

# MoTix-2000 Inkjet Printer

## Operating Instructions



Sojet Marking Technology (Xiamen) Co., Ltd

## Revision Record

Version	Date	Page	Description of Revision	Corresponding Software Version
A02	20220926	Full Text	<ol style="list-style-type: none"> <li>1. Added dynamic text, scanner, and database object</li> <li>2. Added object width settings</li> <li>3. Added the display of remaining printable number and total printable number</li> <li>4. Added resource upgrade</li> <li>5. Replaced some screen diagrams</li> </ol>	1.0.0-20220926131241
A03	20221215	Full Text	<ol style="list-style-type: none"> <li>1. Added user management</li> <li>2. Added operation configuration</li> <li>3. Added I/O data</li> <li>4. Added printing plan, re-printing and other features</li> <li>5. Added device name object</li> <li>6. Added counter object printing count and Repeat index</li> <li>7. Added registration</li> <li>8. Added Intelligent cleaning and photocell filtering time</li> <li>9. Changed the setting range of printhead spacing X</li> <li>10. Changed the start/stop printing icons and adjusted some screens</li> </ol>	1.2.0-20221215090454

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## IMPORTANT

It is recommended to use the specified type of ink and accessories to ensure the product with the best printing effect. The problems, such as machine failure, poor printing results, etc., caused by the use of non-designated types of ink and accessories shall not be covered under the warranty.

## Safety Instructions


To avoid accidents, the personnel without professional training or authorization is prohibited from maintaining or disassembling the printer after it is powered on.


Do not store the ink in direct sunlight or high temperature (over 35 °C); otherwise the printing effect and shelf life will be affected.

Please flush with clean water immediately if the ink touches the eyes or skin accidentally during use.

If ink leaks to the printer, please shut it down and cut off the power immediately; when ink penetrates into the equipment, please ask a professional for inspection, otherwise the equipment will be burned.

## Warning Icons

**Warning:** “” indicates that it may cause damage to the printer's hardware or data loss.

**Caution:** “” indicates the important information that can help you make better use of the printer.

## Cautions!

Before using the Inkjet Printer, please read this manual carefully to avoid losses.

## Preface

Thanks for using our products, we hope this manual can help you with the work.

This manual provides guidance for operators on the use of the printer, and contains the following:

- Precautions: precautions for the use of printer
- Function Introduction: detailed introduction to all the functions of the software
- Maintenance and Care: maintenance of the inkjet printer and cartridges

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- Appendix: other related content and introduction to professional terms
  - Troubleshooting: failures and solutions related to inkjet printer and cartridges

## **How to use this manual?**

Before using the printer, you are required to read this manual carefully and pay special attention to the relevant matters. In case of any doubt during use, you may refer to the corresponding chapters and keep record, and please feel free to contact us when such doubts available.

We reserve the right to update this manual on a regular basis without further notice. The updated content will be added to the new version.

**Note:** Equipment failures caused by operations that do not follow the instructions are not covered by the product warranty.

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# 1. Precautions for Use

Thanks for using this inkjet printer. For personal safety, easy installation and full use, please read the instructions carefully before use.



## Precautions for Installation

- The recommended distance between the deflector and the object to be printed is 0.5-2.5mm;
- When installing or removing the ink cartridge, make sure to pull and insert the cartridge at an angle of 15 °to avoid damage;
- This printer is not suitable for working long time in dusty environment. If cannot avoid, the dust on the equipment must be cleaned regularly;



## Precautions for Operation

- Avoid collide the touch screen with hard objects;
- The built-in photocell must not be blocked, otherwise printing failure will occur;
- Please wipe the nozzle surface using a non-woven cloth when lines missing or blurring print appears;
- Please set printing delay to achieve the best printing effect when the printing position changes;
- Do not insert or remove the cartridge during printing, or the cartridge may be damaged;
- Do not clean the touch screen directly with compressed air, since it will damage the screen;
- Do not clean the ink cartridge directly or indirectly with compressed air, or the ink cartridge will be damaged;
- In case the inkjet printer malfunctions, please refer to the common problems and solutions in Chapter 6, Appendix 2 and, if failed, contact the local agent or our after-sales service.



**Tips:** According to the characteristics of different types of ink, some types of ink cartridges must be pulled out after the printer is shut down, and the surface of the nozzles should be wiped clean with a non-woven cloth and covered with a special cartridge cap.

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## 2. Technical Specification

### 2.1 Performance Parameters

Item	Specification	Description
Technology	HP TIJ2.5 Thermal Inkjet Technology	
Dimensions	Controller (H*W*D):224*151*38mm Printhead *2: 145*91*47mm	
Controller Weight	1.25kg	
Input power	24V/4A, 96W	power adapter
Printing height	1-25.4mm	
Printing resolution	Standard configuration 600DPI	
Print content	Barcodes, alphabet, numbers, Chinese, images, dates, shifts, counters, shapes, dynamic text, device name, scanner print, and database text	
Interface	1. Ethernet interface 2. USB: USB interface and communication interface of auxiliary equipment 3. 8 pin aviation interface: connect photocell and synchronizer 4. 12 pin aviation interface: connect the alarm light, RS232, external IO input 5. 17 pin aviation interface: printhead connection *2	
Screen	Using 7.1inch, 1024*600 resolution capacitive screen	
Ink management	Automatically recognize the ink type and set the best printing parameters; Guarantee the use of original and authentic HP ink; Automatic measurement and calculation system of ink consumption;	
Product certification	CE, FCC	



Environment Requirements	Operating environment: -10°C--55°C; 10%-85%RH Storage environment: -25°C--80°C; 10%-90%RH	
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## 2.2 Special Functions

Item	Specification	Description
Languages	Chinese, English, other languages (French, German, Spanish, Portuguese, Russian, Korean, and Japanese; custom languages available on request)	
Supported font	Harmony by default; users are allowed to install the fonts they need.	
Barcodes	<p><b>One dimensional code:</b></p> <ol style="list-style-type: none"> <li>1. Codabar</li> <li>2. Code 25 Standard, Interleaved, IATA, Data logic, Industrial</li> <li>3. Code 39</li> <li>4. Code 93</li> <li>5. Code 128 supports GS1</li> <li>6. EAN</li> <li>7. UPC variants: UPC A, UPC E</li> </ol> <p><b>Two-dimensional code:</b></p> <ol style="list-style-type: none"> <li>1. QR Code, supports GS1</li> <li>2. Message Matrix, supports GS1</li> <li>3. Grid Matrix</li> <li>4. Maxicode</li> <li>5. PDF417</li> </ol>	
Date format	A variety of date formats are available for flexible choice by the customers.	

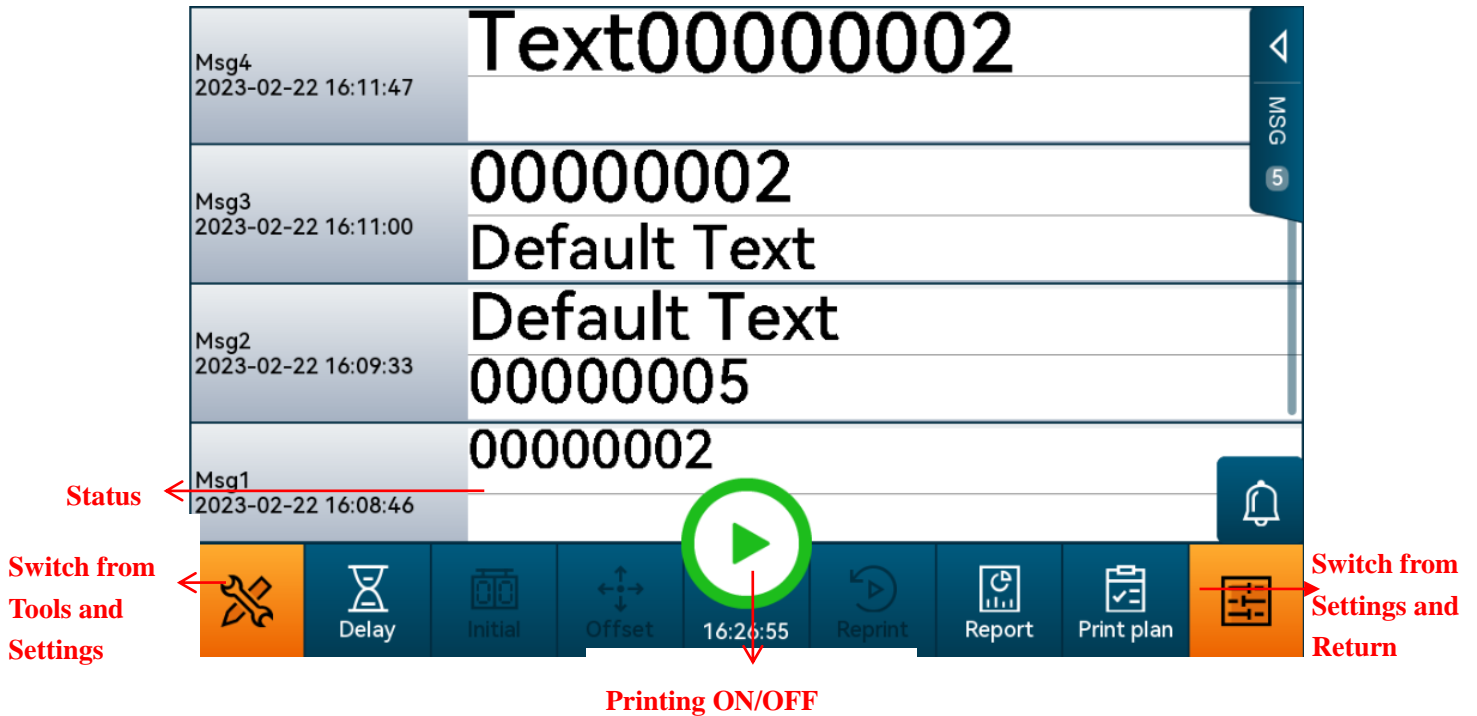
## 2.3 About Ink



- Support 42ml cartridge of HP TIJ2.5 technology;
- Support ink of various colors: black, red, green, yellow and blue;
- Support porous, semi-porous and non-porous substrates. Support 42ml under HP TIJ2.5;


### 3. Instruction for Functions

#### 3.1 Message Management

##### 3.1.1 Message List



**Message Edit List:** Click on the  button to show the menu list on the right; click the  button to hide the menu list on the right.

**List Style Switching:** The message is displayed in a large format by default; click  to switch to the scale list;

**Search:** Click [Search] to pop up a Search Input box; matching search is performed after entering a keyword. The list will display the matching message found, and all the messages after the input box is cleared.

**Rename:** Select a message, click Rename to pop up a keyboard, edit and modify the name of the message, and it will take effect after saving.

**Import:** Select message from the USB (multiple selections are available) and import it into the printer.

**Export:** Export the selected message to the root directory of the USB.

**New:** Create a new message.

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**Edit:** Edit and modify the selected message.


**Copy:** Select a message in the message list interface, and click [Copy] to copy and paste the message into the message list.

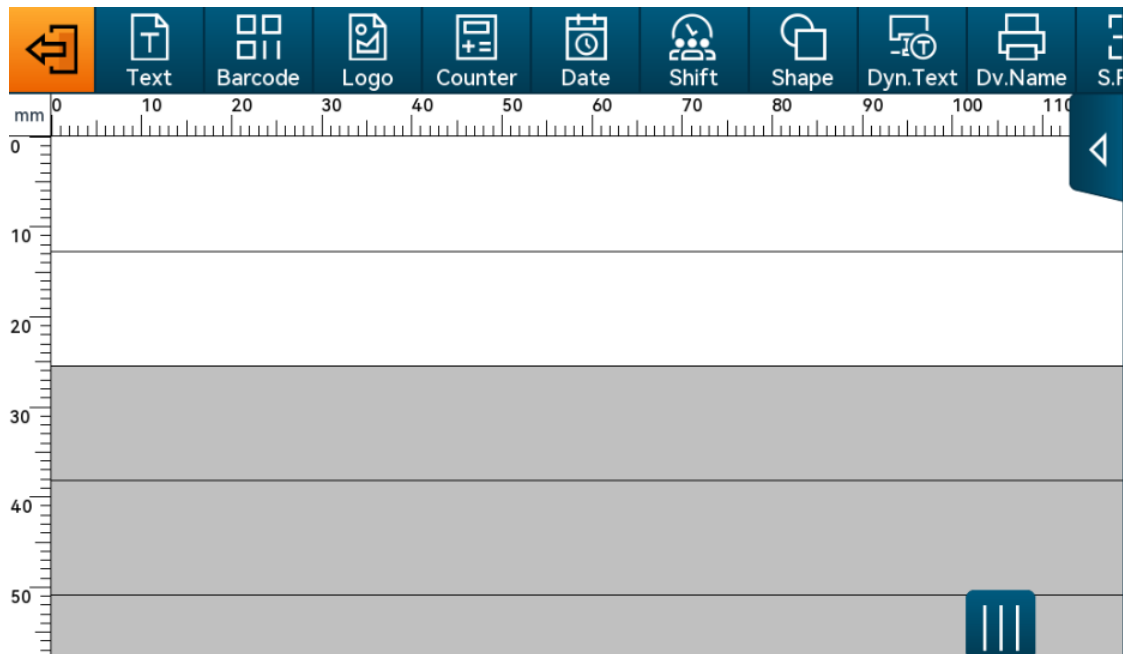
**Delete:** Select a message in the message list interface, and click [Delete] to delete the message from the message list.



**Tips:** The device can store up to 500 messages, and it is impossible to create or import message anymore after reaching the upper limit.

### 3.1.2 New/Edit Message

Click  on the Message Interface to enter the Message Edition interface.



**New:** can create a new message with Text, Barcode, Logo, Counter, Date, Shift, Shape, Dynamic Text, Device Name, Scanner Print, DB.Text.

After editing the message, click the Back key , and a prompt window will pop up on the interface, prompting whether to save it.



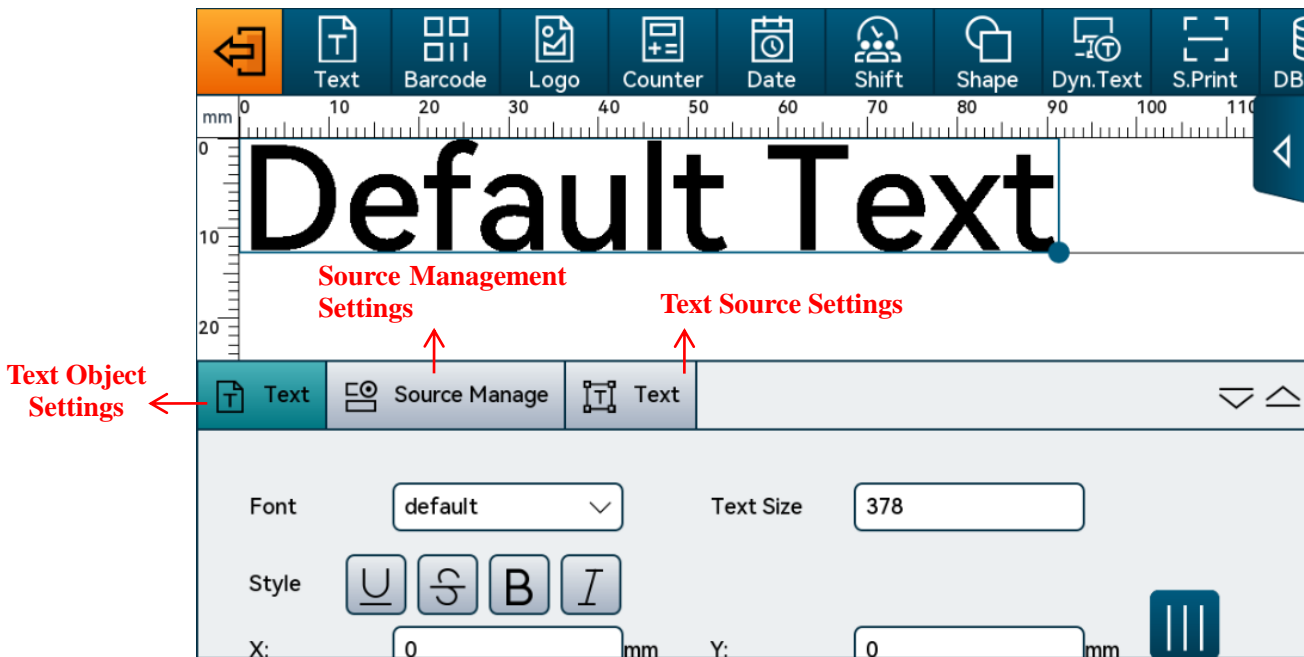
 **Tips:**

1. In case only single printhead P1/P2 is selected under combination mode, the message created can only be printed by the single printhead.
2. Under the combined printheads mode, the first line of message is the print content of the first printhead, and the second line of message is the print content of the second printhead, and so on.
3. The device can store up to 500 messages. After the number of message records reaches the upper limit, no more messages can be created or imported. If no content being edited, the device will return and exit without saving the message (empty message and error message cannot be saved).

### 3.1.2.1 Text Object



Click  on the Message Editing interface to add text objects.



**Text content:** Default text content (Default Text) is displayed by default, and Chinese, English, numbers, symbols, and third-party languages (install first) can be input.

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**Settings of text object:**

**Font:** click the drop-down key to select the font. The default font is Harmony, other font options are need to upgrade firstly.

**Text size:** directly click the input box to enter the front size. ( $2 \leq \text{value} \leq 2000$ ).

**Style:** click to select bold, italic, underline, and midline.

**X:** display the X coordinate value of the leftmost side of the object. You can click the input box to modify the position of X coordinate.

**Y:** display the Y coordinate value at the top of the object. You can click the input box to modify the position of Y coordinate.

**Width:** display the width value of the object, and you can click the input box to modify the value.

**Height:** display the height value of the object, and you can click the input box to modify the value.

**Text Scale X:** horizontal ratio of a text object, which can be modified in the input box. (100% is default display ratio, the smaller the value, the more compressed the message, and the larger the value, the more stretched the message).

**Visibility:** Three options are available: visible, invisible, invert. Click the drop-down key for options.

**Visible:** means that the object will be printed;

**Invisible:** means that the object will not be printed;

**Invert:** It means that the object black part becomes white, and vice versa.



**Tips:** One message at least need to have one visible object, or cannot be saved.

**Error message:** Object cannot all be set to invisible, please edit again.

**Flip:** There are three states: none, Flip Horizontal, and Vertically Flip. You can click the corresponding option to enable or disable the mirroring.

	Disable Flip Horizontal		Enable Flip Horizontal
	Disable Vertically Flip		Enable Vertically Flip

**Rotation:** the input range is 0-359.

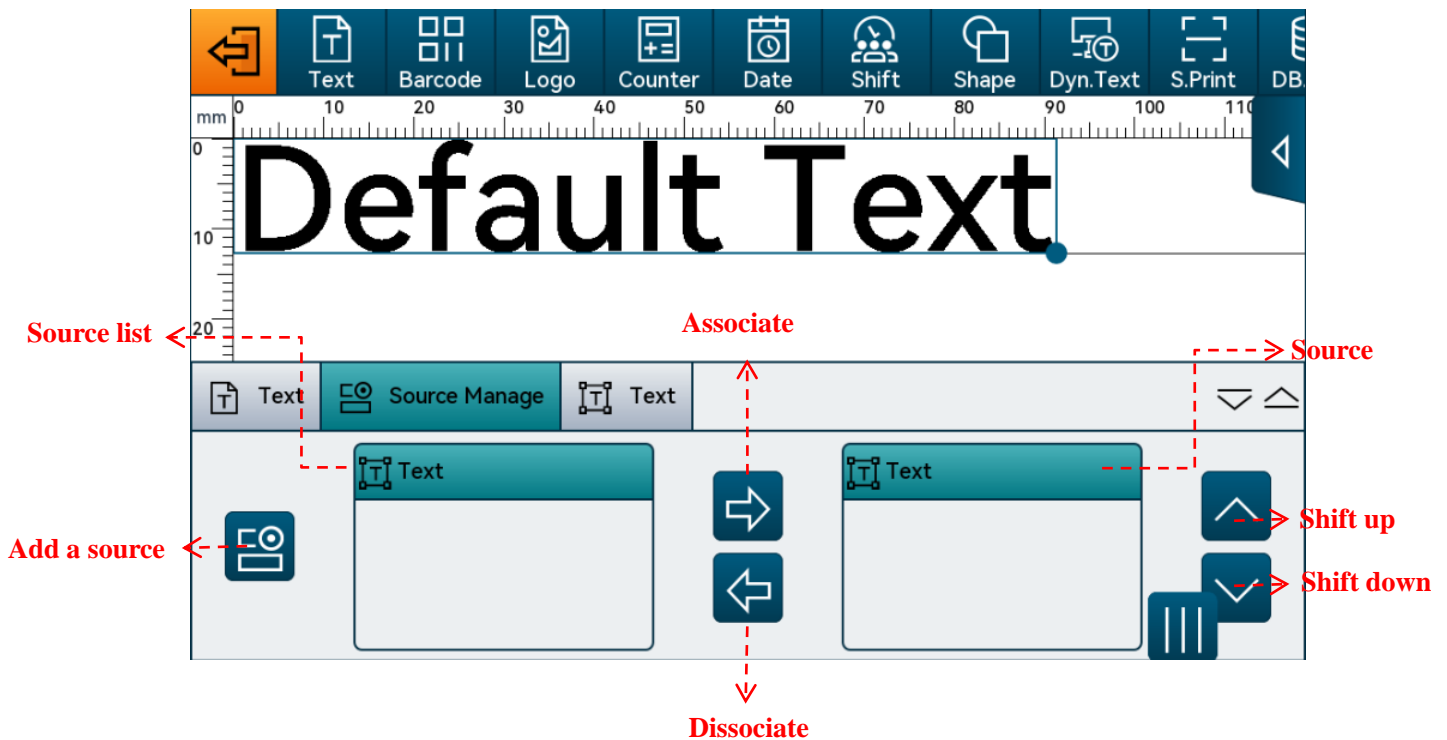
**Outline:** An object can be set to show only the outline or fill the interior.

	Outline display not activated (that is, the objects are displayed with filled interior effects)		Outline display activated
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**Thickness:** The boldness value of font outline, which can be modified in the input box. (Note: This option is only available when [Outline] is active)


**Name:** Can be Chinese, English, numbers, and symbols; it cannot be empty nor has the same name as the existed object.

**Source manage:** text objects can be associated with [Text Source] [Counter Source] [Date Source] [Shift Source] [Dynamic Text Source] [Scanner Source] [Datebase Source] [Device Name Source]



**Add Source:** Click on the Add Source button  to get into the [Source Manage] interface.



**Added source list:** display the sources added.

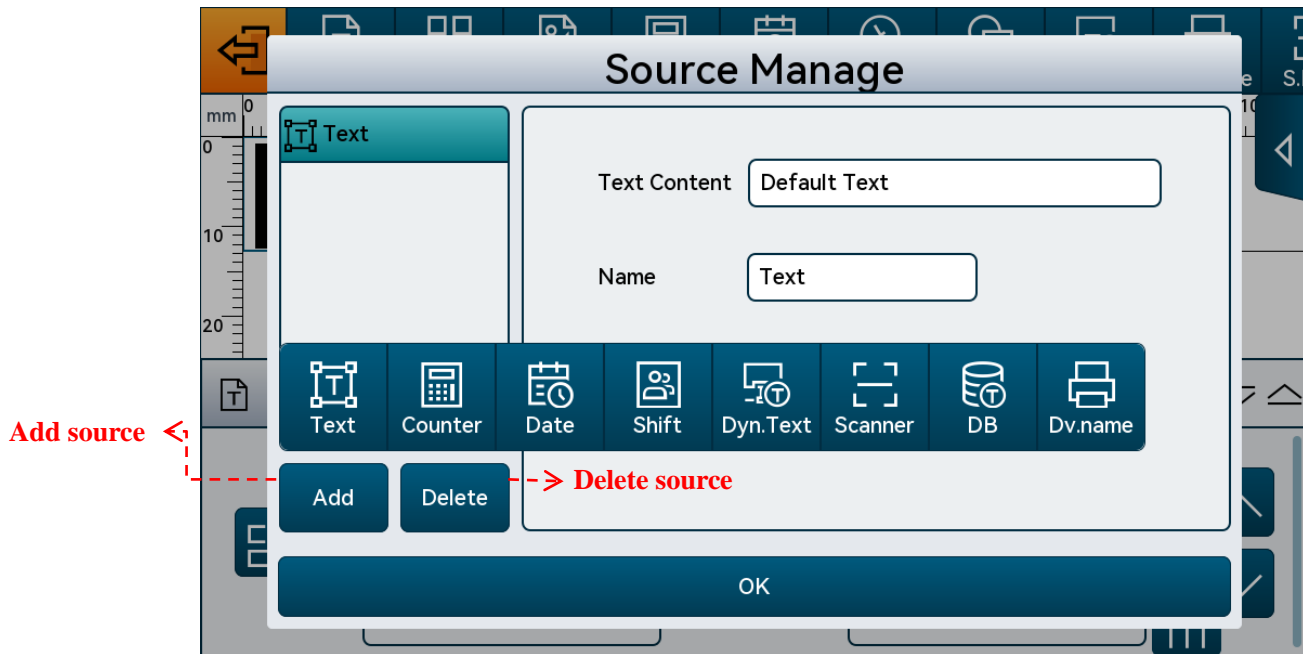
**Add “Source” to the object:** in the added source list, select the “source” you want to associate, click the key  **Associate** next to the list to automatically add to the Preview interface and the added list.


**Delete the “Source” in the object:** first select the source to be deleted in the associated source


list, and then click the key  **Disassociate** next to the list.

**Associated source list:** display the sources in order that have been added to the current object.

**Adjust the order of the source in the object:** select the “Source” in the list, and adjust the order by clicking  “Shift Up” or  “Shift Down”.



**Add:** Click  to pop up source options, and you can select the Text Source, Counter Source, Date Source, Shift Source, Dynamic Text Source, [Scanner Source], [Database Source] and [Device Name Source] to enter the corresponding edition interface.

**Delete:** Select the source to be deleted in the added source list, and then click the  below the list.

**OK:** After adding and editing sources, click  to exit this interface.

### Text Source Settings:

**Text Content:** Chinese texts, English texts, numbers, symbols and third languages (installation required) can be entered.


**Name:** The name can be set in Chinese and English, numbers and symbols; it must not be left blank nor the same with the name of any existing source.



Please refer to Chapter 3.1.2.1 for the “X, Y, Width, Height, Text Scale X, Visibility, Flip, Rotation, Outline, Name” settings for the new objects [Barcode], [Logo], [Counter], [Date],[Shift] [Shape],[Dynamic Text,] [Device Name], [Scanner] and [Database] .

### 3.1.2.2 Barcode Object



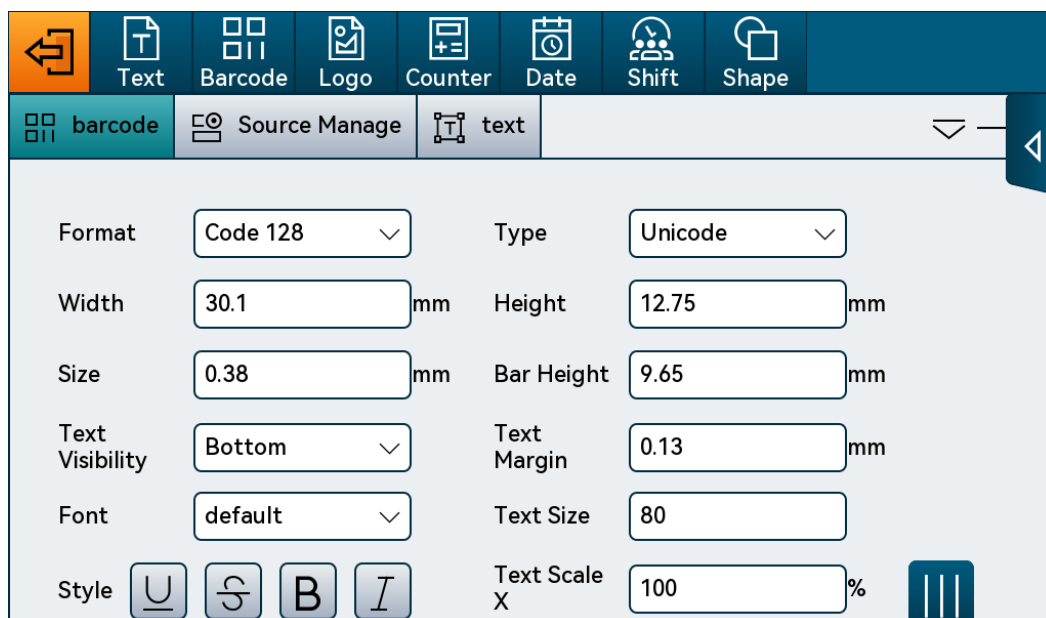
Click  on the Message Editing interface to add barcode objects.

**Barcode content:** the code128 barcode (content:12345) is displayed by default. Chinese, English, numbers, symbols, and third languages can be added (installation required) .

**Supported barcode types:** 1D barcode, 2D barcode, GS1 1D barcode, GS1 2D barcode.

(See below:)

Category	Types
1D Barcode	Codabar、Code25、Code128、code39、UPC E、UPC A、code93、EAN
2D Barcode	PDF417、Data Matrix、QR Code、Maxicode、Grid Matrix
GS1 1D Barcode	Code128
GS1 2D barcode	QR Code、Data Matrix



#### Settings of barcode object:

**Format:** click the drop-down key to select the desired barcode format.

**Type:** click the drop-down key to select between Binary, Unicode or GS1. (Note: Only Code 128,



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QR Code, Data Matrix support GS1 type.)

**Width:** set the width of the barcode.

**Height:** set the height of whole barcode object.

**Size:** set the bar width of barcode.

**Bar height:** set the bar height of one-dimensional code. (Note: This setting is not available for 2D barcode.)

**Text Visibility:** choose whether to display the text content of the barcode, and click the key to select “None” (no text is displayed) or “Bottom” (the text is displayed at the bottom of the barcode).

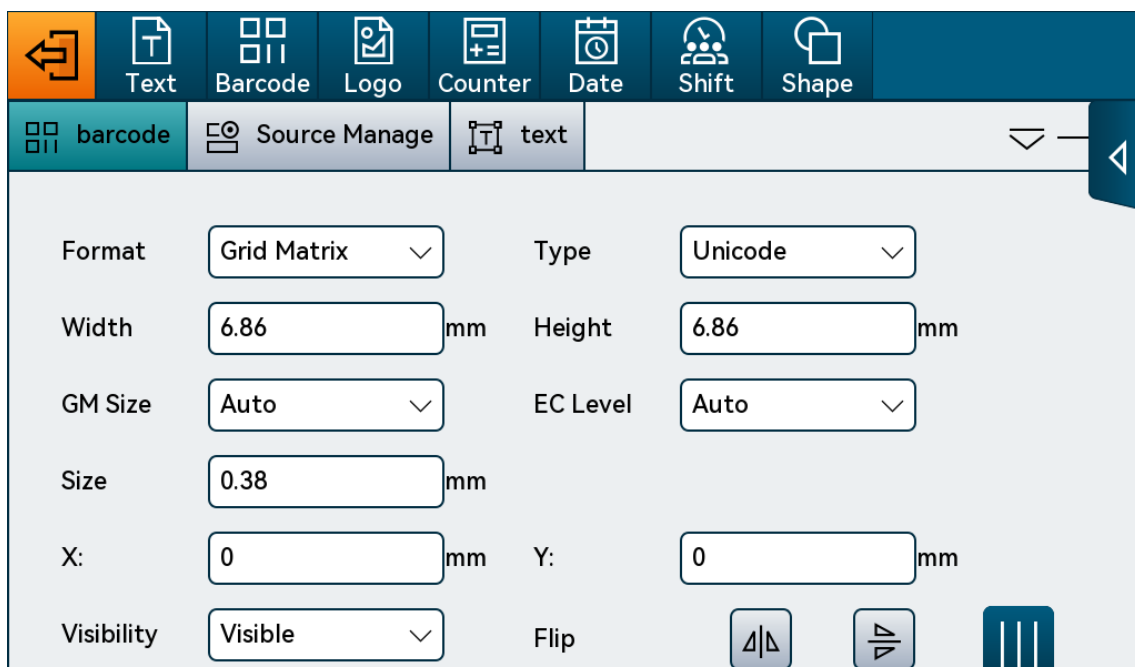
**Text Margin:** the distance between the text and the barcode.

**QR/DM/GM Size:** set the size of QR Code、Data Matrix、Grid Matrix codes. This setting is not displayed for other code types. (Note: different barcodes, different setting options.)

**EC Level:** set the error correction level of QR Code, Grid Matrix, and PDF417. This setting is not displayed for other code types. (Note: different barcodes, different setting options.)

**Code25 Mode:** set the mode of Code 25 (Standard, Interleaved, IATA, Message Logic, Industrial). This setting is not displayed for other code types.

**Check Digits:** enable/disable the code 39 check number function, this setting is not displayed for other code types.



**Columns:** set the column number of PDF417 type code. This setting item is not displayed for other code types.

 **Tips:**

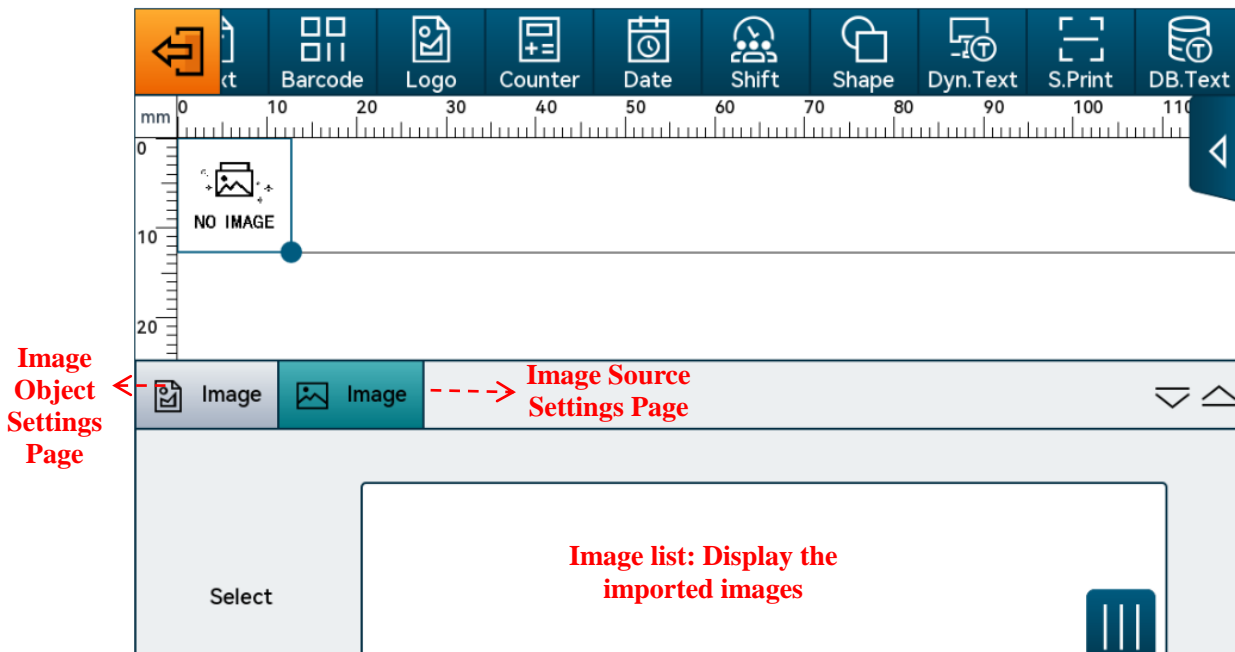
1. Only one-dimensional codes have such settings as the Text, Text Margin, Font, Font Size, Style, Text scale X, etc., and 2D barcodes do not support them!
2. If the QR code contains Chinese characters or symbols, the data type of barcode should be set to “Binary”; if “Unicode” is chosen, some Chinese characters and Chinese symbols may not be supported and the barcode will report an error and cannot be saved.
3. Please refer to 3.1.2.1 for the settings of “Font, Font Size, Style, Text Scale X, X, Y, Width, Height, Visibility, Flip, Rotation, Name”.

**Source management:** Barcode objects can be associated with [Text Source][Counter Source][Date Source][Shift Source][Dynamic Text Source] [Scanner Source] [Datebase Source] [Device Name Source]. For specific operations, please refer to the source management in 3.1.2.1.

### 3.1.2.3 Logo Object



Click **Logo** on the Message Editing interface to add a logo object, the canvas displays the system's default image.



**Logo list:** display the imported logos, click to switch from the existed logo objects.

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(When the device does not have an image file, add the “image” object, and the canvas will display the system's default image.)

**Scale X:** The default value is 100%. The horizontal scaling value can be modified by clicking on the input box or directly dragging the dot in the lower right corner of the object.

**Scale Y:** The default value is 100%. The vertical scaling value can be modified by clicking on the input box or directly dragging the dot in the lower right corner of the object.

**Aspect Ratio: Lock** the ratio of **horizontal scale to vertical scale**. With this feature enabled, objects are scaled equally when scaled horizontally or vertically.


**Mode:** Click the drop-down key to select AvoidColor or TargetColor mode. The former provides the normal display effect, and the latter provides the reverse effect.



1. For settings of X, Y, Width, Height, Visibility, Flip, Rotation and Name, refer to 3.1.2.1.
2. Image objects do not support the [Source Management] feature.

### 3.1.2.4 Counter Object



Click  on the Message Editing interface to add a counter object.

#### Settings of counter source:

**Start value:** Set the minimum value of the counter.

**End value:** Set the end value of the counter, i.e. the maximum value.

**Current value:** Set the current printing value of the counter in the range between the start value and the end value.

**Step value:** Set the step number of counter (if the step value is 3, for example, the counter counts as 1, 4, 7...).

**Leading Zero:** Four modes are available: 0001, \_\_\_1, 1\_\_\_, and 1.

**Alarm:** it confirms whether to alarm and stop printing automatically when reaching the end value of the counter. Click the switch to switch the status of alarm function.

**Carry:** Set the carry bit of the counter (for example, if counter 1 and 2 are available, set the source of carry bit to counter 1 on counter 2, then counter 2 will carry bit only after counter 1 reaches the end value, and so on.)

**Print times:** Set the number of times each data needs to be printed.


**Printing index:** Set the current print to the Nth time of repeated printing; the print index settings

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item is displayed only when the printing count is greater than 1. (The range of print index value is "0-number of prints".)



**Tips:** When a number of combinations are used, different combinations of data objects cannot share the same dynamic source.

**Radix:** The decimal is DEC by default. To use other systems, click  to enter the System Editing interface with reference to 3.3.3.1.


**Name:** Chinese, English, numbers, and symbols can be set; it cannot be empty.

**Settings of counter object:** same as the setting of text object, please refer to 3.1.2.1.


**Source management:** Barcode objects can be associated with [Text Source][Counter Source][Date Source][Dynamic Text Source] [Scanner Source] [Datebase Source] [Device Name Source][Shifts Source]. For specific operations, please refer to source management in 3.1.2.1.

### 3.1.2.5 Date Object



Click  on the Message Editing interface to add a date object.

#### Settings of date source:

**Format:** The optional date format includes [YYYYMMDD], [YYYY/MM/DD], [MM/DD/YYYY], and [HH: mm] by default, and if a new date format is needed, click  to enter the Date Format Editing interface, and refer to the date format in 3.3.3.3.

**Expiry:** To establish only the production date, please set the Expiry to 0. For the expiry date, you can click the drop-down key to select the following four units according to own needs: year, month, day and hour.

**Leading Zero:** there are four options: 2020/1/1, 2020/01/01, 2020/\_1/\_1, 2020/1\_/\_1\_.

**Zero Set:** it is 0:00 by default. You can input the time and refer to Appendix 1 for zero setting

**Calendar:** Gregorian or Hijri can be selected on needs.

**DTS (Daylight saving time):** it is OFF by default. You can click the drop-down key to select European standard daylight saving time or American standard daylight saving time.

**Name:** The name can be set in Chinese and English, and consist of numbers and symbols; it must not be left blank or the same with the name of any existing object.


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**Settings of date object:** the same as the setting of text object, and please refer to 3.1.2.1.


**Source management:** Barcode objects can be associated with [Text Source][Counter Source][Date Source][Shifts Source]. For specific operations, please refer to source management in 3.1.2.1.

### 3.1.2.6 Shift Object



Click  on the Message Editing interface to add a schedule object.

#### **Settings of shift source:**

**Format:** The default shift would be selected (A:08:00 B:16:00 C:00:00 by default), and if a new shift is needed, click  to enter the Shift Editing interface, and refer to the shift setting in 3.3.3.2.


**Name:** Chinese, English, numbers, and symbols can be set; it cannot be empty.

**Settings of shift object:** the same as the setting of text object, and please refer to 3.1.2.1.

**Source management:** Barcode objects can be associated with [Text Source][Counter Source][Date Source][Shift Source][Dynamic Text Source] [Scanner Source] [Datebase Source] [Device Name Source]. For specific operations, please refer to source management in 3.1.2.1.

### 3.1.2.7 Shape Object



Click  on the Message Editing interface to add a Shape object.

#### **Settings of shape source:**

**Shape:** There are 3 options available: Rect, circle or Ellipse.

**Radius X/Radius Y:** Click on the input box to modify the display effect of the four corners of current rectangular source. (Note: This setting is available for rectangulars.)

**Name:** Chinese, English, numbers, and symbols can be set; it cannot be empty.



#### **Tips:**

1. Some settings are only displayed when a specific shape is selected.
2. Shape object settings: Same as the text object settings; please refer to 3.1.2.1.

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### 3. Shape objects do not support the [Source Management] feature.

#### 3.1.2.8 Dynamic Text Object

Click  in message edit interface to add dynamic text object.

##### Dynamic Text Source Settings:

**Protocol:** Http is selected by default; HTTP or TCP could be chosen by clicking the drop-down key depending on your needs.

**Server:** It's ON by default; the device receives data as a server. Click to turn it on/off.

**Host:** Set the IP address of the device as a client (this item will only be displayed when the server is turned off).

**Port:** Set the port address for the device to access as a client (this item will only be displayed when the server is turned off).

**Text Content:** Fixed text content is displayed by default (Dynamic Text); the user can enter Chinese, English, numbers, symbols, and third-party languages (installation required).

**Name:** The name could include Chinese characters, English letters, numbers and symbols, and cannot be null.


**Dynamic text object settings :** Same as text object settings; please refer to 3.1.2.1.

**Source management:** The dynamic text objects can be associated with [Text Source], [Counter Source], [Date Source], [Shift Source], [Dynamic Text Source], [Scanner Source], [Database Source], and [Device Name Source]. For details, see Source Management in 3.1.2.1.



**Tips:** The current dynamic text sources can only be used as a server to passively listen to the received data; they cannot actively send request data as a client. This feature can be customized as needed.

#### 3.1.2.9 Device Name Object

Click  in the Edit Message screen and add the device name object.

##### Device Name Source Settings :

**Device Name:** Show current device name; the window is grayed out by default and cannot be modified. The device name can be modified in [System Settings], and the modified device name source content is automatically updated.


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**Name:** The name could include Chinese characters, English letters, numbers and symbols, and cannot be null.

**Device name object settings:** Same as text object settings; please refer to 3.1.2.1.

**Source management:** The device name objects can be associated with [Text Source], [Counter Source], [Date Source], [Shift Source], [Dynamic Text Source], [Scanner Source], [Database Source], and [Device Name Source]. For details, see Source Management in 3.1.2.1.

### 3.1.2.10 Scanner Object

Click  in the Edit Message screen and add the scanner object. (This object requires a scanner to be connected during printing.)

**Scanner source settings item:**


**Print Mode:** "Scan one and print one" by default; click the drop-down key to choose "scan one and print one" or "scan one and print more" as needed.

**Text Content:** Fixed text content is displayed by default (Scanner); the user can enter Chinese, English, numbers, symbols, and third-party languages (installation required).


**Name:** The name could include Chinese characters, English letters, numbers and symbols, and cannot be null.

**Scanner object settings item:** Same as text object settings; please refer to 3.1.2.1.

**Source management:** The scanner objects can be associated with [Text Source], [Counter Source], [Date Source], [Shift Source], [Dynamic Text Source], [Scanner Source], [Database Source], and [Device Name Source]. For details, see Source Management in 3.1.2.1.

 **Tips:** Only one scanner source can be created in each lump of message, and it can be invoked time and again.

### 3.1.2.11 Database Object

Click  in the Edit Message screen and add database object. (Copy the CSV file to the root directory of the USB flash drive and then connect the USB flash drive to the device.)

**Database source settings:**

**Path:** Set the form to be printed; click the drop-down key to select the form to be printed. (If there is no CSV file in the root directory of the USB flash drive, the selection box will display "none")

---

**Column number:** Set the database column to be printed; column 1 is to be printed by default; click the input box to change the column number.

**Start position:** Set the line position where printing begins.

**End position:** Set the line position where printing ends.

**Current position:** Set the current line position of the database within the range between start position and end position.

**Warning:** Disabled by default; if the warning is enabled, the device will automatically stop printing when the printing of message containing the database reaches the end position of the database object.

**Text Content:** Fixed text content is displayed by default (Database); the user can enter Chinese, English, numbers, symbols, and third-party languages (installation required).

**Name:** The name could include Chinese characters, English letters, numbers and symbols, and cannot be null.

**Database object settings:** Same as text object settings; please refer to 3.1.2.1.

**Source management:** The database objects can be associated with [Text Source], [Counter Source], [Date Source], [Shift Source], [Dynamic Text Source], [Scanner Source], [Database Source], and [Device Name Source]. For details, see Source Management in 3.1.2.1.

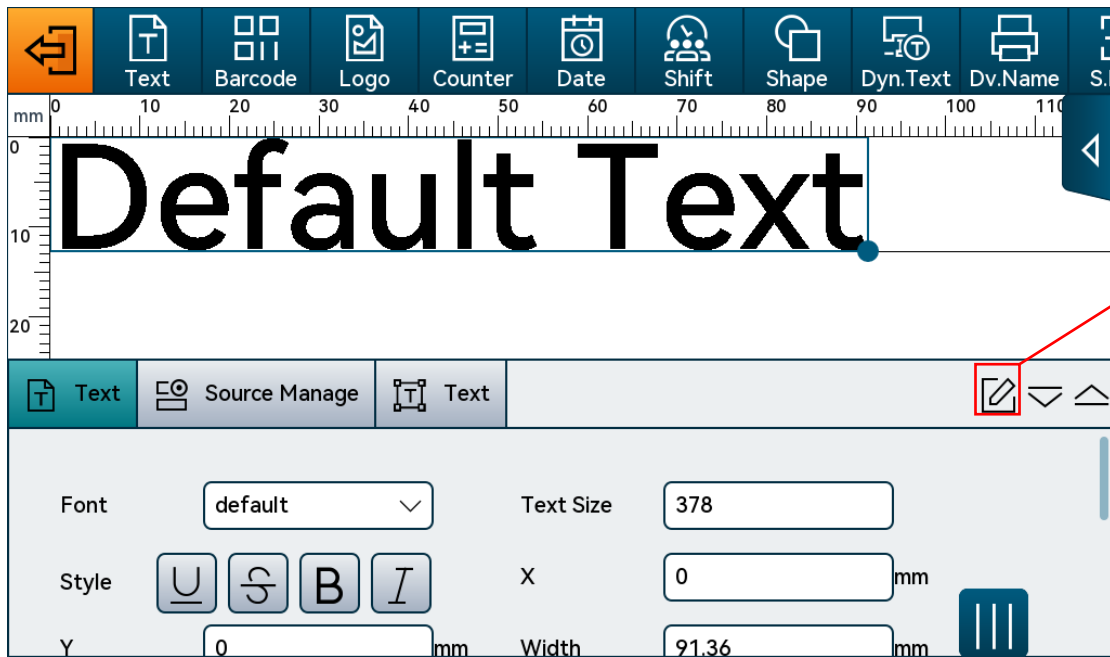
Tips:

1. The maximum value of a CSV file is 10 MB.
2. The file suffix associated with the database cannot be directly changed to csv in another format (for example, the xlsx format is directly changed to csv).

### 3.1.3 Operation Management

Operation management can customize whether the function settings items of each object and source are displayed.

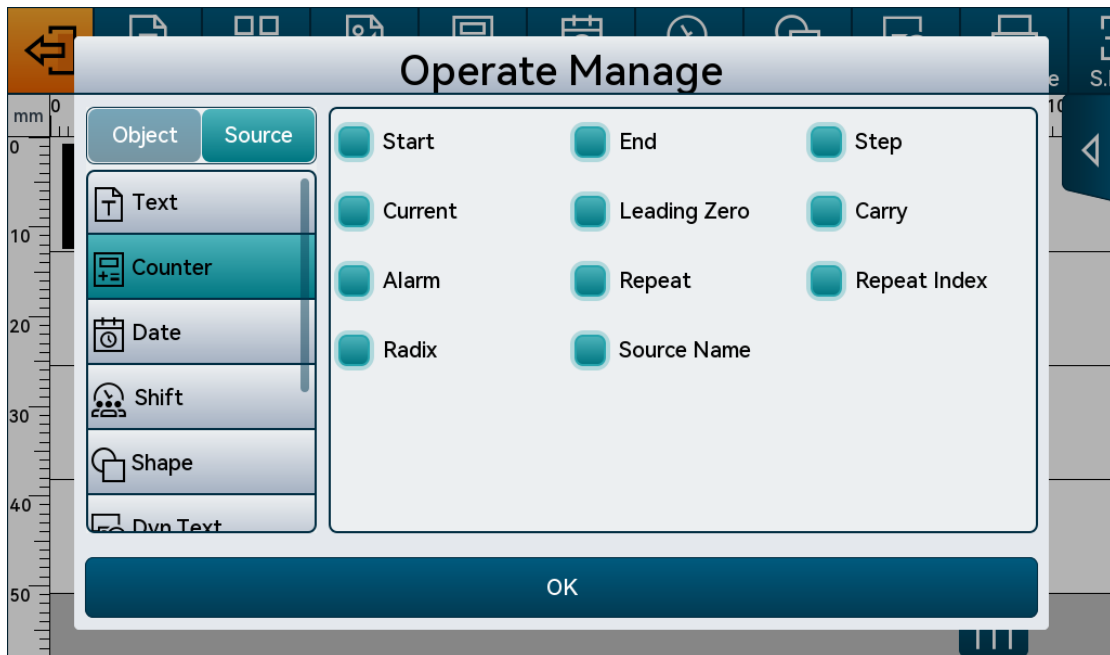




**Object operation management:** User can define whether the function settings options of text, barcodes, images, and shape objects are shown in the object editing screen.






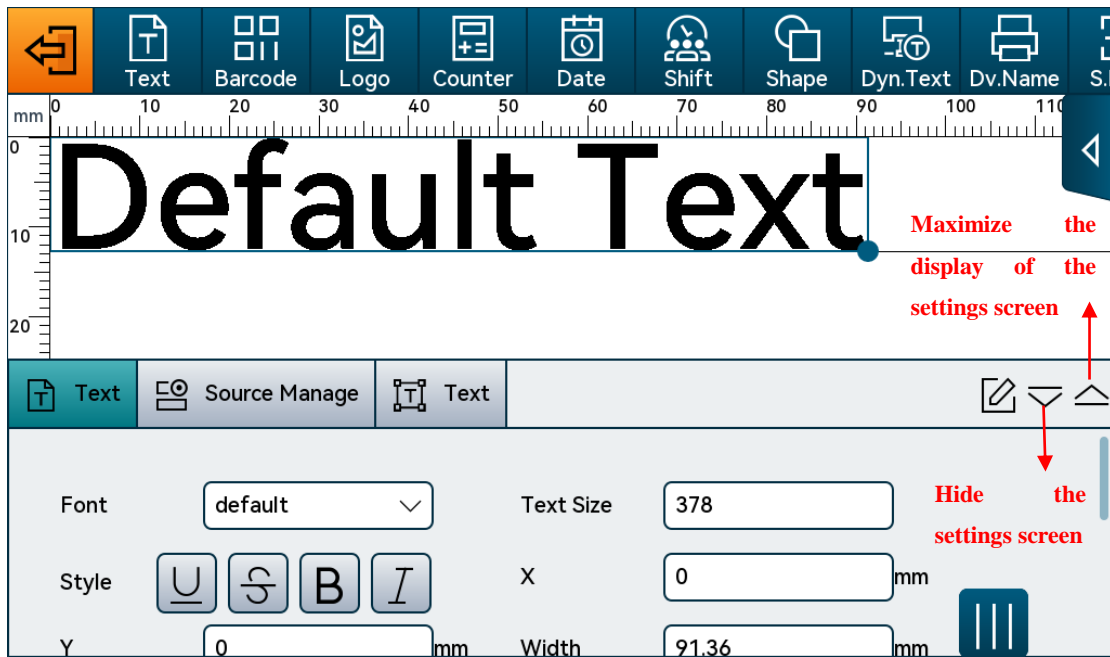
**Source operation management:** User can define whether the function settings options of the text, counter, date, shift, shape, dynamic text, device name, scanner, and database source are displayed on the source editing screen.



**Tips:** Configure the function settings options of text objects; in addition, whether the relevant function settings options of counter, date, shift, dynamic text, device name, scanner, and database objects are displayed will be affected.




### 3.1.4 Hide Message Parameter Settings Screen

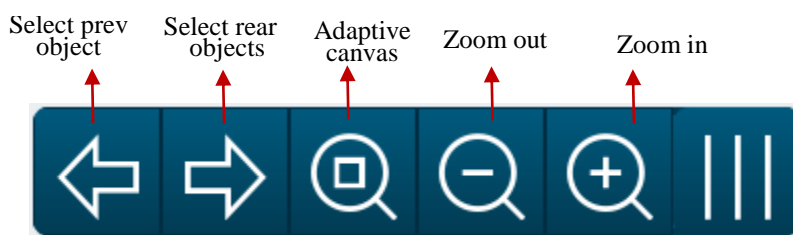
Click the down arrow  in the message edit interface to hide the data settings interface; click on the  button again to restore the data settings interface; click on  to maximize the data settings interface.



### 3.1.5 Toolbar

There are five keys in the toolbar for “Message Management Preview” and “Object Editing”, including [Select prev objects], [Select rear objects], [Zoom in], [Zoom out] and [Adapt]; and another five keys in the toolbar on the right side of the Message Editing interface, including [Delete], [Multiple selection], [Copy], [Lock] and [Arrange].

- Press and hold  and drag the position of the tool keys freely on the screen, click , the [Tools] key, to unfold the toolbar, and click it  again to hide the toolbar.





[Select prev objects]: Move the object selection box on the preview object.


[Select rear objects]: Move the object selection box on the next object.


[Zoom in]: The canvas will be increased by 5% each time you click, and keep zoom in when operate the key with a long press.


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[Zoom out]: The canvas will be reduced by 5% each time you click, and keep zoom out when operate the key with a long press.


- Click the key  on the right side of the Message Editing interface to unfold the editing toolbar, and click the key  again to hide it.

[Delete]: Select the object in the preview interface, and click  to delete the object from the interface.









[Multi-selection]: Click on the multi-select icon  to enable/disable multi-selection; when the multi-selection feature is enabled, the multi-select icon is lit up and several objects can be chosen at the same time in the preview interface.

[Copy]: Select the object in the preview interface, click Copy  to paste the object directly behind the selected object; the objects will be pasted in turn after clicking Copy multiple times.

[Lock]: After enabling the lock function by clicking , all objects created on the preview interface other than the newly created objects are locked and cannot be moved; the lock function can be canceled by clicking  again.

[Arrange]: Click on  to expand the object arrangement column, where a number of arrangements are supported; this feature is valid only when at least two objects are chosen; please use this feature with the [Multi-selection] button.

Description of the object arrangement options:

1		Align the selected objects to the left	5		Align the top of the selected objects
2		Align the selected objects in the center horizontally	6		Align the selected objects in the center vertically
3		Align the selected objects to the right	7		Align the bottom of the selected objects
4		Align the selected objects vertically	8		Align the selected objects horizontally

## 3.2 Print Management



### 3.2.1 Start/Stop Printing

**Tips:** A sensor signal is required before printing. If using the built-in sensor, need to sense the photocell which is selected to use (under printheads combination or separation mode, only one built-in sensor can be enabled).

- Select the message to be printed in the list, and click [Start Printing]
- After the printing is successfully started, the print report will pop up and the [Start Printing] button will switch to [Stop Printing]. After the photocell is sensed, the message can be printed normally.

### 3.2.2 Printing Report

**Printing report:** Display the relevant information of the printing, which is dynamically updated according to the printing results in real time. Click [Report] to hide the print report, or click it again to pop up the Printing Report interface.

**The information displayed** includes message preview interface, percentage of ink used, output, message name, current printing message, system time, and clear cache.

**Clear Cache:** Upon start of the printing of data containing dynamic objects, the Clear Cache button is displayed in the print report interface, when the converted data can be cleared by clicking on the Clear Cache button so as to re-convert the data. (If the data on which printing is started does not contain dynamic objects, the printing report will not show the Clear Cache

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function key.)

**Stop Printing:** Click [Stop Printing] to exit the Printing Report interface, and switch back to [Start Printing] and return to the original interface.

### 3.2.3 Print Delay

Front-delay refers to the distance to the start of printing after the sensor senses the object, which is 0mm by default. Click the input box to modify the delay value.

Rear-delay refers to the distance an object can still be printed after it leaves the sensor. The default delay is 0 mm; click the input box to modify the delay value.





#### **Tips:**

1. To set the Rear-delay, set photocell trigger to level trigger before the setting will take effect.
2. After modifying the settings, the delay value will be activated from next printing, user may also modify it during printing.
3. While under multi-combination mode, user can set the print delay value for each combination.

### 3.2.4 Initial

**Current value:** The value will be printed after the printing is started. The value need to be within the start and end value of counter/CSV.

### 3.2.5 Offset

Set the offset value separately for the defined printhead; click the input box to set the value directly, or click   to fine-tune the offset; upon completion of the setup, perform one printing to check the printing effect of X/Y axis stitching; if the effect is unsatisfactory, the offset can be adjusted again until the desired effect is achieved.

---

Offset

P1->P2

X: - 0 +

Y: - 0 +

Group1

Group2

OK Cancel

 **Tips:**

1. The offset option can only be set when the nozzle combination mode is selected.
2. To adjust the offset, make sure that the installation of nozzle combination and the production line are in a horizontal and vertical state, otherwise the printing will be misaligned.

### 3.2.6 Re-printing

- Reprint is invalid if the message without dynamic source (counter, date time, shift, device name, scanner print, dynamic text, CSV, database text). Reprint function is available only when the message with the dynamic source is printed at least once.

click on Reprint, when the printing record screen pops up; choose the data to be reprinted and click [Start Reprinting], when the printing report screen is displayed and some function keys are grayed out; upon completion of the reprinting, the grayed-out function keys are restored to their original state.

History Limit

计数器

1	00000001
2	00000002

Record of the printed dynamic object content is


Click the drop-down key to select the object you want to find

Click the input box and enter what you are

Click the search icon to find relevant content

计数器 Search Start Reprint

The names of all dynamic objects in this lump of message are displayed;

- Choose the record to be reprinted from the list of printing records, and click [Start Reprinting], when the printing report screen is displayed and some function keys are grayed out. Trigger the photocell, and the chosen record will be reprinted. Upon completion of the reprinting, the grayed-out function keys are restored to their original state.
- Search: Choose the key object, enter the keyword and click ; then, what you're looking for is displayed in the list of printing records.

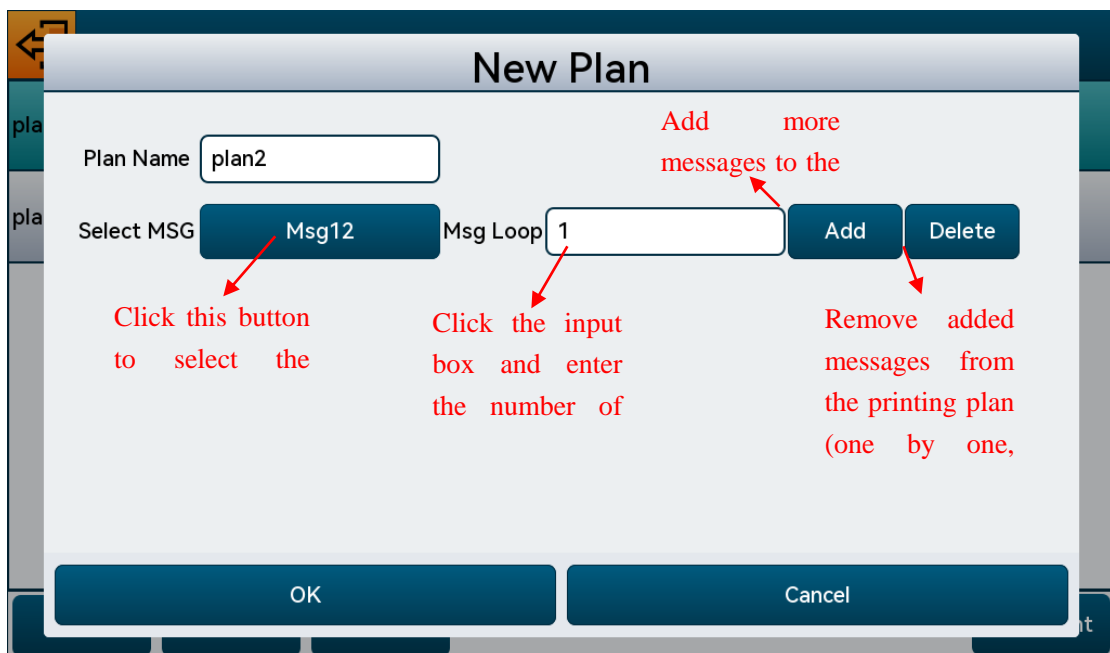
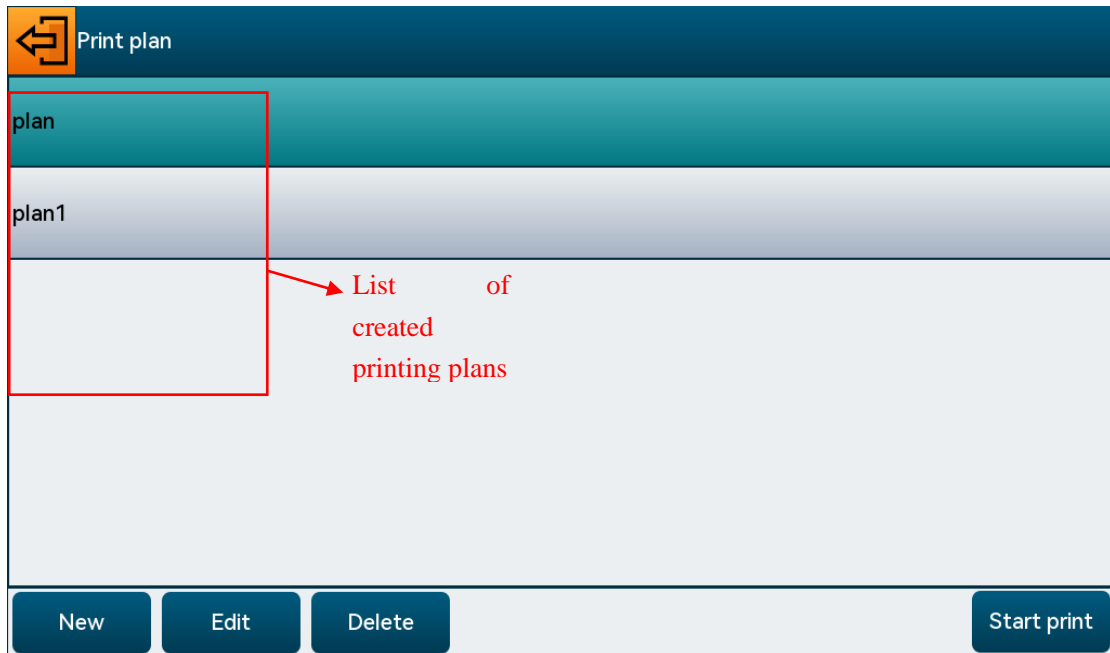
 **Tips:**

- 1.Reprinting cannot be activated unless there is at least 1 print and the message contains such dynamic sources as counter/date & time/shift/dynamic text/scanner/database; when no print is made or the message contains no dynamic sources, the reprinting is grayed out and invalid.
- 2.When reprinting is being performed, some function keys are grayed out (e.g., current value, reprint, clear cache); upon completion of the reprinting, the grayed-out function keys are restored to their original state.



### 3.2.7 Printing Plan

Click [Printing Plan], when the printing plan screen pops up



**New:** Click [New], when the plan creation screen pops up. The user can add and select the created messages into the printing plan as needed, and set the number of lumps to be printed; upon completion of relevant configuration, the printing plan can be printed by clicking [OK].

**Edit:** Choose the created printing plan and click [Edit] to edit and modify the printing plan.

**Delete:** Remove the chosen printing plan.

**Start Print:** Choose the created printing plan and click [Start Printing] to start printing the printing plan.



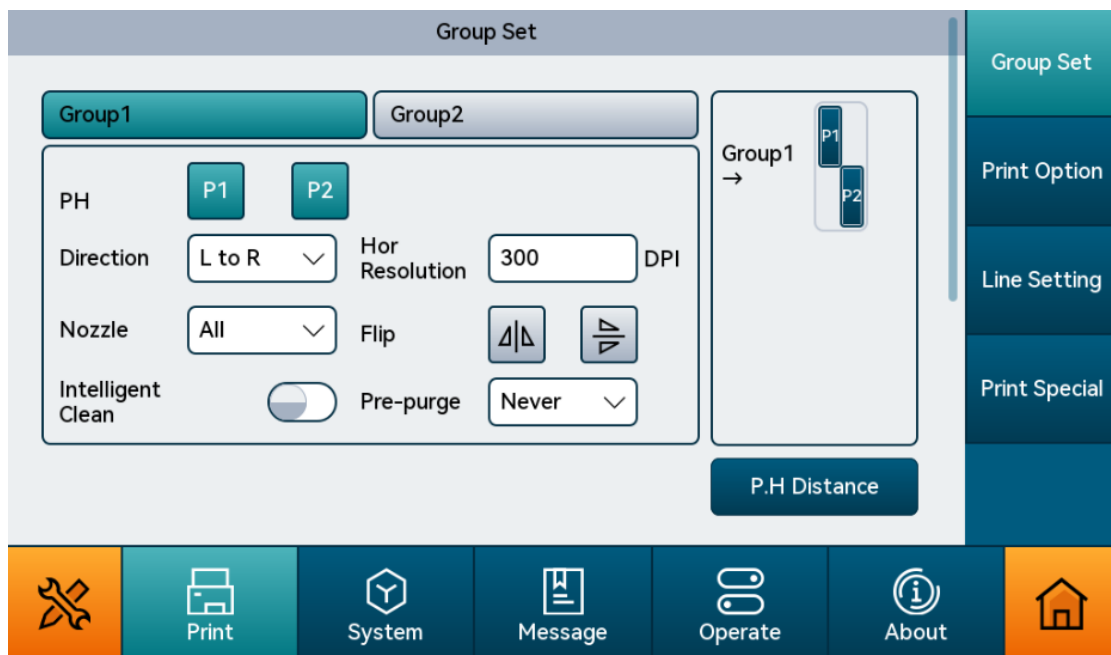
1.Up to 8 printing plans can be created, and up to 10 lumps of message can be added to each printing plan.

2.Triggering the photocell is invalid when message is switched for the printing plan (when message is switched, the next lump cannot be printed unless the printing of current message is stopped).

### 3.3 Settings

#### 3.3.1 Print Parameters

##### 3.3.1.1 Group Setting



**Print head (PH) :** Maximum four printheads can be connected to the controller, and the corresponding interfaces are P1, P2, P3, and P4.

**Group:** Maximum 4 combinations, each of which is provided with 4 printheads for arbitrary combination. (Note: Each printhead can only be selected for one combination and shall not be duplicated.)

**Direction:** Set the moving direction of the print object (from left to right by default); click on the drop-down button to choose “L to R” or “R to L”. In the case of multiple combinations, the print direction can be set separately for each combination.

---

**Horizontal Resolution:** Set the printing resolution; this setting is used to adjust the optical darkness of printing. The value ranges from 40 to 1200, and is 300 by default (note: The smaller the value, the lighter the printing is; the larger the value, the darker the printing is.)

**Nozzle:** Each cartridge has 2 lines of nozzles (left nozzle and right nozzle); the printing pattern could be set to Left, Right, Left/Right, All, and Speeding. In the case of multiple combinations, the nozzles can be set separately for each combination.

**Flip:** Rotation mirror image of the printhead. Both horizontal mirror and vertical mirror is available. In the case of multiple combinations, the mirror images can be set separately for each combination.

**Intelligent Clean:** To prevent blurred print when the nozzle does not eject ink for a long time in the printing state; once smart cleaning is activated, a smart cleaning interval can be set depending on ink characteristics; once the set interval time is exceeded, the equipment will eject a small amount of ink to wet the nozzle when the photocell is enabled, so as to avoid character blurring. When a number of combination modes are set, the smart cleaning for each combination can be set separately.

- The system disables intelligent cleaning by default.

- Intelligent cleaning interval: This feature item is displayed when smart cleaning is enabled. A time interval of 60-250 seconds can be entered.

**Pre-purge:** This function is to prevent nozzles drying up, which may bring blurred printings. Once this feature is enabled, the printhead will inject a small amount of ink in the printing interval depending on the set time to warm up and moisten the nozzles, so as to avoid blurred printings. Click on the drop-down box to choose from “Never”, “Preset” and “Custom”. In the case of multiple combinations, the pre-purge can be set separately for each combination.

- The default setting for Pre-purge is Never.

- When “Preset” is chosen, Pre-purge is performed autonomously depending on the ink parameters.

- When “Custom” is selected, the Pre-purge setting box will be activated; the time interval can be set to 1-3600 s, and the number of columns ranges from 1 to 1000; if “10 s” and “10 columns” are entered, the nozzle will automatically inject ink for 10 columns every 10 seconds to keep the nozzle wet when the photocell is not sensed.

**P.H Distance:** The distance between printheads can be set in combination mode. (Note: This value affects the offset settings.)

“x” is the printhead’s width, if the set value is not the same as the printhead’s physical data, the stitch printing effect may not be good (the physical value for MoTix printhead is 32mm, no need to modify the default one)

“y”: this value will effect the offset setting value range, to get a better printing stitch result.

**[Other]:**

**Photocell Option:** 3 options in total: “None”, “Built-in”, and “External”;

**None:** printing without sensing a object;

**External:** When “External ” is activated, printing will be activated with a external sensor signal;

**Built-in:** When “Built-in” is activated, printing will be activated by sensing the built-in sensor.

(Note: Under printheads combination or separation mode, only need to sense one sensor signal to active the printing.)

**photocell filter time:** The photocell filtering time is set to prevent photocell waveform jitter leading to false triggering of photocell. The time range that can be entered: 0-50 ms

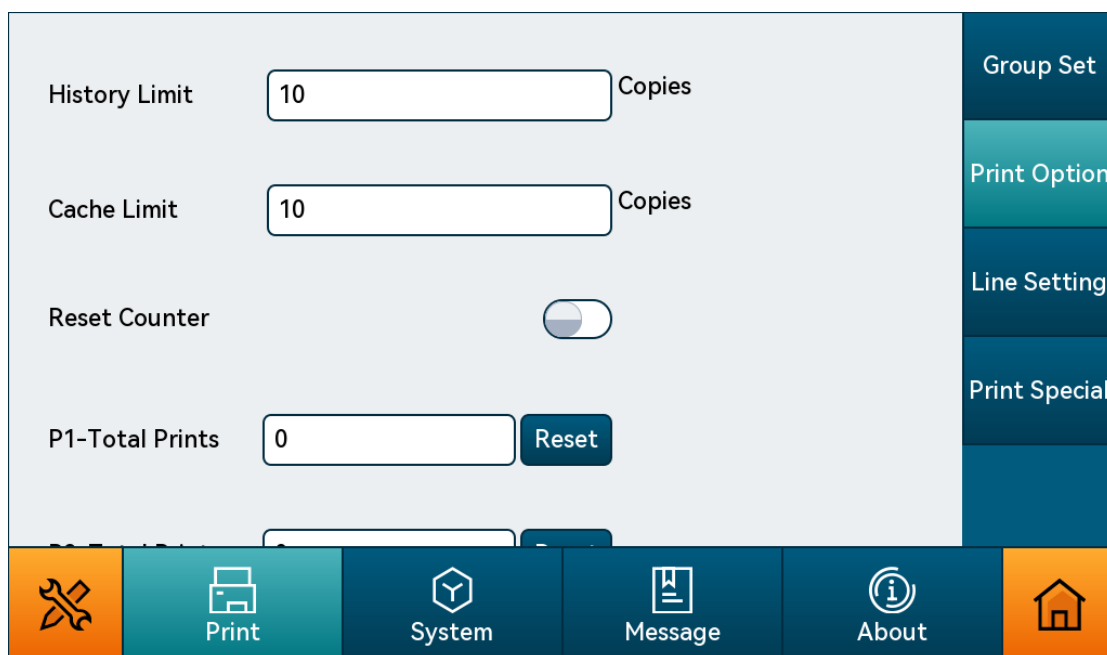
**Type:** Totally 2 options: NPN and PNP;

**Photocell Sense:** 2 options: level and edge;

**Level Trigger:** To print, the sensor should be sensed all the time;

**Edge Trigger:** One print per once sensor signal.

### 3.3.1.2 Print Option



**History Limit:** The number of print history records that the device saves, which can be set from 0 to 100, and if it is set to 0, reprint cannot be performed. (The re-printing feature is not available temporarily)

**Cache Limit:** The number of messages automatically loaded by the device during printing, which can be set from 1-100. (Note: For continuous or high-speed printing, it is recommended to set the number of caches to 100, instead of a number less than the number of continuous print.)

**Reset Counter:** After the function is enabled, you will be prompted whether to reset every time you start printing the message containing the counter. If you select “Yes”, the printing will start from the minimum value of the counter; if you select “No”, the printing will continue printing from the last printing value.

**Total Prints:** Record the number of messages printed by P1, P2, P3 and P4, which can be set to 0-999999999999. After the number is modified, the number of prints will be counted based on the modified value.

### 3.3.1.3 Line Setting

Encoder Option	None	
Encoder Resolution	300	DPI
Speed	60.00	m/min
Print Media Width	0.00	mm
Ambient Temp	25.00	°C

**Encoder Option:** Automatic detection of encoder by default; click on the drop-down button to select “None” or “2Phase”; when “None” is chosen, the [Production Line Speed] can be set (depending on the actual line speed).

**Encoder Resolution:** Support encoders ranging from 100 to 600 (generally 300DPI).

**Speed:** Set the speed at which the production line runs. When “None” is selected, the line speed input box is activated; please set the speed based on the actual line speed.

**Print Media Width:** Enter the object width, and the sensing with photocell is invalid within the setting range, which helps avoid false sensing of photocell.

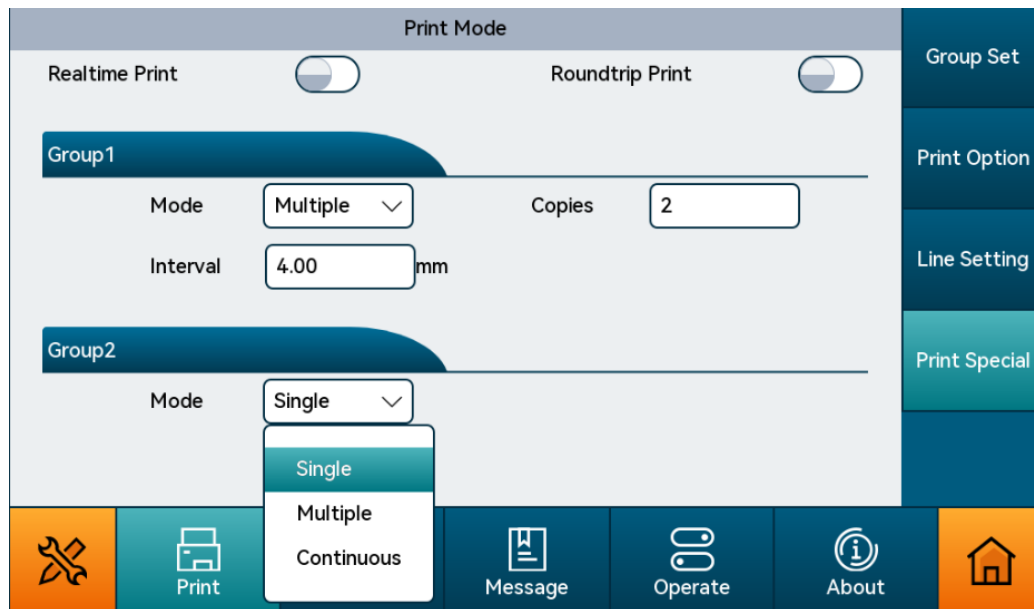
**Ambient temperature:** This temperature is set to 25 °C by default, and it's not advisable to modify this setting. If the ambient temperature of the equipment deviates from the set value by more than 20 °C or the printing result is not satisfactory, please consult customer service before modifying the ambient temperature.



It is recommended not to enable [Smart Cleaning] and [Free Inkjet] at the same time.

The printing speed is affected by factors such as nozzle, horizontal resolution, and ink pulse width; the current nozzle supports the fastest printing speed of 200 m/min.

### 3.3.1.4 Print Special



**Realtime Print:** Real-time printing is conducted based on the sensing time of photocell; click the button to enable/disable the real-time printing feature. (Real-time printing is often used for time-related data printing)

**Roundtrip Print:** When this feature is enabled, 1 print of the data is made in the set printing direction, then 1 print in the opposite direction, followed by another print in the set direction, and so on.

**Print mode:** Include three modes: single, multiple, and continuous.

**Single:** each time the photocell is sensed, a piece of message will be printed.

**Multiple:** Set print parameters: number of print and print interval; each time the photocell is sensed, corresponding number of messages will be printed at interval.

**Continuous:** continuous print parameters “print interval” can be set only after the function is enabled. After the printing is enabled, continuous printing will be performed when the photocell is sensed once or continuously (specifically affected by the trigger type).

**Number of Print:** Set the number of print each time.

**Print Interval:** the distance from the end of the message to the beginning of the next one.



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1. The printing intervals should not be set too short in the case of multiple prints/continuous printing as this may lead to message missing!

2. In the case of multiple prints/continuous printing, the cache limit is recommended to be set to 100, don't be less than the number of multiple prints!

### 3.3.2 System Settings

#### 3.3.2.1 Setting Management

**System Time:** Slide the time setting box up or down and click [Set] to save the current set time.

Year	Month	Day	Hour	Minute	Second
2000-2037	1-12	1-31	0-23	0-59	0-59

Note:

1. In case of a leap year, the maximum value of February is automatically modified.

2. The maximum value in the “Day” scroll box varies with the actual number of days the month.

**Brightness:** Set the screen brightness, which can be set to any value between 10 and 100, and to 100 by default.

**Language:** [Chinese +English+ Upgrade Language], click the drop-down box to switch the system language.

- The default language of the system is English. For details about how to upgrade with other system languages, see 3.4.1.

- The equipment restarts automatically after language switching; then, the “switched-to” language turns into the equipment language.

**Screen Saver Time:** The system defaults is 5 minutes, including five options: 5 minutes, 15 minutes, 30 minutes, 2 hours, 4 hours, and 8 hours; after set the screen saver time, the screen will be in the dormant state after the set value.

**Unit:** [Metric mm+ Inch] Click the Down arrow to switch the unit.

**Device Name:** A maximum of 30 characters can be entered in Chinese, English, numbers, symbols, or third-party languages.

#### 3.3.2.2 Signal



**Tips:** When using this function, an external alarm kit is required!

- The desired alarm state can be selected in three alarm modes, i.e., Red Led, Yellow Led, and Beep.

Alarm type	Description	Alarm type	Description
Stop Print	Printing is not enabled	Ink Low	Ink consumption greater than 95% and less than 105%
Ink Empty	Ink consumption greater than or equal to 105%	System Error	An alarm is given in the event of a system anomaly

### 3.3.2.3 Network

Network mode: including 2 modes, static IP and DHCP.

Static IP allows us to manually set the network IP, network type, and subnet mask;

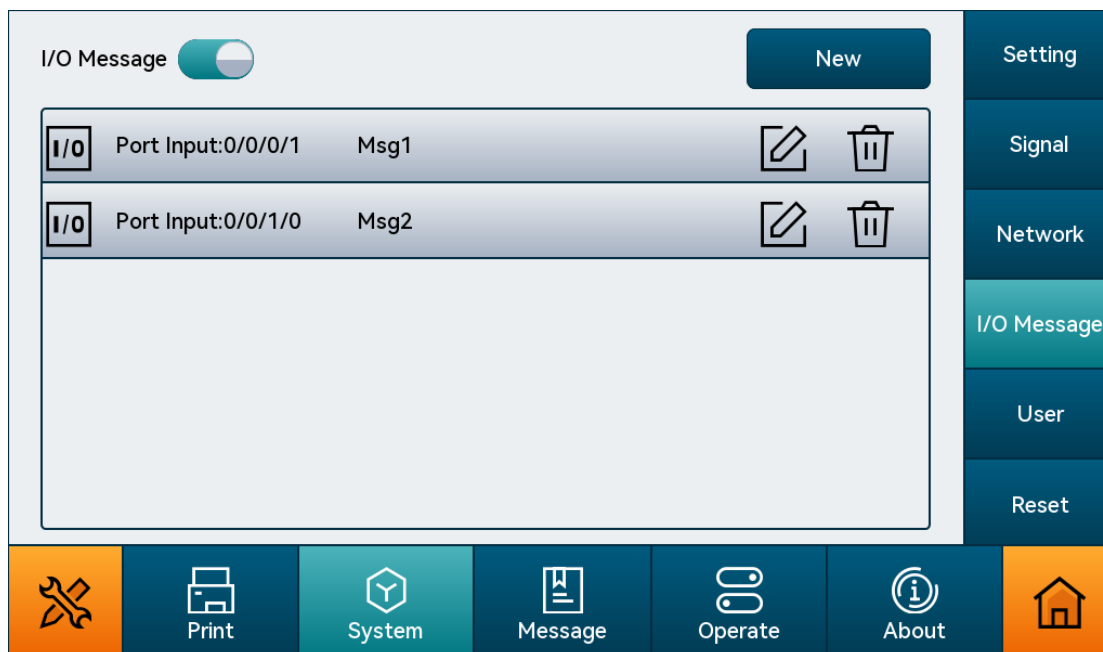
DHCP allows to plug in network cable for the device and automatically obtain the relevant address information.



#### **Tips:**

When using a dynamic IP, be sure to connect the network cable normally before switching to the dynamic IP.

### 3.3.2.4 I/O Message





**I/O message:** The state is Off by default; click the key to turn on/off the I/O message feature.

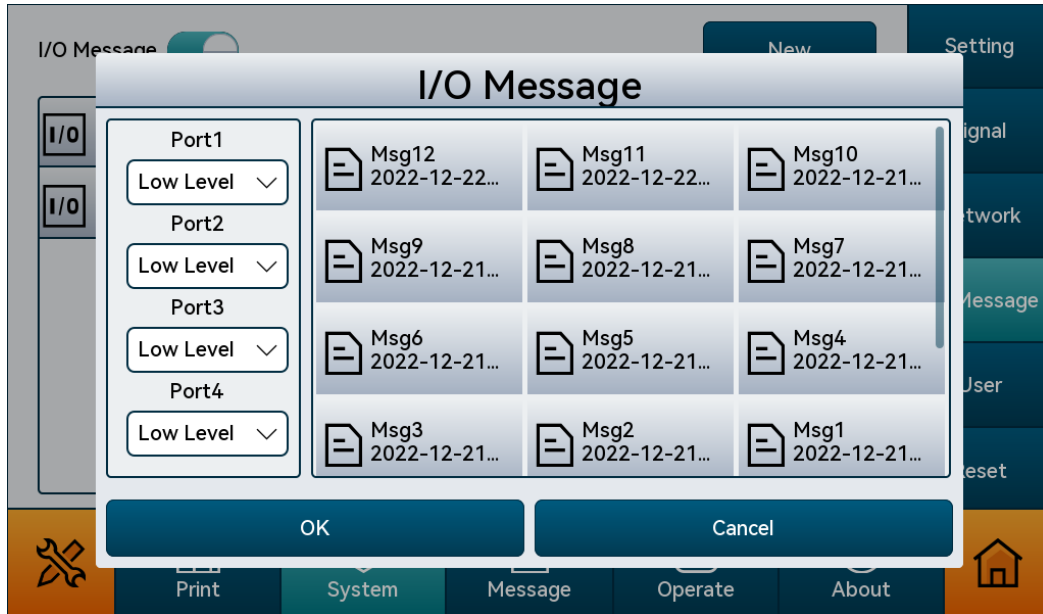


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**New:** Create I/O message (up to 15 lumps).

**Edit:** Click  to edit the current lump of I/O message.

**Delete:** Click  to delete the current lump of I/O message.



**Port:** There are 4 ports to set up; low level (displayed as 0) and high level (displayed as 1) can be set respectively for each port.

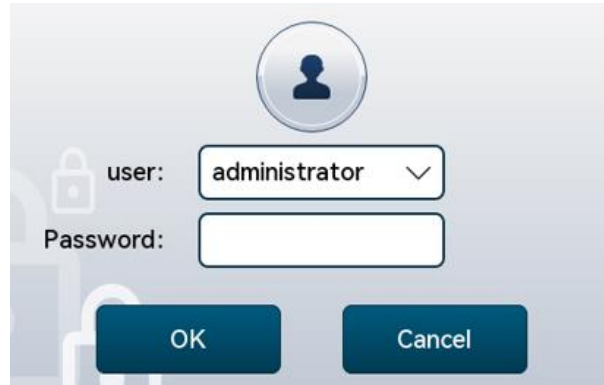
 **Tips:**

1. This feature needs to be use with an external port control board.
2. Port 0000 is set to null by default and is not available.
3. A total of 15 unique combinations can be set up for the 4 ports, and up to 15 lumps of I/O message can be set up.

### 3.3.2.5 User

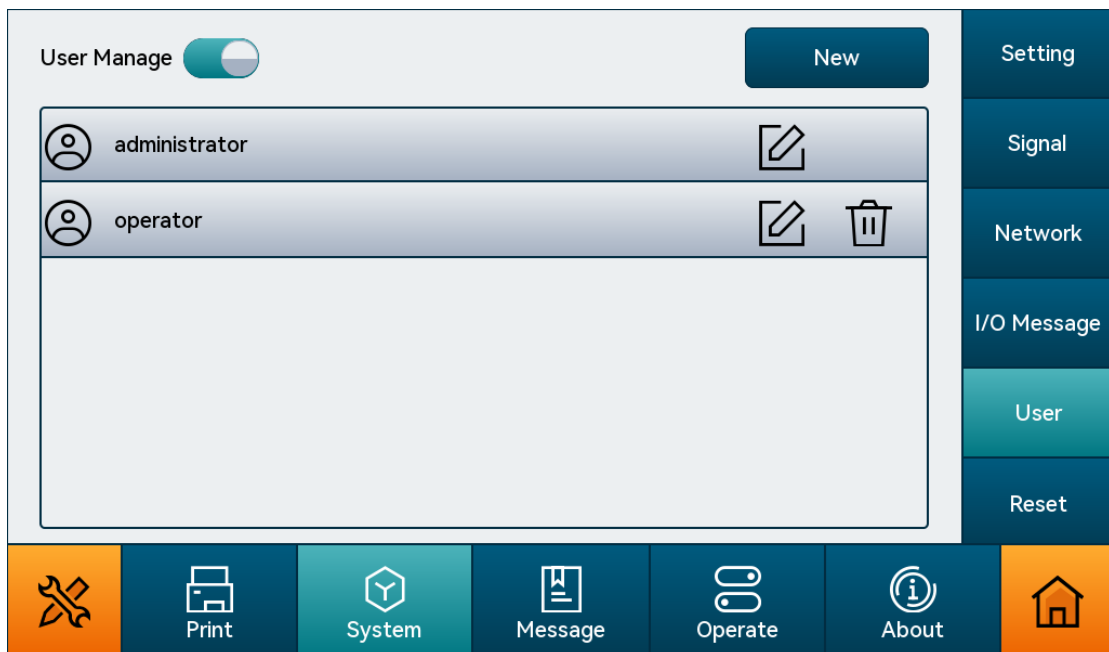
After the user management is enabled, the administrator can freely configure the operation authority of the user to ensure the security of user operation.


**Enable user management:**




- User management is disabled by default. Click the On/Off key, when the login box pops up; enter the administrator password (default password: 123456). Click [OK] to enable user management, or click [Cancel] to keep this feature disabled.

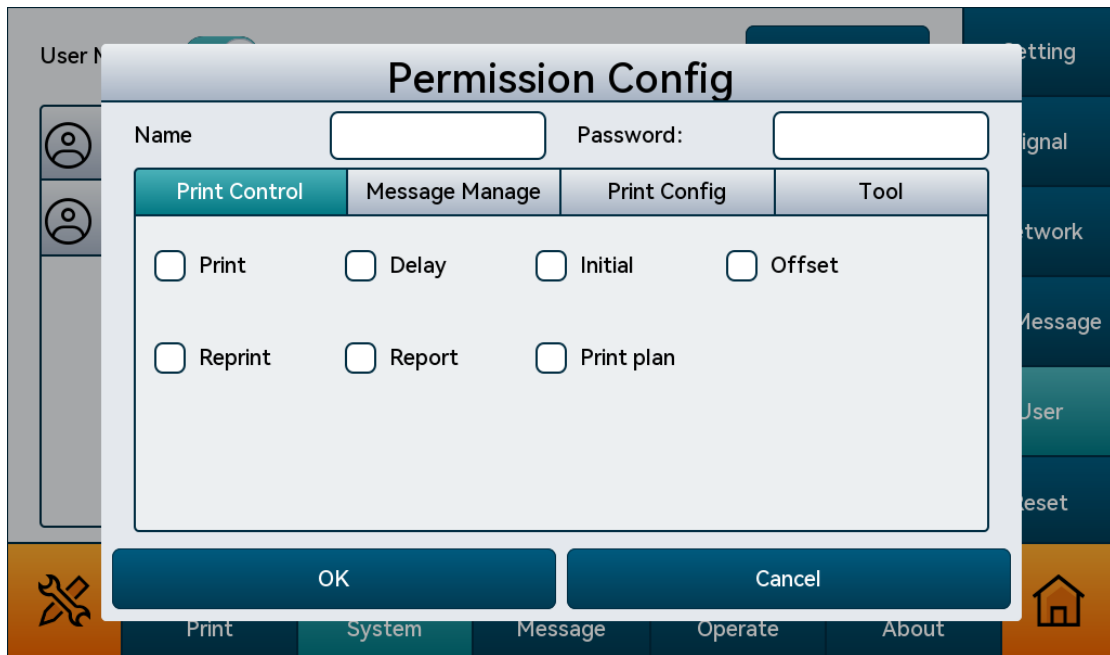
- After the successful activation, a user list pops up in the screen; users can be created, edited, deleted, etc.



**Edit:** Click  to change the login password and permission configuration for the current user (only the user administrator is allowed to change the permission configuration for other users).

**Delete:** Click  to delete the configuration related to the current user (only user administrators can use the delete feature).

**New:** Create the user information and click [New], when the new user screen pops up



**Name:** The user name can be entered in English and numbers; each user name shall consist of no more than 30 characters, and shall not be null.

**Password:** The password can be composed of no more than 12 numbers.

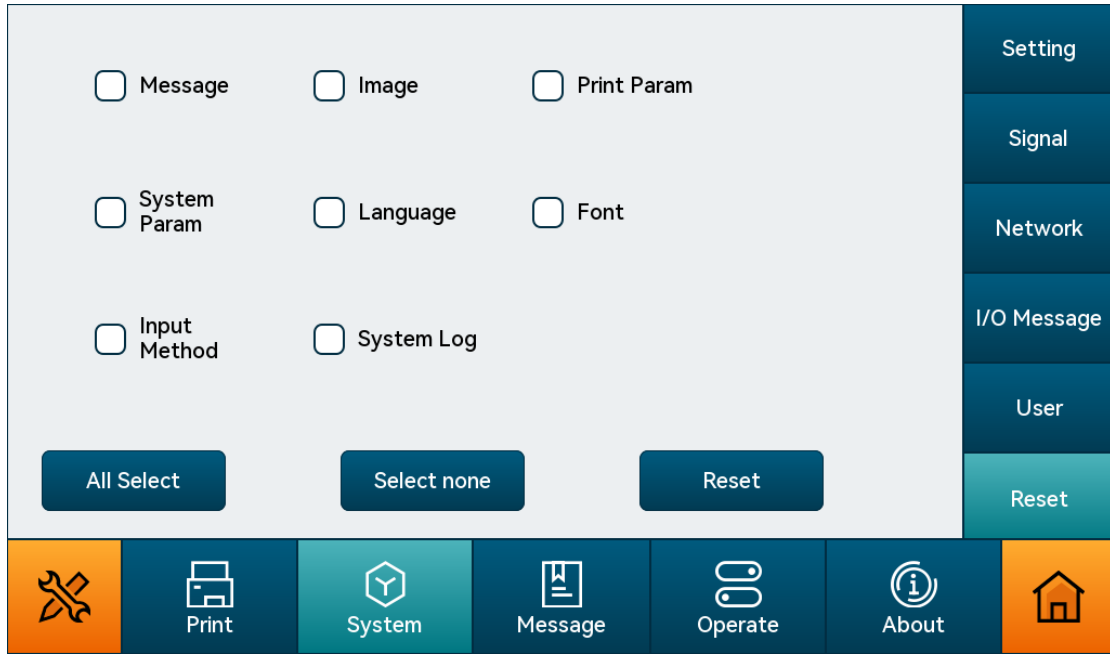
**Permission configuration:** There are 4 modules for the function permissions that can be set; each module has its own specific feature options; click these 4 modules to automatically switch the screen and select specific features at will.

Module	Optional features
Printing control	Printing, Delay, Initial, Offset, Reprint, Report, and Print plan
Message Manage	New, Edit, Copy, Delete, Rename, Import, Export
Print configuration	Group Set, Print Option, Line Settings, Special printing, settings, Signal, Network, I/O message, Radix, Shift, Date Format, Message Manage, Message object , Message Config
Tool	Upgrade, Image, Backup, Register



1. The default user management password is 123456
2. The user administrator cannot be deleted.

### 3.3.2.6 Reset



- Select the option(s) to be reset. (Message, Image, Print Parameter, System Parameter, Language, Font, Input Method, System Log)
- Click [All Select] to select all options.
- Click [Select None] to deselect all options.
- Select the option and click on the [Reset] button, when the “User Management” prompt box pops up; enter the correct password and click [OK] to restore, and the equipment will reboot automatically after a successful restoration; click [Cancel] to cancel the restoration.

#### Reset parameters:

Module	Item	Parameter
Message	Message List	Message are cleared
Image	Image List	Images are cleared
Print Parameter	Combination settings	P1P2P3P4 separation mode

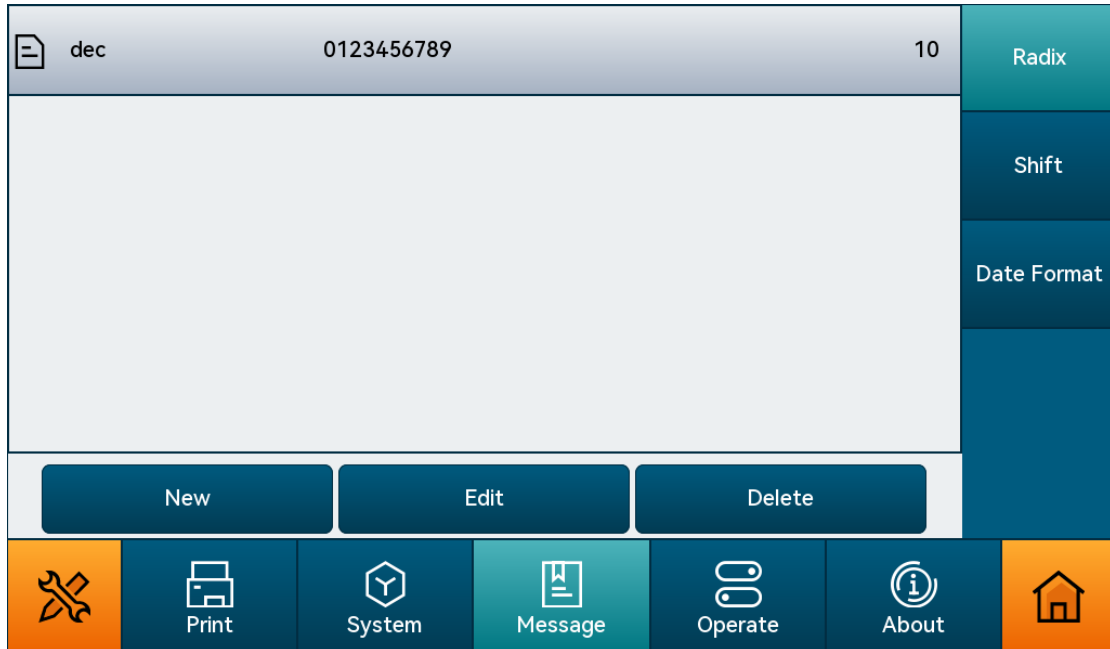
Printing direction	From left to right
Horizontal resolution	300
Nozzle	Dual nozzles
Flip	None
Pre-purge	Never
P.H Distance	X=32mm,Y=2 points
Photocell Option	Built-in
Photocell	P1
Photocell Sense	Edge
History Limit	10
Cache Limit	10
Reset Counter	Off
P1/P2/P3/P4 Total Prints	0
Encoder Option	None
Encoder resolution	300
Speed	60
Print Media Width	0
Ambient Temp	25°C
Real-time print	Off
Roundtrip Print	Off
Print Mode	Single

	Multiple printing	Off
	Continuous printing	Off
	Printing interval	4
System Parameter	System time	Not reset
	Screen saver	5 minutes
	Screen brightness	100
	Language	English
	Unit	Metric
	Device name	MoTix2000
Data format	Radix system	Default radix(new radix will be cleared)
	Shifts	Default shift format(new shift formats will be cleared)
	Date format	Default date format(new date formats will be cleared)
Language	Language List	English by default(the customized language will be cleared)
Font	Font List	Default font(the customized font will be cleared)
Input Method	Input Method List	Default input method(the customized input method will be cleared)

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### 3.3.3 Message Format

#### 3.3.3.1 Radix Format



**Radix List:** Display the default and established radix systems.

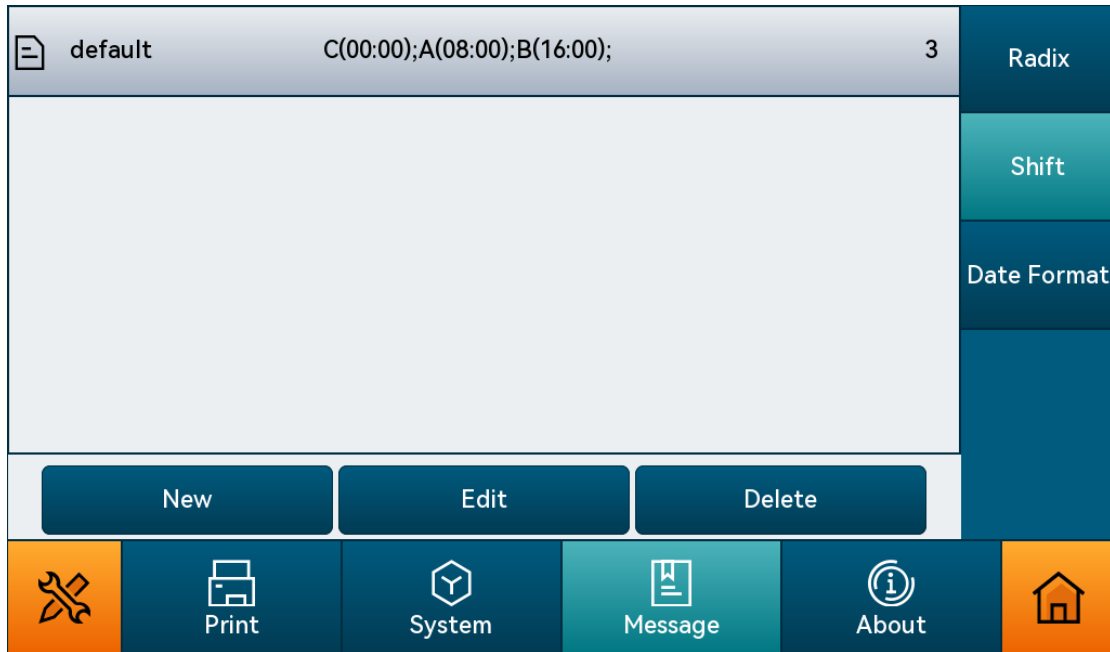
**New:** Click New to add a new radix system. Enter the name and content of the Radix system, and click [OK] to save to the list.

**Edit:** Select a radix system from the list, and click Edit to bring up the radix system edit screen, where you can change the name and content and click [OK] to save the changes (the default radix system is not editable).

**Delete:** Choose a radix system from the list, and click [Delete], when a delete prompt box pops up (the default radix cannot be deleted).

**Name:** It cannot be more than 30 characters, or composed of (/), or empty, otherwise it cannot be saved.

### 3.3.3.2 Shift Format



**Shift List:** Display the established and default shifts;

**New:** Create a new shift.



**Add Shift:** Click [Add] and enter the name and time, and then click on [OK] to make direct addition to the shift list.

**Delete:** Select a shift in the list, and click Delete to delete it.



**Clear:** Click Clear to clear the list, and the content of the shift list will be empty.












**Name:** it is shift + number by default. It cannot be more than 30 characters, or (/), or empty, otherwise it cannot be saved.

**OK:** Click “OK” to save the current shift, and return to the previous menu.

**Edit:** Select a shift in the list, click Edit to modify, and save the modification. (the default schedule cannot be edited).

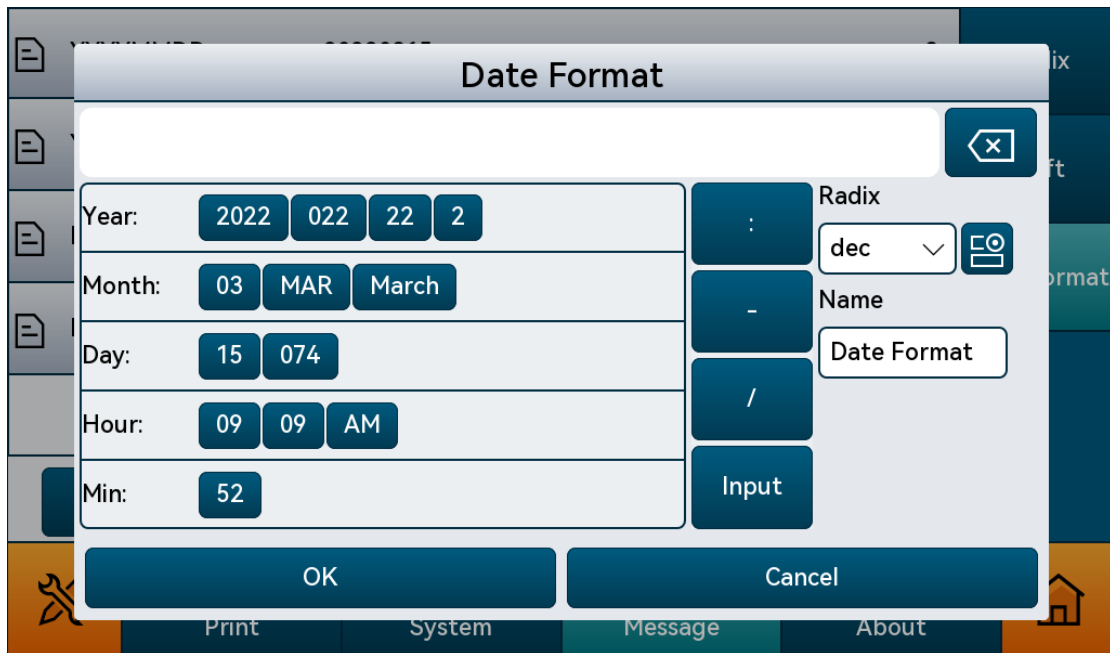
**Delete Schedule:** select a shift in the list, and click to delete.

### 3.3.3.3 Date Format

	YYYYMMDD	20221226	3	Radix		
	YYYY/MM/DD	2022/12/26	5	Shift		
	MM/DD/YYYY	12/26/2022	5	Date Format		
	HH:mm	10:15	3			
New Edit Delete						
						
	Print	System	Message	Operate	About	

**Date Format List:** display the default date format and the created format.

**New:** Click [New] to bring up the date formatting keyboard, with which a new date format can be created as needed.

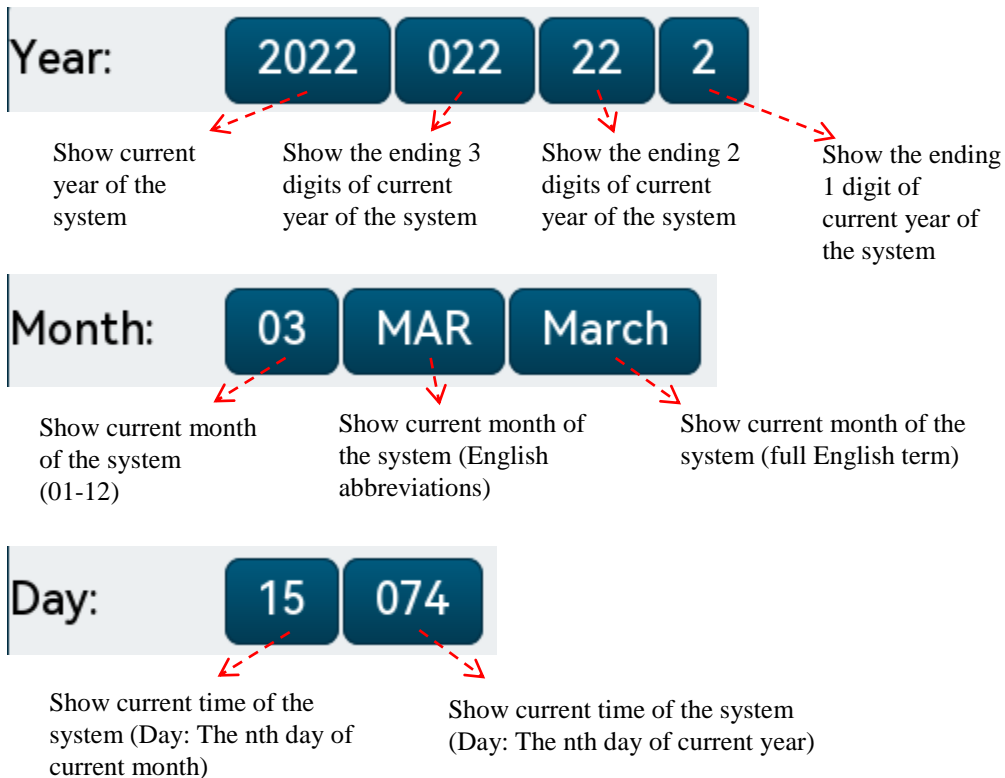


**Radix:** Set the radix system for date format display

**Name:** the format name cannot be more than 30 characters, or composed of or (/), or empty, otherwise it cannot be saved.

**Input:** Click [Input] to enter texts and custom-create the date format.

Description of date format related keys:



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**Hour:** 09 09 AM

Show the hours of the 24-h system      Show the hours of the 12-h system      Show AM or PM depending on current system time

**Min:** 52      **Sec:** 45

Show minutes of the current system time (0-59)      Show current seconds of the system (0-59)

**Week:** 3 WED Wednesday 12

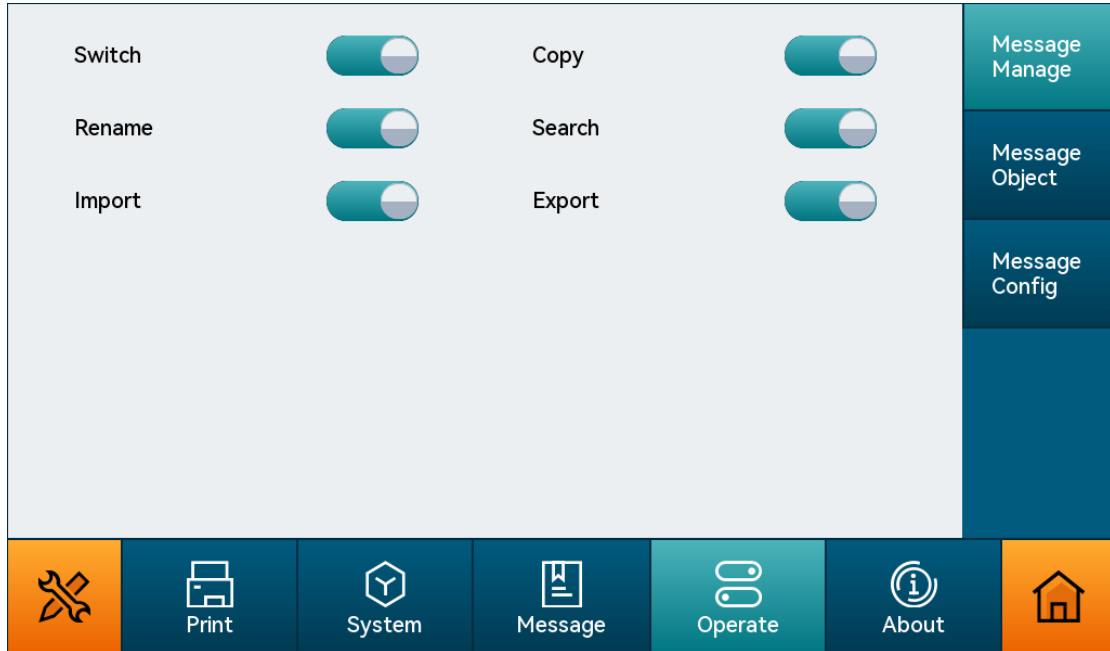
The  $n^{\text{th}}$  day of a week      English abbreviation of weekday      Full English spelling of weekday      The  $n^{\text{th}}$  week of a year

**Edit:** Select the date format in the list, click [Edit], and the corresponding editing interface will pop up, where you can modify and save (the default format cannot be modified).

**Delete:** Select a date format from the list, and click [Delete] to delete the chosen date format (the default format cannot be deleted).

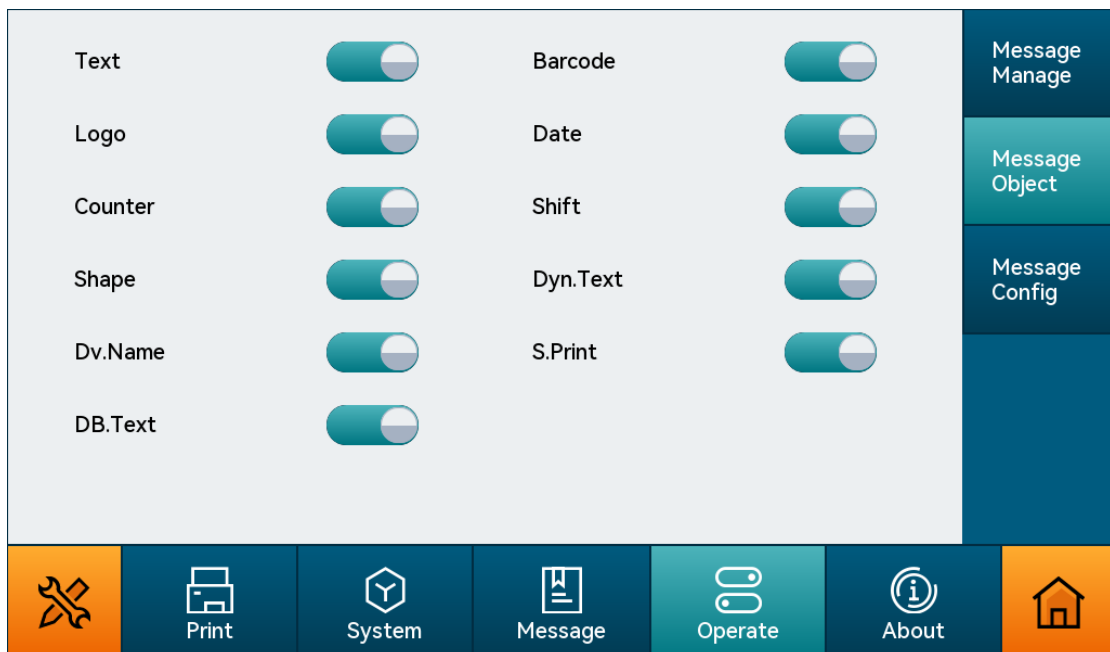
### 3.3.4 Operate

#### 3.3.4.1 Message Management



**Message manage:** All function items are enabled by default; if some features are set to off, the function item will not be displayed. User can define whether the toolbar on the right of the message list screen shows [Switch], [Copy], [Rename], [Search], [Import] and [Export] function items.

#### 3.3.4.2 Object Management



**Object manage:** All objects are turned on by default; if some objects are turned off, the objects will not be displayed. User can specify whether the new message screen shows [Text], [Barcode], [Logo], [Date], [Counter], [Shift], [Shape], [Dynamic Text], [Device Name], [Scanner] and [Database] objects.

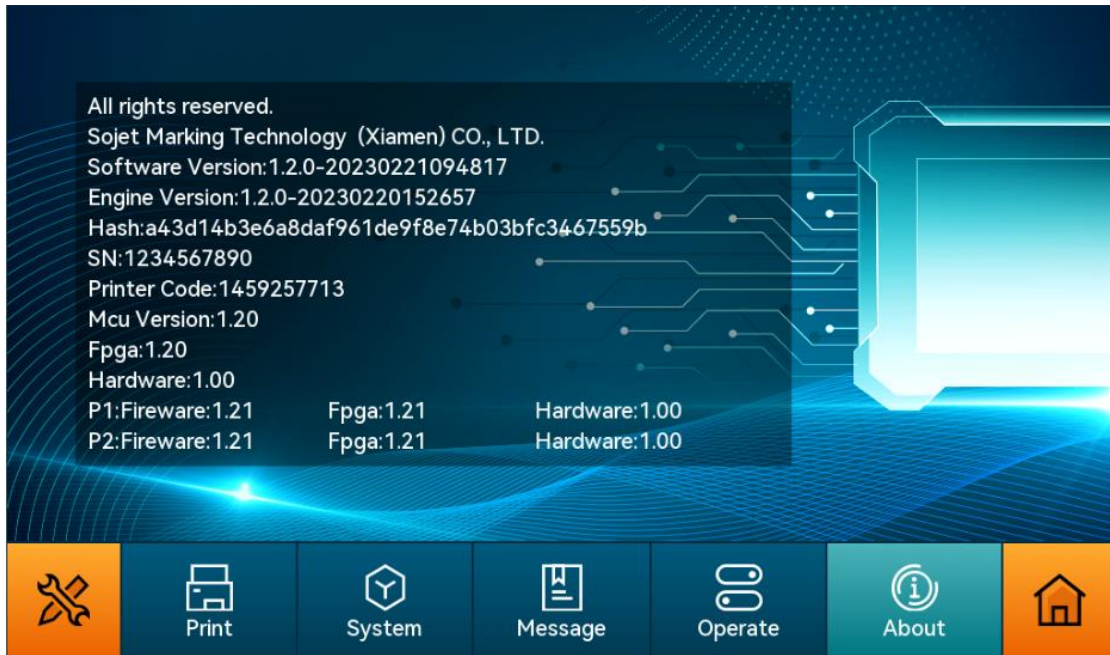
### 3.3.4.3 Edit Configuration



**Message Config:** All function items are enabled by default; if some features are set to off, the function item will not be displayed. User can specify whether the edit message screen shows the [Multiple], [Copy], [Locked] and [Align] function items.

### 3.3.5 About

Show the company website, software version, engine version, serial number, customer code, Mcu version, Fpga version, Hardware version and P1-P4 firmware version.




### 3.4 Tool

#### 3.4.1 Upgrade

##### Upgrade software version:



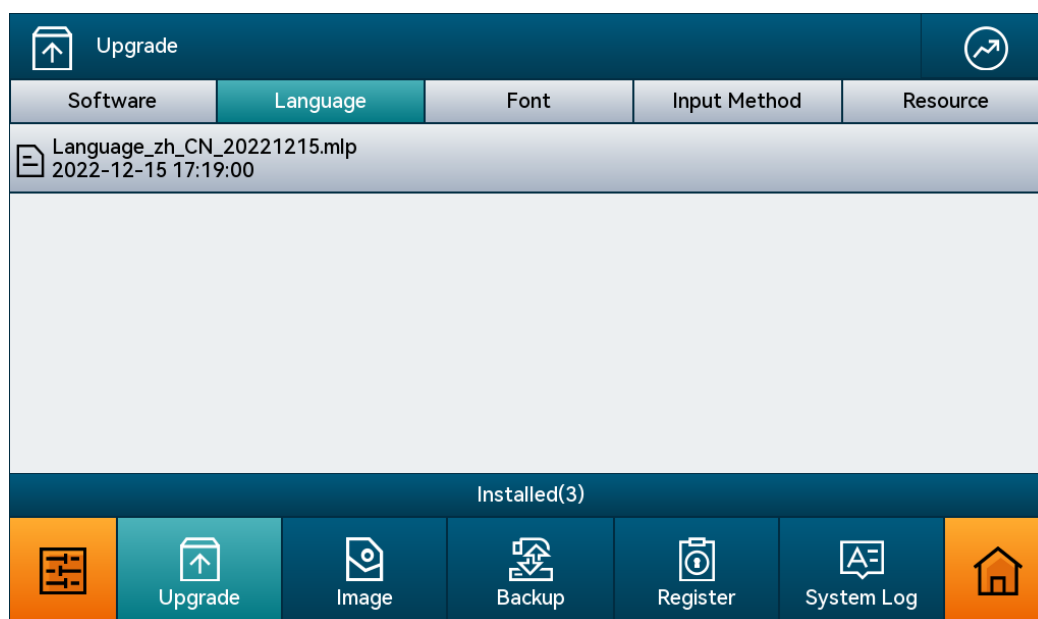
- Copy the installation package to the root directory of the USB disk.
- Insert the USB flash drive into the printer, when the USB flash drive icon in status bar is activated, which indicates that the equipment has identified the USB flash drive.


- Click [Tool]> [Upgrade]> [Software].
- Find the installation package you need to upgrade in the list, and click  in the upper right corner of the interface to start upgrading.
- After successful upgrade, the device will automatically restart. You can enter the **About** interface to check whether the upgraded software version is the one you need.

 **Tips:**

1. Corresponding models can only be upgraded with the appropriate installation package, and attention shall be paid to avoid upgrade errors when upgrading.
2. It is recommended to upgrade the controller together with the printheads to avoid incompatibility between the printhead version and the controller, which may result in printing failure or anomaly.

**Upgrade Language:**




- Insert the USB which containing the upgrade language pack (stored in the USB: Root directory)
- Click [Language], then the language upgrade package in the USB and the installed languages will be displayed in the list below.
- Find the language package you need to upgrade in the list, and click  on the upper right corner of the interface. After upgrading, you can select the upgraded language in [System Settings] [Language].
- The equipment can be upgraded with 3 different languages; click [Installed] to view the

installed languages, or click on the delete icon on the right to delete languages. (The default language cannot be deleted)

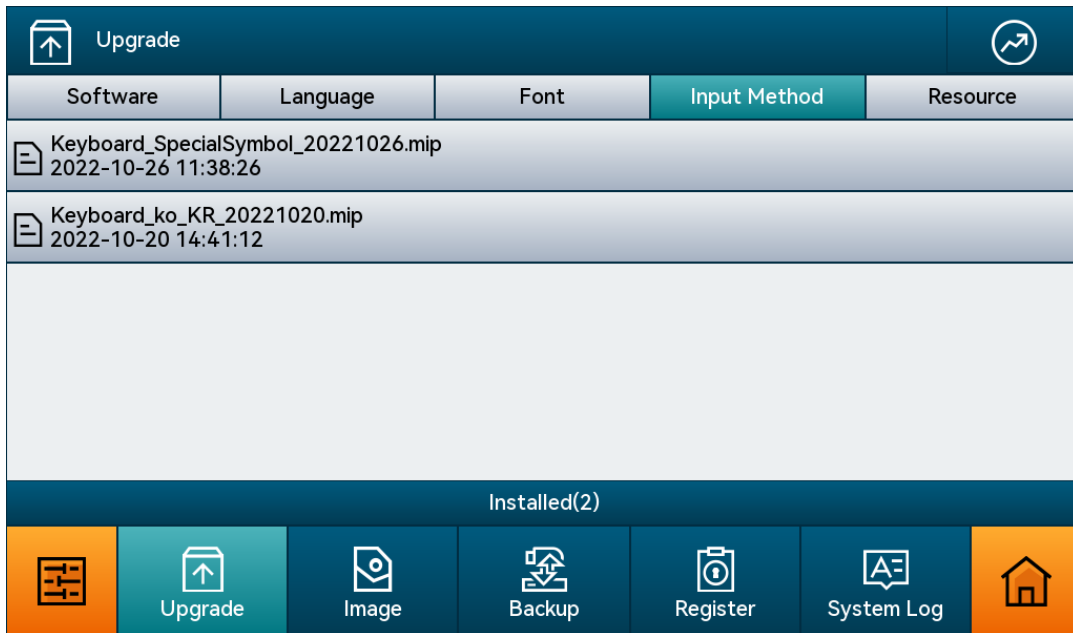
### Upgrade font:




- Insert the USB which contains the upgrade font package. (Stored in the root directory of the USB flash drive)
- Click [Font], and the font upgrade package and installed fonts in the USB will be displayed below.
- Find the font package you need to upgrade in the list and click on  at top right corner of the interface to upgrade; after a successful upgrade, the equipment can choose the upgraded fonts when editing the data.
- The equipment can be upgraded with 3 different fonts; click [Installed] to view the installed fonts, or click on the delete icon on the right to delete fonts. (The default font cannot be deleted)

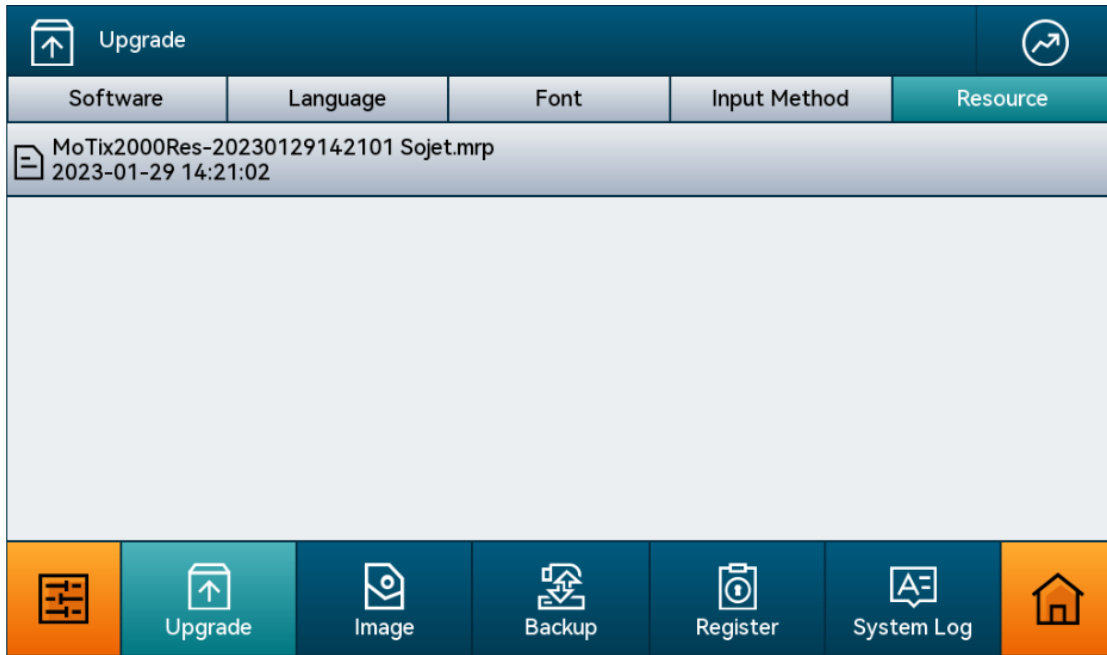



## Upgrade Input Method:



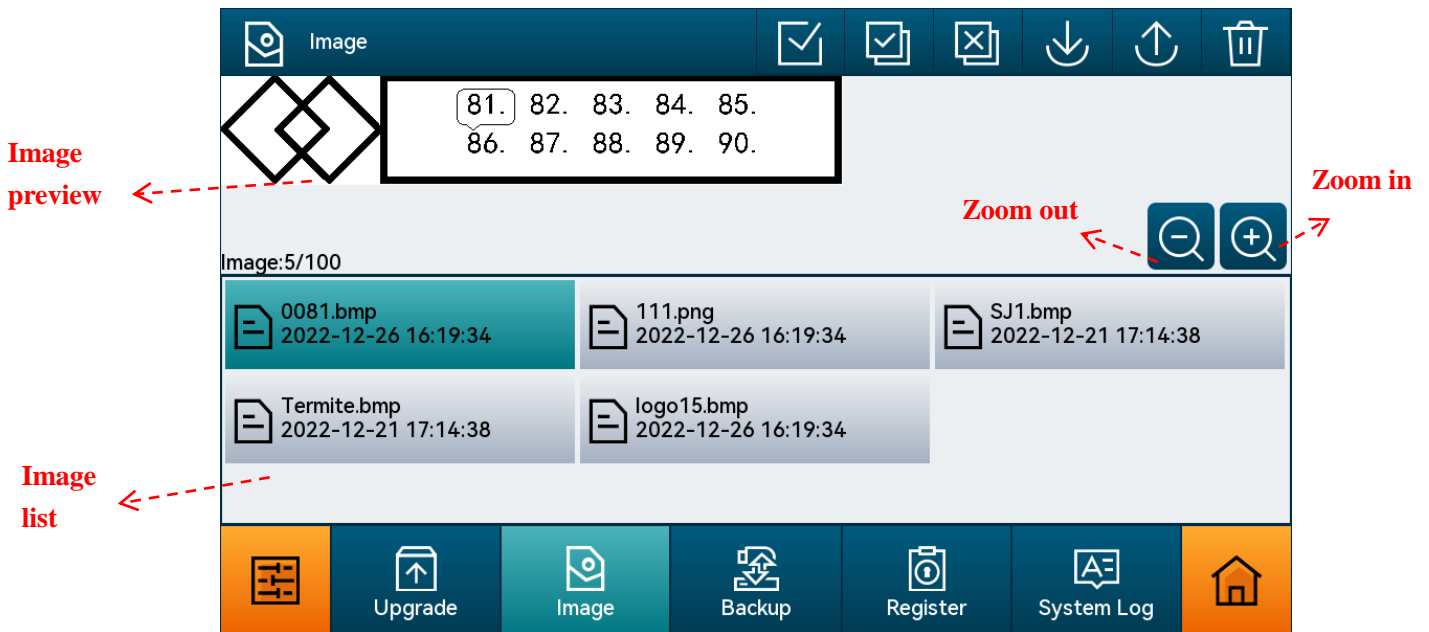
- Insert the USB which contains input method upgrade package (stored in the root directory of the USB flash drive)
- Click [Input Method], the input method upgrade package in the USB and the installed input methods are displayed in the list below.
- Find the input method package you need to upgrade in the list, and click  on the upper right corner of the interface. After successful upgrading, you can switch the input method in the keyboard.
- The equipment can be upgraded with 3 different input methods; click [Installed] to view the installed input methods, or click on the delete icon on the right to delete input methods. (The default input method cannot be deleted)

### Upgrade resources:





- Insert the USB flash drive with resource upgrade package. (Stored in the USB flash drive root directory)
- Click the list below [Resources] to display the resource upgrade package in the USB flash drive.
- Locate the desired resource installation package in the list, and click  in the upper-right corner of the screen for upgrade.

### 3.4.2 Image





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**Image Preview:** Choose an image and the preview area shows the image; click  to zoom out or click  to zoom in; you can scroll up and down the screen to view the image.


**Image List:** The list of imported images is displayed and can be viewed by swiping up or down the screen.


**Import Image:**

- Insert the USB flash drive containing images and click on the import button  in the screen, choose the images and click on [OK] to import them.
- Unable to import the images more than 1200\*10,000 pixels
- Supported image formats: BMP, JPG, PNG.

**Export Image:** Insert the USB, select the images you want to export in the image list, you can select multiple images and click Export , the system will automatically back up the images to USB. (Root directory)

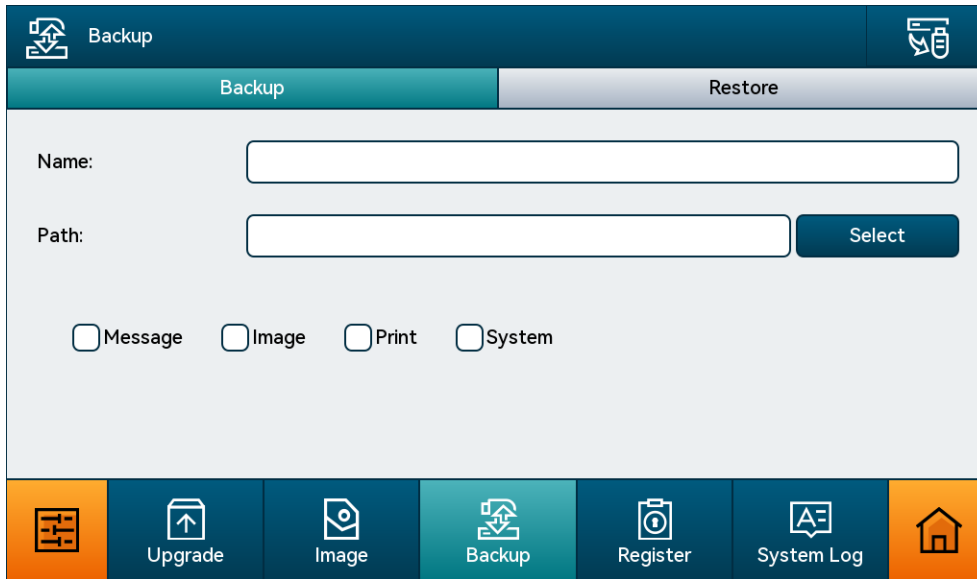
**Delete Image:** Choose the image(s) to be deleted from the list and click the delete button , click [Delete] to delete the image(s), or click [Don't Delete] to retain the image(s).

**All Select:** Click All Select , all images in the list are selected, and can be exported or deleted.


**Select None:** Click No Select , all images in the list will be unselected.

**Multiple Select:** Click the Multiple Selection , and then you can select multiple images in the list at the same time.

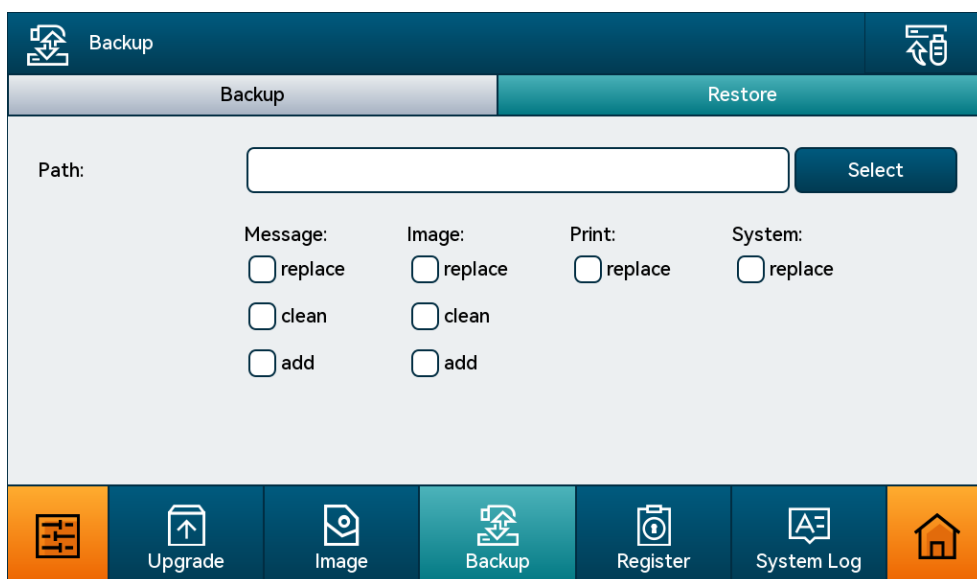
### 3.4.3 Backup and Restore




### Backup:

- Insert the USB, click [Tool]>[Backup]>[Backup]
- Check the options to be backed up, and multiple choices are possible. (The backup will be invalid if none of the options is selected).
- Enter the backup name with a limit of 30 characters. The name can be composed of Chinese, English, numbers, and symbols (except for symbols such as "\:\*?\*<>|"), and cannot be empty.
- Click the key  in the upper right corner of the interface to backup. After the backup is completed, a prompt window will pop up (save path: Customizable).

### Restore:



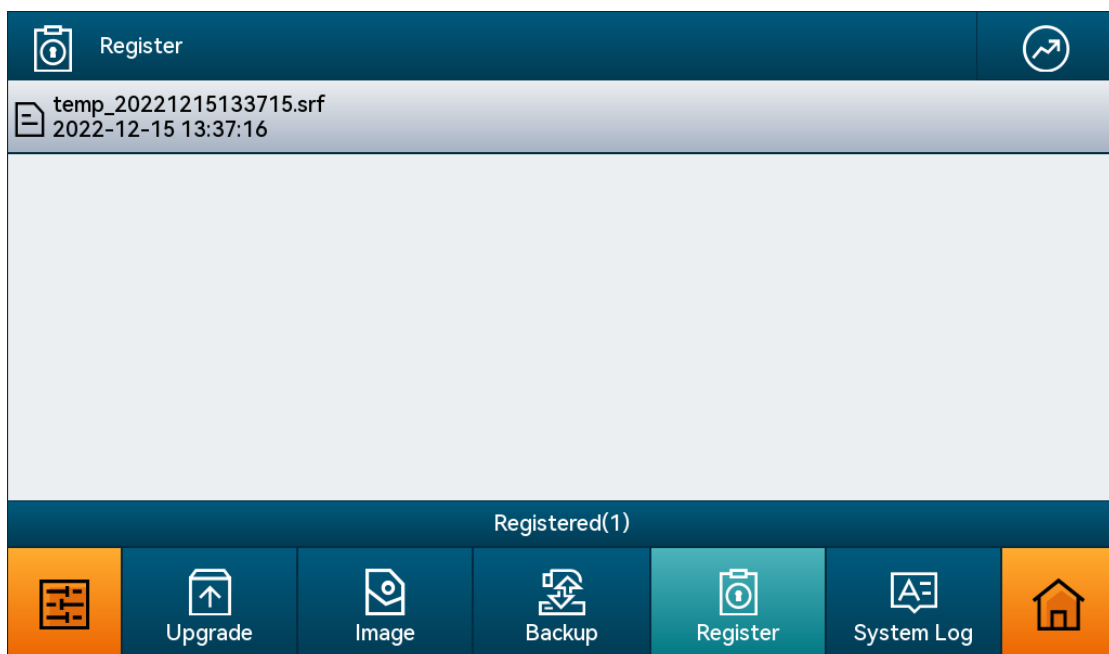
- Store the backup file in the USB, insert the USB and click [Tool]> [Backup]> [Restore]
- Click [Select] to pop up a file box, and select the backup file you want to restore from the file box.
- Select the type of required restoration of single or multiple selections of “data, image, print or system” (Note: Only one corresponding restoration method can be selected; if no selection is made, the corresponding type will not be restored.)
- Click the key  in the upper right corner of the interface for restoration. (Note: Upon a successful restoration of the system parameters, the equipment will automatically reboot, after which the content in the equipment correspond to the restore files.)


	<b>Clear</b>	<b>Replace</b>	<b>Add</b>
<b>Message</b>	All the original data is deleted and only the restore data is displayed.	If the data in the restore file has the same name as the original data, the restore data will replace the original data with the name unchanged, and the data with a different name is imported directly.	If the restore data has the same name as the original data, only the data with a different name will be added, and the data with the same name will not be imported.
<b>Image</b>	All the original images are deleted and only the restore images are displayed.	If an image in the restore file has the same name as the original image, the restore image will replace the original image content with the name unchanged.	If a restore image has the same name as the original image, only the image with a different name will be added, and the image with the same name will not be imported.
<b>Printing</b>		The restore printing parameters replace the original printing parameter settings	
<b>System</b>		The restore system parameters replace the original system parameter settings	



- 
1. The path for storing the restore file is customizable.
  2. Any file whose name is longer than 30 characters or contains symbols “\:\*?<>|” cannot be properly restored.
  3. There is no need to reboot the equipment after successful restoration of data, images or prints, since the equipment automatically restarts upon successful restoration of system parameters.
  4. Restore data includes end-on system, shift teams and date formats.

### 3.4.4 Register



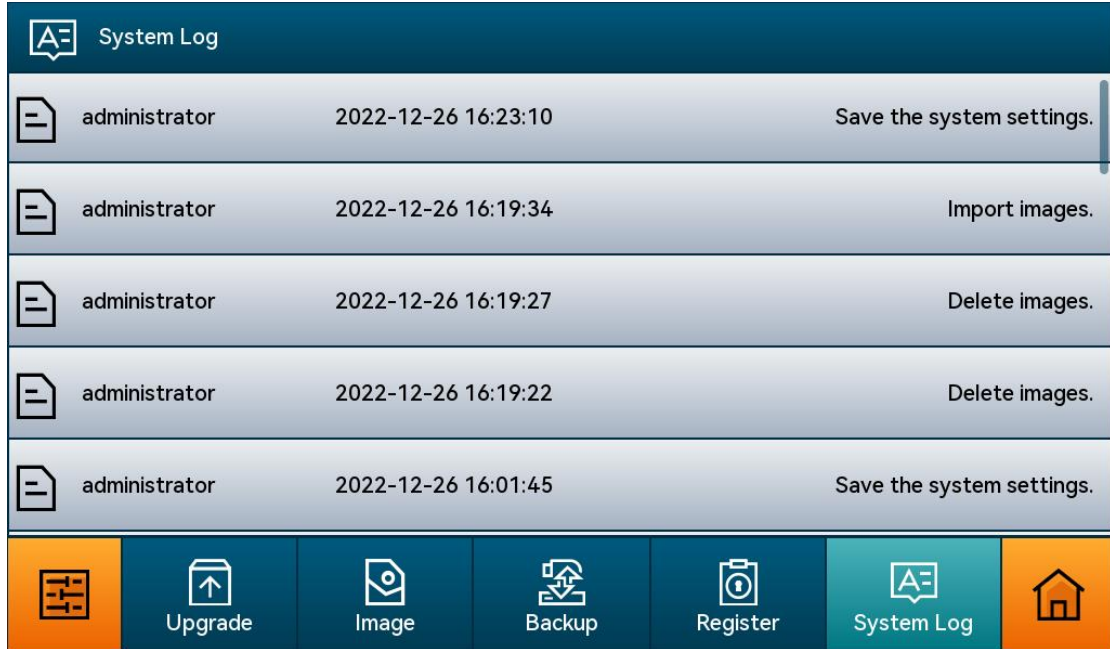
- Insert the USB flash drive with registration package (stored in the USB flash drive root directory)
- Click the list below [Tools > [Register] to show the registration package and installed registration information in the USB flash drive.
- Find the desired registration package in the list, and click on  in the upper right corner of the screen for registration; upon completion of the registration, the registration information in the Registered list can be viewed.



**Tips:** After the registration period expires, the printing function cannot be used and a new registration is needed.

### 3.4.5 Log

The log can record equipment parameter settings, program operation status and other information, which is convenient for technicians to view and locate problems.



System Log		
[-]	administrator	2022-12-26 16:23:10 Save the system settings.
[-]	administrator	2022-12-26 16:19:34 Import images.
[-]	administrator	2022-12-26 16:19:27 Delete images.
[-]	administrator	2022-12-26 16:19:22 Delete images.
[-]	administrator	2022-12-26 16:01:45 Save the system settings.

Bottom navigation bar icons: Upgrade, Image, Backup, Register, System Log, Home.

 **Tips:**



- A maximum of 100 logs can be recorded, after which the new logs overwrite the old ones.

### 3.5 Status Bar



### 3.5.1 Printhead



Click printhead icon  to bring up the printhead information; click on the  icon again to hide it.

- In white: The printheads and cartridges are in normal condition, and there is sufficient ink - Normal state.
- In yellow: Over 95% of the ink consumed - Warning state.
- In red: No cartridge inserted; empty cartridge; unrecognized cartridge; or ink used up - Error state.

Printhead P1	White	P1 cartridge is in normal condition
	Yellow	P1 cartridge is in warning state
	Red	P1 cartridge is in error state
Printhead P2	White	P2 cartridge is in normal condition
	Yellow	P2 cartridge is in warning state
	Red	P2 cartridge is in error state



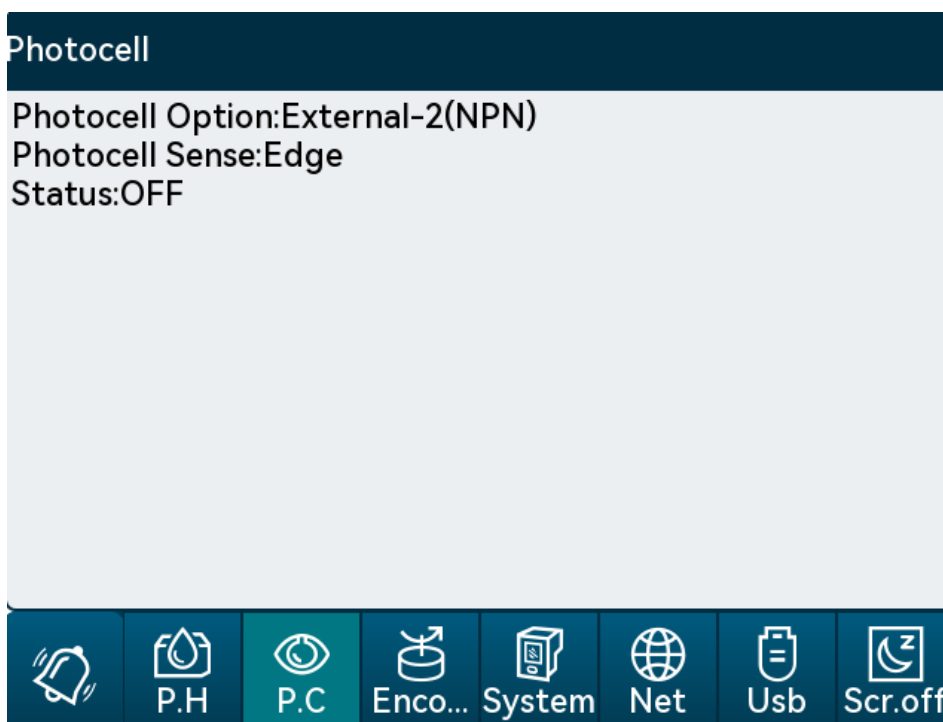
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**Printhead Information:** Printhead state, serial number, sales code, cartridge type, cartridge capacity, and the percentage of ink used, Remaining Prints and Total Prints.


**Pre-purge:** This feature enables customers to clean the nozzles and ensure smooth nozzle passage by stimulating a certain amount of ink at all nozzles at once while the printing is not switched on. (This feature is grayed out when printing is switched on)


**Cleaning:** Click [Clean] with the printing operation disabled, and the corresponding printhead will automatically spray a small amount of ink to moisten the jet; this feature is disabled after printing operation is started.

### 3.5.2 Photocell



White : The equipment is connected to an external or internal sensor, which is properly set up.

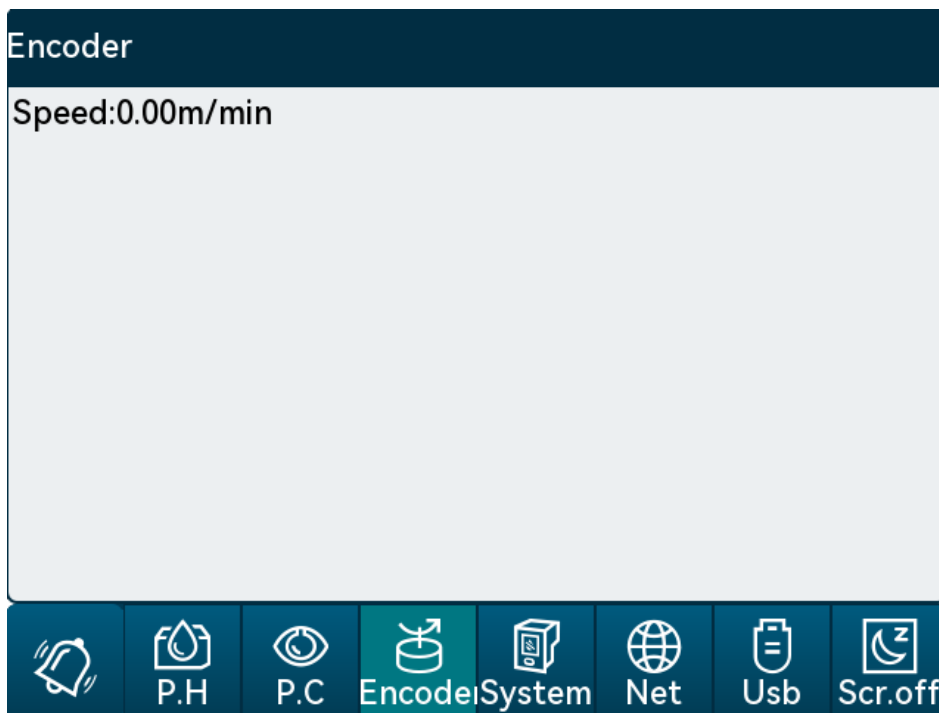
Red : The external sensor is not connected or it's incorrectly configured.


Gray : Set to “No sensor”. (When the sensor icon is grayed out, the sensor information screen cannot be called up.)


#### Photocell status:


- Click the photocell icon to pop up the information interface.
- Photocell Option: Show the currently type of the sensor
- Photocell Sense: Show the currently sensor trigger type
- Status: “ON” is displayed when a photocell is sensed, and “OFF” displayed when the photocell is not sensed. The corresponding state is displayed according to the test result of photocell.

### 3.5.3 Encoder



White : The equipment is connected to the encoder.

Red : No encoder is connected or the encoder is incorrectly configured.

Gray : Set to “No Encoder”. (When the encoder icon is grayed out, the encoder information screen cannot be called up.)



#### Encoder Testing:

- Click the encoder icon to pop up the Encoder Testing interface
- Speed: The production line speed is displayed as 0 when the encoder is not rolled; the

current production line speed is displayed after the encoder is turned.

### 3.5.4 System State

System Status: Print Stop		
Encoder Option: 2Phase Engine: OK	Encoder Resolution: 300	Cache Limit: 10
P.H Combination:	Group1	Group2
PH:	P1/P2	None
Direction:	L to R	L to R
Hor Resolution:	300	300
Nozzle:	All	All
Pre-purge:	Never	Never

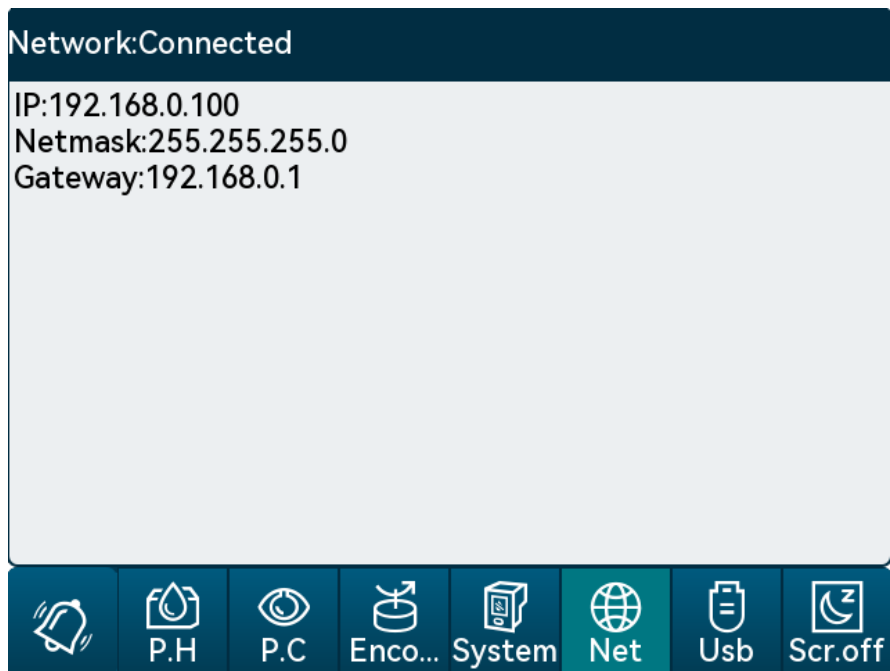
Click system state icon  in the status bar to bring up the system information; click on the  icon again to hide it.

**System Status:** Show the current state of the equipment (printing not on/printing in progress)


#### **Display System Information:**

Encoder, encoder resolution, cache limit, engine, combination state, printing direction, horizontal resolution, nozzle, pre-purge and so on.

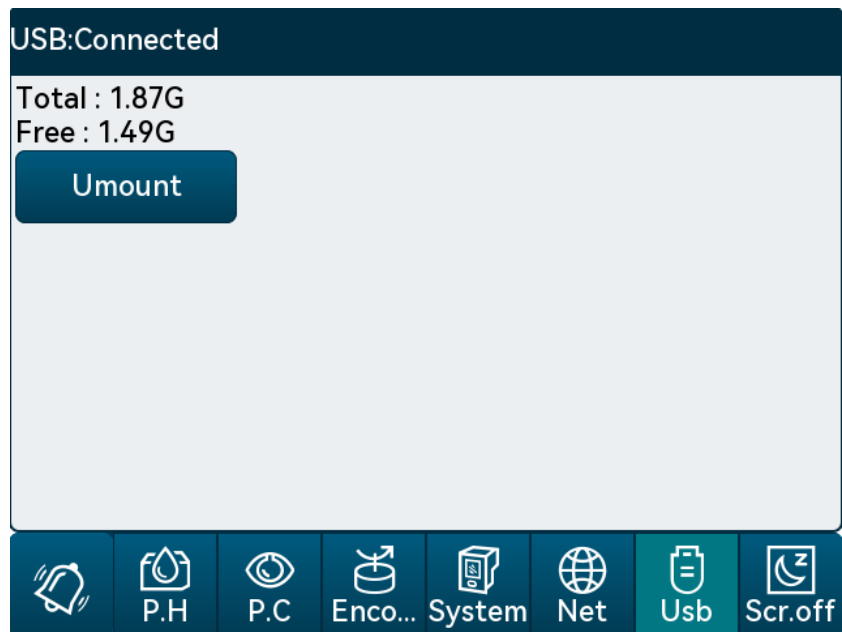
### 3.5.5 Network




White  : Network accessed.


Gray  : Network not accessed (When the network icon is grayed out, the network information screen cannot be called up.)



### 3.5.6 USB Flash Drive



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White : The USB flash drive has been inserted and the equipment has identified it.


Gray : The USB flash drive is not inserted or the equipment does not identify it. (When the USB flash drive icon is grayed out, the USB flash drive information screen cannot be called up.)

Insert the USB flash drive. The icon turns to white after the equipment identifies it. Click icon  to bring up the USB flash drive information; click on the  icon again to hide the interface.

**Information displayed:** USB flash drive connection state, total capacity of USB flash drive, and remaining capacity of USB flash drive.

**Pop-up:** Click [Umount] to hide the USB flash drive information screen, when the USB flash drive icon is grayed out, at which point the USB flash drive can be removed safely.

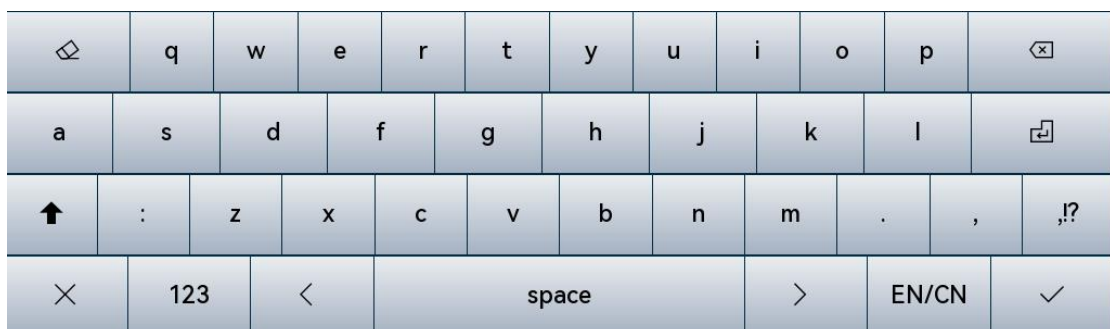
### 3.5.7 Screen Off


Click on screen off icon  to put the equipment into a screen saver state; the screen can be activated by clicking anywhere on it.

## 3.6 Input Method Introduction

When you enter a value in the input field, the system interface automatically pops up an input keyboard, by which you can enter uppercase English, Chinese, lowercase English, numbers, common symbols, and third-party input methods (only Chinese/English input method is available by default, users can install third-party input methods as needed).

Lowercase English: When a keyboard pops up, the system defaults to lowercase English input, as shown in the figure below.



Uppercase letters: switch between uppercase and lowercase by using .

+/-	1	2	3	⊗
.	4	5	6	⊗
,	7	8	9	⊗
×	┌	0	↶	✓

Digital: Switch to digital input by pressing 123.

_	0	1	2	3	4	5	6	7	8	9	⊗		
&	+	-	/	*	=	%	!	?	#	<	>	.	,
^		\	@	\$	(	)	{	}	[	]	;	"	'
×	123	<						>	↶	✓			


Symbol: switch to symbol input by pressing ,!?;;


⊗	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	。	,	:	,!/?;
×	123	<	空格				>	CN/EN	✓			

Chinese: switch to Chinese or English input by pressing EN/CN CN/EN ;


<	>	{	}	€	¥	£	°C	°F	°	⊗	
±	Φ	?	!	:	~	《	》	(	)	—	⊗
.....	,	.	“	”	‘	’	;	【	】		
×	123	,					。	↶	✓		


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Chinese symbols: Switch to symbol input with  button in the Chinese input keyboard.


: Delete one per click.


: Erase all.


: English associative input keyboard interface; click on this key to enter the selected letters directly.

: Move the cursor forward.

: Move the cursor backward.

: Return to the previous keyboard level.

: Exit the keyboard. (Note that clicking this key to exit the keyboard does not save the current input change.)

: Save the current input and exit the keyboard.

## 4. Maintenance and Care of Inkjet Printer

The inkjet printer is a kind of precision equipment, and may suffer various failures and lead to inconveniences to production if daily maintenance is not performed timely and properly. In order to prolong its service life and increase the utilization rate and intact rate, special personnel should be arranged for management and maintenance.

### 4.1 Maintenance and Care of Inkjet Printer

- Clean the ink cartridge and wipe the nozzle surface with a non-woven cloth to keep it clean and unobstructed (according to the care for ink cartridge maintenance).
- Keep the touch screen clean and never hit it with hard objects.
- Keep the surface and all interfaces of the equipment clean.
- Turn on the printer and confirm whether the status bar is displayed normally, and whether there

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is an alarm prompt. (If any, please refer to common problems and solutions)

- After the printer is turned off, be sure to pull out the ink cartridge. Wipe the nozzle surface with a non-woven cloth, and cover the nozzle with a specific cap to prevent clogging and store it in a safe place (according to the care for ink cartridge maintenance).

## 4.2 Maintenance and Care of Ink Cartridge

Correct use and preservation can keep the ink cartridges with the best printing effect and prolong the service life of the inks. Please strictly follow our instructions for ink cartridge maintenance. (The problems or faults caused by your failure to strictly follow our maintenance instructions for ink cartridge will be regarded as your mis-operation, and we shall have no responsibility for such problems or faults.)

- Unopened ink cartridges should be kept in our original unopened packaging until you want to use them. The ink will inevitably evaporate slowly from the cartridge when the ink is exposed to air after the cartridge is unsealed. Therefore, the ink cartridge in the original unopened package can be stored for a longer time.

- Once the ink cartridge is unsealed, it is recommended to use up the ink as soon as possible to avoid nozzle clogging because the nozzle is subject to a limited non-drying period.



Due to the different characteristics of different ink models, the ink may differ in the drying time and maintenance methods. For details, please consult our after-sales service personnel.

- The ink cartridge that cannot be used up after unsealing must be taken out of the printer when it is not in use, and cover the cartridge with the cap provided by our company and place it in a sealed container (at room temperature).



Do not use tape to seal the ink cartridge, nor put the ink cartridge in a soft plastic bag.

- The surface of the nozzle is particularly delicate. To avoid scratches on the nozzle, do not touch or wipe the nozzle with hard or rough objects.

- Please wipe the nozzle with the non-woven cloth purchased from our company.

Note: The nozzles should be wiped in the direction with the wiping cloth flat on the table and the nozzle facing down, and wiped vertically along the two rows of nozzles. Never wipe the nozzle horizontally, which may cause damage to the nozzle.



•Do not shake the ink cartridge or place the cartridge in a place prone to vibration, which may cause bubbles in the cartridge to affect the printing quality due to jitter.

In order to get the best printing quality, please contact our after-sales service staff for more instructions on ink usage, depending on different ink types, specifications, detailed precautions, and maintenance.

## 5. Appendix 1 Terms

No.	Terms	Term Description	Remarks
1	Front delay	Refers to the distance between the object's being sensed by the photocell and the start of printing, which is convenient for users to adjust the location of the printing content on the print object.	If the delay before printing is set to 30 mm, the sensor will be sensed and the printing be started after 30 mm from the synchronizer activation.
2	Rear delay	The printing distance after an object leaves the sensor, which makes it easier for users to prevent the printing from contaminating the production line. (Note: When setting the post-delay, the photocell trigger type must be set to "level trigger" so as to bring the delay into effect.)	If the delay after printing is set to 30 mm, the printhead will print for a length of 30 mm when the synchronizer is pulled by 30 mm after the object leaves the sensor; if the data is not finished after 30 mm, then the remainder will not be printed.
3	Q sensor	The sensor is sensed when the synchronizer moves; the maximum number of sensor signals that can be saved before printing begins:	Maximum 3 Q sensor signals for MoTix printers. In the event of small-sized print objects, the sensor is not recommended to be set up too far away from the printhead (no more than 3 objects in length); otherwise, the printing effect may appear exceptional.
4	Horizontal resolution	Set the printing resolution; this setting is used to adjust the darkness of printing.	<p>① The smaller the horizontal resolution, the lighter the print; the larger the horizontal resolution, the more intense the print.</p> <p>② The higher the horizontal resolution, the slower the production line speed that the</p>

			equipment can accommodate.
5	Start value	Set the starting value of the counter in the print message	For example, set the start value of print to 9, it means to start printing from 9 when printing is enabled.
6	Zero point reset	Customers can set a certain time to change the day	<p>If the zero point is set to “08:00” and the date of the day is July 10, then the printing date before 07:59, July 10 will be regarded as July 9, and the printing date after 8:00 is regarded as July 10;</p> <p>If the zero point is set to 12:00, the printing date before 12:00 is regarded as July 10, and the printing date after 12:00 is regarded as July 11.</p>
7	Pre-purge	During the use, due to different ink characteristics, the nozzles of the print head will dry up to a varying degree, which will cause the first half of the first character to be blurred during printing.	To avoid this, users may turn on the “pre-purge” feature; upon start of the printing, based on the pre-purge parameters predefined depending on ink type, a very small number of ink drops are stimulated within the interval of printing so that the nozzles are warmed up and wetted, thereby avoiding the blurring of the first character.
8	Clean	By using this function, the customer can enable all nozzles stimulate a certain amount of ink at one time	Clean the nozzles and ensure the nozzle unclogged.
9	Switch Nozzle	Depending on the printing needs and nozzle usage, customers can switch between different nozzle channels to achieve the best printing effect.	In case of single-nozzle, when the left nozzle is missing or damaged, you can switch to the right nozzle; if the customer wants a darker printing density, you can switch to double-nozzle (the left and right nozzles work simultaneously) to achieve the best effect.
10	Multiple prints	When the “multiple prints” feature is enabled, the corresponding number of prints can be done at intervals depending on the set number of	For example, if the number of prints is set to 5, the sensor should be set to “edge trigger”; if the sensor is sensed once upon start of the printing, 5 consecutive prints can be made at the set

		prints and intervals every time the sensor is sensed.	printing intervals.
11	Continuous printing	When the continuous printing is enabled, the data printing can be performed continuously at the set printing interval if the sensor is sensed once or continuously (depending on the type of photocell trigger).	If the sensor is set to “edge trigger, when the photocell is sensed once upon start of the printing, continuous prints can be made at the set printing intervals.
12	Printing interval	Distance from the end of the data to the beginning of the following data	Since the physical spacing between the left and right nozzles of cartridge is 4.2 mm, the nozzle interval will be 4.2 mm in printing even if the printing interval is set to 0 mm in the case of double injection, alternating injection or over-injection for continuous printing and multiple prints; users who seek a seamless print effect are advised to use single-nozzle printing.
13	Offset	The articulation of the printhead X/Y axis stitching is adjusted by setting the X/Y parameters for each printhead.	<ul style="list-style-type: none"> <li>① The Offset option can be set only in the printhead combination mode.</li> <li>② For Offset Adjustment, the head combination must be so installed that it's parallel/perpendicular to the production line; otherwise, printing dislocation may occur.</li> <li>③ The X-axis offset adjustment is opposed to the number axis; with the P1→P2 offset adjustment as an example: When the X-axis is positive, the data printed by printhead P2 moves to the left relative to P1; when the X-axis is negative, the data printed by printhead P2 moves to the right</li> </ul>

			relative to P1. ④ Adjust the Y-axis offset in the printing state; it takes effect only after the cache is finished.
14	Screen saver time	Screen power-saving function. When the set screen-saver time is expired, the screen will be turned off and automatically enter the dormant state.	If this value is set to 5 minutes, the screen will automatically enter the dormant state when no operation is made within 5 minutes.

## 6. Appendix 2 FAQ



### **Note:**

- The following are only common faults and solutions. In case of other faults, please contact your local agent or our after-sales service department;
- According to the customer's on-site installation environment and operation requirements, the cause of failures and solutions will be different, and the methods are for reference only.

### 6.1 Common Problems of Ink Cartridge and Solutions

S/N	Common Problems	Problem Analysis	Solution	Remarks
1	Printing with short or white lines	1. Part of the nozzle is blocked or damaged	Refer to 4.2 Maintenance and Care of Ink Cartridge, wipe the nozzle clean with a non-woven cloth	If the problem is still not resolved: 1. Check whether the contact of the drive board is too recessed to pop up 2. Check whether the contacts of the cartridge are dirty
		2. Poor contact between the cartridge and the printer	Reseat the ink cartridge	
2	The front part is completely printed, but the rear part is only partially printed.	Insufficient ink supply, and air found in the ink cartridge	A. Confirm whether the ink is almost used up B. Send it back to our company for testing	

3	The ink cartridge cannot be printed at all	The ink cartridge has been used up and the nozzle is severely clogged	Confirm whether the ink is used up	
4	The ink cartridge cannot be recognized	1. Poor contact or damage to the printer contacts	Reseat the ink cartridge	Please check if: 1. The drive plate pops up 2. The ISM card contacts are dirty 3. The contact of the ISM card socket is too recessed to pop up
		2. Wrong customer code for the cartridge	Replace with a new one	

## 6.2 Common Problems of Inkjet Printer and Solutions

S/N	Common Problems	Problem Analysis	Solution	Remarks
1	Unable to start up	1. The printer has no power input	Confirm whether the power supply is continuous	
		2. The printer switch is not turned on	Make sure the power switch indicator lamp is “on”.	
		3. Equipment damage	Contact your local agent or our after-sales service department	
2	Unable to print	1. Printing is not enabled	Confirm whether the printing status is shown as “Start Printing”	
		2. No printing messages	Select a message and click “Start Printing”.	
		3. Long print delay causes delay value set too big.	Check whether the print delay is normal	
		4. No ink cartridges	Install ink cartridges	
		5. There are ink cartridges, but the ink cartridges are used up or damaged	Confirm whether the ink cartridge is used up or the customer code is wrong	Replace with a new one if the ink cartridge is used up or the code is wrong.
		6. No photocell signal	Sense the photocell, and check whether the output counter is running at the print report interface	Click the photocell icon in the status bar to enter the photocell test interface and test whether the photocell is in normal condition.

