IMB®

AUTO SEWING MACHINE

自动门襟锁眼机

Button Holing Indexer

（MB6003B-JUKI-LBH1790ANS-AAP）

电控系统使用说明书

Instruction manual for electric control system

常州智谷机电科技有限公司

CHANGZHOU WISDOM & VALLEY ELECTRICAL TECHNOLOGY CO.,LTD

在使用本设备之前请先阅读本零件手册
Please read the operation manual of the touch
screen interface before using the device
请将本零件手册放在便于查阅的地方保管
Please keep this operation manual of touch screen
interface in convenient place for referen

感谢购买 IMB 工业用缝纫机。

在使用此机器之前，请仔细阅读以下的说明，这样可以更好地帮到您了解此机器的相关操作。

这些说明是根据现行的条例明确阐述了正确的工作方法。

Thank you for purchasing this industrial sewing machine from IMB

Before using this automatic unit, please read the following instructions, which will help you to

understand how the machine operates.

These instructions illustrate the correct working methods to comply with current regulations.

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我们将欣然接受各位提出的改进此说明书的任何建议和指示

We are happy to receive suggestions and/or indications on ways we could improve this manual.

本机介绍说明分为三部分，具体请参照《MB6003B-使用说明书》、《MB6003B-零件手册》、《MB6003B-电控系统使用说明书》。

The introduction of this machine is divided into three parts. For details, please refer to 《MB6003B Operation manual》 and 《MB6003B Parts Manual》《MB6003B Instruction manual for electric control system》
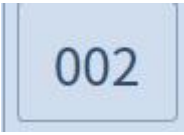
catalogue

[1] Main interface description

The title bar at the top of the interface will display the current interface name (the name of the current key will be displayed when you click the key), the USB flash disk prompt area (if there is a USB flash disk inserted, the USB flash disk logo will be displayed in the title bar), the date and the current version number in turn

function	key	explain
Motor reset	Reset	Reset the motor and start it
set up	MENU	Enter the setting interface
Display and switch the current style	002	Display the currently used style, and click to enter the switch style interface. In this interface, you can select the style and style settings to switch, and you cannot modify the specific settings.
Style setting	Pattern setting	Click to enter the style modification interface, where you can choose to modify all style settings.

Display and modify the current keyhole spacing	002 5　4　3　2　1 60　28　60　60	Display the currently used style and the spacing of each keyhole, which can be modified through the motor spacing position
Style switching	patterns male style	Switch between the current clothing style and men's and women's clothing
Sport mode switching	running mode alternation mode	Switch the current operation mode, and switch between continuous mode and alternate mode
Fabric detection switch	fabric detect Off	Switch the function status of the cloth detection module
Disconnection detection	Thread-Break On	Click to switch the disconnection detection function status
Set the number of shuttles	bobbin capacity　10	Click to open the input interface and input the preset number of shuttles
Reset remaining shuttles	remaining　0　reset	Reset the number of remaining shuttles after clicking
Increase count	+	Count plus one
Decrease count	−	Count minus one
Clea	0 Clear	Count reset
Winding		Enter the winding mode, and a prompt box will pop up on the main interface. After the winding is completed, click the confirmation button in the pop-up box to end the winding mode
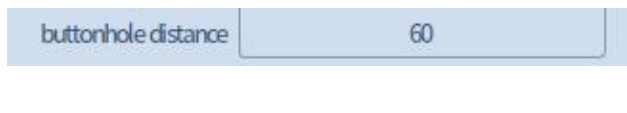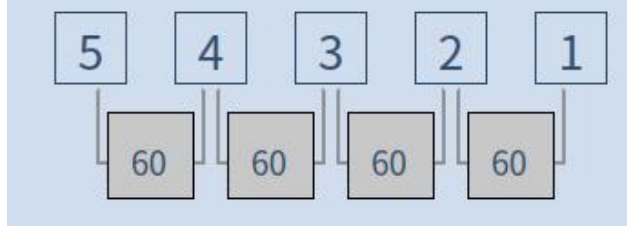
Click the style number displayed in the main interface or click style setting to enter the style setting interface, as shown below
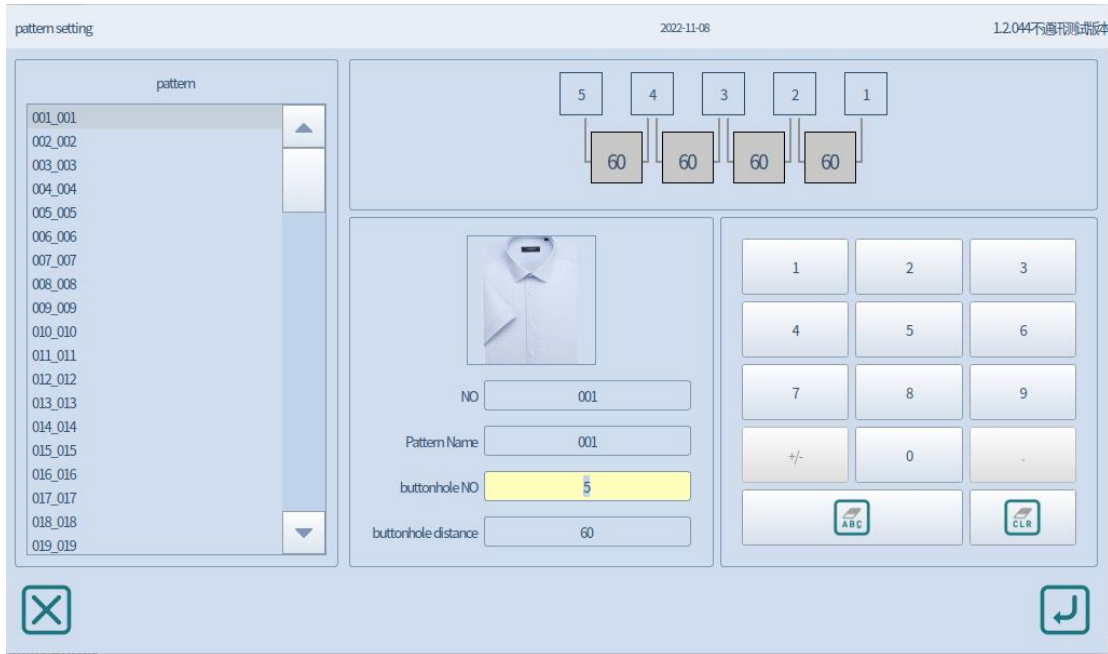
1.   The list on the left is the style list. By selecting a style in the list, the right interface will switch display data according to the selected style;

2.   The right area is the style setting details

function	key	explain
Style numbe	NO 001	Display the currently selected style
Style name	Pattern Name 001	Display the name of the current style, and click to enter the name modification interface to modify the name of the current style
Number of keyholes	buttonhole NO 5	Display the number of keyholes used in the current style. Select the current input box, and the input box will turn yellow, as shown in the current figure. At this time, you can modify the current number of keyholes through the keypad on the right

Keyhole spacing	buttonhole distance　　　　60	Select the current input box to synchronously modify all keyhole spacing
Single keyhole spacing modification	5　4　3　2　1 60　60　60　60	Select the keyhole spacing position to be modified, and enter the modified spacing value through the keypad

After modifying the corresponding settings in the interface as required, you need to press the OK button in the lower right corner to save the settings, or press the Exit button in the lower left corner to cancel the modification.

[3]　User parameters

(No detailed introduction of parameters)

Select Settings from the main interface to open the user parameter directory interface

| Param setting | 2022-11-08 | 1.2.044不通刊测试版本 |

| FIRST LEVEL PARAMETER | SECOND LEVEL PARAMETER | THIRD LEVEL PARAMETER |

sewing setting　　　stacking setting　　　thread breakage setting

Modified
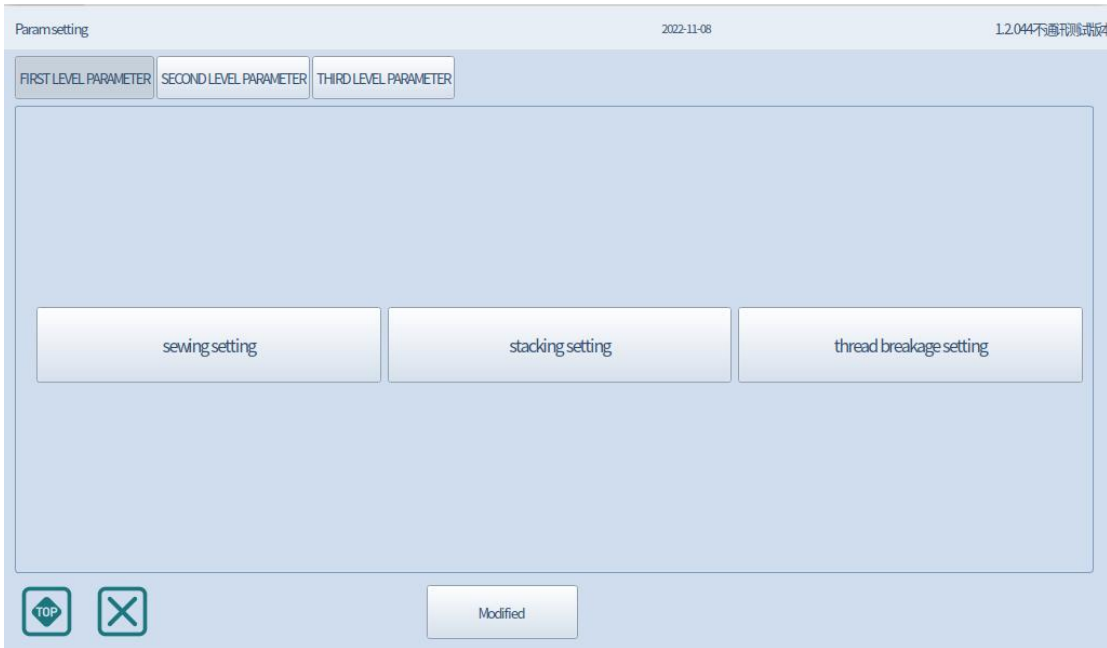
User parameter distribution

Primary paramete		
Sewing combination action setting	Material receiving combination action setting	Disconnection setting
Execution time of air blowing action	Roof lowering action time	Disconnection detection cycle
Execution time of rotary pressing action	Top plate falling action time	
Execution time of upper clamp opening action	Lifting action time after the top plate falls	
Execution time of lower clamp opening action	Lowering action time after roof falling	
Execution time of feeding rack swing back action	Top plate return action time	
Execution time of feeding bar action		
Execution time of roof lifting action		
Execution time of rotary press opening action		

Secondary paramete		
Touch and display	Other parameters	Feeding setting
Touch sound setting	Language selection	Feeding speed
Backlight brightness adjustment	Power-on password	Feeding start speed
Automatic backlight off switch	Lower computer communication	Feed acceleration
Wait time for automatic backlight off		Feeding synchronization ratio
Key display style		Women's starting point
Boot screen		Maximum total spacing of men's keyhole

Tertiary paramete
无

A、Sewing combination action setting
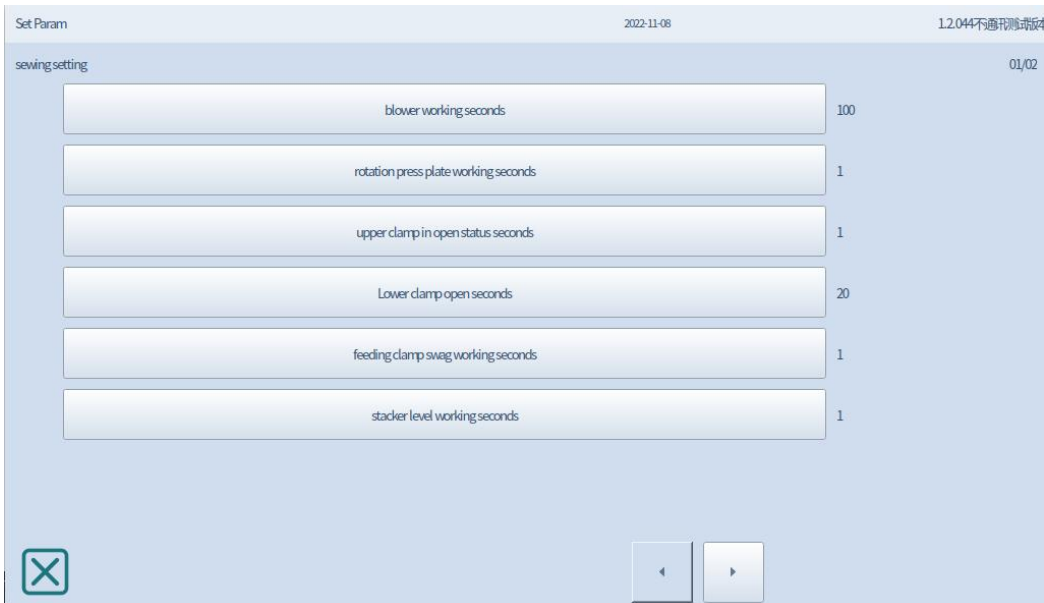
sewing setting   01/02

blower working seconds	100
rotation press plate working seconds	1
upper clamp in open status seconds	1
Lower clamp open seconds	20
feeding clamp swag working seconds	1
stacker level working seconds	1

◀ ▶

B、Material receiving combination action setting

stacking setting   01/01

extended stacker close seconds	10
extended stacker drop down seconds	1
extended stacker open seconds after drop down	1
extended stacker close seconds after drop down	1
extended stacker stacker level back to Home position timing	1

☒

C、Disconnection setting

thread breakage setting   01/01

| Thread break detecting interval | 1 |

☒

D、Touch and display

PANEL AND DISPLAY   01/01

Buzzer Sound Setting	Buzzer Off
PANEL LUMINANCE SETTING	100
PANEL LUMINANCE AUTO CLOSE SWITCH	NON-AUTO_OFF
WAITING TIME BEFORE PANEL LUMINANCE CLOSE	3
Button Display Type	Icon
display logo	hide

E、Other parameters

OTHER PARAMETERS   01/01

Change language	EN
Power On Password	YES
EMBED COMMUNICATION	Off

F、Feeding setting

feeding setting   01/01

Feeding speed	100
feeding motor startup speed	1
feeding motor accelarate speed	10
feeding motor ratio	100
sewing start stitch in female mode	20
Maximum sewing length of male placket	680

G、Modified settings

Select the modified setting at the bottom to view the modified user parameters in the current system. You can directly click the corresponding parameter key to modify the parameter again. At the same time, you can also check the box on the right of the key to reset the parameter and restore the parameter to the factory parameter.

Restore Selected   All Rest   01/04

	Current	Reset
blower working seconds	100	1
Lower clamp open seconds	20	1
extended stacker open seconds	9	1
feeding clamp open time	100	1
extended stacker close seconds	10	1

[4]　System function

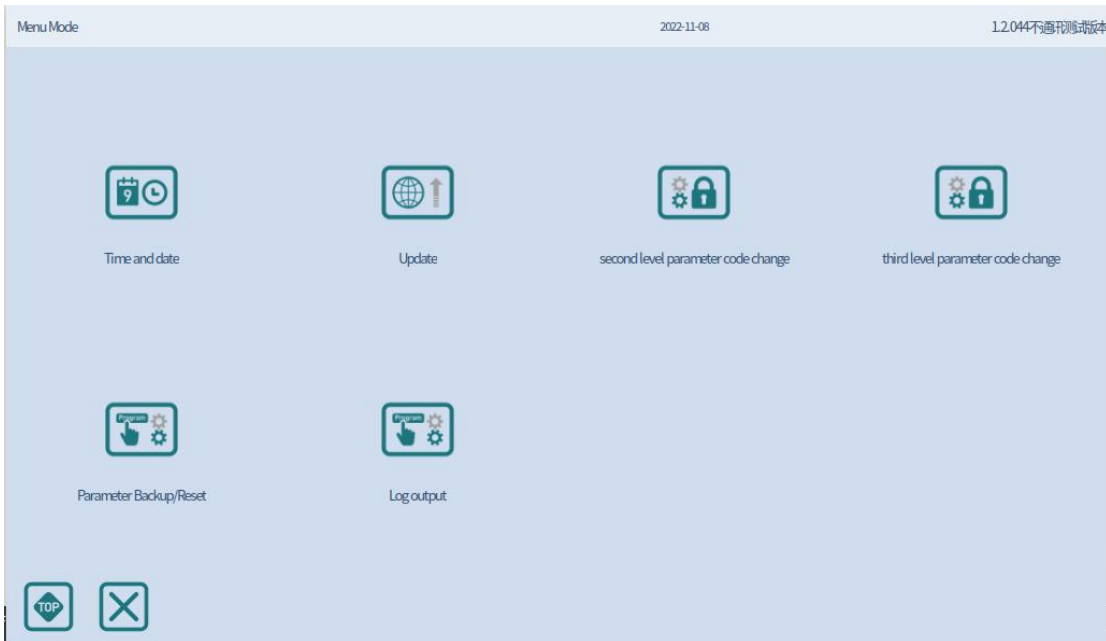Select Settings to enter the system setting interface, where you can adjust the upper computer control board.

Time and date　　　Update　　　second level parameter code change　　　third level parameter code change

Parameter Backup/Reset　　　Log output

A、Time and date

Select and click the time and date in the system function, and enter the correct password to enter the time modification interface. In this interface, you can configure the date and clock of the upper computer.

10:55　　SET HOUR

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
44	31	1	2	3	4	5	6
45	7	8	9	10	11	12	13
46	14	15	16	17	18	19	20
47	21	22	23	24	25	26	27
48	28	29	30	1	2	3	4
49	5	6	7	8	9	10	11

November　　2022
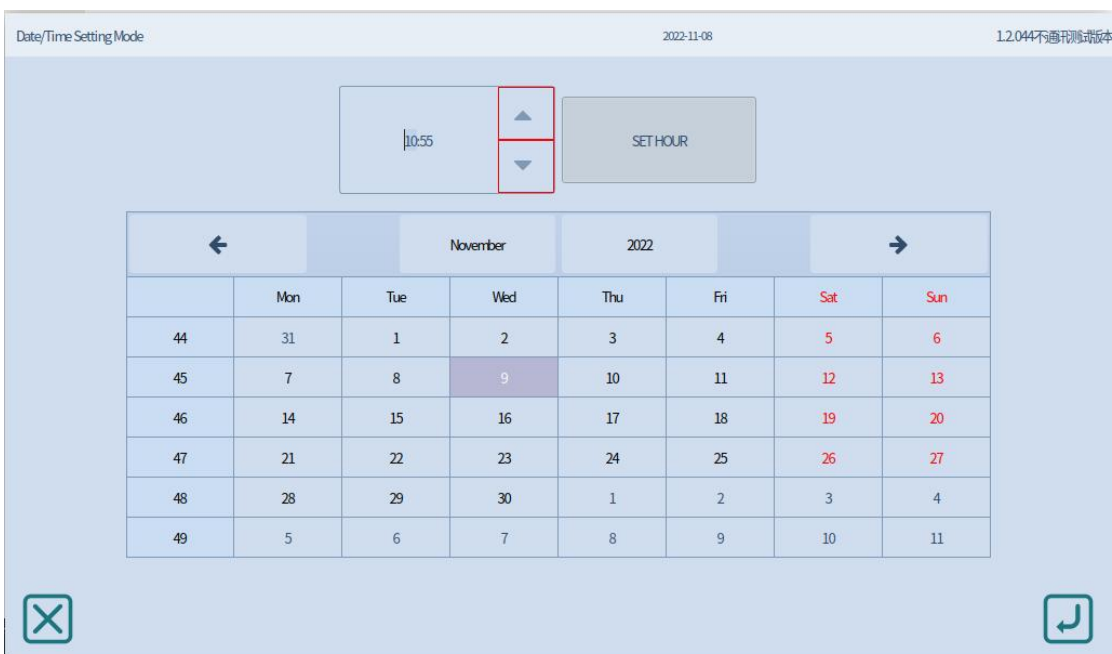
B、Software upgrade

Select and click the software upgrade in the system function, and enter the correct password for verification before entering the software upgrade interface. The upgrade file selected by this option needs to be selected from the U disk, and the U disk and the upgrade file need to be prepared in advance

| function	explain
LCD program	Use this option to select the LCD program upgrade file in the USB flash drive. Select the file and click OK. Restart the LCD screen to complete the upgrade after prompted to restart. Note that you must confirm that you have selected the upgrade file of the LCD program. Selecting the wrong upgrade file will cause the program to crash. The default name of the LCD program is BCPanel.bin
Main control board program	Use this option to select the LCD program upgrade file in the USB flash drive. Select the file and click OK. Restart the LCD screen to complete the upgrade after prompted to restart. Note that you must confirm that you have selected the upgrade file of the LCD program. Selecting the wrong upgrade file will cause the program to crash. The default name of the LCD program is BCPanel.bin
Boot animation	Use this option to select the new startup animation of the LCD screen in the USB flash drive, select the file and click OK. Restart the LCD screen to complete the replacement when prompted to restart. The default name of the startup animation is logo.bin
System icon	With this option, select the new system icon of the LCD screen in the USB flash drive, select the file and click OK. After the prompt to restart, restart the LCD screen to complete the replacement. The default name of the system icon is BCIcon.bin
version management	Click to enter the LCD screen history version interface, where you can view and trace the LCD screen history version, select the version you want to trace and confirm, and restart the LCD screen to complete version tracing after

	prompted to restart。
Manufacturer logo	Use this option to select the logo image of the manufacturer in the USB flash drive, select the file and click OK. Restart the LCD screen to complete the replacement when prompted to restart. The image format is PNG

Software upgrade process:

1、After clicking the corresponding project to upgrade, it will enter the USB flash disk file directory interface, where the button on the blue background is a folder, and the button on the green background is a file. You can return to the upper level or root directory through the foundation make-up button, and select the corresponding upgrade file in this interface (be sure to select the correct upgrade file, and the wrong upgrade file will lead to software problems)

2、Click OK in the pop-up confirmation box to start the upgrade. When prompted to restart, restart the machine to complete the upgrade operation
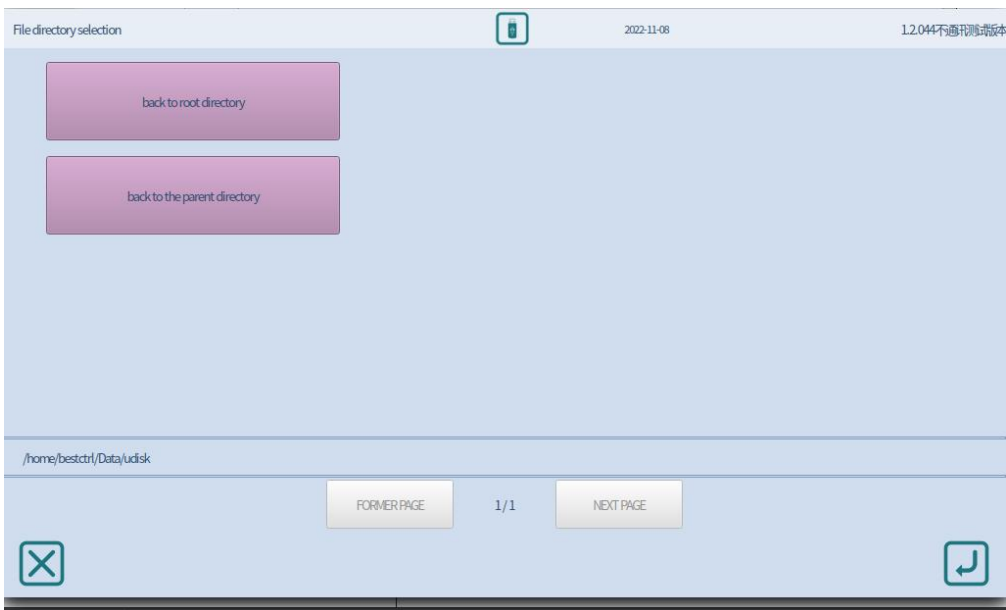
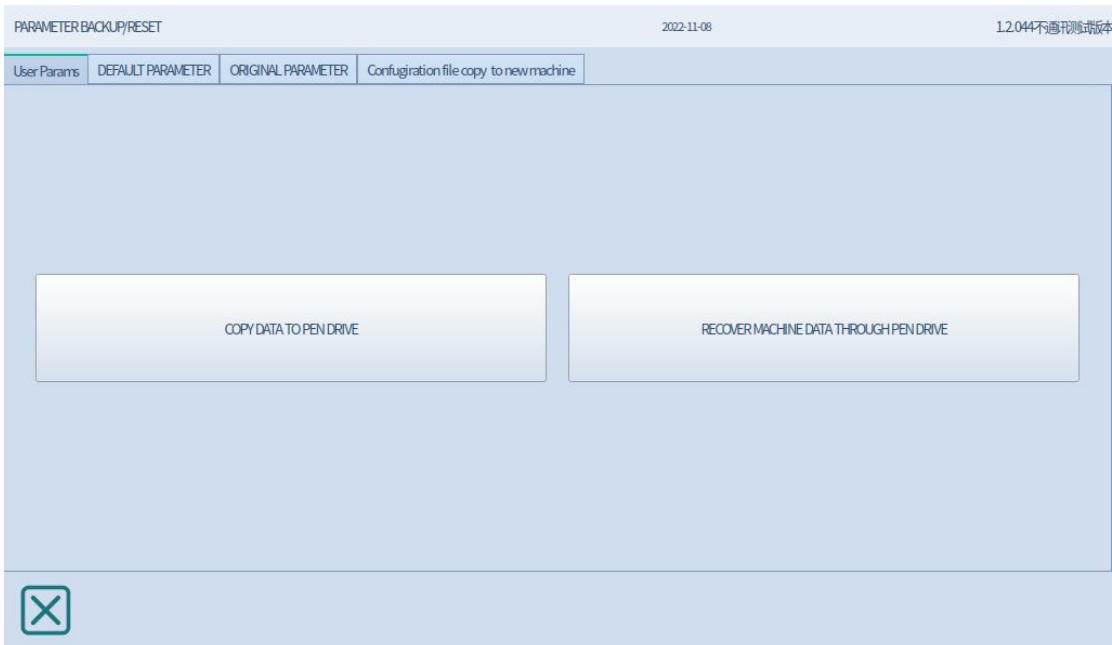**C、Level 2 password modification and level 3 password modification**

Click and verify the corresponding level password to enter the corresponding password modification interface. Enter the corresponding information in this interface and click OK to complete the password modification

New Password Setting						2022-11-08			1.2.044不通刊测试版本

Cur-Password:

New-Password:

Confirm:

1	2	3	4	5	6	7	8	9	0
Q	W	E	R	T	Y	U	I	O	P
A	S	D	F	G	H	J	K	L	#
Z	X	C	V	B	N	M	_	-	.

CLR

D、Parameter backup and recovery

Click to verify the password and enter the backup and recovery interface.

PARAMETER BACKUP/RESET	2022-11-08	1.2.044不通刊测试版本

User Params | DEFAULT PARAMETER | ORIGINAL PARAMETER | Confugiration file copy to new machine

COPY DATA TO PEN DRIVE

RECOVER MACHINE DATA THROUGH PEN DRIVE

| User Params | DEFAULT PARAMETER | ORIGINAL PARAMETER | Confugiration file copy to new machine |

14

Backup to factory parameters   Restore from factory parameters

❌

| User Params | DEFAULT PARAMETER | ORIGINAL PARAMETER | Confugiration file copy to new machine |

INITIALIZE MACHINE DATA(PLS SELECT)

<--No Data-->	<--No Data-->
<--No Data-->	<--No Data-->
<--No Data-->	<--No Data-->
<--No Data-->	<--No Data-->
<--No Data-->	<--No Data-->

Previous page   1/1   Next page

❌

| User Params | DEFAULT PARAMETER | ORIGINAL PARAMETER | Confugiration file copy to new machine |

copy machine data to pen drive   copy data from pen drive to machine
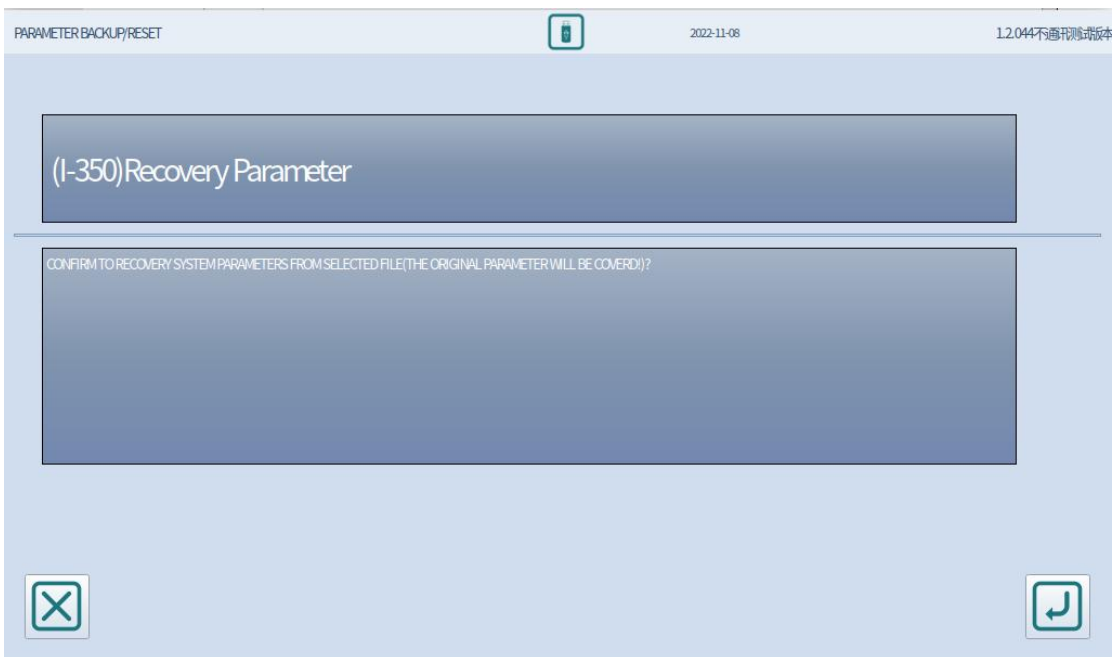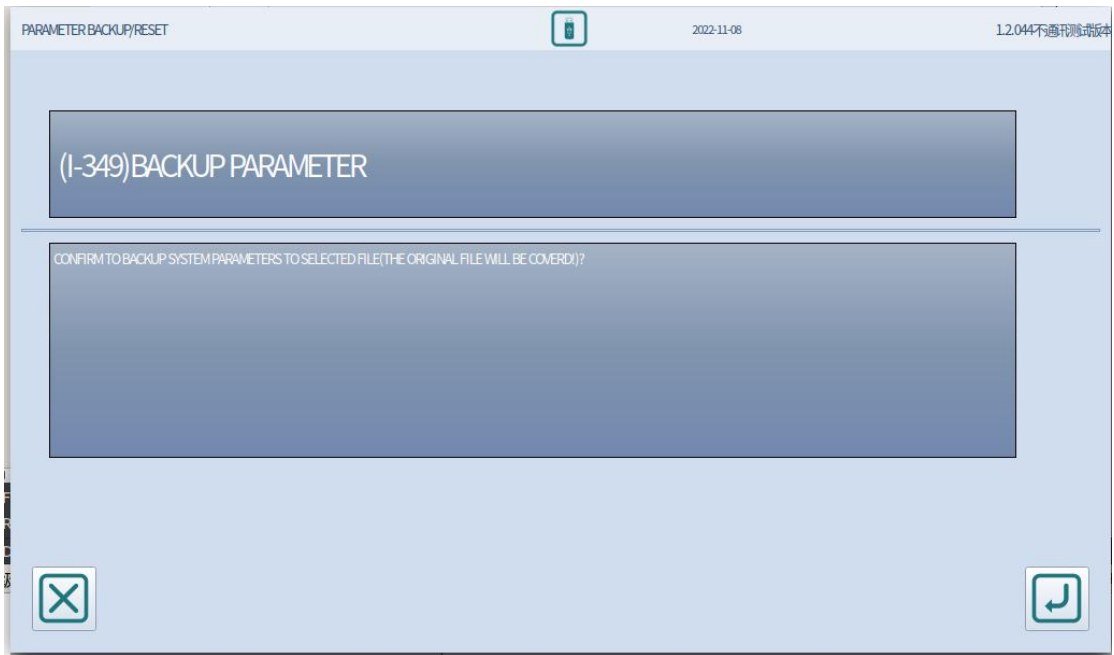
⊠
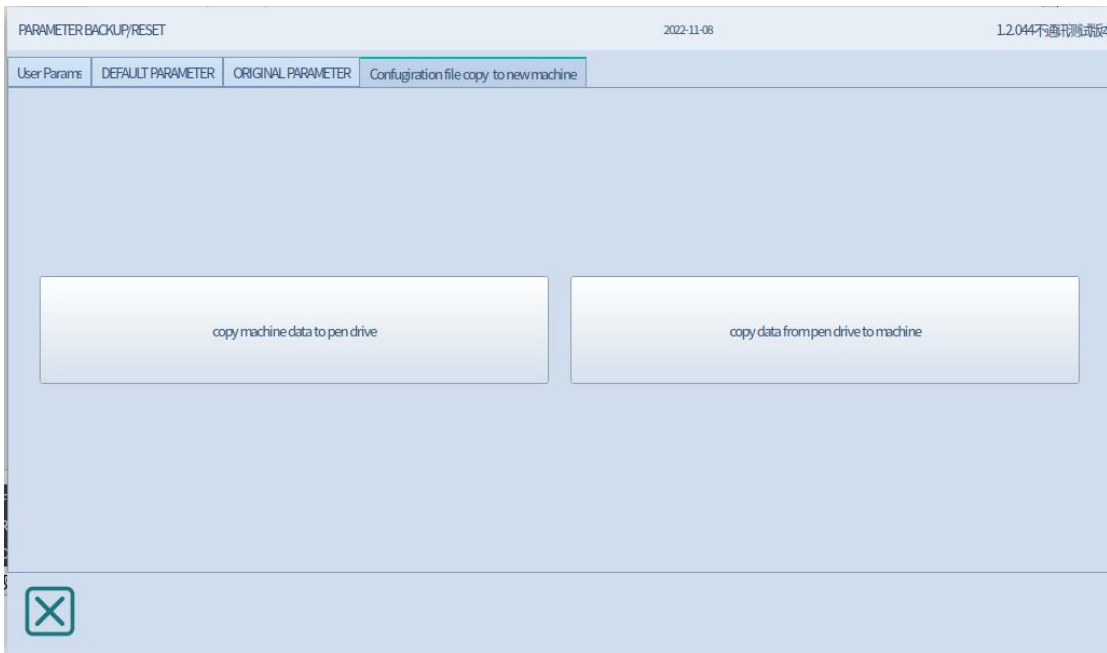
   This interface is divided into four types of parameter backup and recovery. User parameters and one-key replacement require a USB flash disk as a container for storing and retrieving backup files. The initial parameters only support recovery.

data type	explain
User parameters	Back up the parameters of the current model to the USB flash disk or restore the parameters in the previously saved parameter file from the USB flash disk to this program. The parameter file is saved in the USB flash disk. After pressing, enter the list of USB flash disk files and select the saving directory. Note that it cannot be saved in the root directory of the USB flash disk
Factory parameters	Back up the parameters of the current model to generate the factory parameter file, or read the parameters from the factory parameter file of the LCD screen and restore them to this program. The parameter file is directly saved in the LCD screen without a USB flash disk
Initial parameters	You can select the parameter file of the corresponding model in the LCD screen and restore the parameters to this program. This function can only be used for recovery, not backup
One-button replacement	You can save the data used in this program as a file, and then restore it on another LCD screen to achieve the function of changing the LCD screen with one key. The file is saved in the USB flash disk. After pressing, you can enter the file list of the USB flash disk and select the save directory by yourself. Note that it cannot be saved in the root directory of the USB flash disk,

  Backup Restore Procedure：

1、Select the parameter type to be backed up and restored, switch to its interface, and click the backup or restore option

2、After selection, a second confirmation box will pop up to confirm whether to execute. If executed, the current corresponding parameters will be saved under the corresponding directory in the U disk or LCD device or the corresponding data will be read from the corresponding directory in the U disk or LCD device.

(I-349)BACKUP PARAMETER

CONFIRM TO BACKUP SYSTEM PARAMETERS TO SELECTED FILE(THE ORIGINAL FILE WILL BE COVERD!)?

(I-350)Recovery Parameter

CONFIRM TO RECOVERY SYSTEM PARAMETERS FROM SELECTED FILE(THE ORIGINAL PARAMETER WILL BE COVERD!)?

E、Output Log Settings

    In this setting, you can output the operation logs of the LCD screen and the main control panel, and you can set what level of log information to output

The output log of the LCD can only be saved in the USB flash drive, while the output mode of the master control panel can be saved through jLink, USB flash drive and serial port. Note that the log output cannot be started until the corresponding media is inserted, and the log output must be stopped before the media is removed.
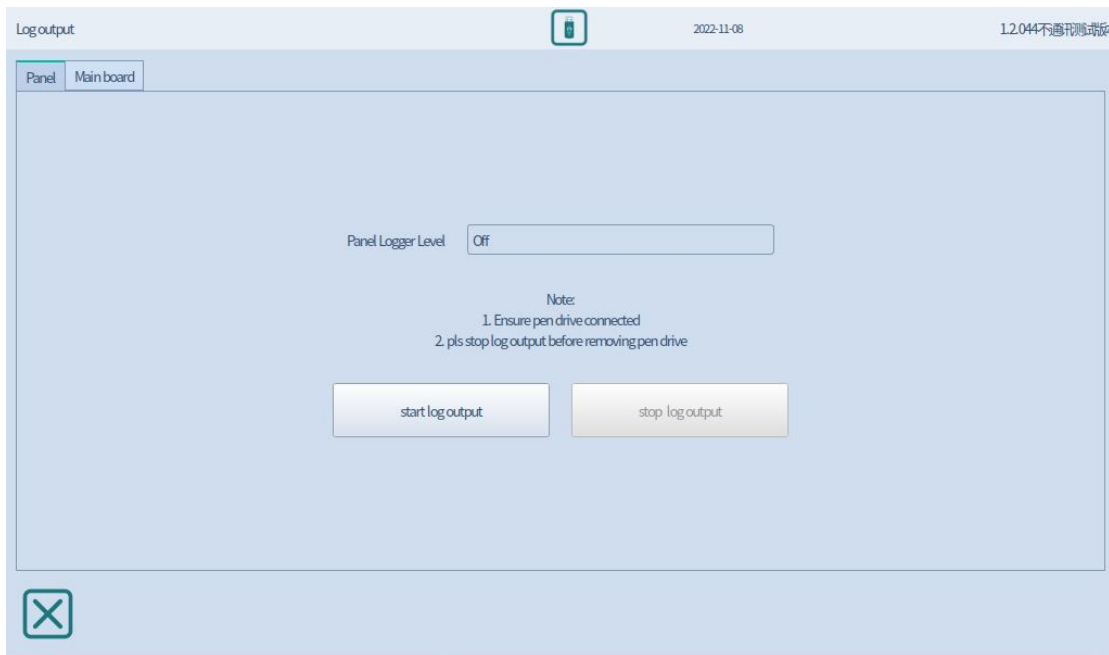

    The following options are available in the output log level options

| Log level options	explain
Do not output log	Stop log output
Output Fatal Log	Only output fatal log
Output logs of severity level and above	Output log information of fatal level and severity level
Output warning level and above logs	Output log information of fatal, critical and warning levels
Output logs of ordinary level and above	Output log information except debug level and scan level
Output debug level and above logs	Output log information except scan level
Output scan level and above logs	Output all log information

[5]　Factory mode

Select Settings>Factory Mode to enter the factory mode interface, where the factory mode test is performed
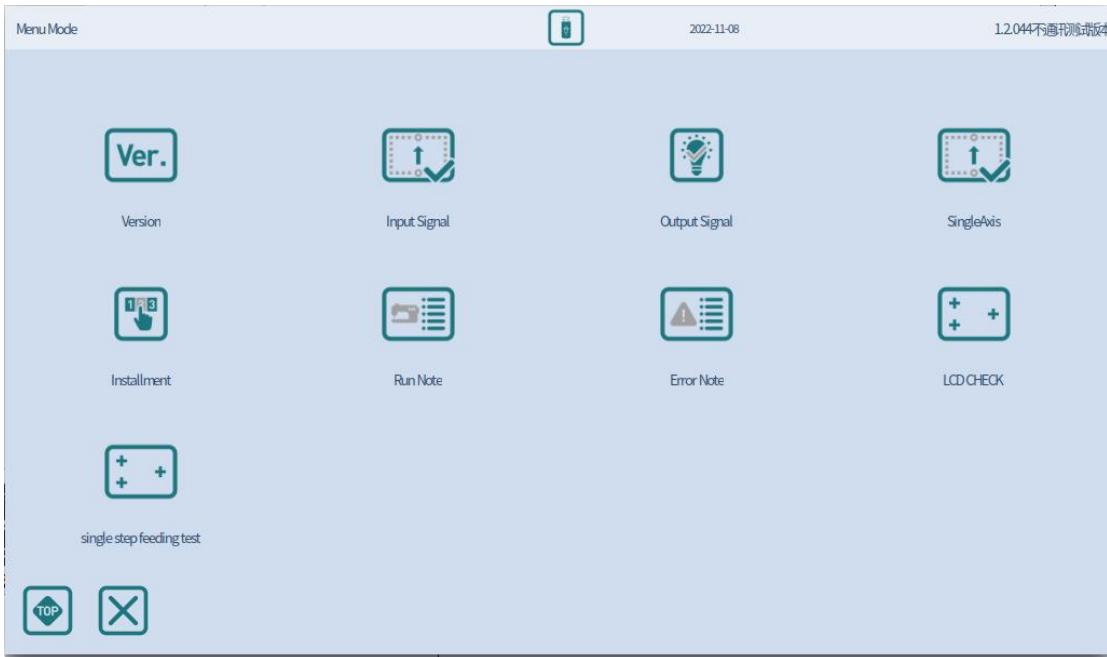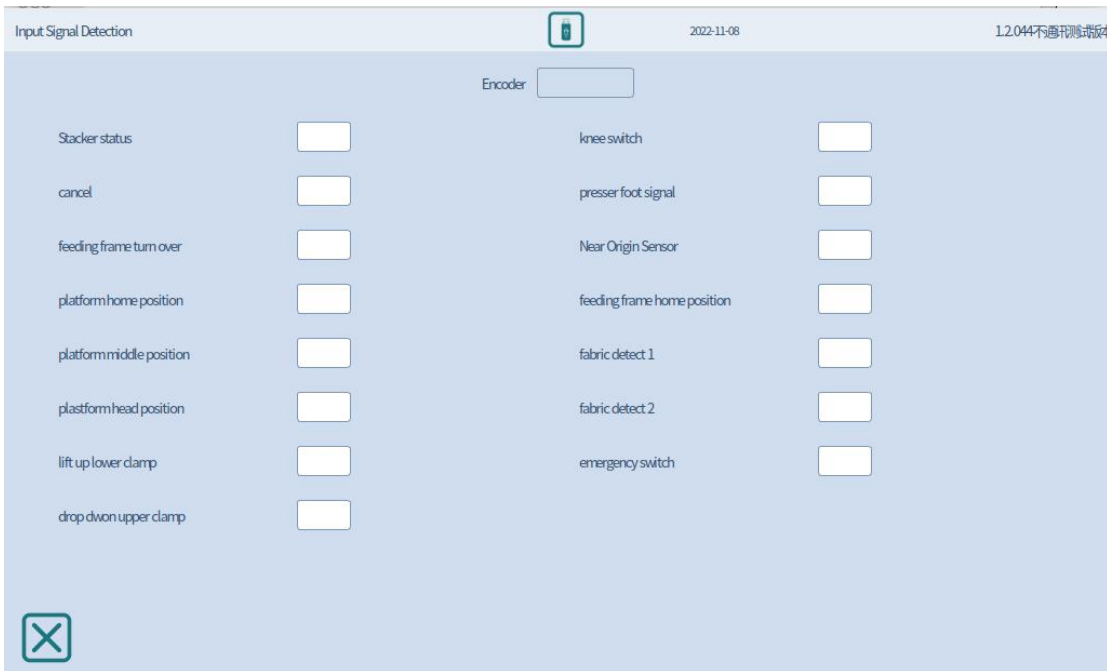

A、Software version

Select and click the software version key to enter the software version interface, where you can view the LCD program version, the main control panel program version, the current device type and sub-model
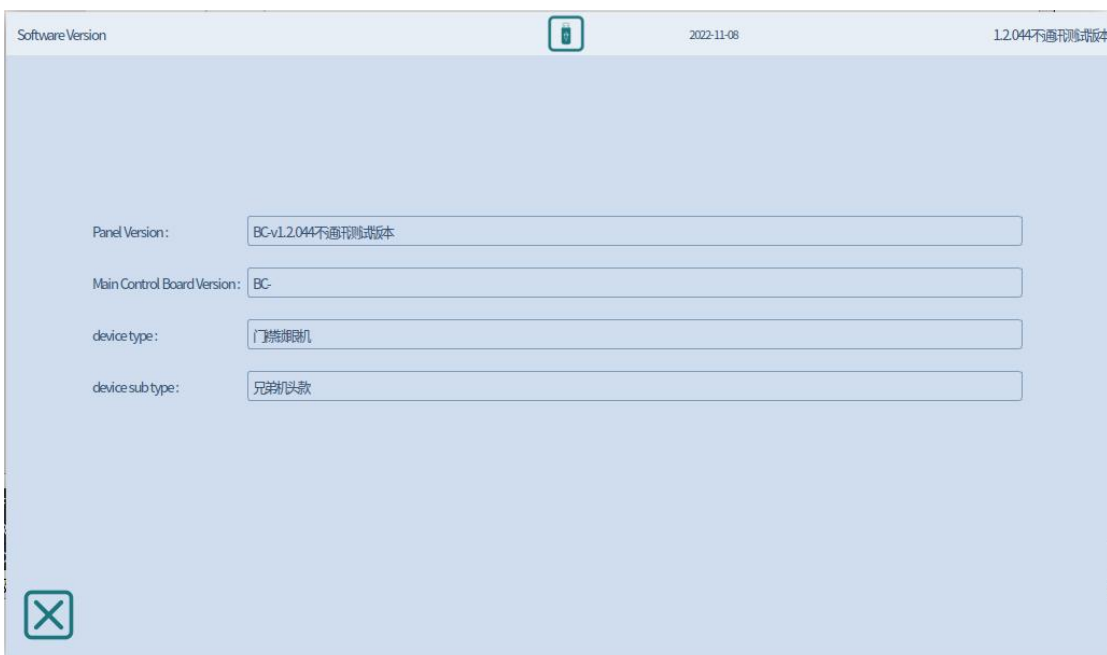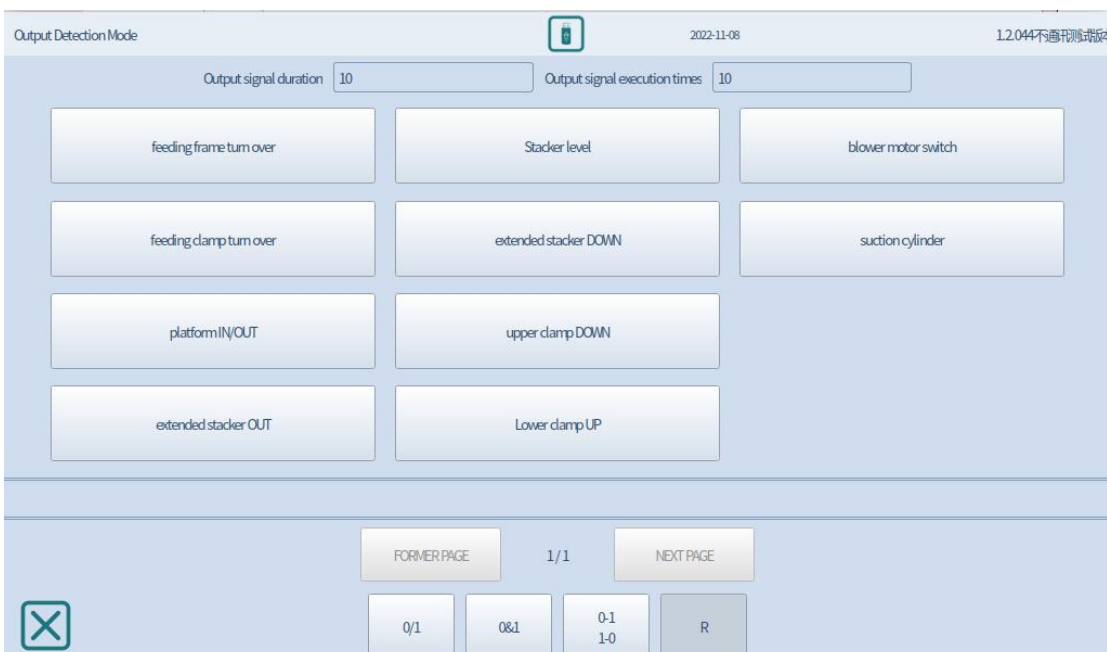
B、Input signal (no detailed signal introduction)

Select and click the input signal button to view the current input signal. This interface displays all the input signals that will exist in the machine. You can judge whether there is a signal coming in through the color of the square behind the text. White is no signal input, and green is signal input.

Input Signal Detection		2022-11-08	1.2.044不通刊测试版本

Encoder

Stacker status	knee switch	
cancel	presser foot signal	
feeding frame turn over	Near Origin Sensor	
platform home position	feeding frame home position	
platform middle position	fabric detect 1	
plastform head position	fabric detect 2	
lift up lower clamp	emergency switch	
drop dwon upper clamp		

**C、Output signal (no detailed signal introduction)**

Select and click the input signal button to enter the output signal test interface. Click the button in this interface to send out the output signal of the corresponding key function to detect whether the machine performs the corresponding operation according to the outgoing operation signal.

Output Detection Mode		2022-11-08	1.2.044不通刊测试版本

Output signal duration 10   Output signal execution times 10

feeding frame turn over	Stacker level	blower motor switch
feeding clamp turn over	extended stacker DOWN	suction cylinder
platform IN/OUT	upper clamp DOWN	
extended stacker OUT	Lower clamp UP	

FORMER PAGE   1/1   NEXT PAGE

0/1   0&1   0-1 1-0   R

The content of output signal can be customized, and the type of output signal and the parameter setting on the top can be controlled through the bottom

function	explain
0/1	Perform a state switch of output signal, and change the current output state at this time, regardless of the duration and execution times
0&1	Perform a time-limited switch of the output signal, change the current state for a period of time, and then restore to the original state. The duration is set by the duration of the output signal, regardless of the number of executions
0-1 1-0	Perform time-limited switching of multiple output signals and time-limited switching of multiple execution signals. The duration of a single signal is set by the duration of the output signal, and the total execution times are set by the execution times of the output signal
R	Output the signal according to the format set in the current signal parameter setting, independent of the duration and execution times
Output signal duration	Set the duration after signal switching
Output signal execution times	Set the execution times of switching signal

As shown in the figure below, the output signal will change in the 0/1 state, the output signal will maintain the change for a period of time before restoring in the 0&1 state, and the output signal will undergo the steps of 0&1 state several times in the 0-1 1-0 state, and finally restore
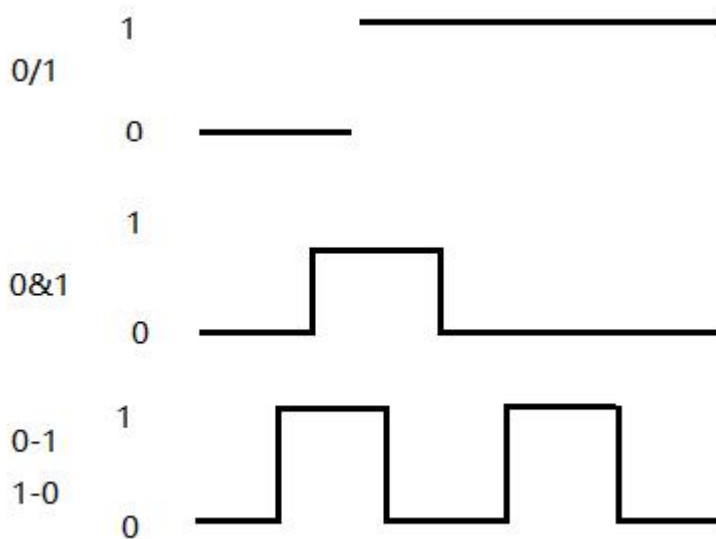
D、Uniaxial test

Select and click the single-axis test key to enter the single-axis test interface. At this time, all the axes are not selected. Select and press the axis to be modified, and the key will change. After selection, use the forward or reverse key to test whether the selected axis can be used normally, and you can also select the reset of the corresponding axis.
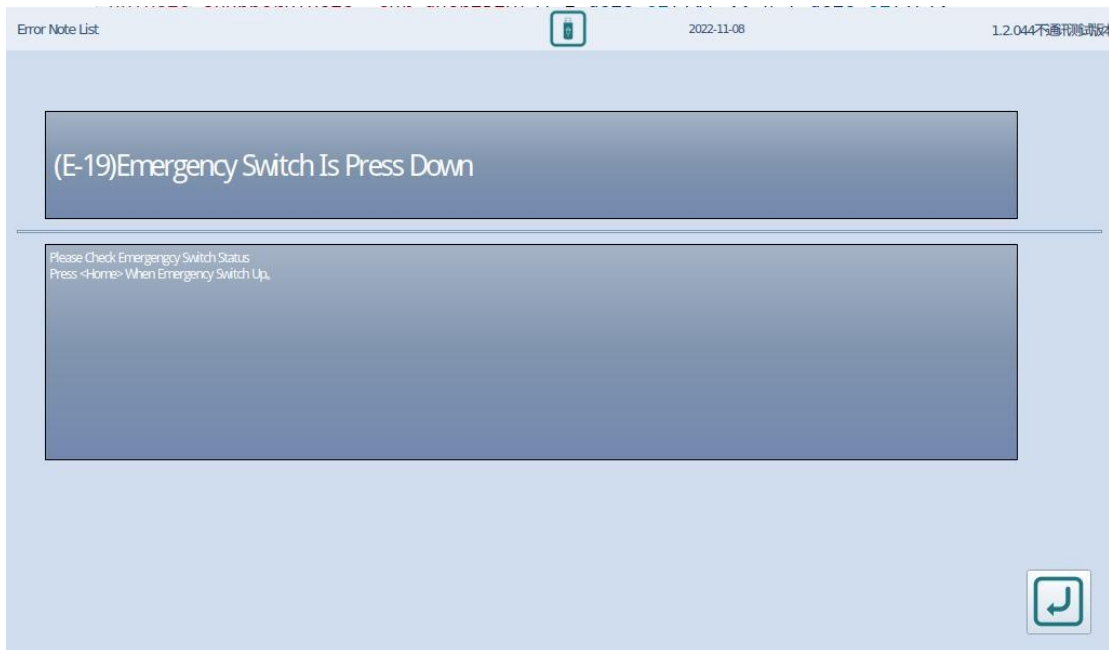

E、Alarm record

Select Factory Mode alarm record to enter the alarm record interface, where you can see the alarm information history of the equipment, and each alarm record has its error code and the current number of production pieces
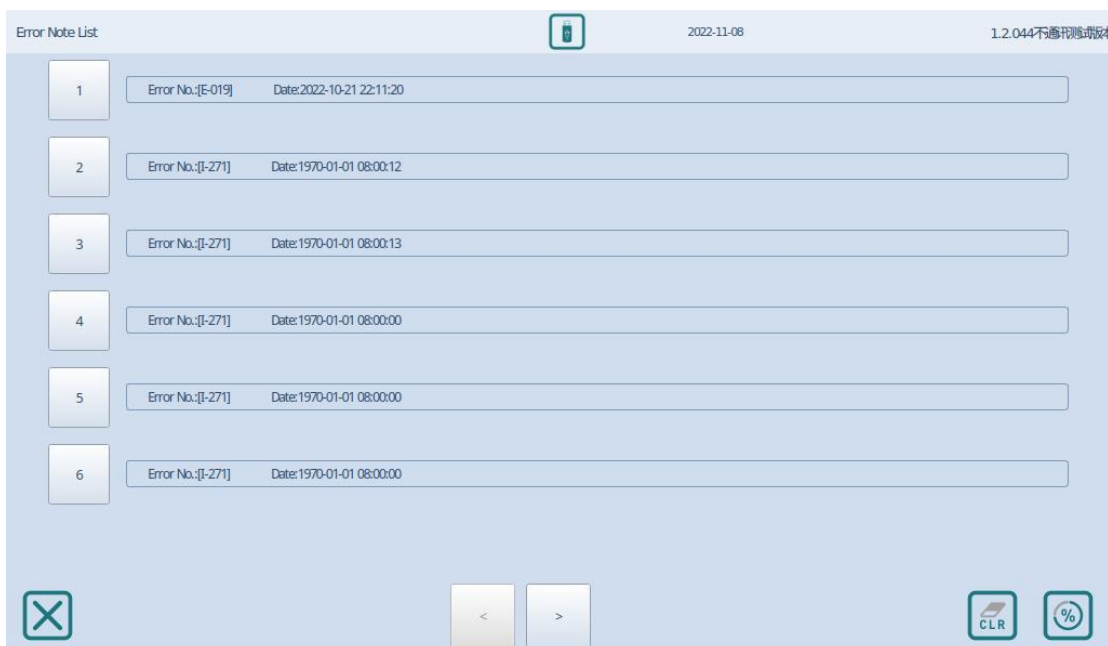
You can select the serial number of the error message to view the problem represented by the current error code.

(E-19)Emergency Switch Is Press Down

Please Check Emergengcy Switch Status
Press <Home> When Emergency Switch Up,

F、Liquid crystal detection

Select the factory mode. The LCD detection starts the LCD detection mode. At this time, the LCD enters the solid color display state. Click to switch colors. At this time, you need to detect whether there are bad points in the LCD by yourself.
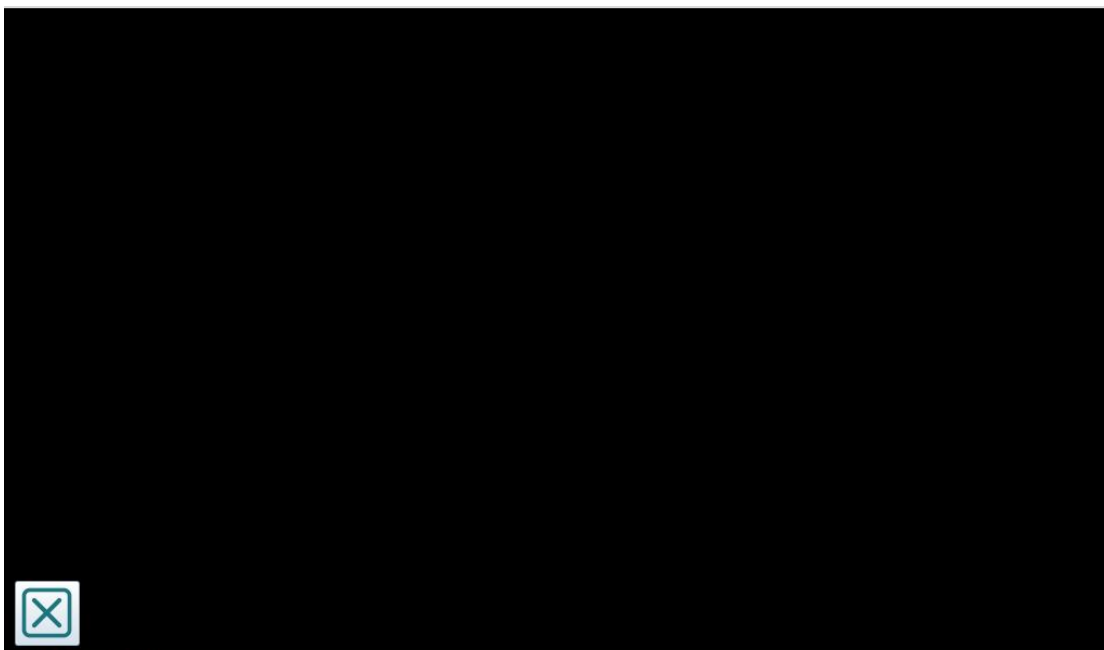
G、Operation information

Select Plant Mode operation information to enter the operation information to view the operation information of the current model

Run Note Mode		2022-11-08	1.2.044不通刊测试版本
Totla Run Time:	0h		Clear
Total Sewing Products:	196712		Clear
Total PowerOn Time:	0h		Clear
Total Sewing Stitches:	211k		Clear
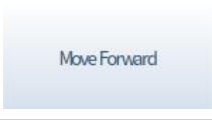
H、Single step test

Select the factory mode and enter the test interface through single-step test to test the rubber production

single step feeding test		2022-11-08	1.2.044不通刊测试版本
Move Backward	0	Move Forward	
PRESSER FOOT press		Sew	

function	key	explain
draw back	Move Backward	Perform the previous step
advance	Move Forward	Perform the next step
Sewing machine presser foot	PRESSER FOOT press	Lift or press down the presser foot of the sewing machine. When the presser foot is raised, it cannot be sewn. The sewing button will be hidden
sewing	Sew	Start sewing machine