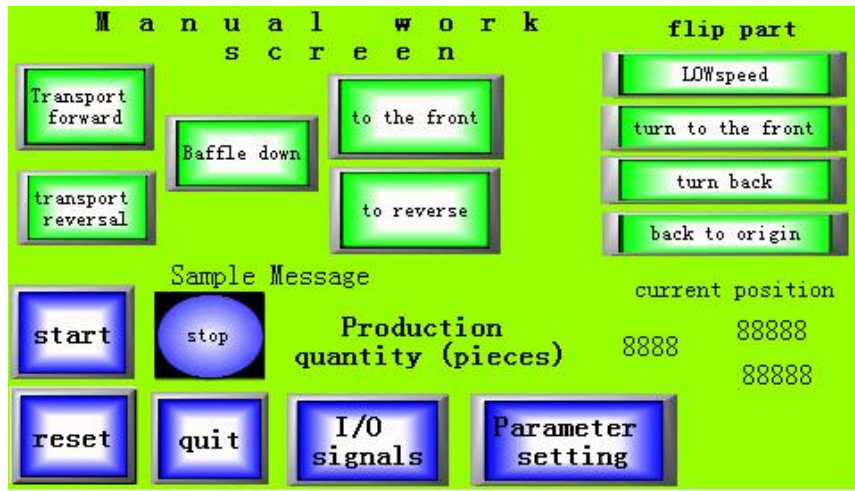
2.2.3 I / O signals interface

Enter the I/O signals interface



SBI330 I/O signals

2.2.4 Manual work screen

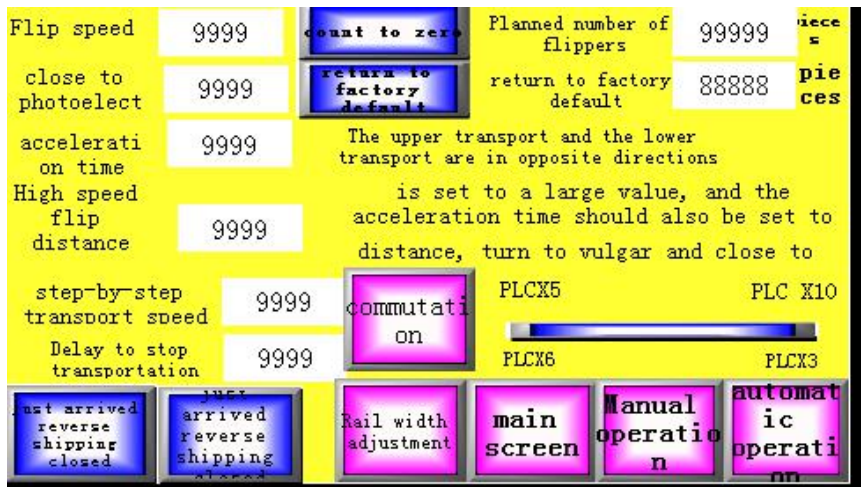


SBI330 Manual operation

- Transport forward- - - - -PCBs will be transported from left to right.
- Transport reversal- - - - -PCBs will be transported from right to left.
- Baffle down- - - -The baffle will go down
- To the front- - - -PCBs will move from left to right.
- To the reverse- - - -PCBs will move from right to left.
- Lowspeed- - - -Flip speed will switch to low speed.

- Turn to the front- - - -The track will rotate clockwise.
- Turn back- - - -The track will rotate counterclockwise.
- Back to origin- - - - -The track will rotate to origin.
- Start- - - -machine starts to work.
- Stop- - - -machine stops to work.
- quit- - - -Exit the current interface.
- I/O signals- - - -Will go to the I/O signal interface.
- Parameter setting- - - -Will go to the Parameter setting interface.
- Production quantity- - - -The number of PCBs that have been flipped .

2.2.5 Parameter setting screen

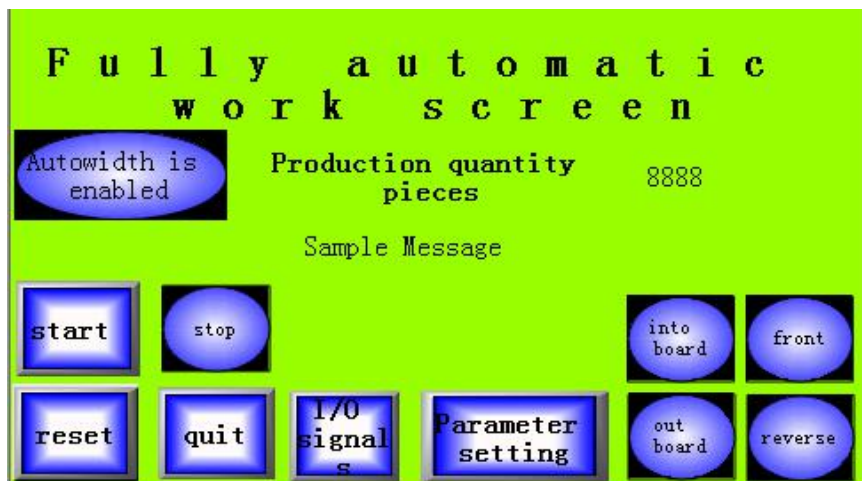


SBI330 Parameter settings

- Flip speed- - - - -Enter value of flid speed.
- Close to photoelect- - - - -Enter value speed of closing to photoelect.
- Accleration time- - - - -Enter value of acceleration during rotation.
- High speed flip distance- - - - -Enter value of the distance from the start point to the end point .
- Step-by-step transport speed- - - - -Enter speed value of belt transport.

- Delay to stop transportation- - - - -Dwell time when exiting the PCB.
- Just arrived reverse shipping closed- - - - -The PCB moves from the start position to the end position and then flips.
- Double splice closed- - - - -The PCB is moved from the start position to the middle position and then flipped.
- Rail width adjustment- - - - -sets the rail width.
- Main screen- - - - -Will go to the Main menu.
- Manual operation- - - - -Will go to the Manual operation interface.
- Automatic operation- - - - -Will go to the Automatic operation interface.
- Commutation- - - - -Will go to the Commutatin interface
- Count to zero- - - - -Zero the number of boards that have been flipped.
- Return to factory default- - - - -All settings become factory settings.
- Planned number of flippers- - - - -Sets planned numbers of flippers.

2.2.6 Fully automatic work screen



SBI330 Fully automatic work screen

- Autowidth is enabled - - - - -Auto-width is turned on
- Start- - - - -Start automatic transport and flipping
- Reset- - - - -Return the machine to the origin position

- Stop- - - -Stop the machine
- Quit- - - - -Quit the Fully automatic work interface.
- I/O signals- - - - -Will go to the I/O signals interface.
- Parameter setting- - - - -Will go to the Parameter setting interface.
- Into board- - - -Automatic into PCB.
- Out board- - - -Automatic out PCB.
- Front- - - -PCBs will be transported from left to right automatically.
- Reverse- - - -PCBs will be transported from right to left automatically.

2.2.7 Pass mode



SBI330 Pass mode

- Start - - - - -Start to PASS mode(PCBs are only transported, not flipped)
- Reset- - - - -Return the machine to the origin position
- Stop- - - - -Stop the machine
- Quit- - - - -Quit the PASS mode interface.
- I/O signals- - - - -Will go to the I/O signals interface.
- Parameter setting- - - - -Will go to the Parameter setting interface.
- Into the board- - - -Automatic into PCB.

- Out of the board- - -Automatic out PCB.
- Front- - -PCBs will be transported from left to right automatically.
- Reverse- - -PCBs will be transported from right to left automatically.

Tips:

1. Set High speed flip distance: First step go to Manual work screen interface, then second step click 'Low speed' to adjust speed of flipped. The third step to keep clicking 'transport reversal' until flip the rail to the other end and remember value of current position. The final step to go to the Parameter setting screen interface and enter value into the 'High speed flip distance'(Value is about 89 in normal situation).
2. PASS mode will only take effect after the baffle is lowered, otherwise the belt will not be transmitted.
3. 'Just arrived reverse shipping closed' mode is suitable for PCB production lines with slow board collecting; 'Double splice closed' mode is suitable for PCB production lines with fast board collecting.

Chapter 3. Fault description

3.1 Handling handling and maintenance equipment:

1. Be familiar with the installation position of the mechanical devices and the original of electrical equipment, and understand its performance and function.
2. Analyanalyze the causes of the fault.
3. Locate the failed parts and the failed components
4. Targeted maintenance.

3.2 Reasons of common faults and troubleshooting methods

Fault content	failure cause	processing method
The belt does not turn	Broken motor or the belt is too loose	Replace the motor or adjust the tension to tighten the belt
The main power switch indicator light is not on	Switch is broken, wire head is loose, power cord broken circuit	Pull off the plug, open the panel, check whether the wire is loose If there is loose pressure again pressed, if not loose, please replace the button



pay attention to:

- ☞ Repair or replace electrical components, disconnect the power, prohibit live operation.

Chapter 4: Maintenance

Every week

- Check whether the transport steel belt is too loose and keep the transport belt clean.
- Test for the smooth delivery of the product.
- Check the belt track for wear.