



# **THERMAL INKJET PRINTER CM600**

## **USER MANUAL**

29th October 2024 Edited V2.0

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# 1.SAFETY INFORMATION

## 1) Consumables use

Overall, there are usually two types of consumables, one is water-base ink and the other is solvent-base ink. For each one ink purchased through normal channels is certified for safety including the cleaner. The operator can get all details of the ink from equipment sales company.

Nevertheless, we still insist that all operators wear protective gear such as goggles and gloves when coming into contact with consumables. If ink enters the eyes or body, seek medical help immediately.

Refer to the consumables manual for proper ink storage.

## 2) Electricity safety and regulations

Check the nameplate to learn the electrical specifications. Any non-standard electrical behavior is dangerous.

Ensure that all personnel involved in circuit inspection and maintenance have received professional training and are aware of the dangers that may arise from violating operating procedures.

It is strictly prohibited to use alternative power sources to power equipment.

Incompatible power sources pose a risk of abnormality and will not receive any compensation.

## 3) Equipment operation

Before starting any operation, please read this manual first. If the operator are not clear about the consequences of the operation, please consult a device technical expert first.

# 2.EMERGENCY CASE

For emergency situations, e.g. smoke coming out of printer, uncontrollable continuous printing, fire, explosive sounds, etc.

**PLEASE REMOVE THE POWER SUPPLY IMMEDIATELY!**

# 3.ENVIRONMENTAL PROTECTION

Don't throw printer or ink cartridges into regular garbage or recycling bins. Ensure proper disposal (e.g. electronic waste) in accordance with local laws.

# 4.PRODUCT WARRANTY

Limited warranty. The housing and circuit board for each printer is warranted to be free from defects in materials and workmanship for a period of twelve months from the bill of lading date. This limited warranty does not apply to spare parts, authorized inks, or cartridges, or to housings and circuit boards that experience problems resulting from misuse, tampering or improper storage,

**The warranty expires under the following circumstances:**

- Any non-original parts and unapproved OEM inks are used.
- The product has been altered or modified without approval from us.
- Printhead damage is a result of improper installation.
- Damage occurs from an accident, such as but not limited to, being dropped, being sprayed with water or other liquids, caused by a natural disaster, caused by stocking or shipping conditions.

- Unapproved, wrong or unstable power supply is used.

## 5. TECHNICAL SPECIFICATIONS

Date Sheet for 1/2 inch system

| NO | DESCRIPTION                 | SPECIFICATIONS   |
|----|-----------------------------|--|
| 1  | Model                       | CM610/CM620/CM640  |
| 2  | Printhead number            | Maximum 2 for CM610/CM620<br>Maximum 4 for CM640   |
| 3  | Guide plate kit             | Guide plate kit for single head (C2.WJ.QT0077B)<br>Guide plate kit for double head (C2.WJ.QT0078B)<br>Guide plate kit for quadruple head (C2.WJ.QT0105B)                                   |
| 3  | Controller Weight/Dim.      | <ul style="list-style-type: none"> <li>● 1.15Kg</li> <li>● L204mm, W153mm, D52mm</li> </ul>  |
| 4  | Printhead Weight/Dim.       | <ul style="list-style-type: none"> <li>● 280g(Net weight, without guide plate and cartridge)</li> <li>● G130mm, W32mm, L84mm<br/>(With single guide plate and fitted cartridge)</li> </ul> |
| 5  | Power supply                | DC 12V-4A  |
| 6  | Maximum power consumption   | 48W  |
| 7  | Maximum printing resolution | 600*300 Dpi  |
| 8  | Optional resolution         | 4 levels   |
| 9  | Operation                   | 7" Touch Screen  |
| 10 | Message memory              | 2G   |
| 11 | Ink solution                | Water and Solvent/ based   |
| 12 | Menu language               | Multiple/ selectable   |
| 13 | Printable characters        | Windows true fonts   |
| 14 | No. of lines                | Unlimited  |
| 15 | Character height            | Maximum 12.7mm/ 0.5inc for single head   |
| 16 | Printability                | Text, image, barcode, counter, shift code, time  |
| 17 | Operating temperature       | 5 °C -50 °C and 0-90% air humidity, non-condensing   |
| 18 | External connections        | External sensor, External encoder and Alarm beacons  |

### Date Sheet for 1 inch system

| NO | DESCRIPTION                 | SPECIFICATIONS  |
|----|-----------------------------|---|
| 1  | Model                       | CM610T/CM620T/CM640T  |
| 2  | Printhead number            | Maximum 2 for CM610T/CM620T<br>Maximum 4 for CM640T   |
| 3  | Guide plate kit             | Guide plate kit for single head (C2.WJ.QT0077C)<br>Guide plate kit for double head (C2.WJ.QT0078C)<br>Guide plate kit for quadruple head (C2.WJ.QT0105C)  |
| 3  | Controller Weight/Dim.      | <ul style="list-style-type: none"> <li>● 1.15Kg</li> <li>● L204mm, W153mm, D52mm</li> </ul>   |
| 4  | Printhead Weight/Dim.       | <ul style="list-style-type: none"> <li>● I 310g(Net weight, without guide plate and cartridge)</li> <li>● I H130mm, W32mm, L96mm</li> <li>● (With single guide plate and fitted cartridge)</li> </ul> |
| 5  | Power supply                | DC 12V-4A   |
| 6  | Maximum power consumption   | 48W   |
| 7  | Maximum printing resolution | 600*300 Dpi   |
| 8  | Optional resolution         | 4 levels  |
| 9  | Operation                   | 7" Touch Screen   |
| 10 | Message memory              | 2G  |
| 11 | Ink solution type           | Water/Solvent based   |
| 12 | Menu language               | Multiple/ selectable  |
| 13 | Printable characters        | Windows true fonts  |
| 14 | No. of lines                | Unlimited   |
| 15 | Character height            | Maximum 25.4mm/ 1 inch for single head  |
| 16 | Printability                | Text, image, barcode, counter, shift code, time   |
| 17 | Operating temperature       | 5°C -50°C and 0-90% air humidity, non-condensing  |
| 18 | External connections        | External sensor, External encoder and Alarm beacons   |

#### Resolutions For Both Model

| Available DPI-X and DPI-Y Values |     |     |     |     |
|----------------------------------|-----|-----|-----|-----|
| DPI-X                            | 150 | 200 | 300 | 600 |
| DPI-Y                            | 75  | 100 | 150 | 300 |

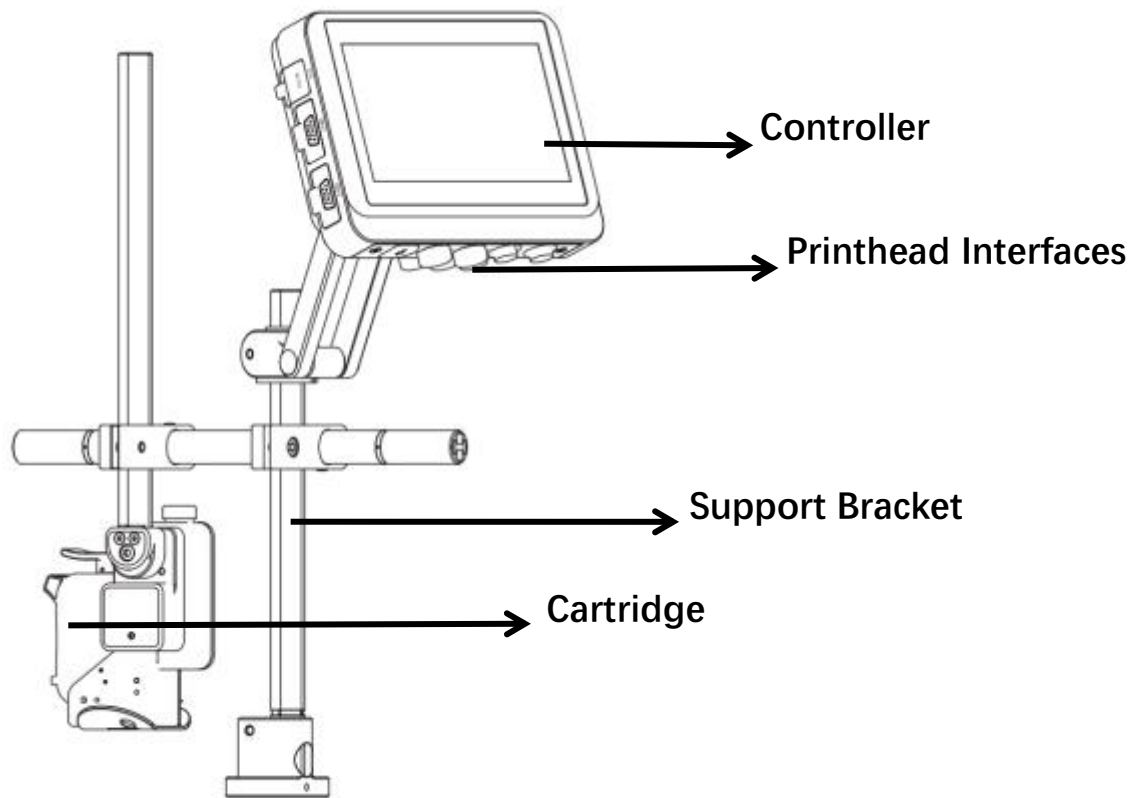
#### Print Speed For Both Model

| Resolution<br>( DPI-X *<br>DPI-Y) | 150*300 | 200*300 | 300*300 | 600*300 |
|-----------------------------------|---------|---------|---------|---------|
| Print Speed<br>(m/min)            | 150     | 114     | 76      | 38      |

Note: DPI-Y value does not affect the printing speed.

## 6.PRINTER OVERVIEW

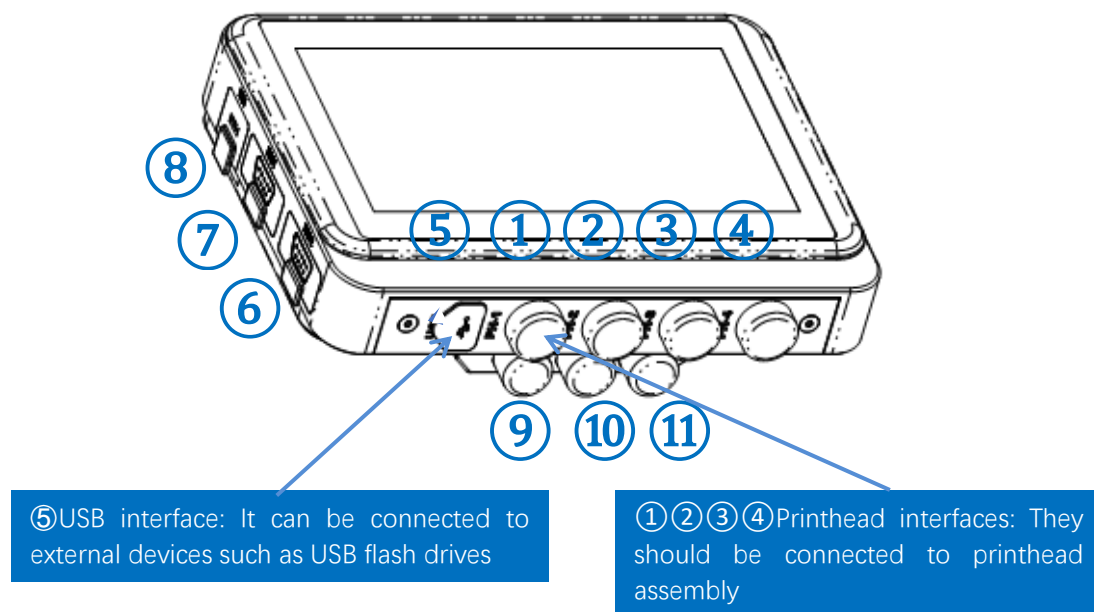
### 6.1 Overview



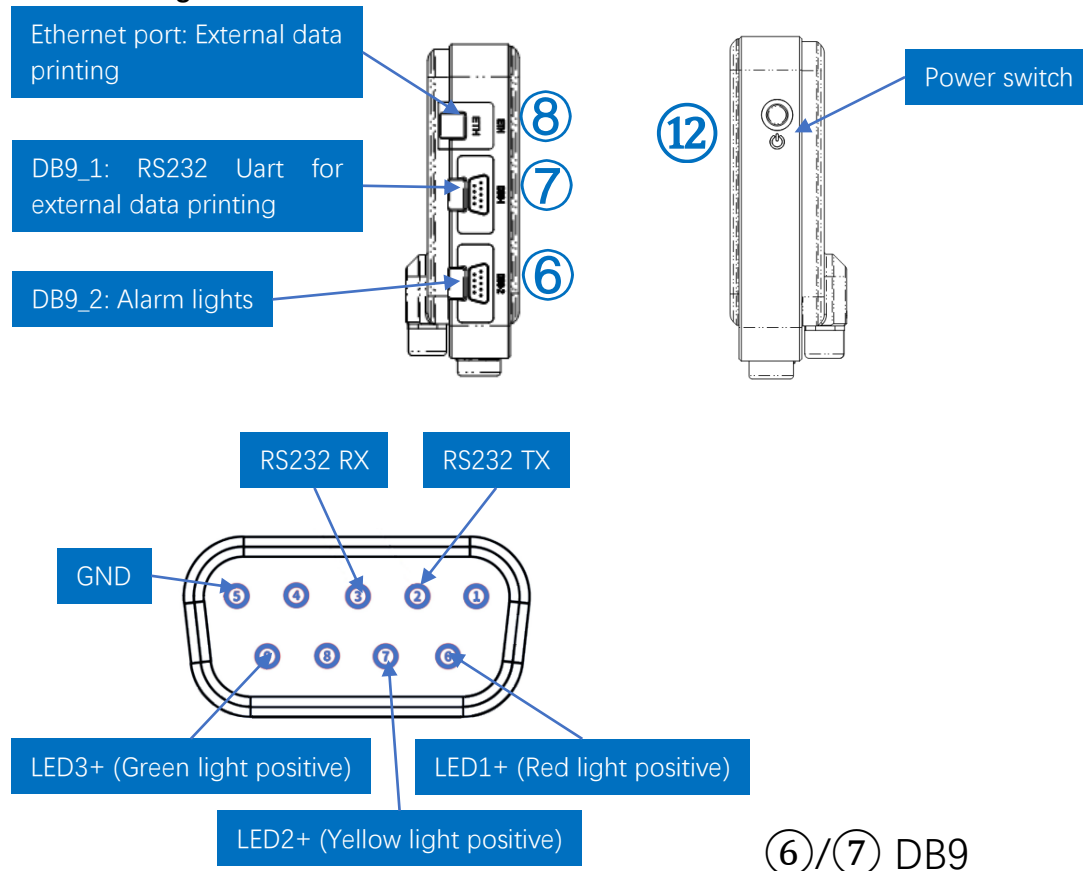


## 6.2 Controller

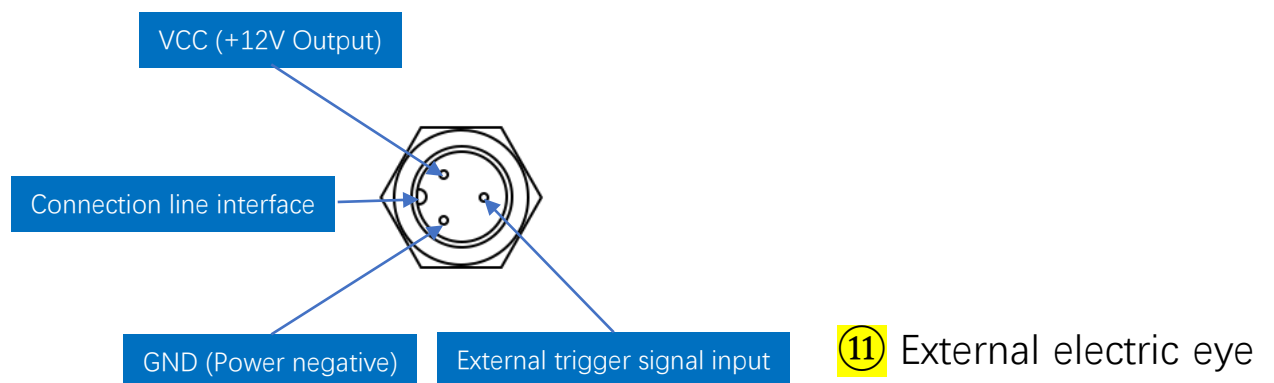
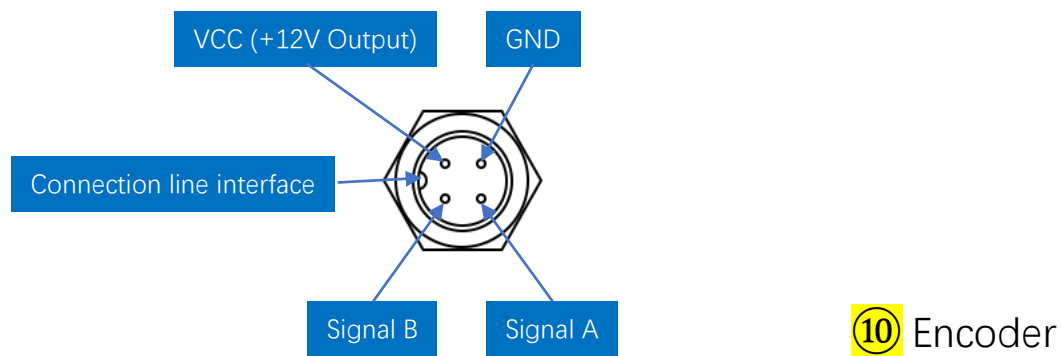
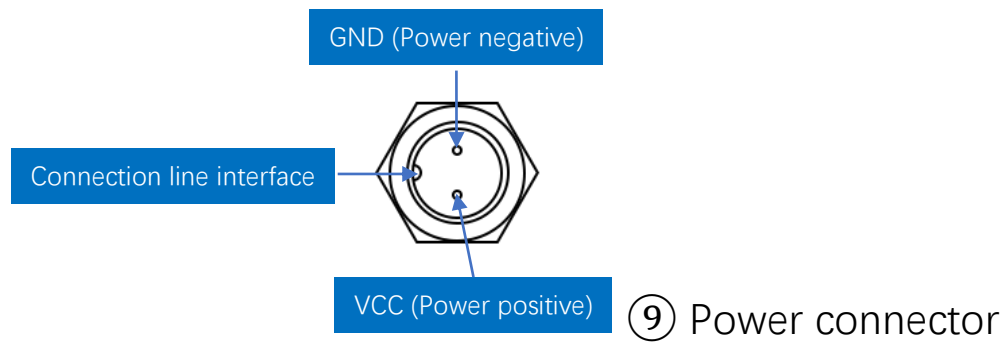
### 6.2.1 Front side



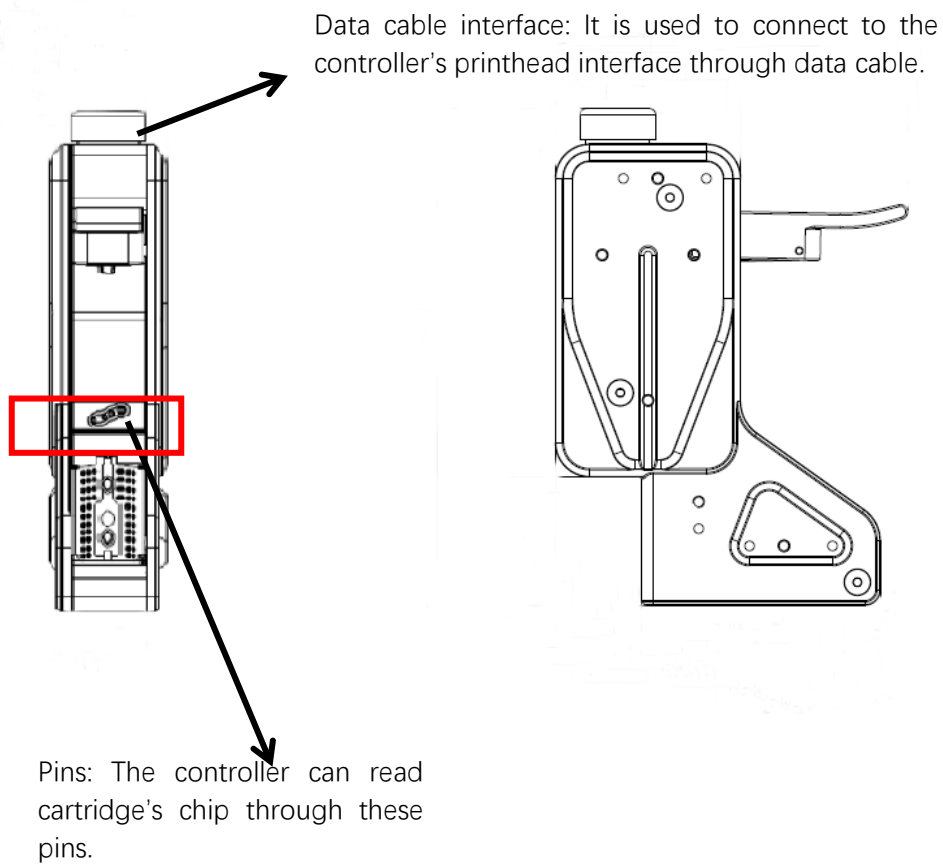
### 6.2.2 Left&Right side



### 6.2.3 Bottom

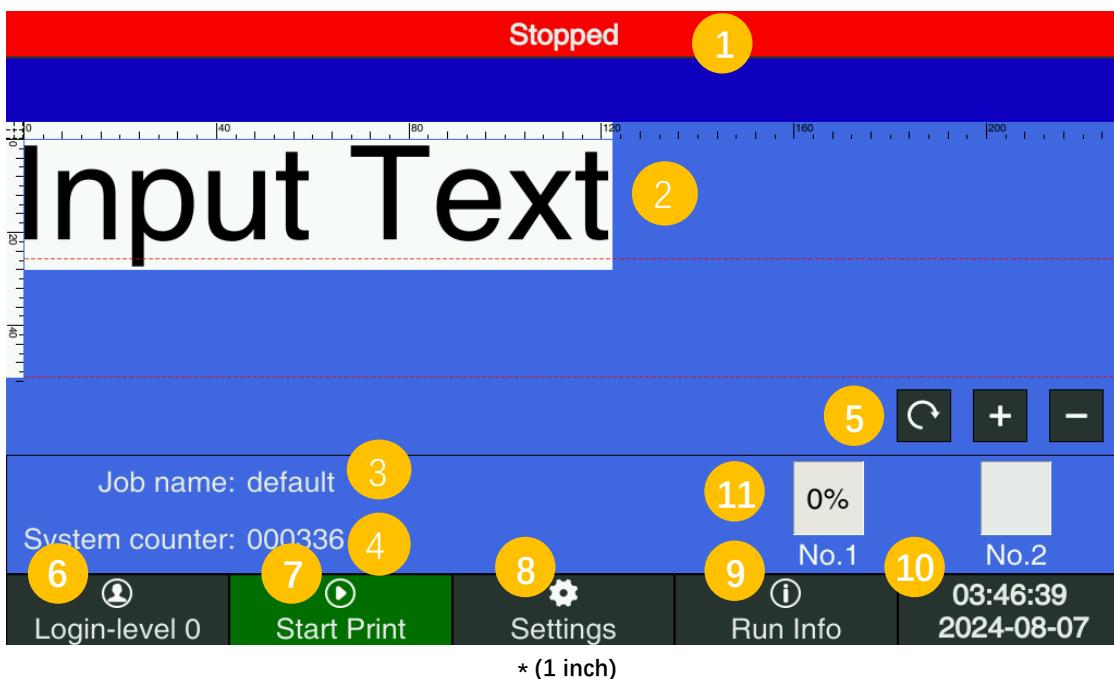
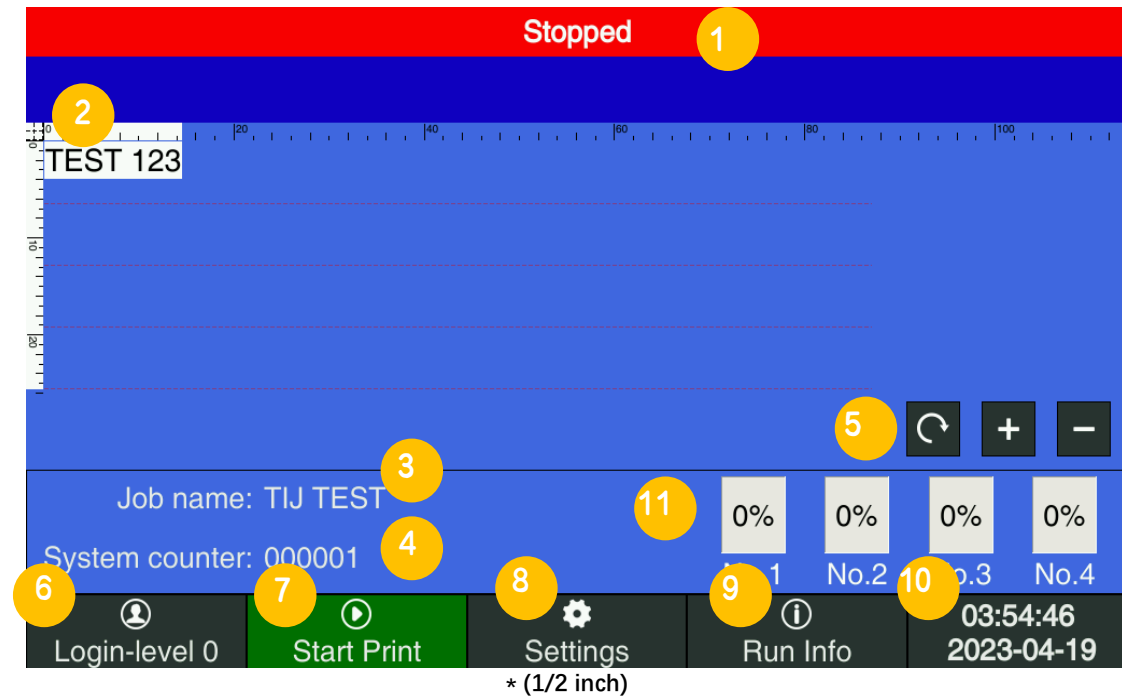


## 6.3 Printhead Assembly



## 7.SOFTWARE USING

### 7.1 Main interface

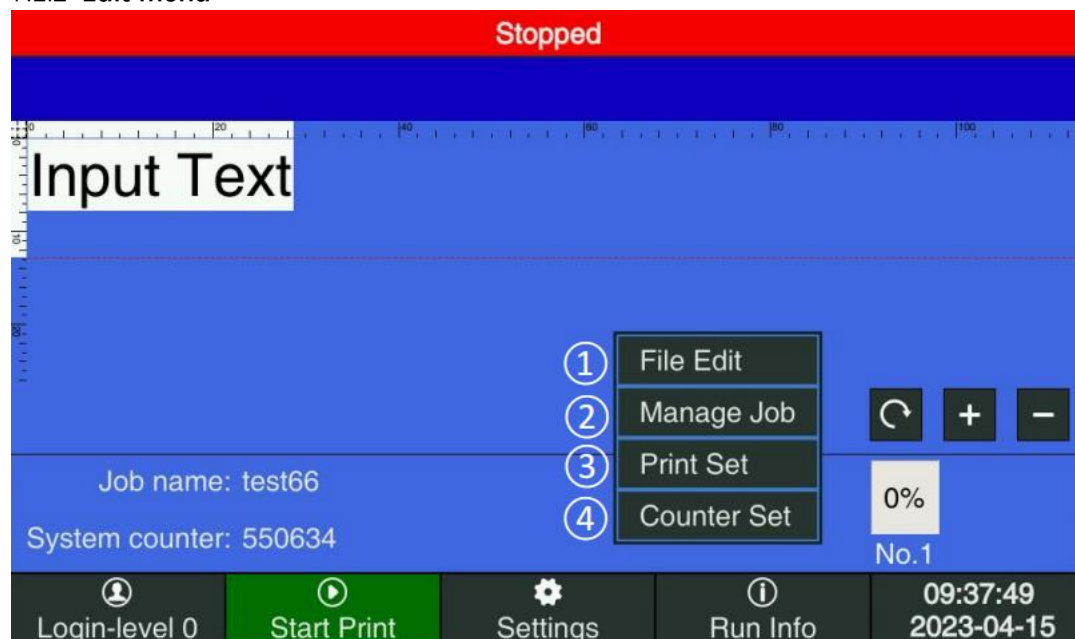


#### 7.1.1 Page function

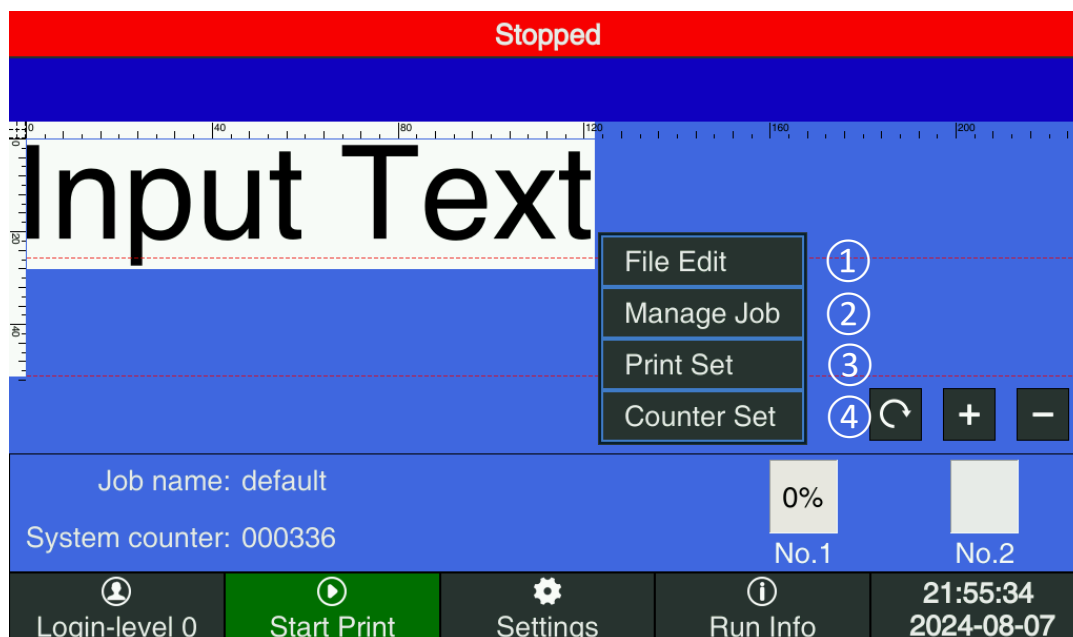
| ITEMS | NAME                            | DESCRIPTION  |
|-------|---------------------------------|--|
| 1     | Print status indicator function | It is in the unprinted state, and the color is red when displayed as Stopped; it is in the printing state, and the color is green when displayed as Ready. |

|    |                                    |   |
|----|------------------------------------|---|
| 2  | Print information preview function | Preview the edited content information and size, each line represent one head. Indicating 1/2" or 1" cartridge with different scale on the left side.   |
| 3  | Job name                           | Current file name.  |
| 4  | System counter                     | Display the number of times the current content has been printed.   |
| 5  | Scale setting function             | 1. The reset button can be used to restore the initial preview size of the system.<br>2. The zoom in and zoom out buttons can free the size of currently viewed page.   |
| 6  | User level display                 | The device has three levels of user level setting permissions, which are 0, 1, and 2. The highest is level 2 administrator users, and the lowest is level 0 ordinary users. Advanced users can assign different operation permissions to low-level users. |
| 7  | Print button                       | Click to start printing or end the current printing.  |
| 8  | System settings                    | Click to enter the secondary menu to adjust and modify the system parameters.   |
| 9  | Run info                           | Display the current operating information of the system and various parameters.   |
| 10 | System time and date display       | Modify the current system date and time   |
| 11 | Remaining ink display              | Display the remaining ink amount of the current ink cartridges respectively.  |

### 7.1.2 Edit menu



\* (1/2 inch)



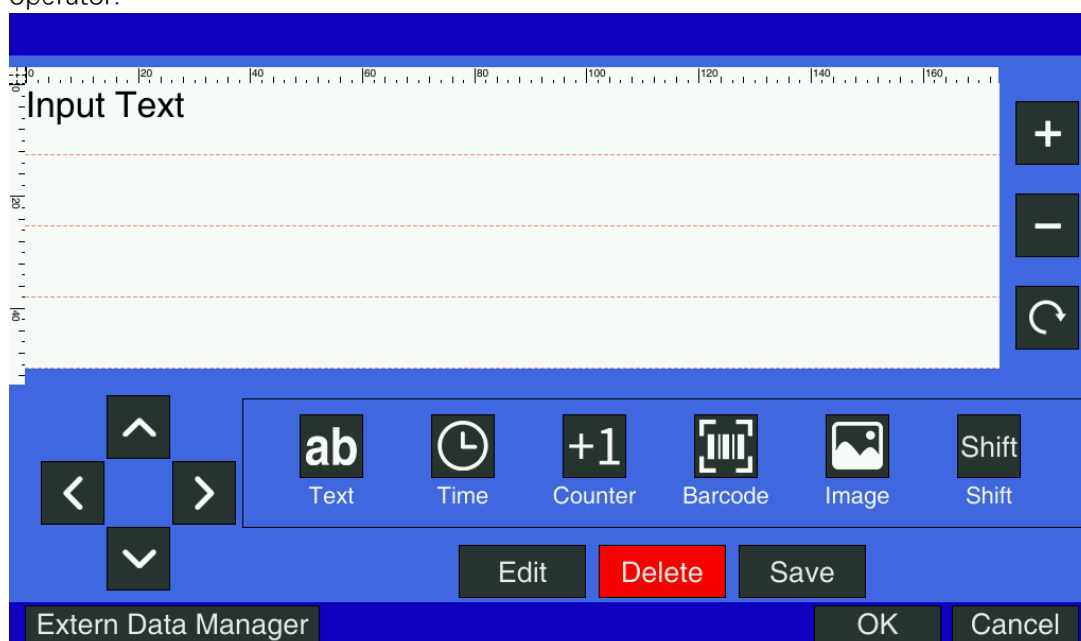
\* (1 inch)

Tip: Long press the screen for 1-2 seconds to wake up the edit menu.

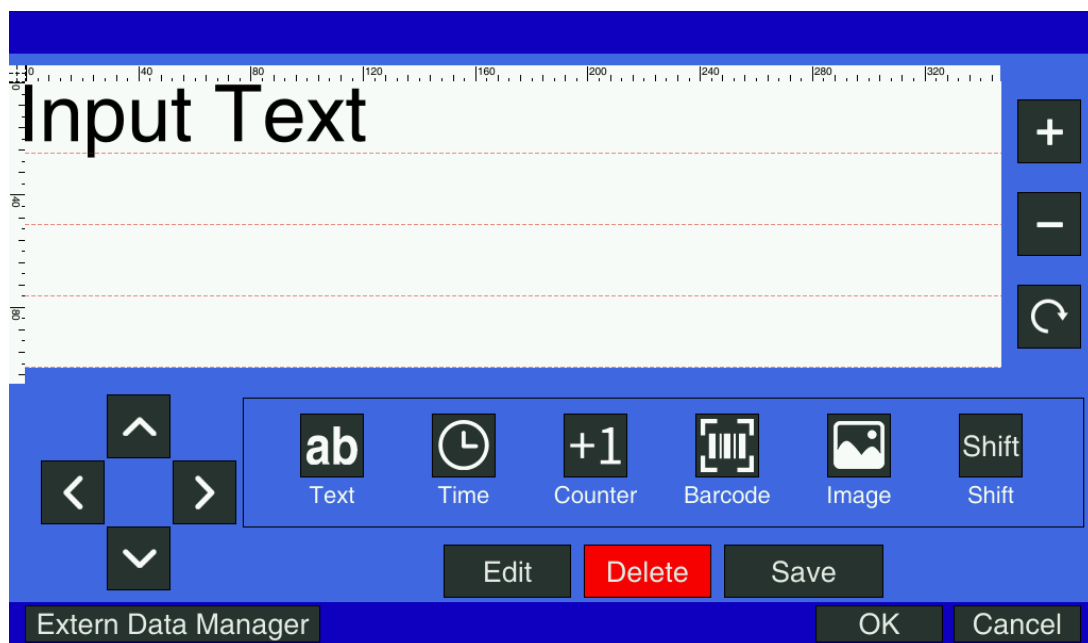
| ITEMS | NAME        | DESCRIPTION  |
|-------|-------------|--|
| 1     | File Edit   | Click on this button to edit the content needs to be printed.                                    |
| 2     | Manage Job  | Click on this button to open the print template management interface.                            |
| 3     | Print Set   | Click on this button to set different printing parameters to present different printing effects. |
| 4     | Counter Set | Click on this button to open the Counter setting form.   |

### 7.1.3 File Edit






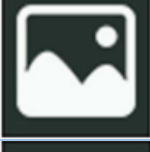

File editing is one of the important parts on the device. It allows operator to design the layout and display result here. The following shortcut icons can make editing easy for operator.




\* (1/2 inch)

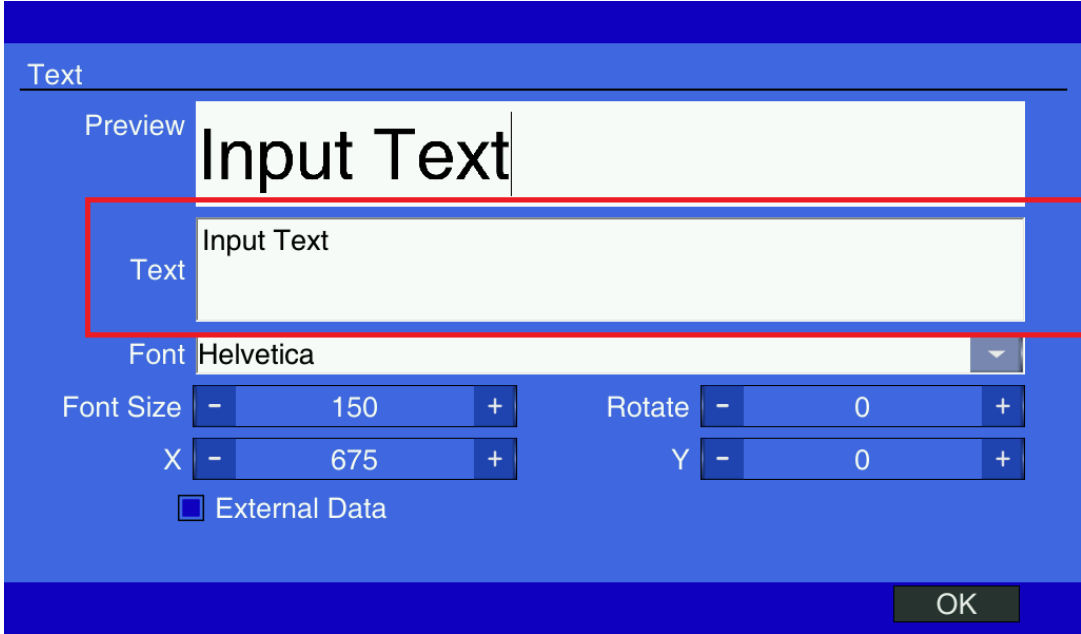


\* (1 inch)

| ITEMS   | NAME                | DESCRIPTION   |
|---|---------------------|---|
|   | Position adjustment | Adjust the position of the content on the screen through the arrow keys or direct drag.                 |
|  | Text Editor         | Click on the button to enter text, numbers, symbols, etc.   |
|  | Time Editor         | Automatically read the current time of the system, with a variety of time formats built-in.             |
|  | Counter Editor      | Adding a counter in the edit text can help operator count the number of prints.                         |
|  | Barcode Editor      | Support multi-format barcodes and QR codes, and import and print external data directly.                |
|  | Image Editor        | Import and print pictures stored locally on the device or an external device.                           |
|  | Shift Editor        | This function enables operator to edit different production shifts according to different time periods. |

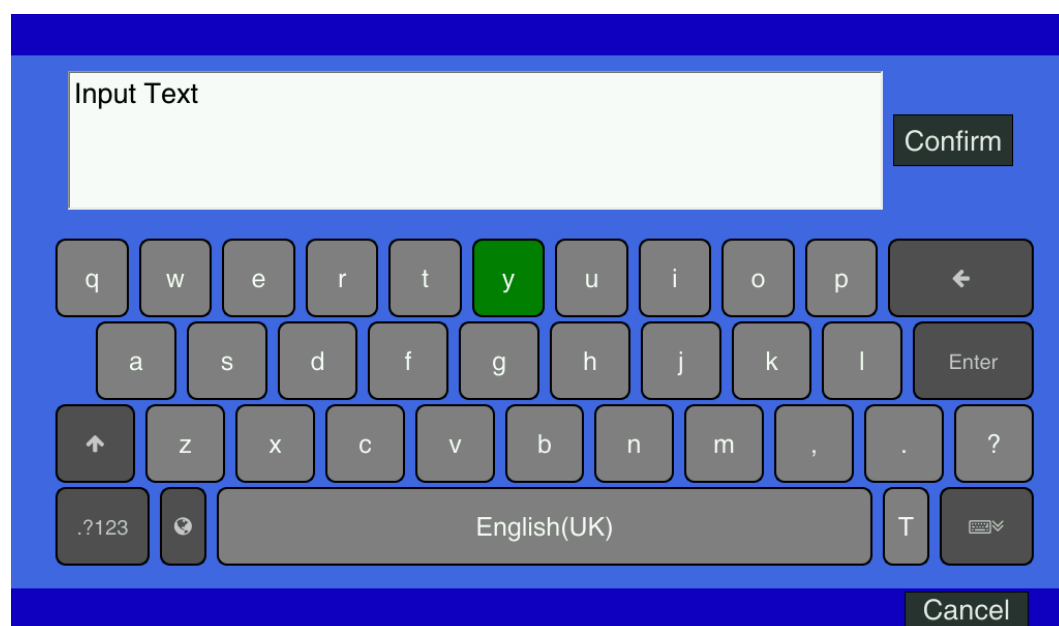
|   |                         |   |
|---|-------------------------|---|
| Extern Data Manager   | Extern Data Manager     | Manage data which are imported through external port.   |
|  | Preview function button | <p>1. The zoom in and zoom out buttons can free the size of the currently viewed page.</p> <p>2. The reset button can restore the initial preview size of the system.</p> |

### 1) Text edit page



The text content, size, angle, and position can be adjusted on text edit page. And CM600 also supports external data importing function with checking 'External Data'. Click on the red area shown in the figure above to enter the text.





Type on the screen to edit the text, and click the **Confirm** button after inputting is completed.



\* (1/2 inch)

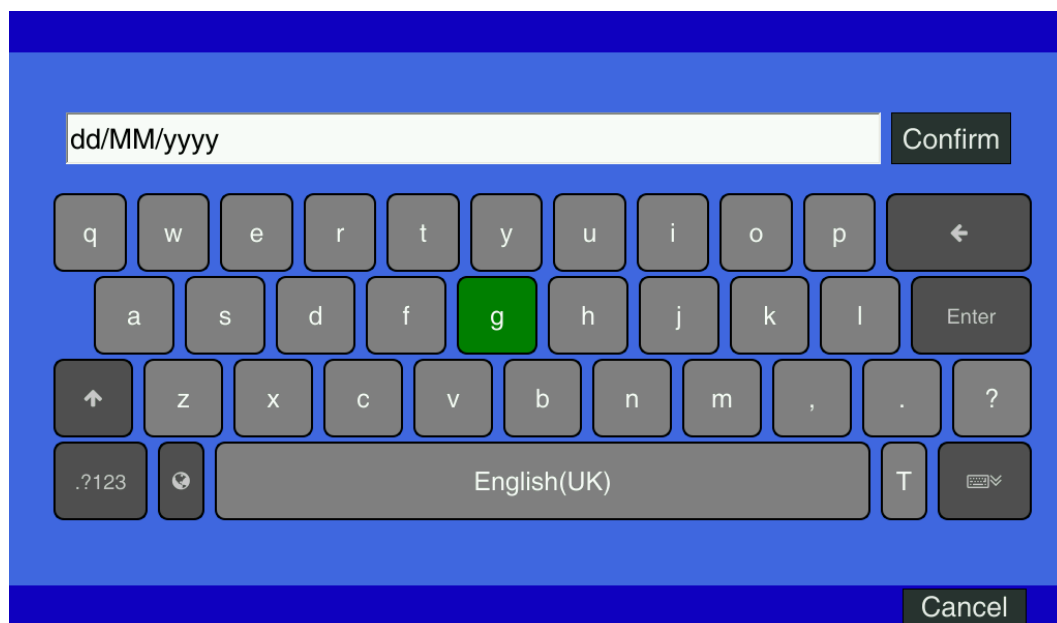


\* (1 inch)

The device has built-in multiple languages, click the corresponding language to change the keyboard input method.

## 2) Time edit page

Click on the area indicated by the icon above, and the time format setting keyboard will pop up.



Enter the format that needs to be modified in the input box, and click the confirm button when finished.

If 'JD' is entered, it will count the number of days experienced. For example, if today is 1<sup>st</sup>-Feb-2024, 'JD' will automatically be converted to '032'.

For the abbreviations of time units, please refer to the following tables.

| ND  | NN | NO |
|-----|----|----|
| Sun | 01 | A  |
| Mon | 02 | B  |
| Tue | 03 | C  |
| Wed | 04 | D  |
| Thu | 05 | E  |
| Fri | 06 | F  |
| Sat | 07 | G  |

Days can be replaced with 'Sun...Sat', '0X' or 'A...G' by inputting 'NN' or 'NO'. User can also customize these abbreviations on 'Custom date' page (Please refer to 7.3.6). On that page, Month can also be customized, user can input 'NR' to display custom Months.

|      |   |
|------|---|
| d    | Date without prefixed '0' (1~31)          |
| dd   | Date with prefixed '0' (01~31)            |
| ddd  | Abbreviation of day of week (Mon, Tue...) |
| dddd | Day of week (Monday, Tuesday...)          |
| M    | Month without prefixed '0' (1~12)         |
| MM   | Month with prefixed '0' (01~12)           |
| MMM  | Full name of month (January, February...) |
| yy   | Two-digital year (00~99)                  |
| yyyy | Four-digital year (2023)                  |

Abbreviations of date, month and year

|         |   |
|---------|---|
| h       | Hour without prefixed '0'<br>(0~23, but if 'AP'/'A'/'ap'/'a' is added after it, the range would be 0~11)        |
| hh      | Hour with prefixed '0'<br>(0~23, but if 'AP'/'A'/'ap'/'a' is added after it, the range would be 00~11)          |
| H       | Hour without prefixed '0'<br>(0~23, even if 'AP'/'A'/'ap'/'a' is added after it, the range would still be 0~23) |
| HH      | Hour with prefixed '0'<br>(00~23, even if 'AP'/'A'/'ap'/'a' is added after it, the range would still be 00~23)  |
| m       | Minute without prefixed '0' (0~59)  |
| mm      | Minute with prefixed '0' (00~59)  |
| s       | Second without prefixed '0' (0~59)  |
| ss      | Second with prefixed '0' (00~59)  |
| AP or A | Add to display time with AM or PM   |
| ap or a | Add to display time with am or pm   |
| JD      | The **th day of the year (e.g. It displays 032 if the date is 1 <sup>st</sup> Feb)                              |
| JW      | The **th week of the year (e.g. It displays 01 if the the date is 8 <sup>th</sup> Jan 2024)                     |

Abbreviations of hour, minute, second, Julian Day and Week.

### 3) Counter edit page

SerialNumber

Preview

0000000

Font

Helvetica

Font Size

- 150 +

X

- 2108 +

SystemBase

Decimal

CounterID

Counter1

TextSpace

- 0 +

Rotate

- 0 +

Y

- 0 +

Digits

- 6 +

Mode

Normal

OK

Up to four different counters can be inserted into one edit file.

A configuration dialog with a blue background. It features a list of counters: Counter1, Counter2, Counter3, and Counter4. The 'Font' property is set to Counter1. The 'CounterID' is also set to Counter1. The 'TextSpace' is set to 0. The 'SystemBase' is set to Counter4. The 'Font Size' is set to Counter2. The 'X' coordinate is set to Counter3.

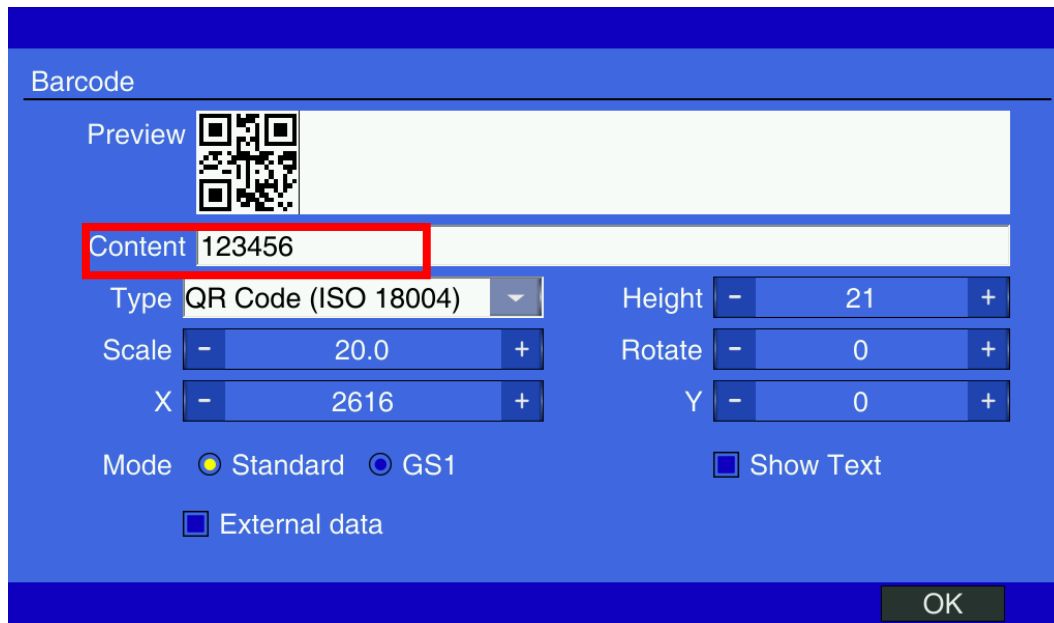
Different formats of the counter can be edited by selecting different modes and modifying the digits.

A configuration dialog with a blue background. It shows different counter formats: Decimal, Hex, and Counter1. The 'CounterID' is set to Decimal. The 'TextSpace' is set to Hex. The 'SystemBase' is set to Decimal. The 'X' coordinate is set to 1440.

A 'SerialNumber' dialog box with a blue background. It features a 'Preview' section showing '000000'. Below this, there are several configuration options: 'Font' (Helvetica), 'Font Size' (150), 'X' (2108), 'SystemBase' (Decimal), 'CounterID' (Counter1), 'TextSpace' (0), 'Rotate' (0), 'Y' (0), 'Digits' (6), and 'Mode' (Normal). The 'TextSpace' field is highlighted with a red box. An 'OK' button is located at the bottom right.

Click '-' or '+' to adjust the distance between each character.

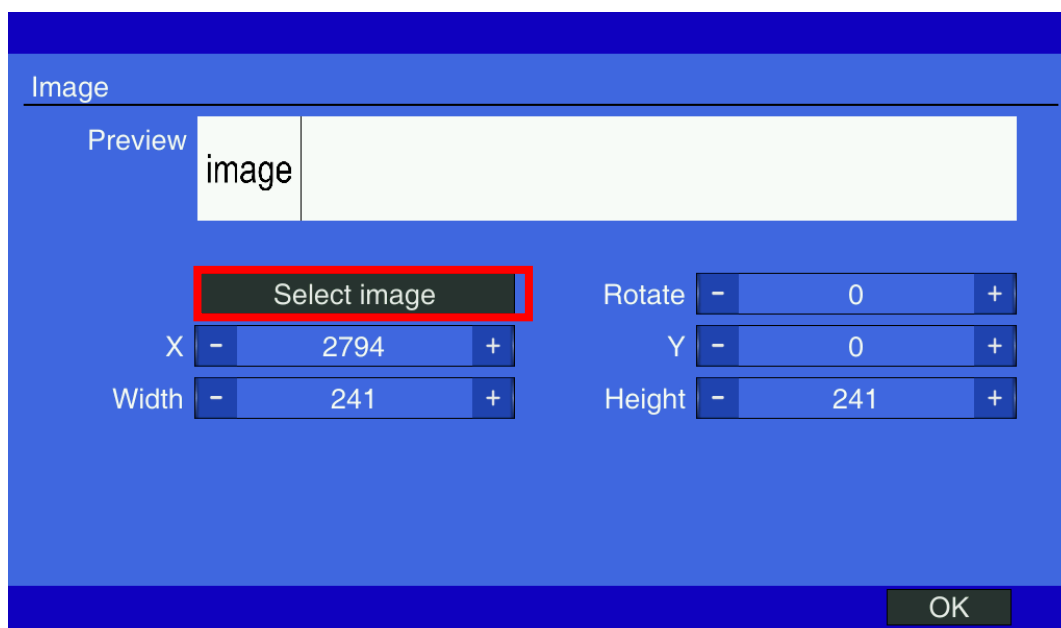
#### 4) Barcode edit page



The 'Barcode' edit page features a 'Preview' section with a QR code and a 'Content' text field containing '123456', which is highlighted with a red box. Below the content field, there are several configuration options: 'Type' is set to 'QR Code (ISO 18004)' with a dropdown arrow; 'Scale' is set to '20.0' with minus and plus buttons; 'X' is set to '2616' with minus and plus buttons; 'Height' is set to '21' with minus and plus buttons; 'Rotate' is set to '0' with minus and plus buttons; 'Y' is set to '0' with minus and plus buttons; 'Mode' has two radio buttons, 'Standard' (selected) and 'GS1'; there is a checkbox for 'Show Text' which is currently unchecked; and another checkbox for 'External data' which is also unchecked. An 'OK' button is located at the bottom right of the interface.

Edit the text in the content area, the below function buttons can be used to adjust the format and parameters. And CM600 also supports external data import function with checking 'External data'.

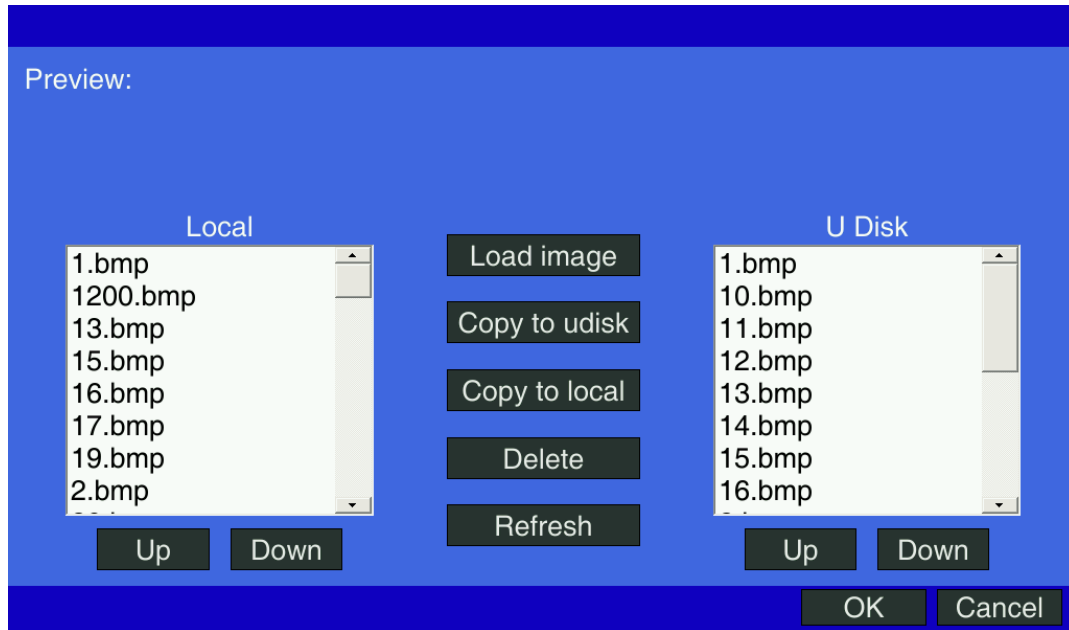
#### 5) Image edit page



The 'Image' edit page features a 'Preview' section with the text 'image' and a large empty rectangular area. Below this, there is a 'Select image' button highlighted with a red box. Further down, there are several configuration options: 'X' is set to '2794' with minus and plus buttons; 'Width' is set to '241' with minus and plus buttons; 'Rotate' is set to '0' with minus and plus buttons; 'Y' is set to '0' with minus and plus buttons; and 'Height' is set to '241' with minus and plus buttons. An 'OK' button is located at the bottom right of the interface.

After selecting a picture, the picture information will appear in the upper area, and the below parameters can be used to adjust the size and angle of the picture.

**Note:** The image size should not larger than 30000px. CM600 supports bmp, png and jpg format imag.



Operator can copy files from the USB flash driver to the device on above page, and CM600 also supports export files from the device to the USB flash driver.

#### 6) Shift edit page

Shift code

| Code | Time  |
|------|-------|
| A    | 00:00 |
|      |       |

Add
Delete
Refresh

Text

A

Time (24 hours)

-
00:00
+

Font

Helvetica

Font Size
150
Rotation
0

OK

Adjust the time span to assign the corresponding shift code.

## 7) Extern Data Manager

Text

Preview

Input Text

Text

Input Text

Font

Helvetica

Font Size

- 150 +

Rotate

- 0 +

X

- 675 +

Y

- 0 +

☐ External Data

OK

Input Text

↑

←

→

↓

ab

Time

+1

Barcode

Edit

Delete

Load file

Start Line

- 1 +

End Line

- 11 +

Current Line

- 1 +

Job Complete

Stop Print

Repeat

Buffer Size

- 1 +

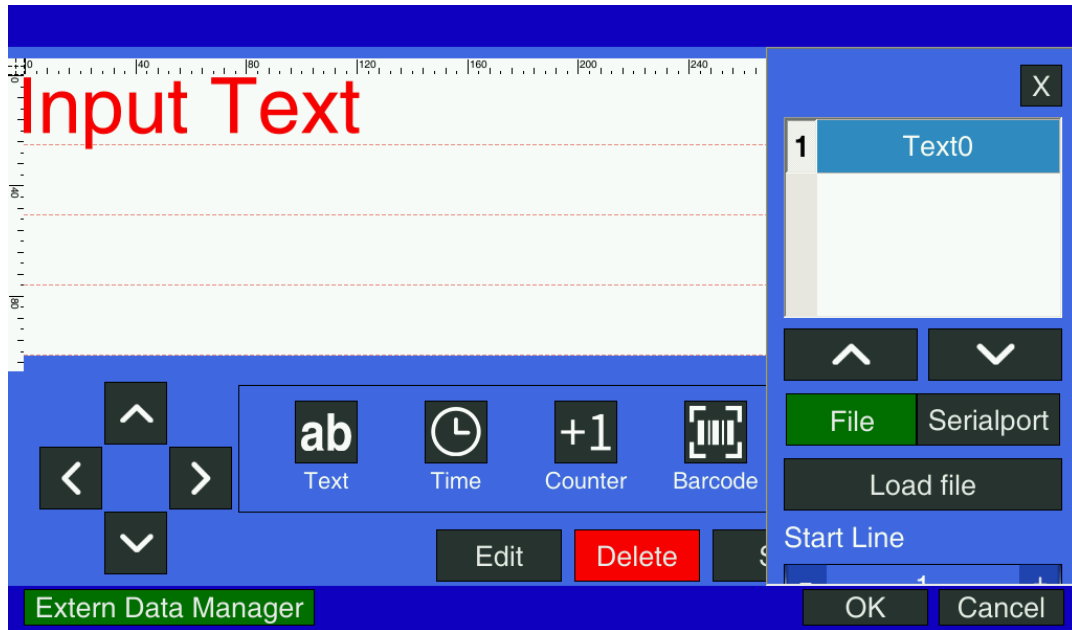
OK

Cancel

Extern Data Manager

\* (1/2 inch)

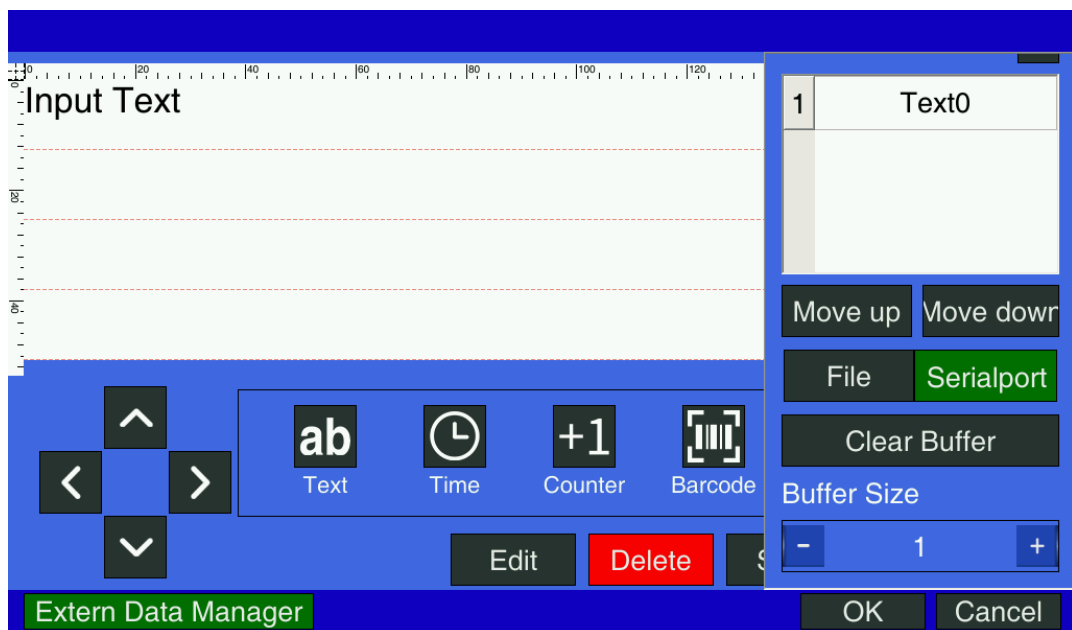




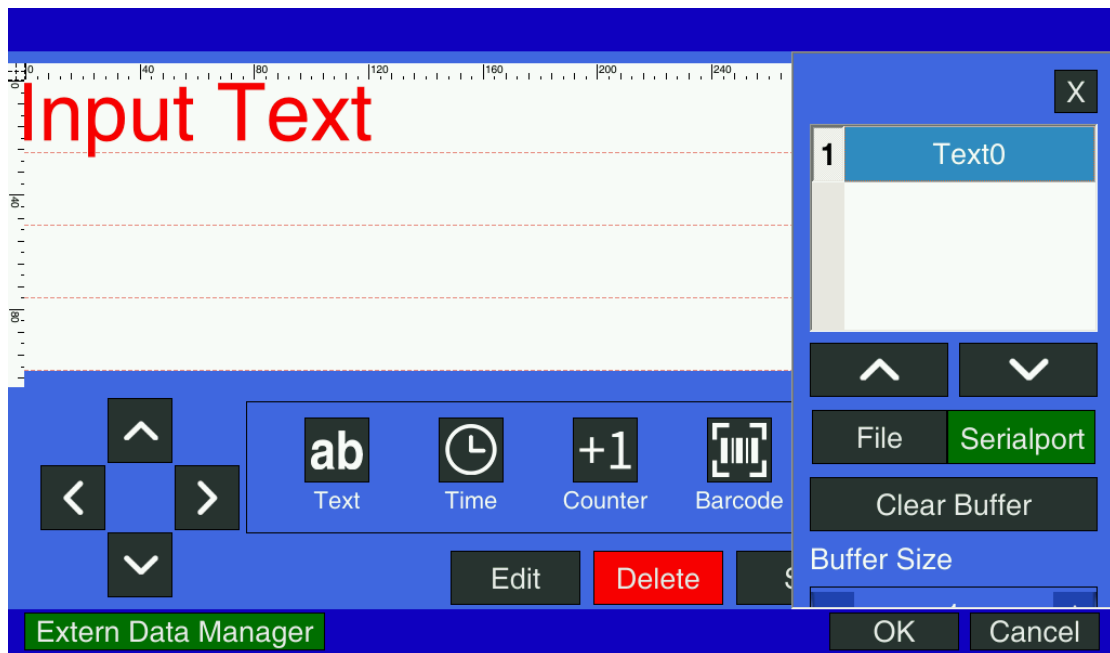
\* (1 inch)

CM600 supports TXT and Excel format file, imported through external storage devices such as U disk.

**Note:** this function will be activated unless 'External Data' is selected .



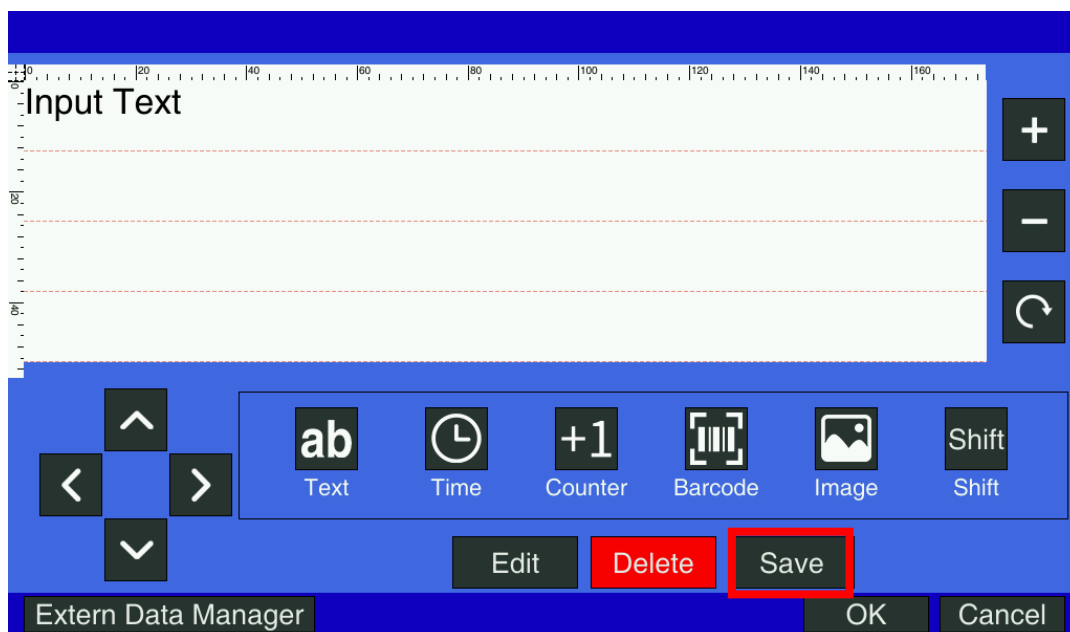
\* (1/2 inch)



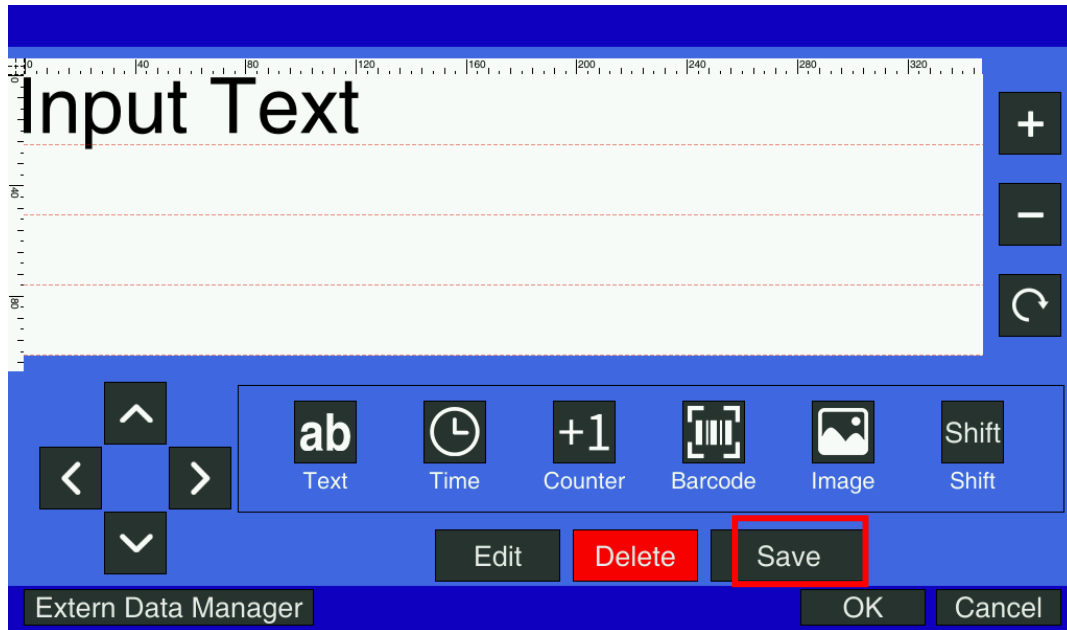
\* (1 inch)

External data can also be imported through serial port.

## 8) File save



\* (1/2 inch)

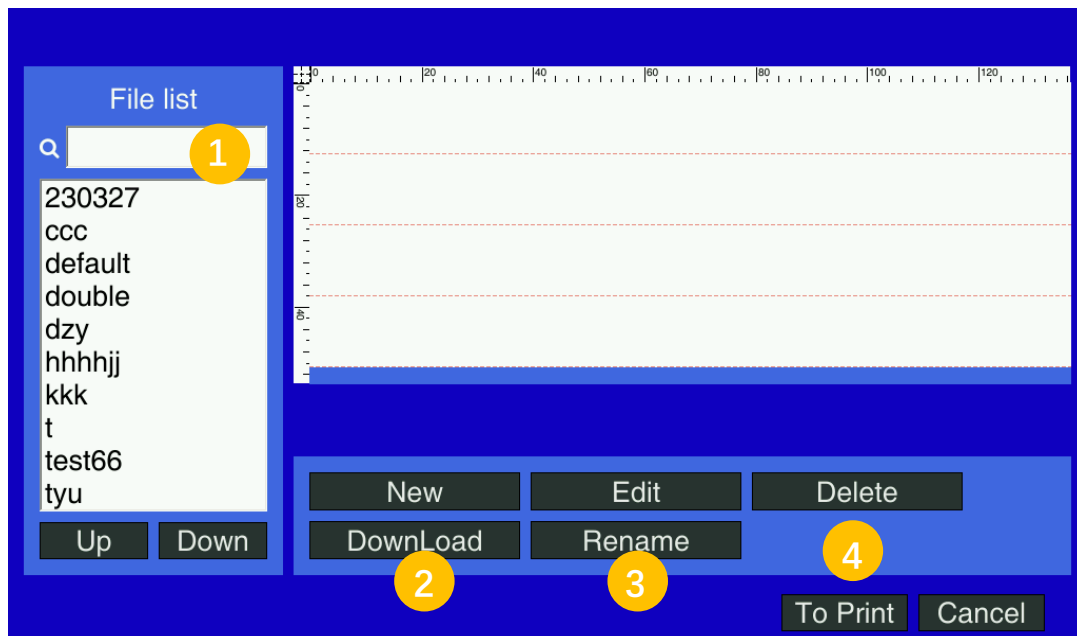


\* (1 inch)

After the file is edited, click the **Save** button to save the file, and click OK to return to the print page.

## 9) Manage Job

The previous edited file data is stored in the file management page. Operator can modify or delete them again, or create a new file template, and then name it.



1. When the device stores a lot of files, operator can search the keywords of the file name in File list.
2. Click the Download button to copy the files to each other.
3. Click the Rename button to change file's name.
4. Click the To Print button below to return to the home page.

#### 7.1.4 Counter Set

Counter Set

Counter ID

Start Value  End Value

Step Value  Repeat Value

Current Value  To the End ☐

Reset system counter

OK

The number of counters in the counter setting ID is determined by the number of counters edited in the current file. Up to four counters can be added to a file, and different counters can be assigned different values. Click the drop-down box button to switch between different counters.

Start Value: Counter start value

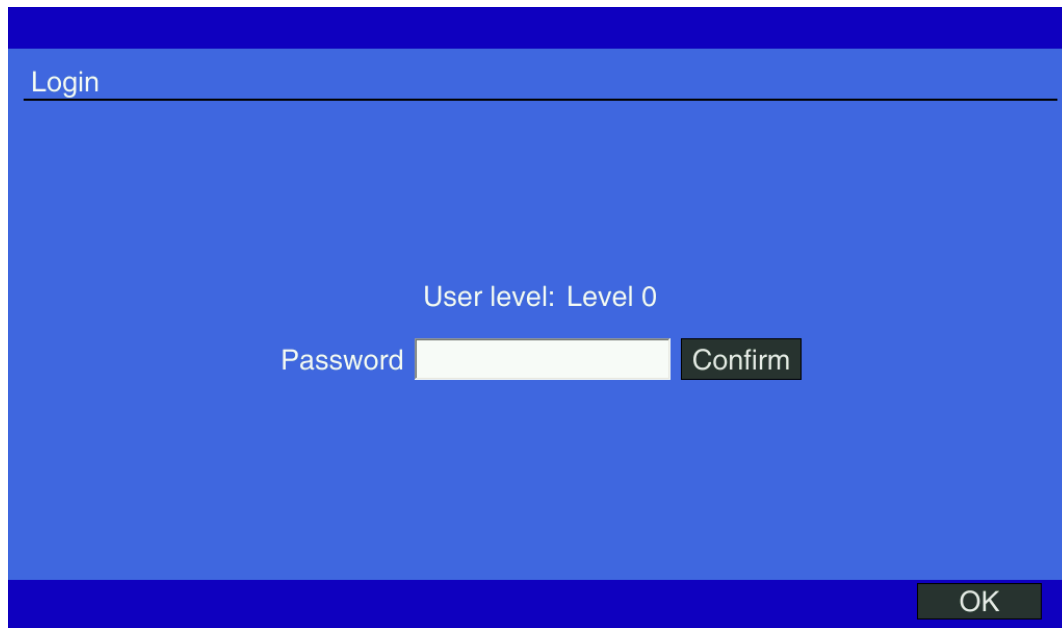
End Value: After reaching this value, count from the start value again

Step Value: Each print counter's accumulative value

Repeat Value: Set the number of times to print each values

Current Value: Set the currently printed value within the range

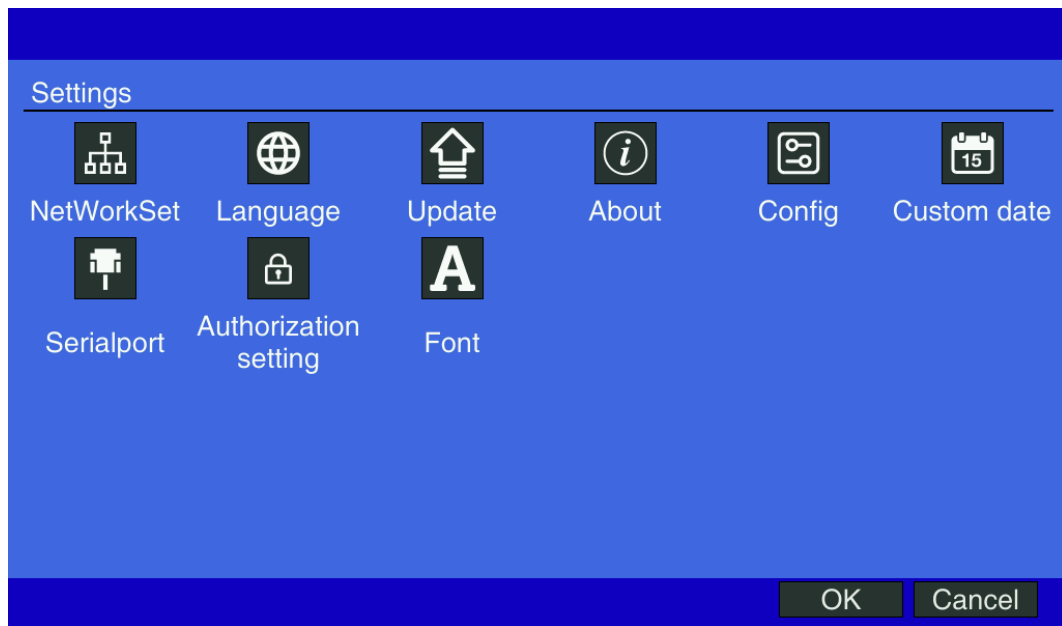
## 7.2 User login



The login screen has a blue background with a dark blue header bar. Below the header, the word "Login" is displayed in white. The main area is a lighter blue. In the center, the text "User level: Level 0" is shown. Below this, the label "Password" is followed by a white text input field. To the right of the input field is a dark grey button labeled "Confirm". At the bottom right of the screen is a dark grey button labeled "OK".

The system will give different user permissions based on the permissions assigned by the administrator. Operator can log in to high-level accounts to get more permissions.

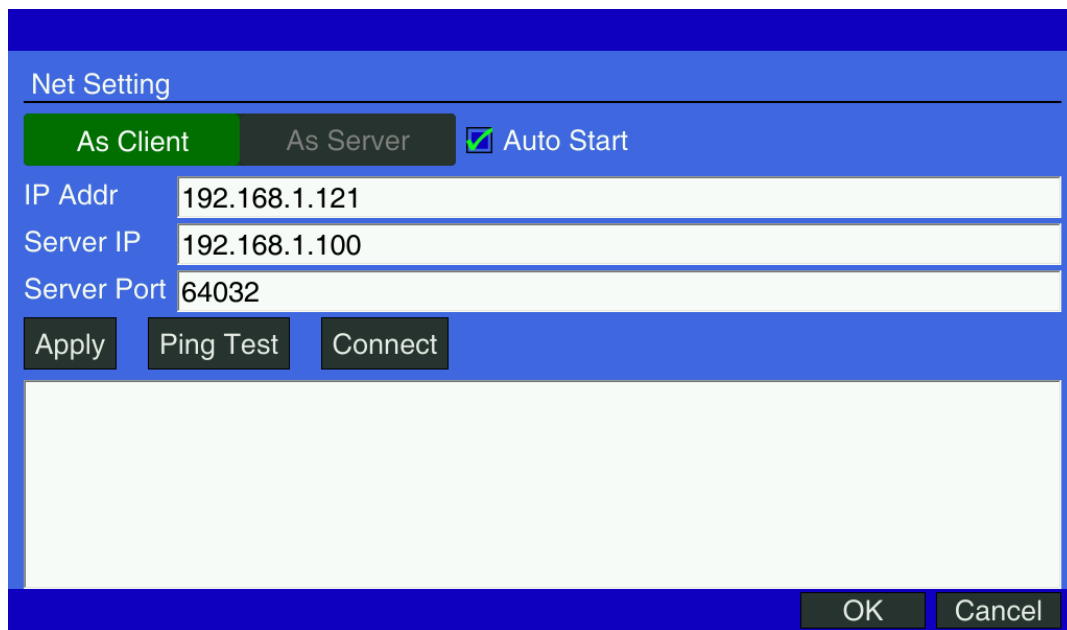
## 7.3 System settings



The settings screen has a blue background with a dark blue header bar. Below the header, the word "Settings" is displayed in white. The main area contains nine settings options arranged in two rows. Each option consists of a small icon above a text label. The first row includes: "NetWorkSet" (network icon), "Language" (globe icon), "Update" (house icon), "About" (info icon), "Config" (gear icon), and "Custom date" (calendar icon). The second row includes: "Serialport" (printer icon), "Authorization setting" (lock icon), and "Font" (letter 'A' icon). At the bottom right of the screen are two dark grey buttons labeled "OK" and "Cancel".

### 7.3.1 Network settings

CM600 can be used as a server or a client to communicate with external device.



Net Setting

**As Client** As Server ☒ Auto Start

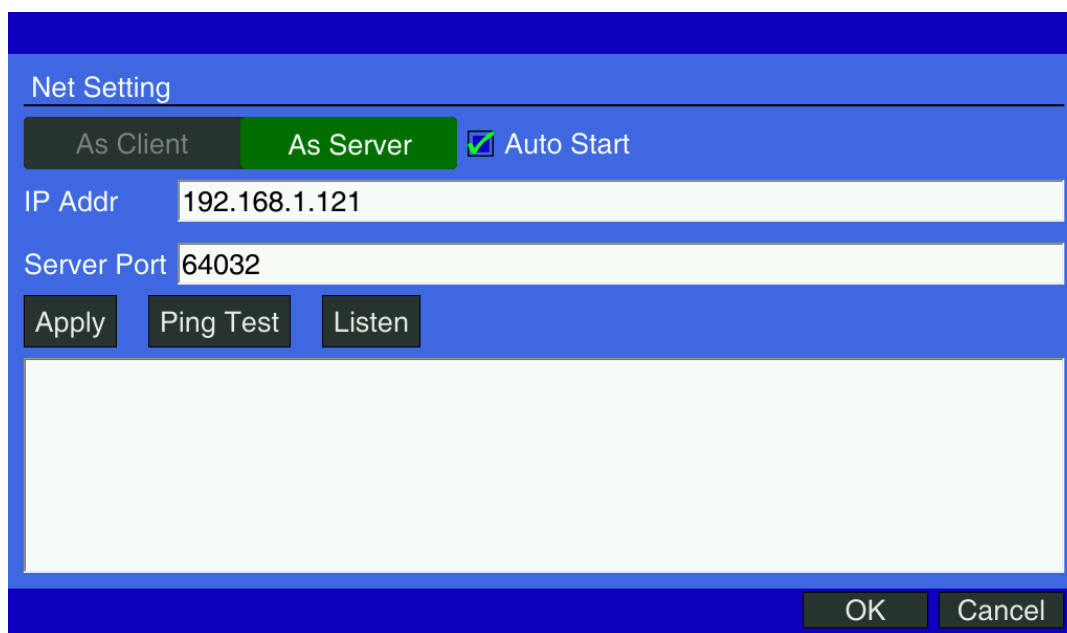
IP Addr 192.168.1.121

Server IP 192.168.1.100

Server Port 64032

Apply Ping Test Connect

OK Cancel



Net Setting

As Client **As Server** ☒ Auto Start

IP Addr 192.168.1.121

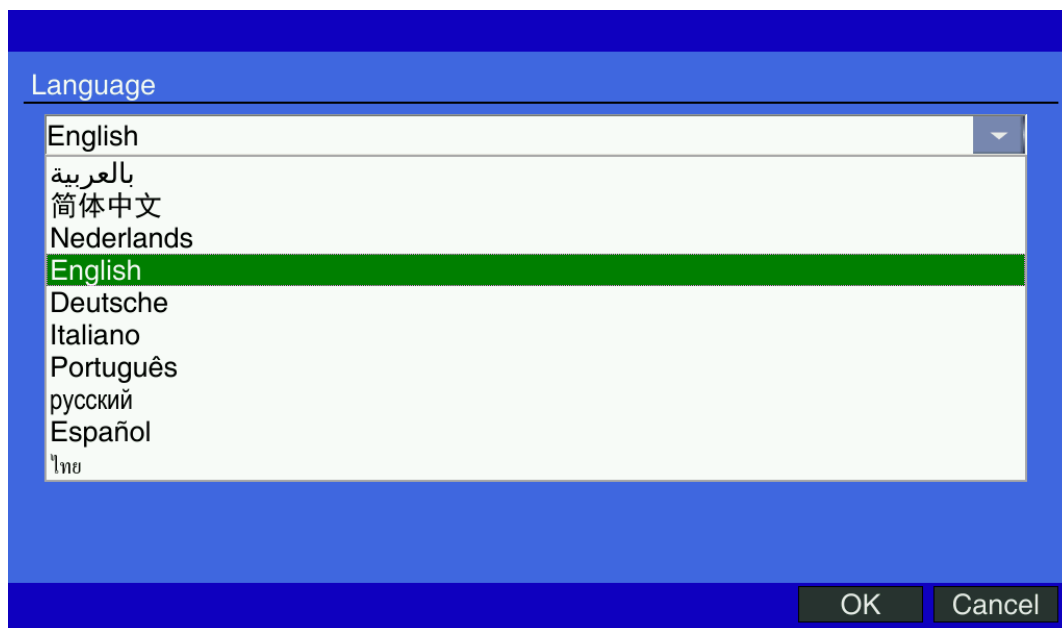
Server Port 64032

Apply Ping Test Listen

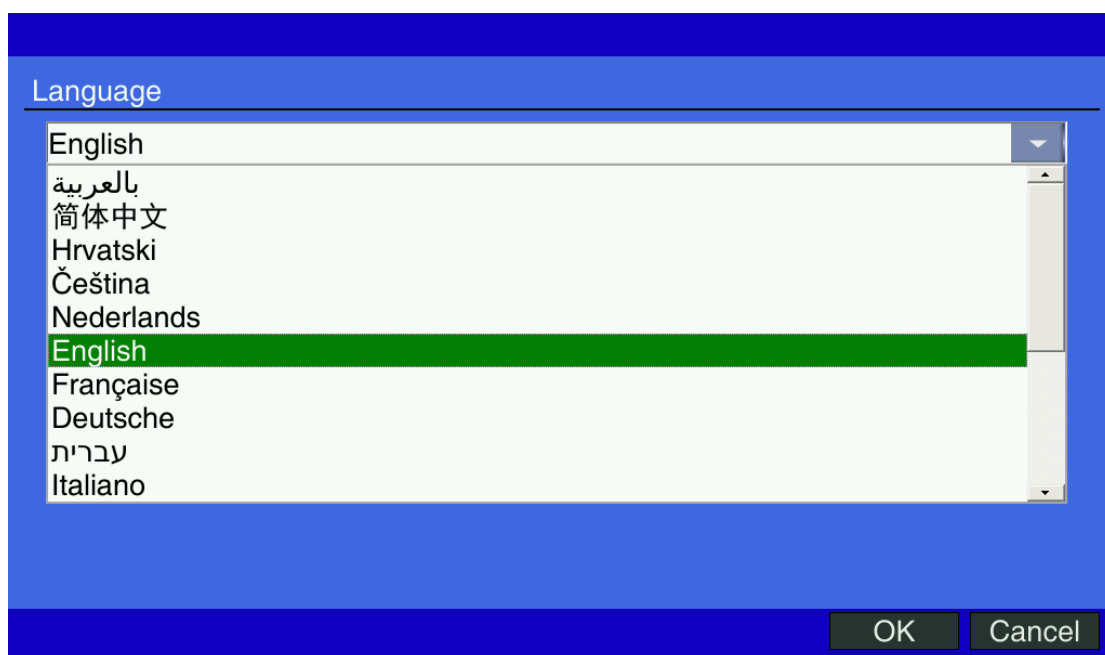
OK Cancel

Enter the corresponding IP address, server address, server port, the device will be connected to the local area network, and print collaboratively with other devices.

### 7.3.2 Language



\* (1/2 inch)

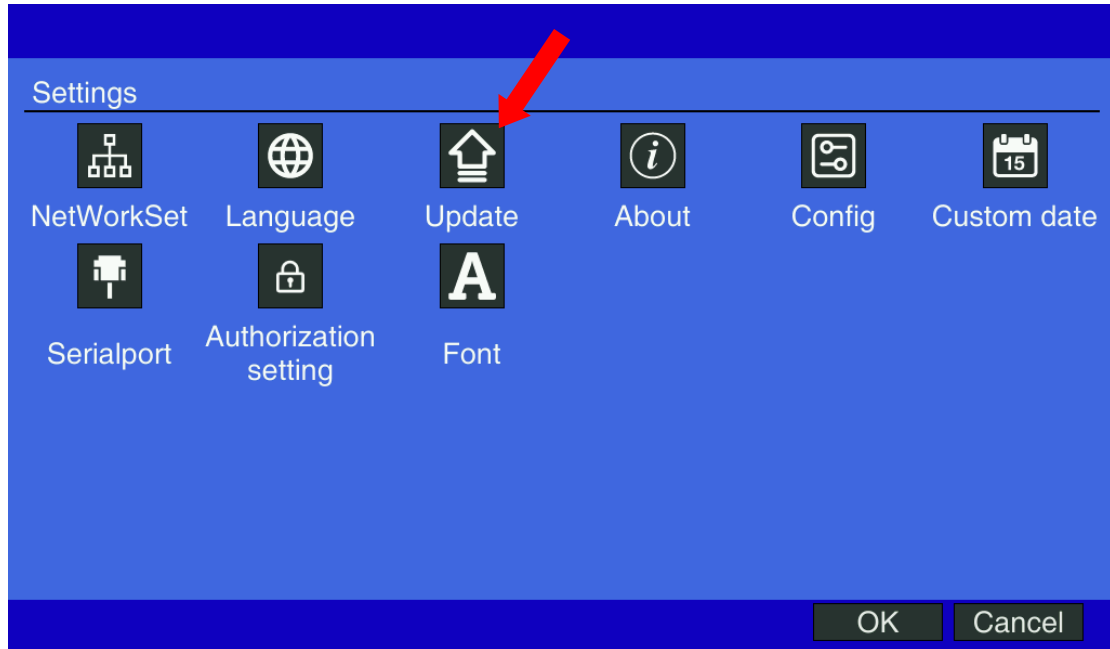


\* (1 inch)

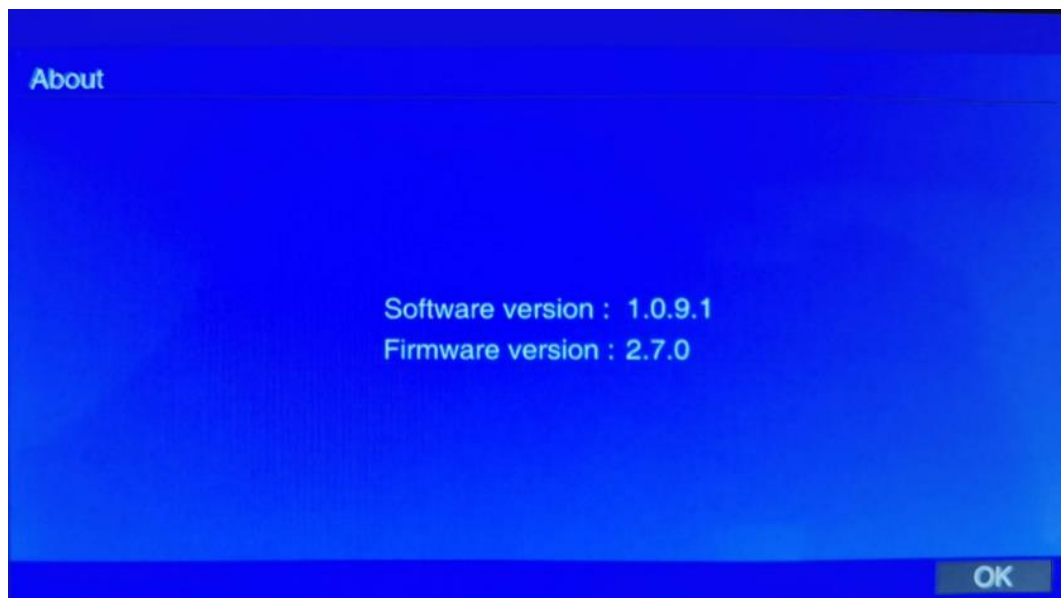
The device contains multi-language by one-click switching.

### 7.3.3 Update

Put the upgraded file in the root directory of the connected USB flash, and click “Update” button.

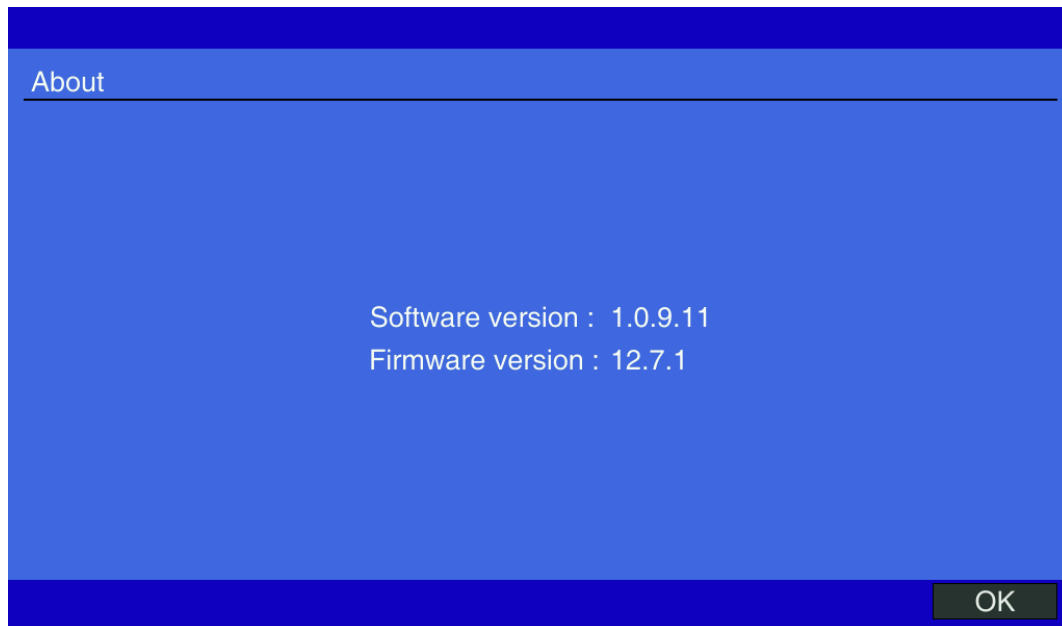


### 7.3.4 About



\* (1/2 inch)





\* (1 inch)

View the version information of the current software and firmware.

### 7.3.5 Config



Please set the value of printing voltage and printing pulse according to the label on the ink cartridge or enable Auto Match. **Caution: any incorrect setting might damage printer.**

The Auto jet function is used to keep the nozzle wet and prevent the blockage from not using for a long time.

Hold down **Clean** button, and the nozzle will continuously eject ink and clean the nozzle.

When the ink volume is lower than the Ink low level value, system will automatically remind the user that the ink cartridge needs to be replaced.

7.3.6 Custom date

Custom date

Week

Mon Mon Tue Tue Wed Wed Thu Thu Fri Fri Sat Sat Sun Sun

Month

Jan 0 Feb 1 Mar 2 Apr 3 May 4 Jun 5

Jul 6 Aug 7 Sep 8 Oct 9 Nov a Dec b

Julian Date Offset

Hours - 0 +

OK

\*(1/2 inch)

Custom date

Week

Mon Mon Tue Tue Wed Wed Thu Thu Fri Fri Sat Sat Sun Sun

Month

Jan Jan Feb Feb Mar Mar Apr Apr May May Jun Jun

Jul Jul Aug Aug Sep Sep Oct Oct Nov Nov Dec Dec

Julian Date Offset

Hours - 5 + Minute - 30 +

OK

\*(1 inch)

Click Custom date, operator can customize the abbreviation mark for each day and month.

7.3.7 Serial port settings

Serialport Set

Baud rate

115200

Debug

☐

OK

Select the corresponding Baud rate, the device may be connected to an upper computer.

7.3.8 Authorization settings

Password Setting

Level1 Password

Level2 Password

Authorization Setting

Manage Job

-

0

+

Config

-

0

+

Print Mode

-

0

+

Set DateTime

-

0

+

Edit

-

0

+

Set Language

-

0

+

OK

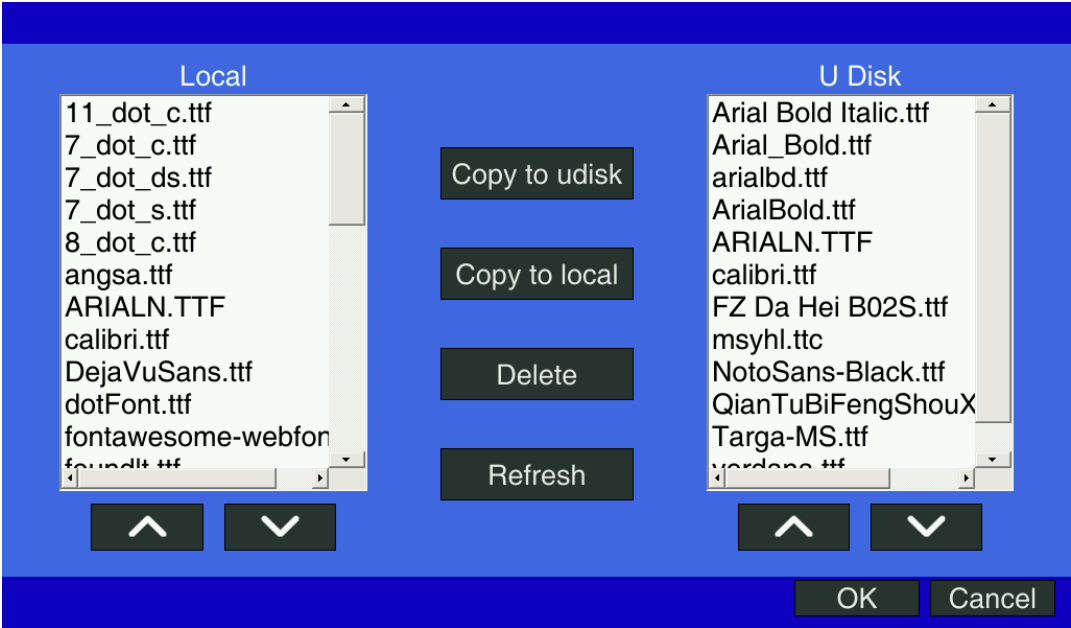
Cancel

Access to user authority management settings, Low-level users need to enter a password to access to advanced menu which determined by administrator.

The administrator user can set the account and password authority of the same-level and lower-level users. The system can identify three levels of user authority: 0, 1, and 2. The module functions below would be available for different users after selecting different classifications.

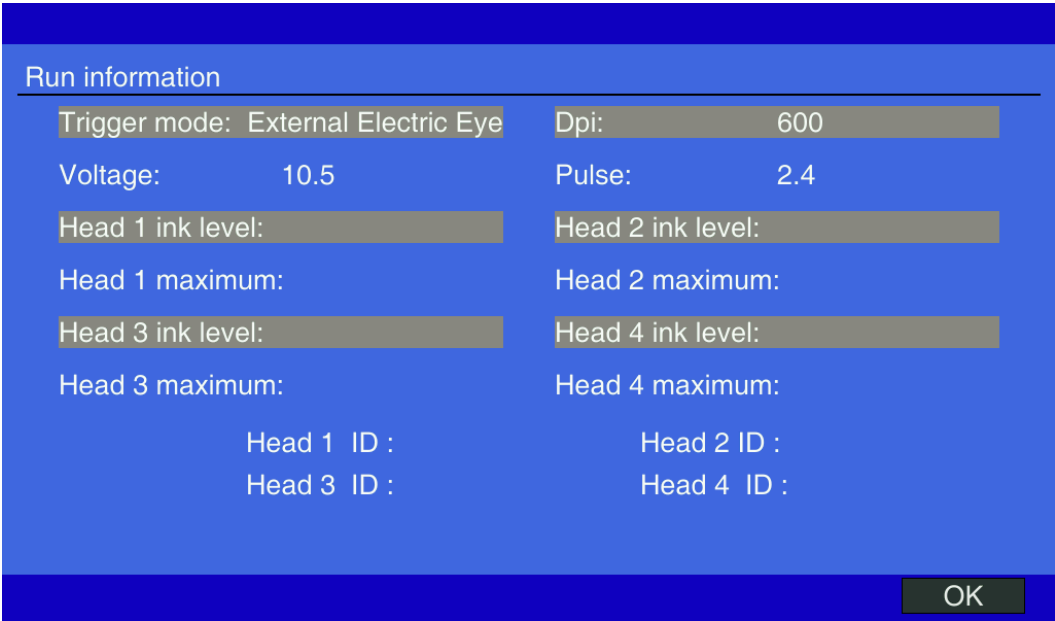
**Note:** The default passwords of Level1 and Level2 are 123 and 123456.

7.3.9 Font



Install external font to this device by copying the font with TTF format in the connected USB flash.

7.4 Run information



Run information contains the information of various parameters of the equipment, so that operator can quickly understand the current system information of the equipment.

# 8. Operate the Thermal Inkjet Printer

## 8.1 Installation

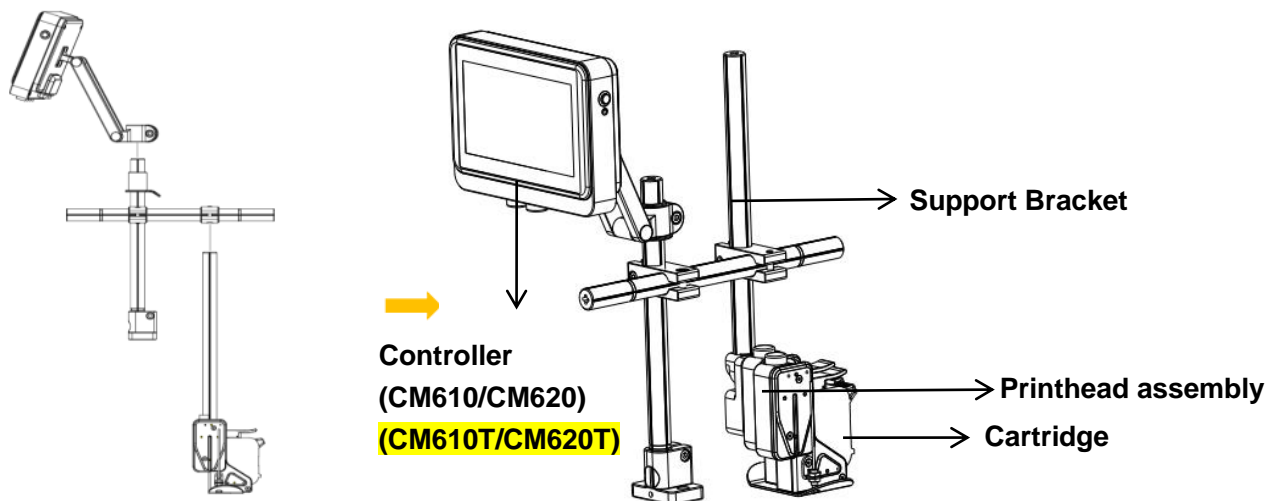
### 8.1.1 Top Level Assembly

Top level assembly includes controller, support bracket, cartridge and printhead assembly.

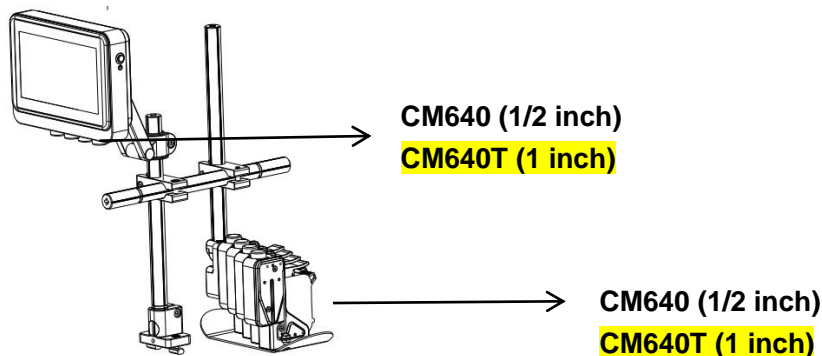
There are two kinds of controller with different amount of printhead interfaces:

2-printhead-interface controller and 4-printhead-interface controller.

CM610 / CM 610T and CM620 / CM620T have two printhead interfaces which can be connected to at most two printhead assemblies.



CM640 / CM640T has four printhead interfaces which can be connected to at most four printhead assemblies.



## 8.1.2 Accessory



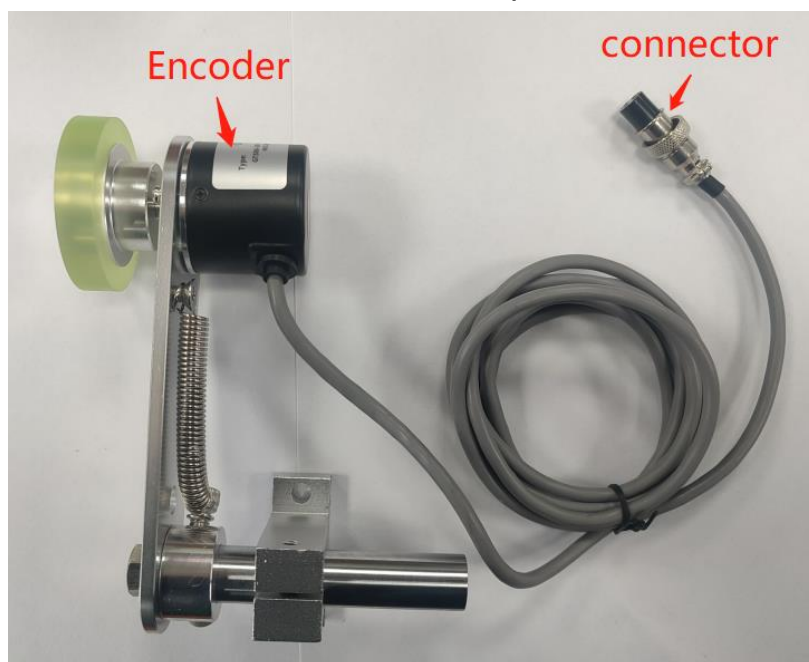
Optical fiber sensor set

Control output: NPN collector output

Power supply: 12-24V

Current consumption:  $\leq 50\text{mA}$

**Note:** Refer to the attached manual for the use of optical fiber sensor set.



Encoder

Encoder (with aviation plug 'GX12-4P' preassembled), bracket, wheel and necessary fastener are included in. 2500PPR

Control output: NPN collector output

Necessity of connecting encoder to controller:

Sometimes the print content is stretched or shortened because of unstable speed of conveyor. To avoid such situation, encoder must be connected to TIJ so that the print speed can match the conveying speed and content can be accurately printed.

**Note: Refer to the attached manual for the use of encoder.**

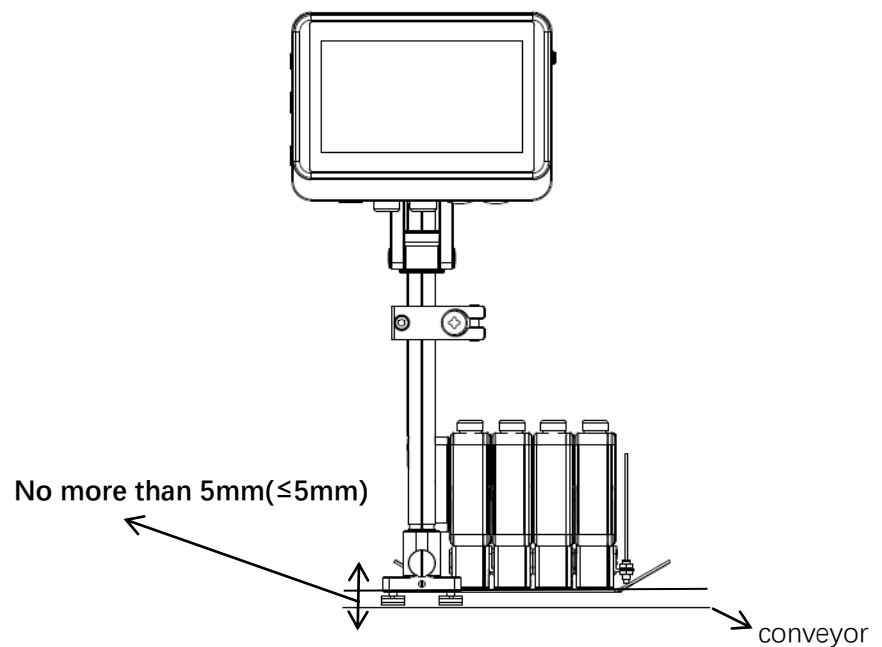
## 8.2 Attention For Installing

### 1. Stability of support bracket:

Set the support bracket in a reasonable angle. Do not vibrate or slant it and make sure that the support bracket is stable.

### 2. Nozzle height

Make sure that the distance between nozzle and print target is no more than 5mm.



### 3. Power

Make sure that the power is grounded.

## 8.3 Insert the ink cartridge

### 8.3.1 Correct way of inserting

(1) Insert the cartridge parallel to the bottom.



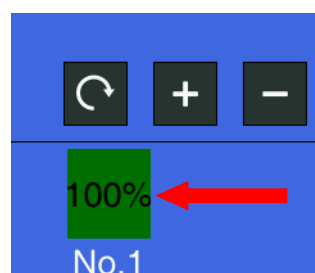
(2) Adjust the angle of the cartridge so that the nozzle can be fully exposed in the hole, and be careful not to touch the pins.



(3) Press in the cartridge and close the clip.



After inserting the ink cartridge correctly, the screen will display the percent of the ink





### 8.3.2 Correct way of removing

(1) Open the clip and pull the cartridge up gently.



(2) Adjust the angle of the cartridge so that the cartridge does not touch the pins.



(3) Remove the cartridge.

### 8.3.3 Incorrect way of inserting

(1) Insert the cartridge diagonally and the cartridge touches the pins.



(2) Close the clip before inserting the cartridge completely.

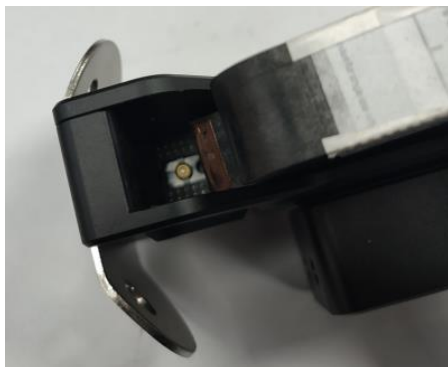


#### 8.3.4 Incorrect way of removing

(1) Pull out the cartridge violently before opening the clip.



(2) The pins are pressed down while removing the cartridge.

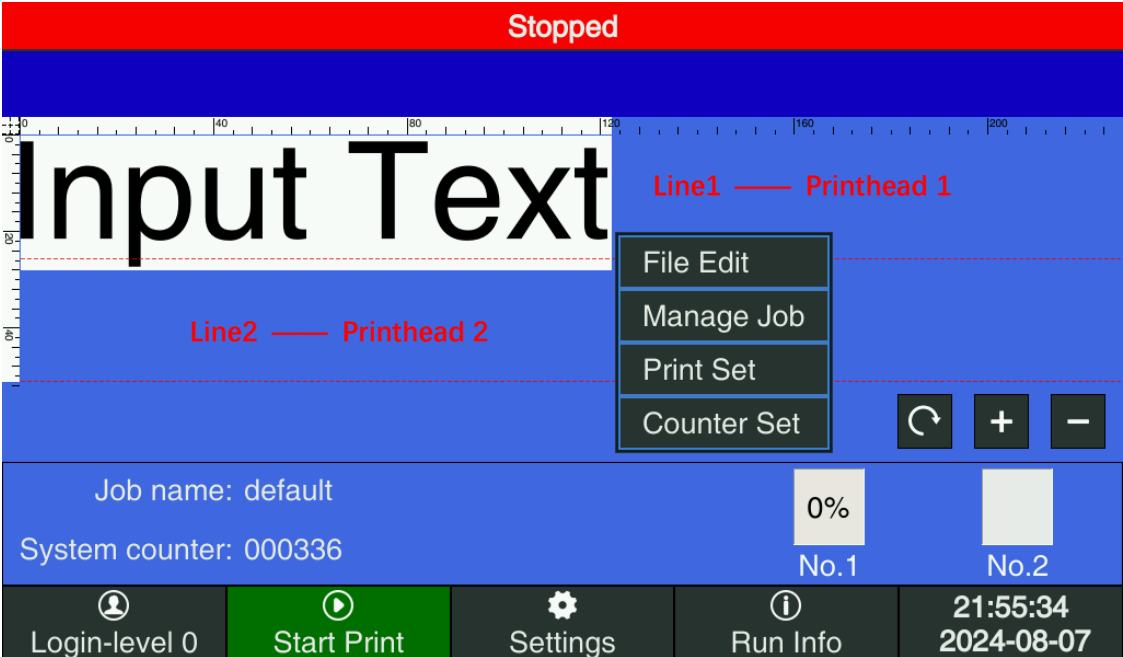


8.4 Print

- ◆ Step 1: Create a new file that will be printed.
- 1) Long press the screen for 1-2 seconds to wake up the edit menu.

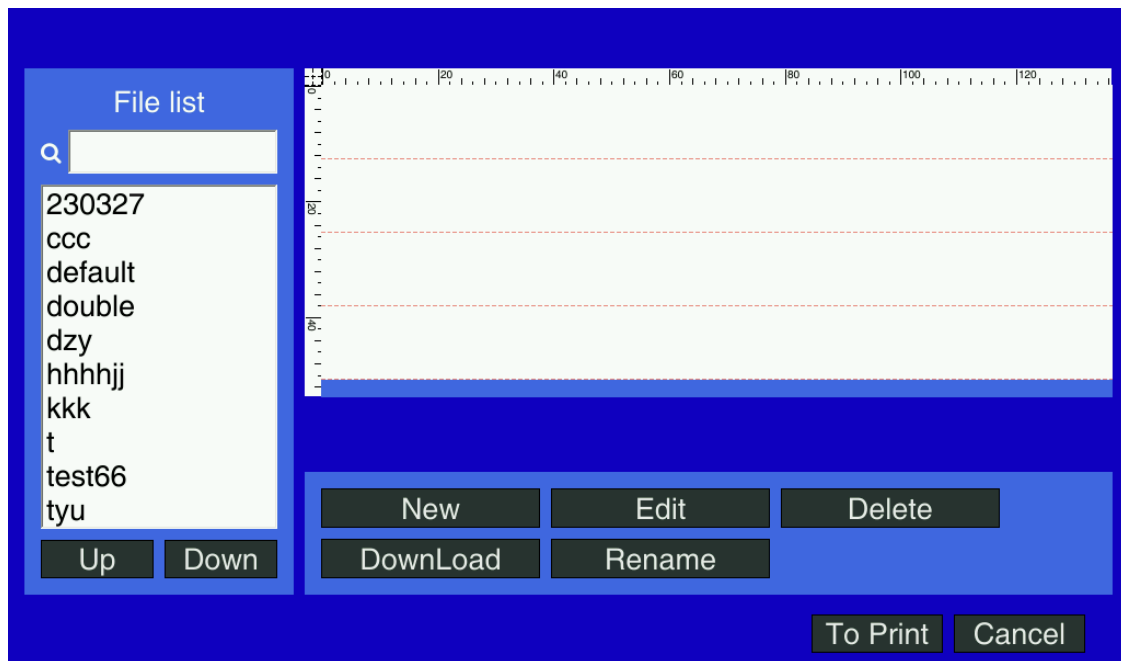


\* (1/2 inch)

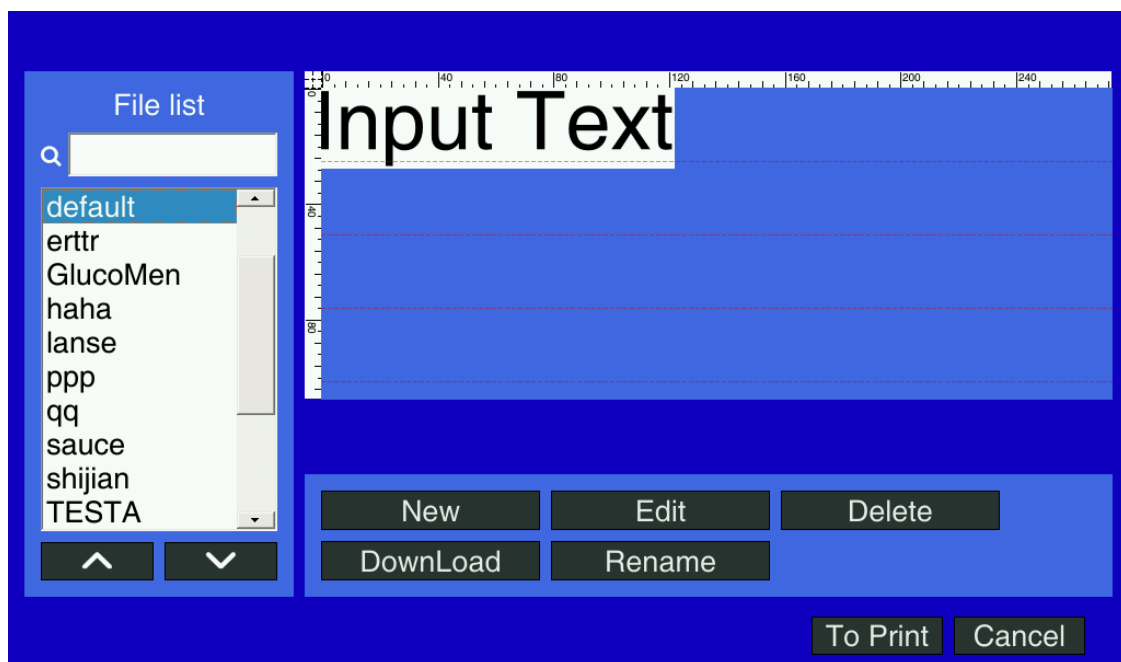


\* (1 inch)

- 2) Press 'Manage Job'



\* (1/2 inch)



\* (1 inch)

3) Press 'New'




A screenshot of a 'FileSave' dialog box. The title bar is blue and contains the text 'FileSave'. Below the title bar, there is a label 'FileName' followed by a text input field containing 'TIJ TEST'. At the bottom right of the dialog, there are two buttons: 'Save' and 'Cancel'.

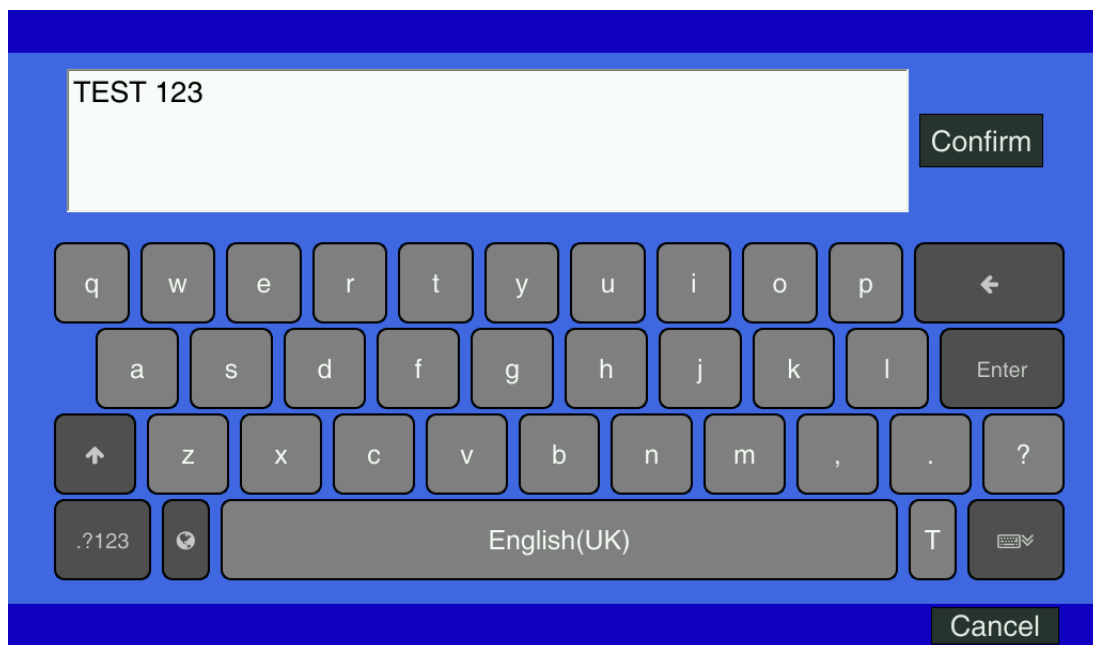
Input the filename. for example: TIJ TEST. Then press 'Save'

- 4) It can create text, time, counter, barcode, image, QR code and shift.



Press  icon to create a text file.

- 5) Input the TEST 123 in column Text for example



A screenshot of a text input screen. At the top, there is a text input field containing 'TEST 123'. To the right of the input field is a 'Confirm' button. Below the input field is a virtual keyboard with various keys: 'q', 'w', 'e', 'r', 't', 'y', 'u', 'i', 'o', 'p', '←', 'a', 's', 'd', 'f', 'g', 'h', 'j', 'k', 'l', 'Enter', '↑', 'z', 'x', 'c', 'v', 'b', 'n', 'm', ',', '.', '?', '.\_123', a globe icon, 'English(UK)', 'T', and a checkmark icon. At the bottom right of the screen, there is a 'Cancel' button.

Press 'Confirm'

Text

Preview **TEST 123**

Text TEST 123

Font Helvetica

Font Size - 150 + Rotate - 0 +

X - 0 + Y - 0 +

☐ External Data

OK

Press OK

TEST 123

+

-

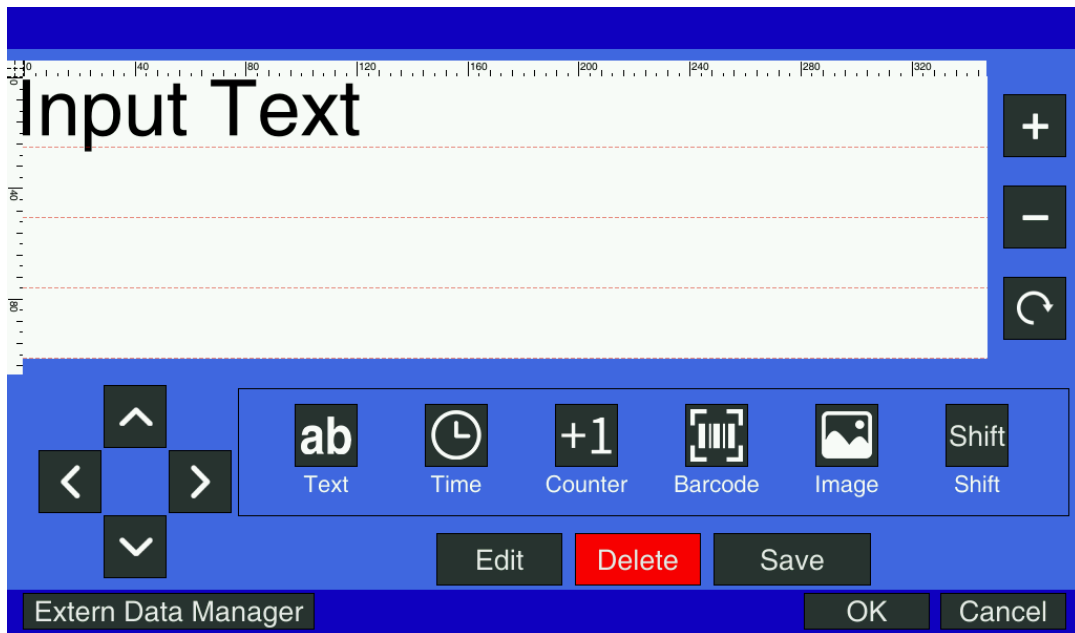
↺

ab Text ⌚ Time +1 Counter [Barcode] [Image] Shift Shift

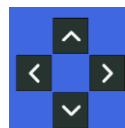
Edit Delete Save

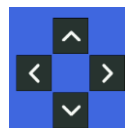
Extern Data Manager OK Cancel

\*(1/2 inch)

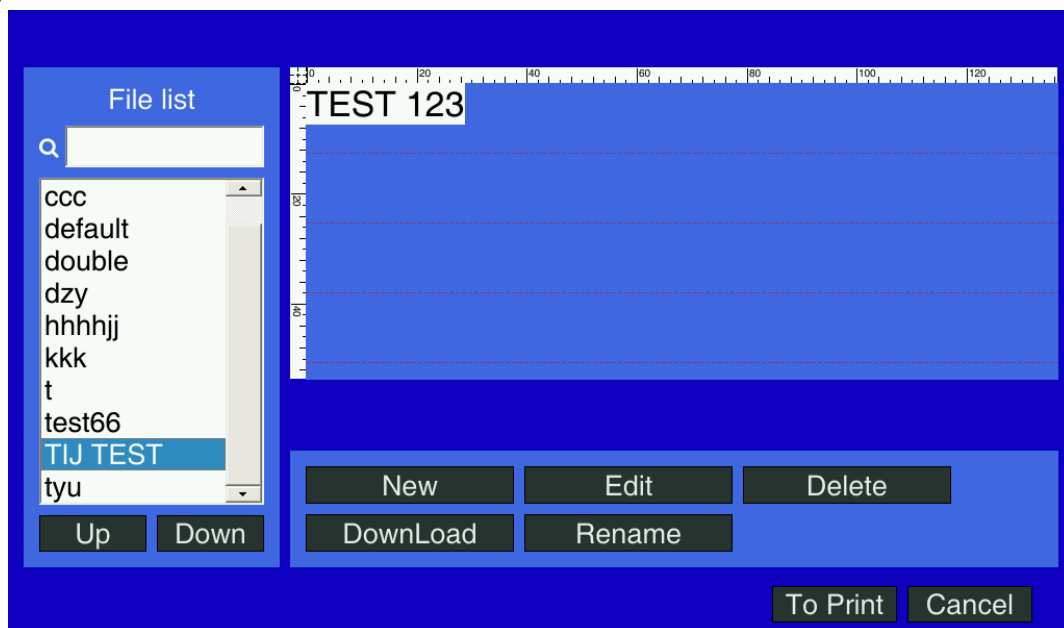


\* (1 inch)

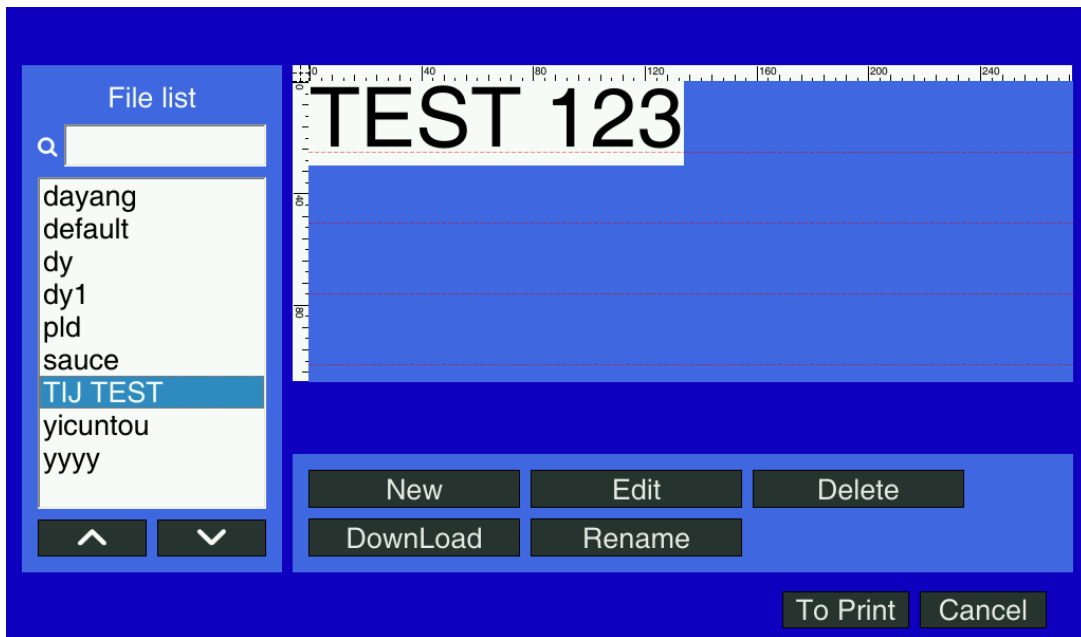


Press  arrows to adjust the position, then press OK

6) Press 'To Print'



\* (1/2 inch)



\* (1 inch)



\* (1/2 inch)



Stopped

TEST 123

Job name: TIJ TEST

System counter: 000000

100%

No.1

Login-level 0

Start Print

Settings

Run Info

15:12:37

2024-10-17

\* (1 inch)

Create the file successfully.

- ◆ Step 2: Print set: Long press the screen, select 'Print Set'

The screenshot shows the 'Print Set' screen with three tabs: 'Parameter', 'Print mode', and 'Advanced'. The 'Parameter' tab is active. It features a 'Nozzle Select' section with checkboxes for 'splice' and '1' (checked), and buttons for '2', '3', and '4'. Below this is a 'Print Head Delay(mm)' section with a value of '1' and a slider set to '0.0'. The 'Single Print Head Direct' section has a radio button for '1' (selected) and a display showing '123 456 789 012'. The 'Jetting Mode' section has a dropdown menu set to 'Odd nozzle'. On the right, there are two columns of radio buttons for 'DPI-X' (150, 200, 300, 600) and 'DPI-Y' (75, 100, 150, 300). At the bottom right are 'OK' and 'Cancel' buttons.

For 1/2" with Jetting setting mode

The screenshot shows the 'Print Set' screen with three tabs: 'Parameter', 'Print mode', and 'Advanced'. The 'Parameter' tab is active. It features a 'Nozzle Select' section with checkboxes for 'splice', '1' (checked), and '2' (checked), and buttons for '3' and '4'. Below this is a 'Print Head Delay(mm)' section with two sliders, both set to '0.0'. The 'Single Print Head Direct' section has radio buttons for '1' and '2' (selected), and a display showing '123 456 789 012'. The 'Custom Rows In Single Head' section has a checked checkbox and a display showing '1 2 3 4'. On the right, there are two columns of radio buttons for 'DPI-X' (150, 200, 300, 600) and 'DPI-Y' (75, 100, 150, 300). At the bottom right are 'OK' and 'Cancel' buttons.

For 1" without Jetting setting mode

Parameter page is for printing parameter settings, operator can set the print head delay, print grayscale (the higher value, the greater ink output). Switching between different print nozzles after using a period of time can make the ink cartridges more durable.

**Note:** For each printhead, only when it is connected to the corresponding printhead interface can the Nozzle Select function take effects.

Parameter Print mode **Advanced**

Trigger Mode

☒ Inner Signal

☐ External Sensor

Encoder ☒

PPR - 5000 +

Diameter (mm) - 50 +

Reverse Print ☐

Forward Opposite

Forward Delay - 0.0 +

Print Times - 1 +

Print Times - 1 +

Repeat Interval - 68mm +

Print Interval - 92.0 +

OK Cancel

In the Print mode page, operator can select the trigger mode of the device's printing. Increase or decrease the value of the synchronization multiplier parameter, and the proportion of the output print content will be adjusted. When the trigger mechanism of the device is activated, the interval between printing content can be set.

Parameter Print mode **Advanced**

Photocell

☒ Beep

☒ Signal shielding

- 0.0 mm +

OK Cancel

If Beep option is selected, 'Beep' can be heard once per printing is finished.

If Signal shielding is selected, print signal will not be triggered again within certain distance from the first triggered signal location.

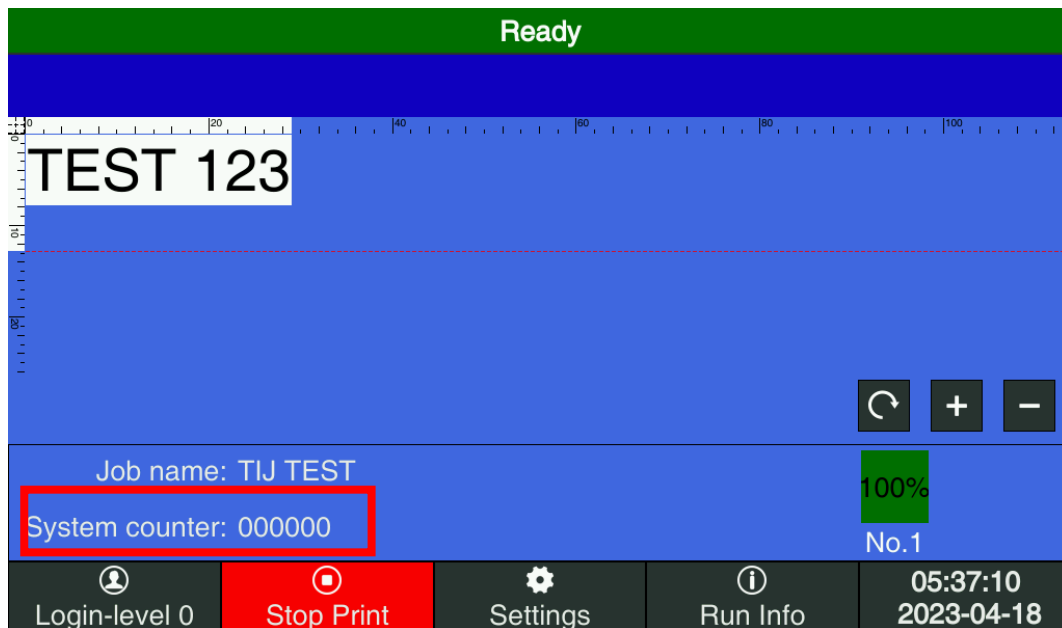
◆ Step 3: Start printing



Press 'Start Print' (1/2 inch)



Press 'Start Print' (1 inch)

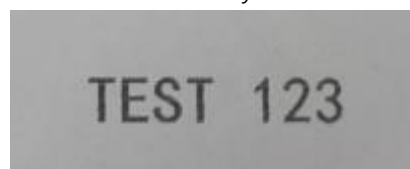


\* (1/2 inch)



\* (1/2 inch)

When 'Ready' is shown in status bar, it is ready to print now.  
 Operator needs to activate the encoder and trigger the optical sensor.  
 The **System counter** value will increase by one once it is printed successfully, .



Print result

## 9.Maintenance

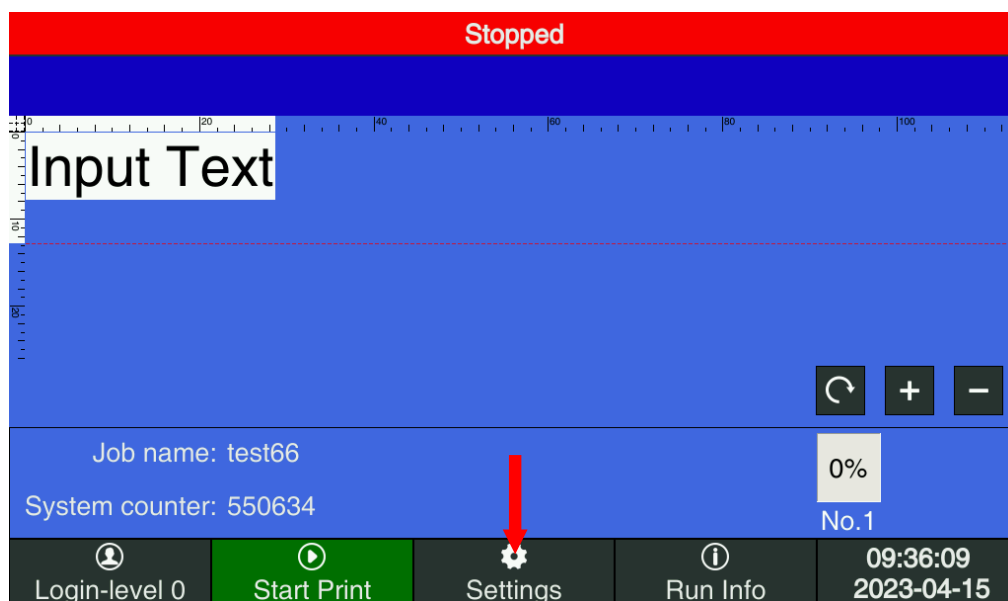
### 9.1 Maintain the printhead daily

- 1) Please insert the ink cartridge and remove the ink cartridge correctly.
- 2) Don't touch the printhead pin
- 3) If the nozzle is dirty, clean it with non-woven fabrics gently and in the same direction.

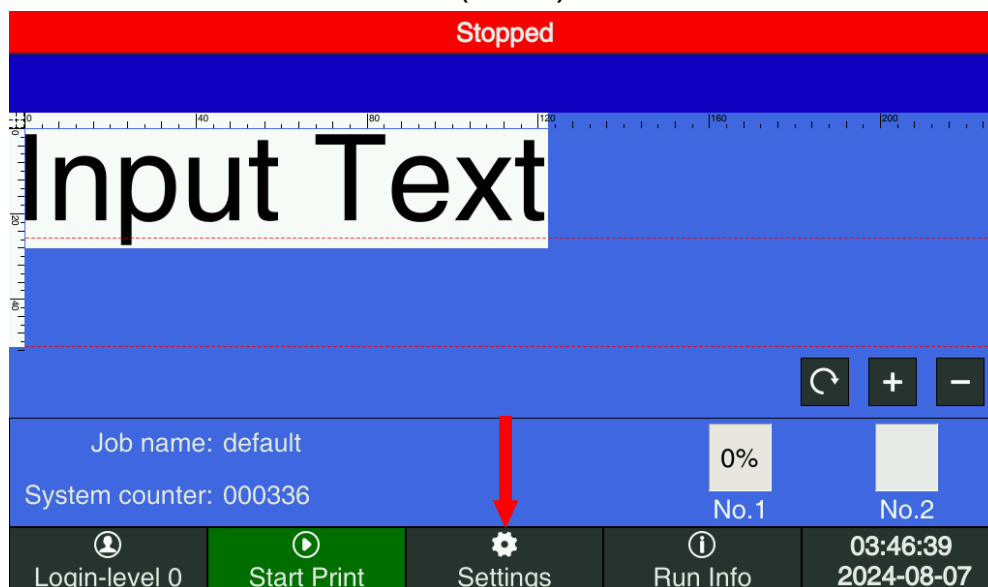
### 9.2 Nozzle clean

Before starting to print, it is suggested that operator should print some content in advance for testing. If the print result has line defects, or the result is fuzzy, it is necessary to clean the nozzle.

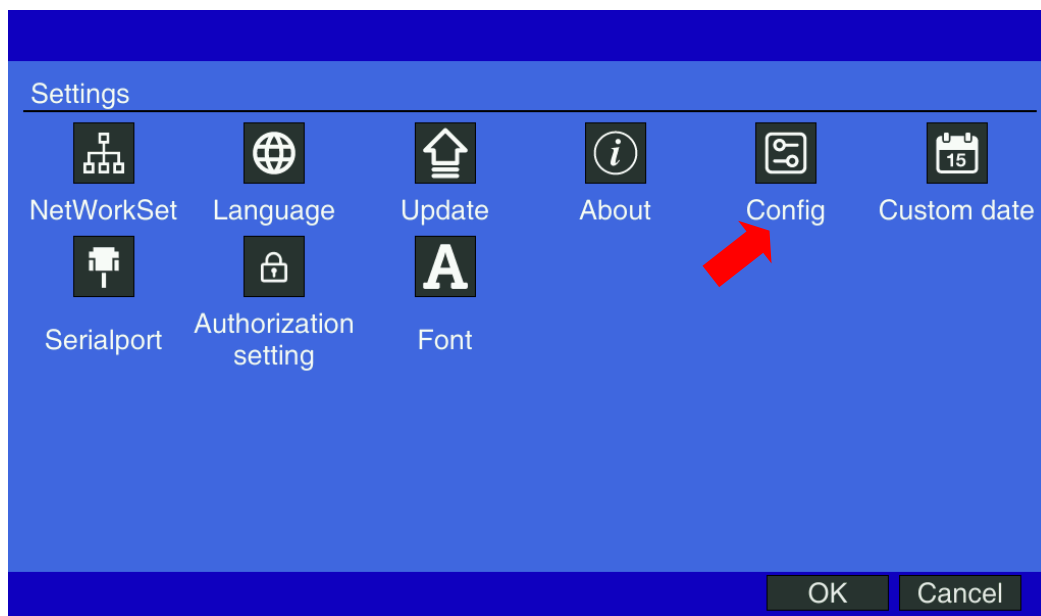
Press 'Setting' ---select 'Config'



\* (1/2 inch)



\* (1 inch)



Long press 'Clean'

It is recommended to enable 'Auto jet'.


Print voltage

☒ Auto Match

Voltage - 10.5 +

Pulse - 2.4 +

Auto jet

☒ 

Interval - 10 +

Quantity - 5 +

Clean nozzle

Clean

Ink low level

- 10 +

OK

Then set the interval and quantity according to individual needs.

As the above picture, the nozzle will jet 5 times automatically every 17 seconds.

Auto jet can prevent the ink in the nozzle from getting dry.

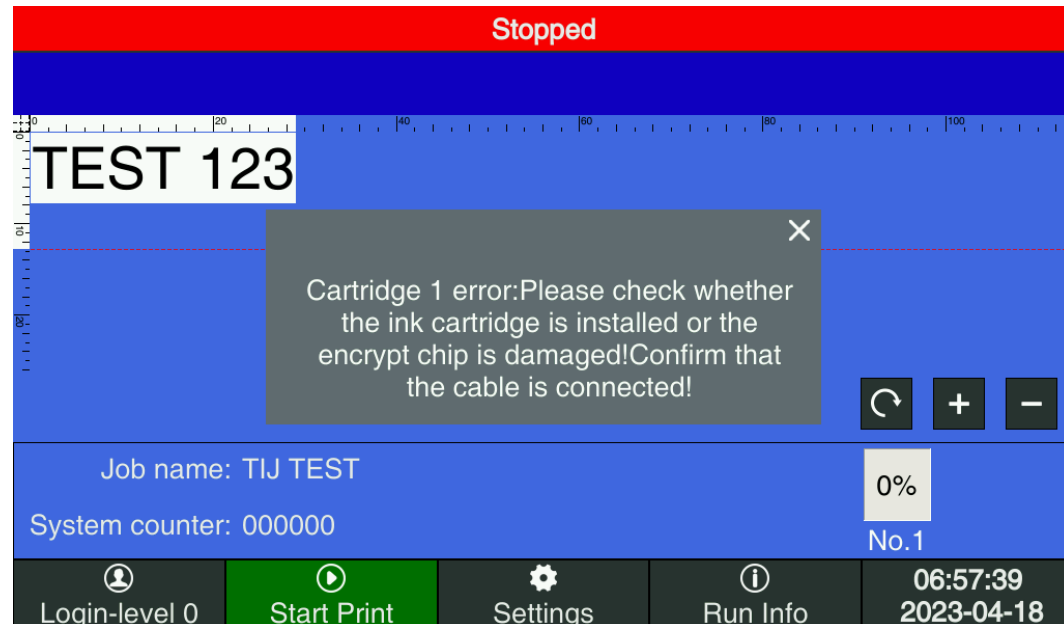
**Note: '17' and '5' are not mandatorily set values, they can be altered.**



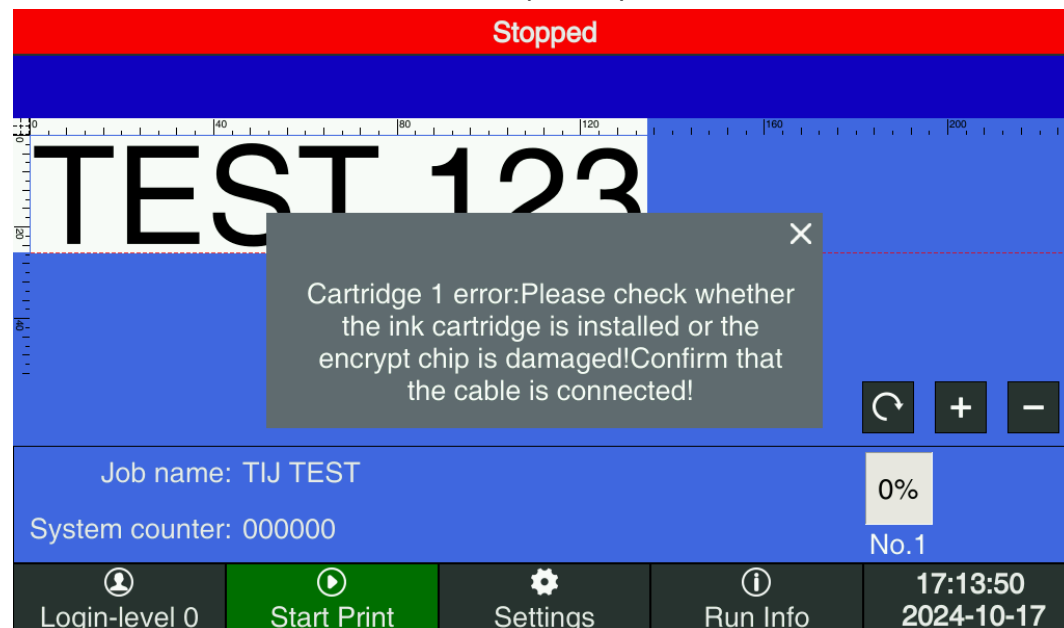
## 9.3 Troubleshooting

### 9.3.1 Cartridge Error

When TIJ display Cartridge error, as shown in the picture below.



\* (1/2 inch)



\* (1 inch)

First, please check the Head ID in 'Run Info'. If Head ID is empty, please long press 'Clean' button in Config and check for ink spray.

| Run information                     |                   |
|-------------------------------------|-------------------|
| Trigger mode: External Electric Eye | Dpi: 600          |
| Voltage: 10.5                       | Pulse: 2.4        |
| Head 1 ink level:                   | Head 2 ink level: |
| Head 1 maximum:                     | Head 2 maximum:   |
| Head 3 ink level:                   | Head 4 ink level: |
| Head 3 maximum:                     | Head 4 maximum:   |
| Head 1 ID :                         | Head 2 ID :       |
| Head 3 ID :                         | Head 4 ID :       |

OK

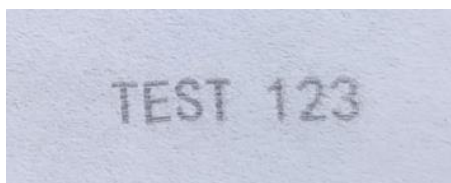
If any ink comes out, that means printhead/ cable/ controller are normal and connected well, it might be chip's problem. If there is no ink out, please check if printhead/ cable/ controller are normal and connected well.

|   |   |   |
|---|---|---|
| <b>Print voltage</b><br><input checked="" type="checkbox"/> Auto Match<br>Voltage - 10.5 +<br>Pulse - 2.4 + | <b>Auto jet</b><br><input checked="" type="checkbox"/><br>Interval - 10 +<br>Quantity - 5 + | <b>Clean nozzle</b><br><div>Clean</div> |
| <b>Ink low level</b><br>- 10 +  |   |   |

OK

### 9.3.2 Poor print quality

If print result is fuzzy and bad, shown as the picture below



Maybe there are several reasons about it:

- 1) DPI is too low in the parameter.  
Higher DPI can be selected.

Parameter | Print mode | Advanced

Nozzle Select  
☐ splice ☒ 1 ☐ 2 ☐ 3 ☐ 4  
 Print Head Delay(mm)  
 1  
 - 0.0 +

Single Print Head Direct  
☒ 1  
 123 456 789 012  
 Jetting Mode  
 Odd nozzle

DPI-X  
☐ 150  
☐ 200  
☒ 300  
☐ 600  
 DPI-Y  
☐ 75  
☐ 100  
☐ 150  
☒ 300

OK Cancel

\* (1/2 inch)

Parameter | Print mode | Advanced

Nozzle Select  
☐ splice ☒ 1 ☒ 2 ☐ 3 ☐ 4  
 Print Head Delay(mm)  
 1 2  
 - 0.0 + - 0.0 +  
 Custom Rows In Single Head ☒  
☒ 1 ☐ 2  
 1 2 3 4

Single Print Head Direct  
☐ 1 ☒ 2  
 123 456 789 012

DPI-X  
☐ 150  
☐ 200  
☐ 300  
☒ 600  
 DPI-Y  
☐ 75  
☐ 100  
☐ 150  
☒ 300

OK Cancel

\* (1 inch)

- 2) The distance is too far between the nozzle and the object that will be printed.  
The distance should be no more than 5mm and the object should not touch the nozzle.
- 3) The printhead, cartridge or cable is damaged.  
Please replace the printhead, cartridge or cable.

### 9.3.3 Combination failure for multi-lines

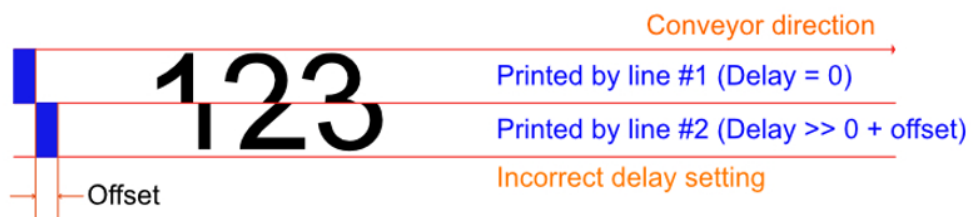
- 1) When multiple printheads are used for combination, Printhead1 and Printhead2 should be perpendicular to the moving direction of conveyor and the printhead delay value

should be correct.

Well combination and printhead delay value, the print result is shown as the picture below:



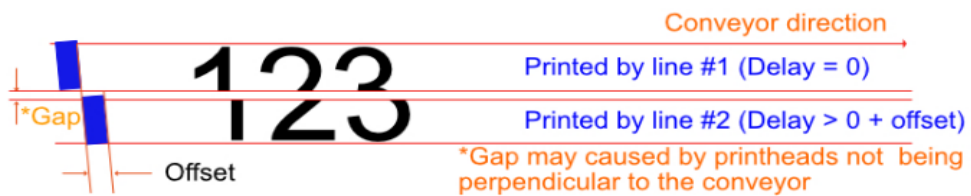
- 2) If Printhead1 and Printhead2 are perpendicular to the direction of conveyor, but the printhead delay value is incorrect, the result is shown as the picture below:



Please adjust the printhead delay value.

- 3) It will have a gap between PH1 and PH2, if the printheads is not perpendicular to the moving direction of the conveyor.

The result will also not be OK, as the picture shown below:

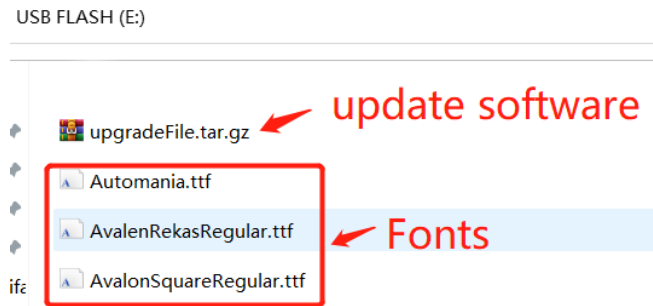


Firstly, fix the gap between PH1 and PH2 by aligning both of them.

Then, adjust the printhead delay value.

## 9.4 Software Update

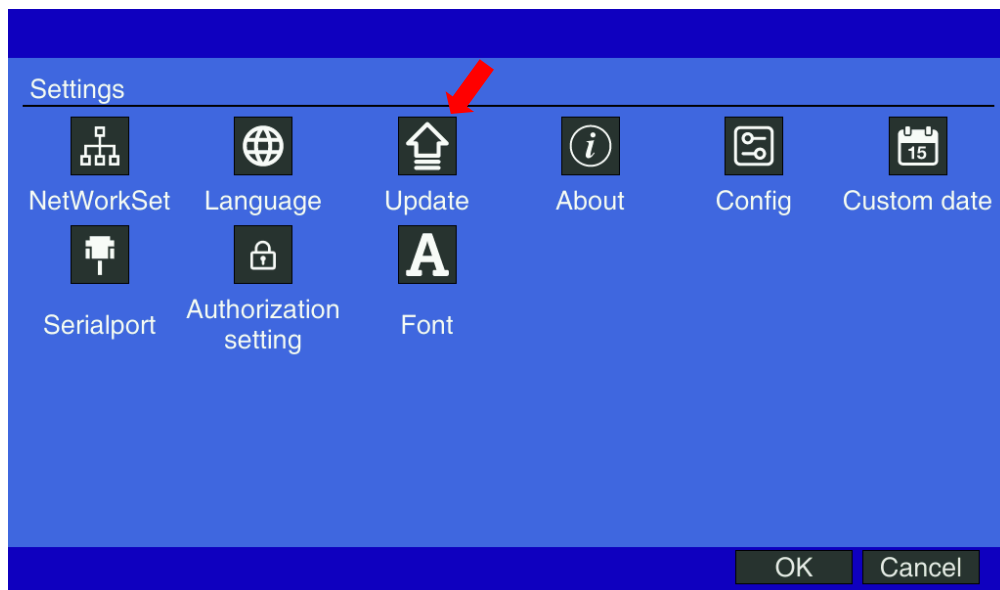
- 1) Copy the update software to usb flash drive



- 2) Insert the usb flash drive to TIJ usb port



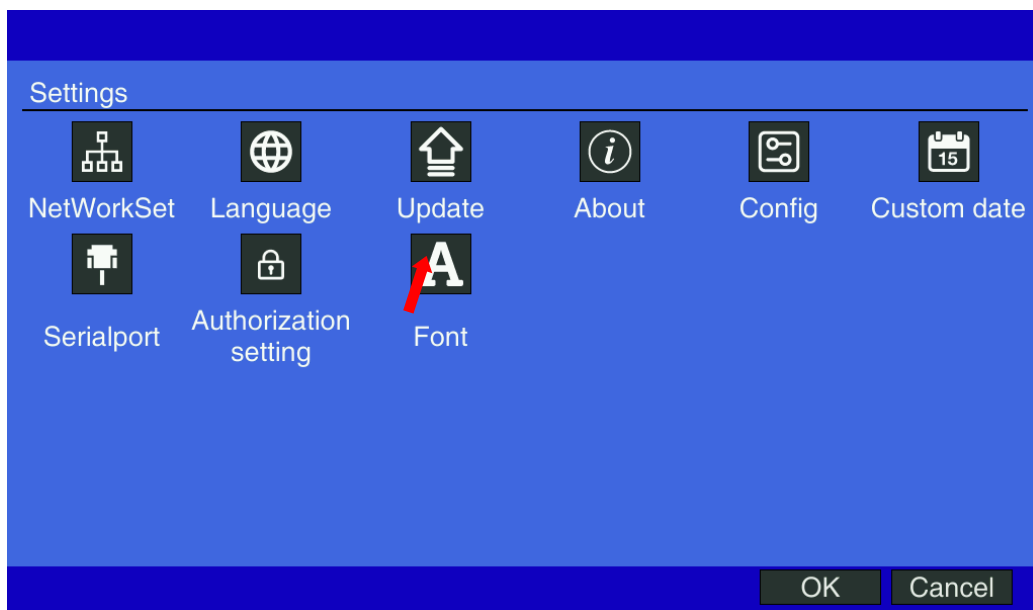
- 3) Press 'Settings', press 'Update'. TIJ will update the software automatically.

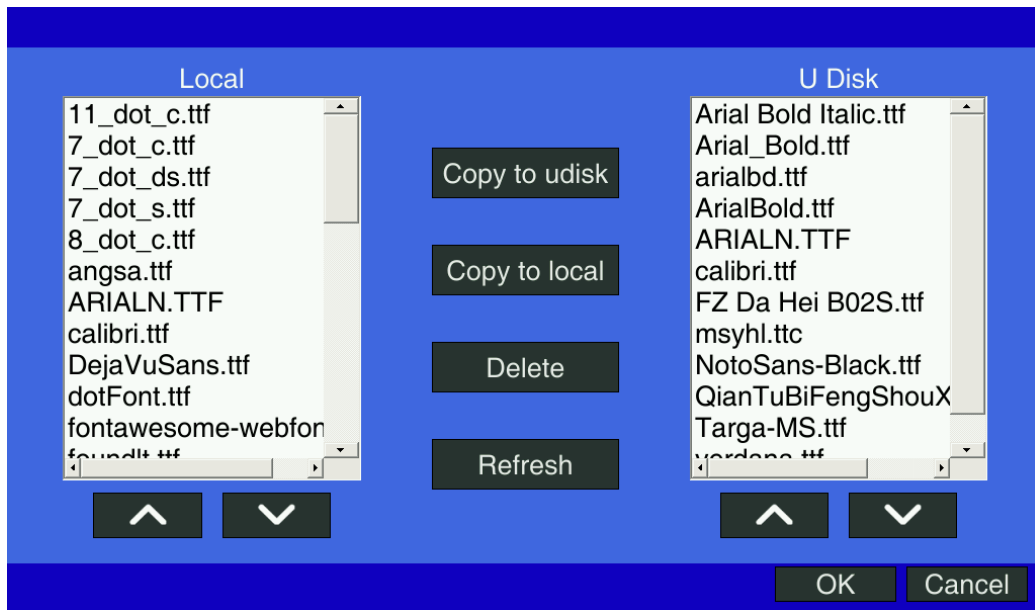


# Upgrading...

## 9.5 Import Font

- 1). Copy the fonts to usb flash drive
- 2). Insert the usb flash drive to TIJ usb port
- 3). Press 'Settings', press 'Font'.





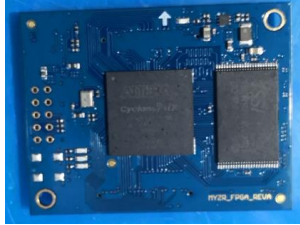




- 4). Select the font file(\*.ttf) in the usb, press 'Copy to local'.



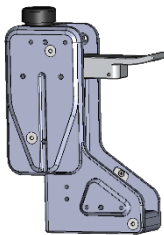
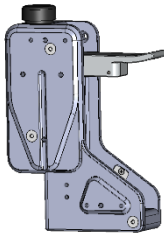
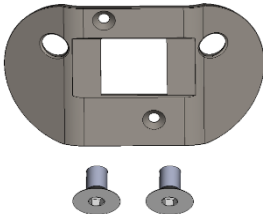
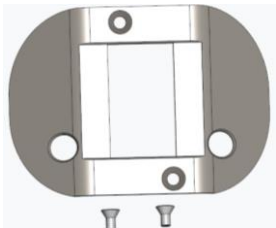
# 10.Appendix

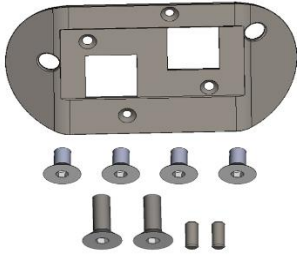
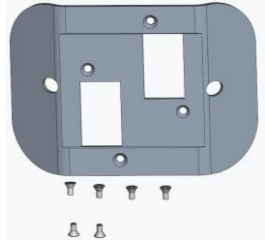

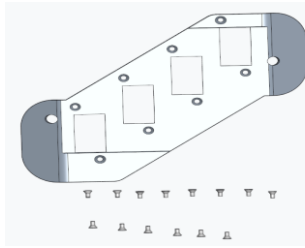

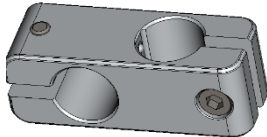
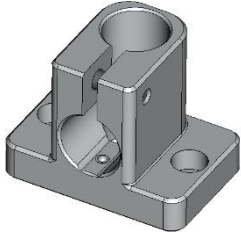
## Spare parts list

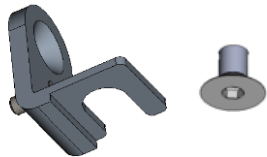

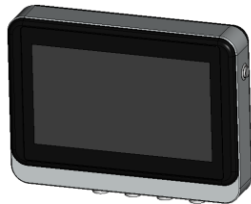
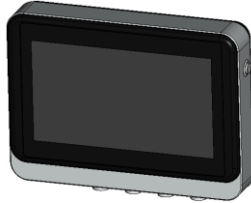


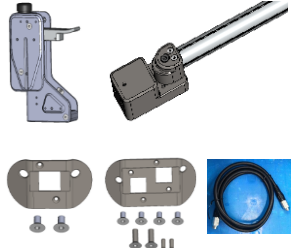
| No<br>. | Part No.            | Part Name                           | Reference Picture  | Note                                 |
|---------|---------------------|-------------------------------------|--|--------------------------------------|
| 1       | C2.ZJ.004<br>0A     | TIJ Touch<br>screen set             |    | For TIJ controller, HMI              |
| 2       | C3.BZ.000<br>1QDB   | TIJ Screen driver<br>board          |    | For TIJ controller<br>screen driving |
| 3       | C3.BZ.000<br>1ZB.2T | TIJ Main<br>board-Double<br>head    |  | For TIJ controller                   |
| 4       | C3.BZ.000<br>1ZB.4T | TIJ Main<br>board-Quadruple<br>head |  | For TIJ controller                   |
| 5       | C3.BZ.000<br>1FPGA  | TIJ FPGA Core<br>board              |  | For TIJ controller                   |

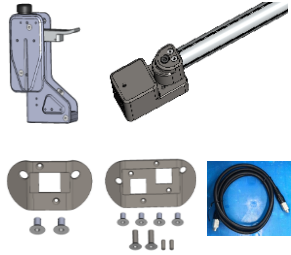









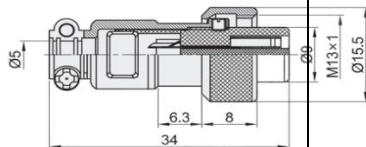


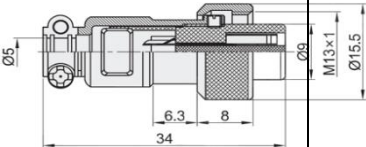


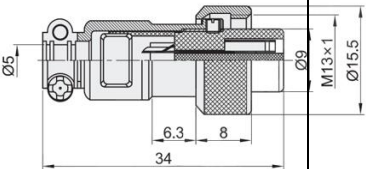



|    |                    |                                    |  |  |
|----|--------------------|------------------------------------|--|--|
| 6  | C3.BZ.000<br>1CB   | TIJ CB200 Core<br>board-CK         |    | For TIJ controller                             |
| 7  | C3.KG.000<br>2A    | TIJ 3.0 Switch<br>assembly         |    | For TIJ controller                             |
| 8  | C3.BZ.000<br>1JKB  | TIJ Power<br>interface board       |    | For TIJ controller                             |
| 9  | C3.BZ.000<br>2QDB  | TIJ Driver&<br>connection<br>board |    | For TIJ printhead                              |
| 10 | C3.BZ.000<br>3QDB  | TIJ Printhead<br>driver board      |  | For TIJ printhead                              |
| 11 | C4.H30H0<br>0.1500 | TIJ Data cable                     |  | For TIJ printhead and<br>controller connection |
| 12 | C4.H30H0<br>0.5000 | TIJ Data cable<br>5m               |  | For TIJ printhead and<br>controller connection |
| 13 | C2.ZJ.003<br>8A    | TIJ Power<br>adapter<br>assembly   |  | For TIJ controller power<br>supply             |

|    |                    |  |  |  |
|----|--------------------|--|--|--|
| 14 | Y4.P03H4<br>A.1200 | American<br>standard                                 |    | By default, the plug type<br>depends on market |
| 15 | Y4.P03H4<br>B.1200 | European<br>standard                                 |    | By default, the plug type<br>depends on market |
| 16 | C2.ZJ.001<br>8A    | TIJ Printhead<br>assembly<br>(1/2 inch)              |     | Use with TIJ controller                        |
| 17 | C2.ZJ.001<br>8B    | TIJ Printhead<br>assembly<br>(1 inch)                |    | Use with TIJ controller                        |
| 18 | C2.WJ.QT<br>0077B  | TIJ Guide plate<br>kit for single<br>head (1/2 inch) |  | Use with TIJ printhead,<br>protect nozzle      |
| 19 | C2.WJ.QT<br>0077C  | TIJ Guide plate<br>kit for single<br>head (1 inch)   |  | Use with TIJ printhead,<br>protect nozzle      |

|    |                   |   |  |   |
|----|-------------------|---|--|---|
| 20 | C2.WJ.QT<br>0078B | TIJ Guide plate<br>for double head<br>(1/2 inch)    |    | Use with TIJ printhead, protect nozzle, used to combine two printheads together to enlarge the printing height  |
| 21 | C2.WJ.QT<br>0078C | TIJ Guide plate<br>for double head<br>(1 inch)      |    | Use with TIJ printhead, protect nozzle, used to combine two printheads together to enlarge the printing height  |
| 22 | C2.WJ.QT<br>0105B | TIJ Guide plate<br>for quadruple<br>head (1/2 inch) |    | Use with TIJ printhead, protect nozzle, used to combine four printheads together to enlarge the printing height |
| 23 | C2.WJ.QT<br>0105C | TIJ Guide plate<br>for quadruple<br>head (1 inch)   |  | Use with TIJ printhead, protect nozzle, used to combine four printheads together to enlarge the printing height |
| 24 | C2.ZJ.001<br>9A   | TIJ Buffer<br>mechanism                             |  | Use with TIJ printhead, absorb shock and locate printhead working direction                                     |
| 25 | C2.ZJ.002<br>2A   | TIJ Cross bar<br>jointer                            |  | For D20 bar cross connection and location   |
| 26 | C2.ZJ.002<br>3A   | TIJ Base<br>connector                               |   | Connect D20 bar to base   |

|    |                   |   |  |  |
|----|-------------------|---|--|--|
| 27 | C2.ZJ.002<br>0B   | TIJ Sensor<br>bracket set                 |    | Used for optical fiber<br>sensor integration   |
| 28 | C2.WJ.QT<br>0089A | TIJ Bar D20x300                           |     | Provide more possibility<br>for printhead together<br>with cross bar jointer                                       |
| 29 | C2.ZJ.001<br>7A   | TIJ Controller for<br>two printhead       |     | Control the printhead to<br>work as intended<br>purpose  |
| 30 | C2.ZJ.004<br>5A   | TIJ Controller<br>for four printhead      |    | Control four printheads<br>to work as intended<br>purpose  |
| 31 | C2.ZJ.002<br>1A   | Easy-position<br>bracket<br>assembly      |   | Bracket assembly,<br>hold/support the control<br>on its position and angle<br>as intended purpose                  |
| 32 | C2.ZJ.002<br>4A   | TIJ Controller<br>support bar<br>assembly |   | Support to separate the<br>controller from existing<br>bracket system when<br>used together with Base<br>connector |
| 33 | C2.ZJ.004<br>1A   | TIJ<br>Single-printhead<br>set (1/2 inch) |  | Inkjet execution unit  |

|    |                   |   |  |   |
|----|-------------------|---|--|---|
| 34 | C2.ZJ.004<br>1B   | TIJ<br>Single-printhead<br>set (1 inch) |    | Inkjet execution unit                               |
| 35 | C2.ZJ.004<br>4A   | TIJ<br>Quadruple-printhead set          |    | Inkjet execution unit                               |
| 36 | C2.ZJ.004<br>4B   | TIJ<br>Quadruple-printhead set (1 inch) |   | Inkjet execution unit                               |
| 37 | C4.B40000<br>.100 | TIJ FFC 40Pin                           |  | For main board and screen driver board connection   |
| 38 | C4.N1200.<br>200  | TIJ Wire harness<br>12P                 |  | For main board and power interface board connection |
| 39 | C4.N08000<br>.200 | TIJ Wire harness<br>8P                  |  | For main board and power interface board connection |
| 40 | C4.B20000<br>.100 | TIJ FFC 20Pin                           |  | For printhead inner connection                      |

|    |                    |  |  |  |   |
|----|--------------------|--|--|--|---|
| 41 | C2.ZJ.004<br>2A    | TIJ Optical fiber<br>sensor set                      |    |  <p>Optical fiber sensor &amp; amplifier set (amplifier with aviation plug 'GX12-3P' preassembled)</p>          |    |
| 42 | C2.ZJ.004<br>3A    | TIJ Encoder<br>set/GTS06-OP-R<br>AG2500Z1-2M/T<br>IJ |    |  <p>Encoder (with aviation plug 'GX12-4P' preassembled), bracket, wheel and necessary fastener are included</p> |    |
| 43 | C3.BJ.TBQ<br>0001B | TIJ Encoder<br>GTS06-OP-RAG<br>2500Z1-2M             |  |  <p>Encoder (with aviation plug 'GX12-4P' preassembled) , fastener and coupler are included</p>               |  |
| 44 | C5.QT.003<br>8B    | TIJ Wheel D50<br>for encoder                         |   | Wheel for encoder, matching shaft with 6mm diameter  |   |
| 45 | C3.QT.BJD<br>0003B | Traffic<br>light-DB9-TIJ                             |  | Traffic light (With DB9 preassembled)  |   |

|    |  |  |  |                                |
|----|--|--|--|--------------------------------|
| 46 |  | Software Package for controller (1/2 inch) | Software version : 1.0.7.1<br>Firmware version : 2.7.0   | Base version for 1/2 inch head |
| 47 |  | Software Package for controller (1 inch)   | Software version : 1.0.9.11<br>Firmware version : 12.7.1 | Base version for 1 inch head   |

#### **Ink cartridge list (1/2 inch cartridge)**

| No. | Part No.    | Part Name                             | Description   |
|-----|-------------|---------------------------------------|---|
| 1   | YA.MH.TW46B | Cartridge-Water based/Black/CY642K    | Black aqueous ink: Enhanced fade resistance, smear resistance and water resistance, excellent optical density, sharpness and barcode readability on various porous and semi-porous substrates |
| 2   | YA.MH.TW47B | Cartridge-Solvent based/Black/CYS640K | Black solvent ink: Fast drying time, excellent adhesion and rub resistance, high optical density, and excellent sharpness and barcode readability on semi-porous and non-porous substrates.   |
| 3   | YA.MH.TW57B | Cartridge-Solvent based/Blue/CYS640B  | Blue solvent ink: Good adhesion and rub resistance, excellent sharpness and barcode readability on semi-porous and non-porous substrates  |
| 4   | YA.MH.TW51B | Cartridge-Solvent based/Red/CYS640R   | Red solvent ink: Fast drying time, good adhesion and rub resistance, and excellent sharpness on semi-porous and non-porous substrates   |
| 5   | YA.MH.TW58B | Cartridge-Solvent based/green/CYS640G | Green solvent ink: Fast drying time, good adhesion and rub resistance, enhanced optical   |



|          |             |   |  |
|----------|-------------|---|--|
|          |             |   | density and sharpness on semi-porous and non-porous substrates   |
| <b>6</b> | YA.MH.TW59B | Cartridge-Solvent based/yellow/CYS640Y    | Yellow solvent ink: Fast drying time, good adhesion and rub resistance, and excellent sharpness on semi-porous and non-porous substrates       |
| <b>7</b> | YA.MH.TW60B | Cartridge-Solvent based/invisible/CYS640I | Invisible solvent ink: Fast drying time, good adhesion and rub resistance, and excellent sharpness on semi-porous and non-porous substrates    |
| <b>8</b> | YA.MH.TW52B | Cartridge-Solvent based/White/CYS640W     | White pigment solvent ink: Fast drying time, excellent sharpness, fade resistance and heat resistance on semi-porous and non-porous substrates |

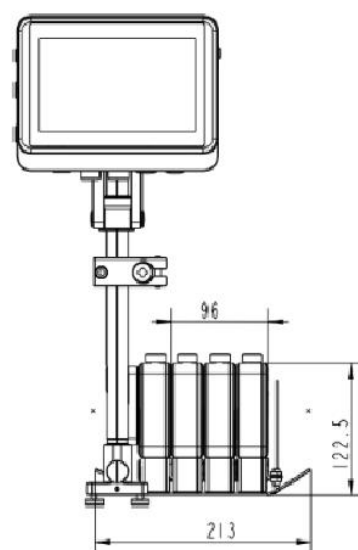
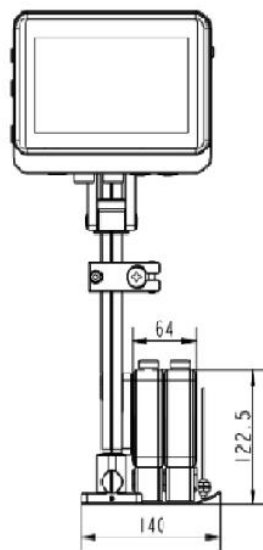
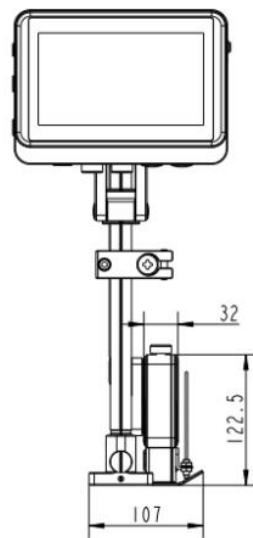
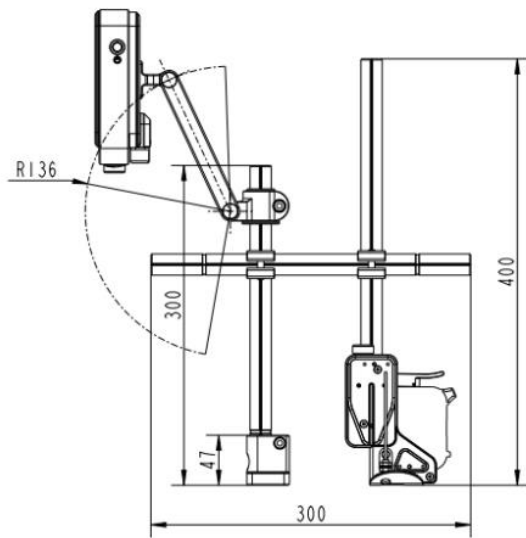
#### **Ink cartridge list (1 inch cartridge)**

| <b>No.</b> | <b>Part No.</b> | <b>Part Name</b>                          | <b>Description</b>  |
|------------|-----------------|---|---|
| <b>1</b>   | YA.MH.TW81B     | Cartridge-Water based/Black/CYW681BK/CK   | Black aqueous ink: Enhanced fade resistance, smear resistance and water resistance, excellent optical density, sharpness and barcode readability on various porous and semi-porous substrates |
| <b>2</b>   | YA.MH.TW80B     | Cartridge-Solvent based/Black/CYS680BK/CK | Black solvent ink: Fast drying time, excellent adhesion and rub resistance, high optical density, and excellent sharpness and barcode readability on semi-porous and non-porous substrates.   |

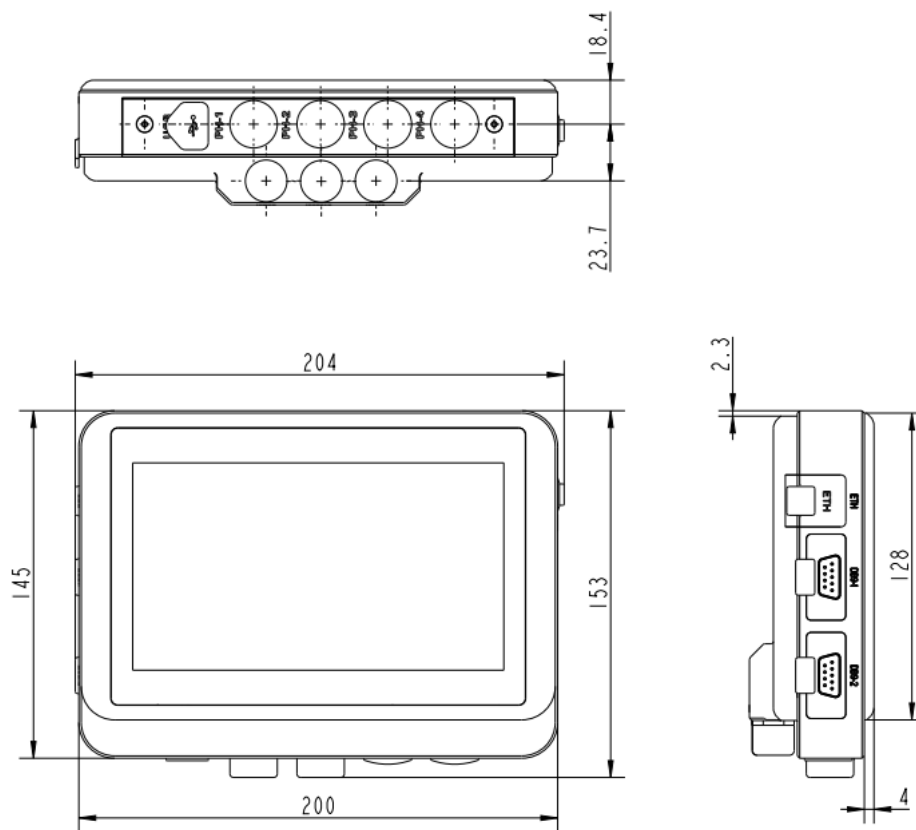


## Dimension specification

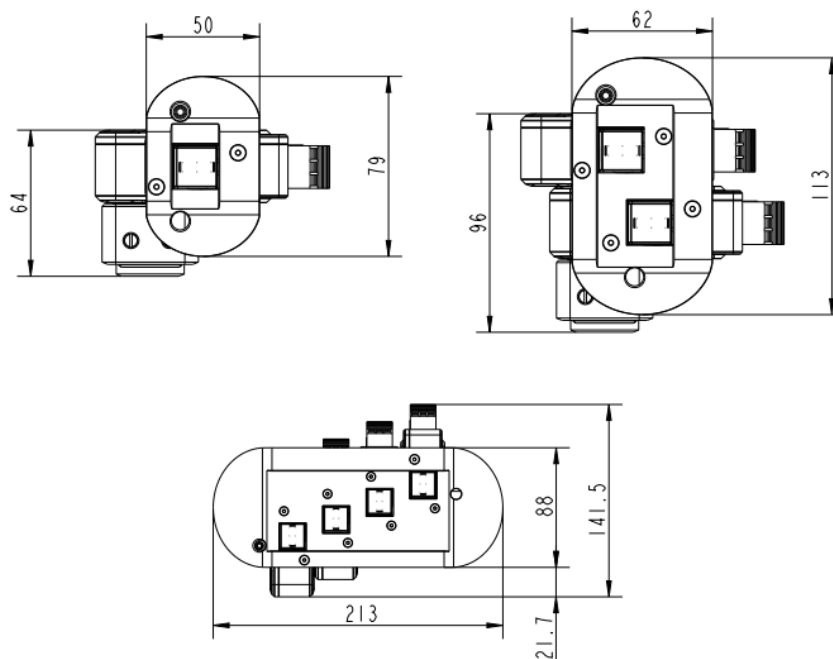
### 1. Overall Unit Size(Including 1 inch head)



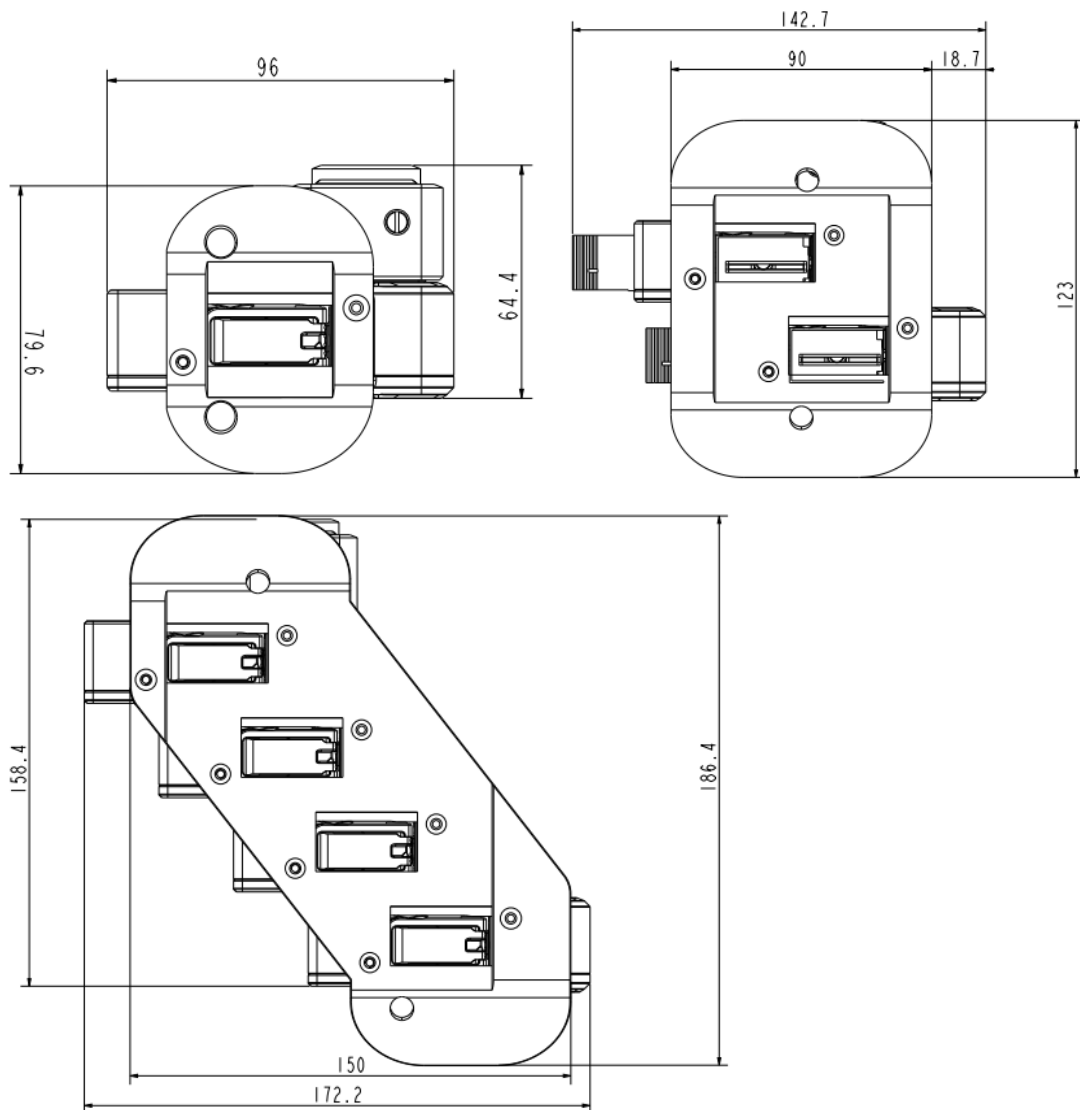
## 2. Controller Size(Same for both model)



## 3. Guide Plate Kit Size For 1/2 inch head



**For 1 inch head size:**



Cyklop reserves the right to modify the technical characteristics of the product without prior notice.

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