

# **SKJET Industrial Ink Jet Printer**

## **User manual**

**Version 1.04**

March 24, 2019

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## **Environment :**

1. Temperature: 5-45°C.
2. Humidity: 10%-70%.
3. Non condensing
4. Dust Free.
5. Avoid near the electromagnetic interfere, such as motors.

## **Operator's safety**

1. The inks and the cleaner may harmful for peoples, avoid get into mouth and eyes. Flush with a large quantity of water in case of get in eyes.
2. Wear gloves if need to contact the ink or cleaner.
3. If there is flammable sign on the bottle or cartridge, handing with care, according to the local law.

## **Operation safety**

1. Please ensure the system was shut down before remove any connections.
2. Only the qualified people by manufacturer can repair the electronic parts of the system, they should be trained by the manufacturer.
3. The ink and cleaner are developed and tested by the manufacturer, use other consumables may cause the damage of the system.
4. Static electricity may damage the printer. Discharge before touch the printer.

## Part 1 Installation

If no experience of printer installation, refer to Appendix 3.

1. Unpack the packing.
2. Install or remove the brackets as you need.
3. Install the "Swing Part" and the print head on the bracket.
4. The photocell was inside the print head, an external photo cell is optional.
5. Connect the AC power supply cable and key pad cable on the print head.
6. Also refer to Appendix 1.

 **NOTE**

The drop throw distance is under 3-4mm, and best print distance is 1mm.  
It is important to keep the substrate in 3mm in front of the nozzle.



Fig 1 Print head

1. Head holder	2. Swing Part	3 . Cartridge nozzles
4. Photo sensor		



Fig 2 Home page of printer.

1. All setting and printing message are stored in Printer Flash ROM.
2. The user can transfer the setting and message with a USB key.
3. Insert USB -key, press  key.

4. Press  to add all message and setting files from the USB key into the printer.
5. Press  to add all message and setting files from the printer into the USB key.
6. Press  to delete all message and setting files in the printer, and then add all message and setting files from the USB key into the printer.

Note:  with a empty USB-key, will reset all the setting and message in the printer.

It was recommended to copy all files in the printer to a USB-key, and then back up it on a computer.

## Part 2 Setting parameter.



- A. Press the  icon to get into the setting window
- B. Move finger on the screen to scroll up and down.
- C. Press  Icon to set system time.
- D. Press  Icon to get into system setting mode supported by Android system.  
Set the system language, WIFI, IP address in it.
- E. Press  to save the setting, the Password was “OK”.

## Quick setting for SKJET-series printer.

### Note:

For all system , set right print head at first. It is C31.

One 1/2 inch cartridge printer, select 12.7 mm x1.

Two 1/2 inch cartridges printer, select 12.7 mm x2.

.....

One 1 inch cartridge printer, select 25.4 mm x1.

Two 1 inch cartridges printer, select 25.4 mm x2.

.....

1. Speed: Set as the conveyor speed, to get the right printing width. The unit is mm/s.
2. Direction: Set it to print right when objects come from left or right.
3. Resolution: Select the printing resolution, from 150-750 dpi, it show different darkness.
4. Delay: Set the start printing position, after trigger, wait for the “Delay” and then start to print.
5. Photocell: If use the photocell, select “Pen” . (Only the pen one internal photocell was powered.)  
If use the external photocell, select “Port”  
If no photocell, set as “OFF”.

Note: If there is more than one pen, only the photocell in the first pen work.

6. Encoder: If equipped encoder, set “ON”, if not, set “Off”.
7. Repeat print: If photocell and encoder are all “Off”, system will repeat print after this distance.
8. Nozzle select: Left column or right column.

The 1/2 inch cartridges have 2 column nozzles, this will select the nozzle.

The 1 inch cartridge, have one column cartridge only, unavailable.

9. Wheel diameter: The diameter of encoder.

10. Encoder PPR: The “pulse per round” of encoder. (If equipped).

Note: Input an encoder PPR different with the real value, will cause the printing wider or narrower than the standard printing, it can be used to adjust the printing width continually.

11. “Pen 1 offset”: The additional delay for Pen 1.

When use more than one pen , this allow the user adjust the pen 1 printing position only.

12. “Pen 2 offset”: The additional delay for Pen 2.

13. “Pen 1 mirrored”: Set as 1 , pen 1 printing will be mirrored horizontally.

14. “Pen 2 mirrored”: Set as 1 , Pen 2 printing will be mirrored horizontally.
15. “Pen 1 inverted”: Set as 1, Pen 1 printing will be printed upside down.
16. “Pen 2 inverted”: Set as 1, Pen 2 printing will be printed upside down.
17. Pens: Reserved, set 0.
18. “Counter value”: Use to set the value of Counter auto-data.  
If a printing message include a counter auto-data, this value will be print next time.
19. “Pen 3 offset”: The additional delay for Pen 1.  
When use more than one pen , this allow the user adjust the pen 1 printing position only.
20. “Pen 4 offset”: The additional delay for Pen 2.
21. “Pen 3 mirrored”: Set as 1 , pen 1 printing will be mirrored horizontally.
22. “Pen 4 mirrored”: Set as 1 , Pen 2 printing will be mirrored horizontally.
23. “Pen 3 inverted”: Set as 1, Pen 1 printing will be printed upside down.
24. “Pen 4 inverted”: Set as 1, Pen 2 printing will be printed upside down.
25. “Voltage read”: Set as “On”, read driving voltage from cartridge.
26. “Voltage setting”: When “Voltage read ” is “off”, set driving voltage
27. “Pulse width”: Set as “On”, read driving pulse width from cartridge.
28. “Pulse width setting”: When “Pulse width” is “off”, set Pulse width here.
29. “Active timer”: If set as 0, disabled.  
If set as 100, it will print one column in each 100ms during wait the next print.  
It will help the nozzle keep wet between printings.
30. Photocell filter: It is a noise filter, set 20, the signal under 20ms will be ignored.  
When use some button trigger the system, there is some noise in the signal, this filter will avoid double trigger in by one signal.
31. Print head selection: Refer to the note on the top.
32. C 38 “1 for all” : If use 2 pen, set this parameter as 2, and edit a message for 1 pen only. The printer will print same printing with 2 pen , with this message.

F. Parameter table:

Note: Grey characters means the parameter was not available for Makro.

1. Speed	2. Direction
3. Resolution	4. Delay
5. Photocell	6. Encoder
7. Repeat print	8. Nozzle select
9. Wheel Diameter of encoder	10. Encoder PPR
11. Pen1 offset	12. Pen2 offset
13. Pen 1 Mirrored	14. Pen 2 Mirrored
15. Pen 1 Invert	16. Pen 2 Invert
17. Pens	18. Counter Value
19. Pen3 off set	20. Pen4 off set
21. Pen 3 Mirrored	22. Pen4 Mirrored
23. Pen 3 Invert	24. Pen4 Invert
25. Voltage Read	26. Voltage setting
27. Pulse width	28. Width set
29. Active timer	30. Photocell filter
31. Print head selection	32. Reset counter when power on

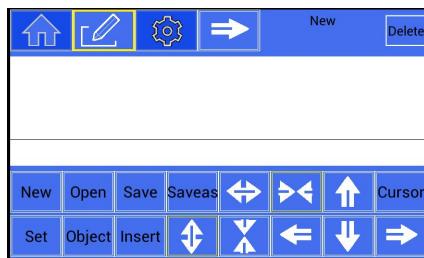
33. Dot size  For Large character head only	34.PWML  For Makro no slant version
35. STR  Start time of Makro valve  For Makro no slant version	36. Slant  Slant setting for Makro.  For slant-able version only.
37.PWMH  For Makro no slant version	<b>38.1 for all.</b>
P43. RFID reading  <b>must set as 0.</b>	

## Part 3 Edit message

**Note :** Printing message can be created on PC with TL-link software or on controller.

The TL-link can create much complex message and edit it quicker.

Please refer to TL-link manual. (Select pen model as One-inch in the software. )



 Key for adjust the size

 Key for move the object.

 Key for open, save the message

 Key for the object list.

 Edit the selected object.

 Insert a new object

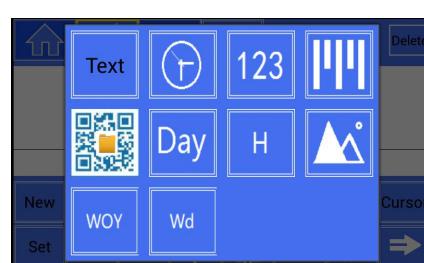
 Select the cursor, if selected, arrow key will move the cursor, not the object.

Edit a message on controller :

A. Press the  icon to get into the Edit window

B. Create a  message or open an exist message.

C. Press  icon to add object.



D. Insert Text :

Press  icon. It will pop up Text object window as below:



Input the printing content into the Content blank.

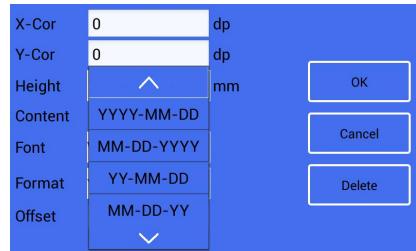
Select the height, font of the characters.

Normally, needn't set the X & Y coordinate, change the object position with arrow key.

Press OK icon to quit from this window.

#### E. Insert Auto-data :

After press  Icon. It will pop up Time Auto-data object window as below:



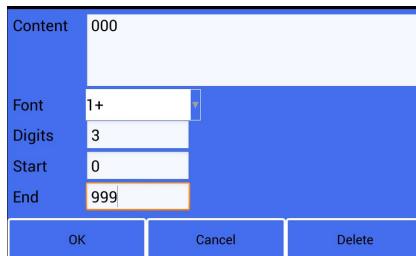
Select the time format.

Select the height and the time offset in days.

Press OK icon to quit from this window.

#### F. Insert Counter :

After press  Icon. It will pop up Counter object window as below:



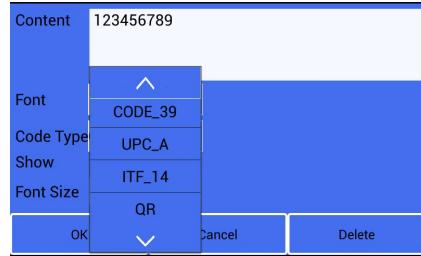
Input the "Start", "End" and other properties.

The counter value can be set in setting mode, parameter "counter value" .

Press OK icon to quit from this window.

#### G. Insert static Bar code :

After press  Icon. It will pop up Bar code object window as below:



Set the properties of bar code.

H. Insert dynamic Bar code :

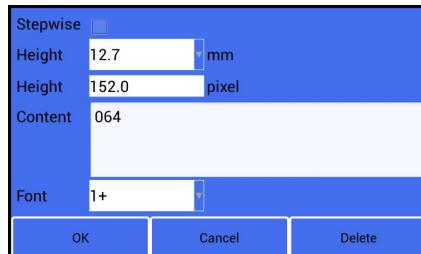


Press Icon to insert dynamic 2D bar-code, only for print dynamic code.

I. Insert Julian date :



After press Icon. It will pop up Julian date object window as below:



Set the properties of Julian day. (Content is useless )

Press OK icon to quit from this window.

J. Insert alpha hour :



Press Icon to insert a alpha hour auto-data, hour will be printed as a letter of A-X.

K. Insert week of year :



Press Icon to insert a week number auto-data. Printed as 01,02... 54.

L. Insert day in a week :



Press Icon to insert a day auto-data. It will be printed as 1,2...7.

M. Insert a logo :



Press Icon to insert a logo.

Please prepare the logo as a “Monochrome bitmap”.

Copy the logo .bmp file into the USB key, in the folder /pictures.



and then, insert the USB-key on the printer, and press  icon to copy the pictures into the printer.

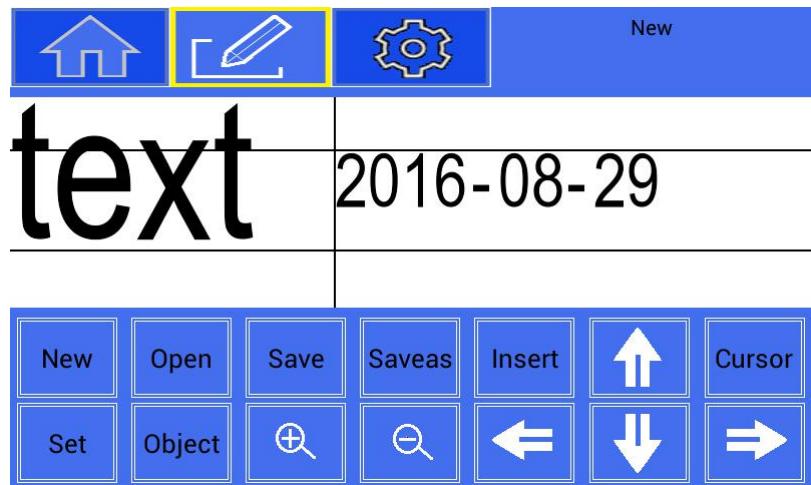
Note :

Press  will copy all message, setting and pictures into the printer.

To avoid over the message and settings, delete the “MSG1” and “System” folder in the USB key on PC.

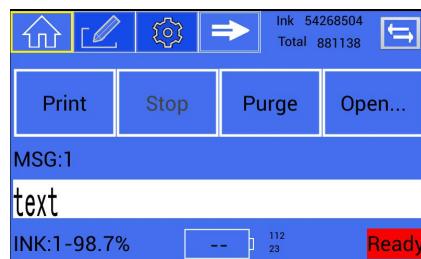
N. Use cursor.

Press “Cursor” Icon. It will display cross line . Move it, and then insert the next object will insert here.



## Part 4 Print and purge.

Press  icon to get into home window.



1. "Ink xxxxx", The remainder counter . Shows how many prints can be printed cartridge.
2. "Total xxxxx", Printed Counter.

3. "Purge" Icon.

4. "Ink level A-xx.x%" .

"A": cartridge number.

"xx.x%": ink level of the cartridge.

If no right cartridge in the stall, it will show --.

When ink level come to 1%, the system will beep.

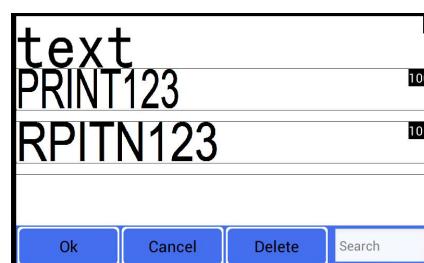
When ink level come to 0%, system will stop print. And beep continually.

Press  icon to start print.

Press  icon to stop print.

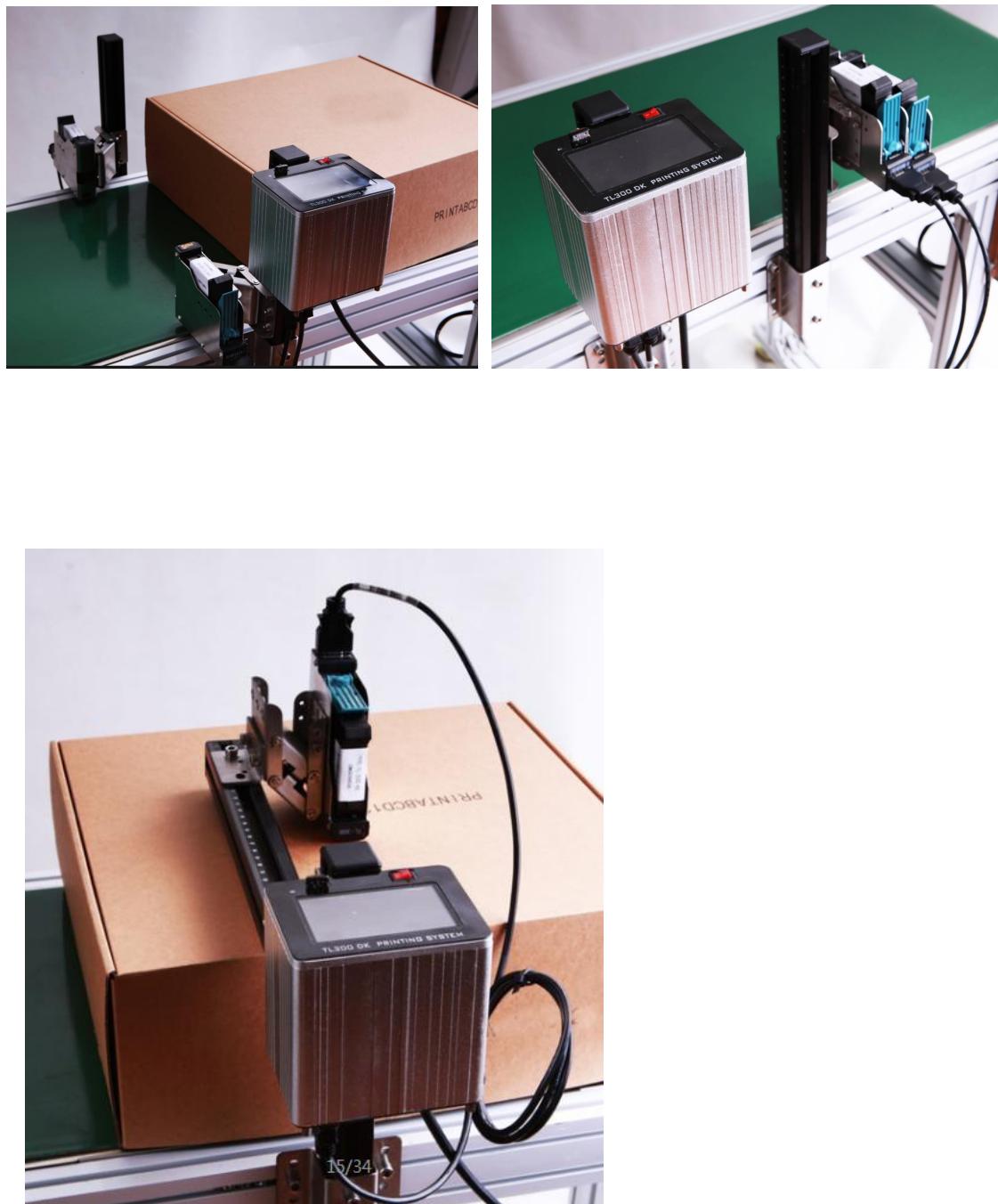
Press  icon to purge nozzle (It will print a few column black from all nozzles).

Press  icon to get into message list window.



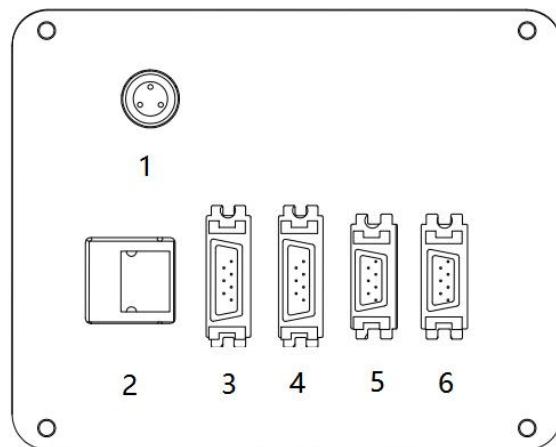
## Appendix 1 Installation reference.

**Fig 1** Side print installation reference



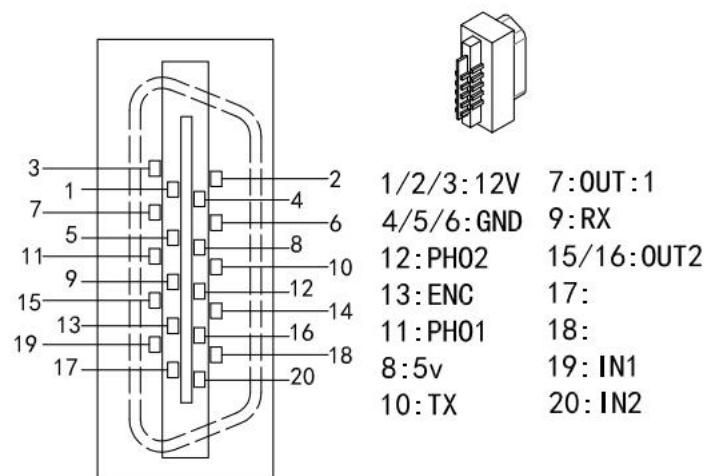
## Appendix 2 External port definition

Fig 2



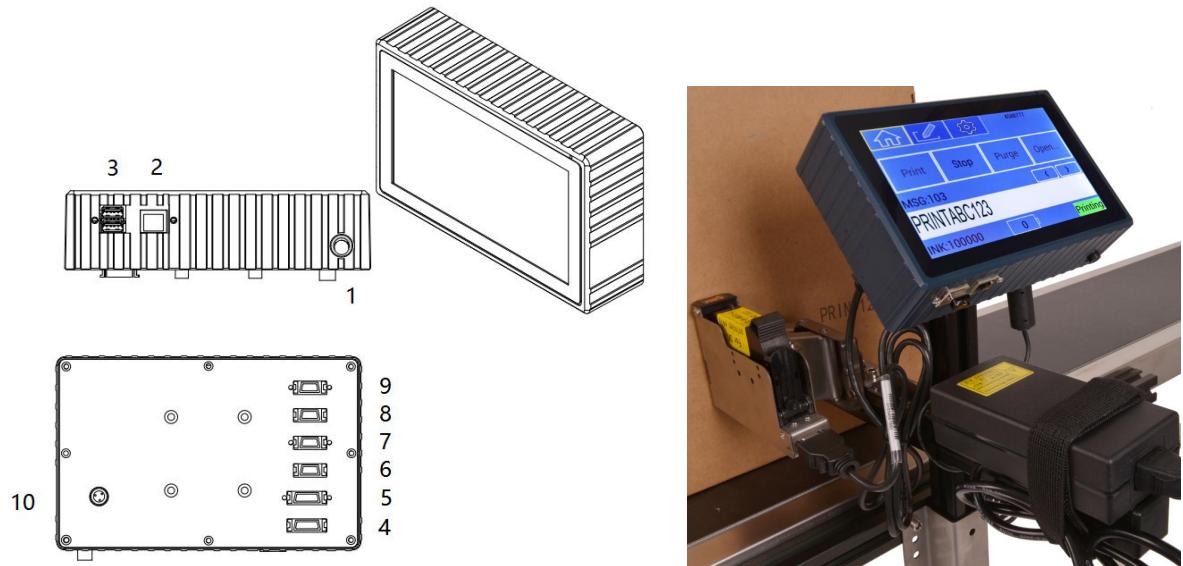
1. DC 12V	2. Ethernet
3. External port	4. External port
5. Pen 1	6. Pen 2

Fig 3



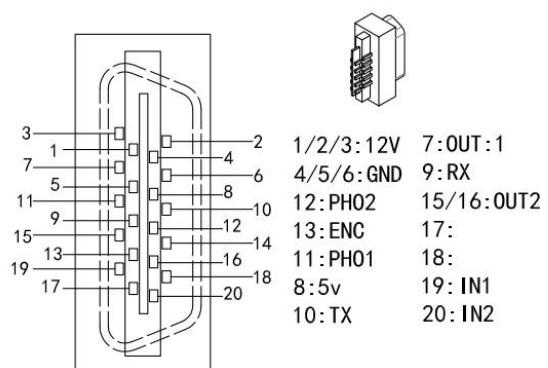
## Appendix 3 External port for Mini controller

Fig 4



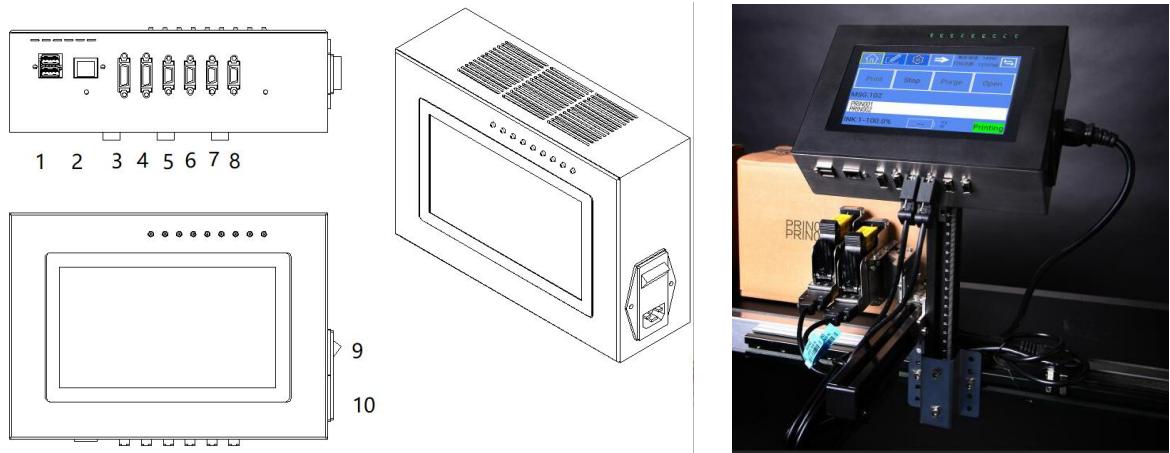
1. Switch	2. Ethernet (Optional )
3. USB port	4. & 5. External port
5. External port	6. Pen 1
7. Pen 2	8. Pen 3
9. Pen 4	10. DC 12V

Fig 5



## Appendix 4 External port for Stainless controller

Fig 6



1. Dual USB	2. Ethernet
3. External port	4. External port
5. Pen 1	6. Pen 2
7. Pen 3	8. Pen 4
9. Switch	10. AC socket

Fig 7

