

# 操作手册

Operation Manual

DK-D02 V1.1



D 系列热转印智能打码机  
SERIES OF THERMAL TRANSFER OVERPRINTER

专利技术产品

DIKAI



## NOTICE

Thank you for choosing DIKAI to provide printing solutions.

DIKAI is a top manufacturer of coding machines & coding consumables in China, established in 1995.

Products include:

- Thermal Transfer Overprinter
- Ink Roll Coder
- Hot Stamp Coder
- Case & Carton Coder
- Thermal Transfer Ribbon
- Hot Ink Roll
- Hot Stamping Foil
- Brass/Steel/Rubber Types

If you have questions or comments, or any information wanted, please visit our website at

[www.dikaiproducts.net](http://www.dikaiproducts.net)

**Before using this printer, please read and fully comply with these instructions.**

### MANUAL REVISION EXPLANATION

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# 1. GENERAL & SAFETY INFO

## 1.1 GENERAL

**This Manual aims to explain how to safely install, operate and service D03 Thermal Transfer Overprinter.**

1. Reproduction of any or part of this manual in any form whatsoever without the expressed written permission of DIKAI is forbidden. The contents of this manual are subject to revision without notice.
2. The use of non genuine DIKAI consumables and spare parts may adversely affect the performance of the product and could invalidate the warranty.
3. All efforts have been made to ensure the accuracy of the contents of this manual. However, should any errors be detected, DIKAI would greatly appreciate being notified.
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## 1.2 INSTRUCTION

D02 was developed by DIKAI on the basis of D01. This model adopts thermal transfer technology the same as D01 & offers more flexible coding solutions for packaging.

The unique innovative structure & working principle of D02 has applied for various patents so far. With 200 dpi's resolution, D02 offers a better printing quality.



Diagram 1, overview



Currently the D02 is available in only one printer type, which can directly replace other intermittent coding machines:

-D02 Right-hand printer (D02 RH)

D02 is able to print S/N, date and other variables on soft package. Variables can be changed by user interface.

## 1.3 LABEL

### 1.3.1 Safety Label

This label is located on the back panel of Controller Box. It warns the operator that the printer should be well ground connected.



**Note: If cannot find the safety label after printer installation, please post another “Warning” label in the eye-catching position of control box.**



This label warns the operator to repair the printer after disconnecting the power.



This label warns the ground connection.



## 1.3.2 Product Label

	Shanghai Dikai Coding Industry Co., Ltd.	
Product name: Thermal Transfer Overprinter		
Model: DK-D02	LH <input type="checkbox"/>	RH <input type="checkbox"/>
Power: 100-120VAC <input type="checkbox"/>	220-240VAC <input type="checkbox"/>	
50/60Hz	3A <input type="checkbox"/> 2A <input type="checkbox"/>	150W
S/N: D02150001	Year: 2015	
Address: 6 Floor No. 2 Building 32# Wudong Road Haida Industry Zone, Shanghai 200433, PRC.		
Http://www.dikaiproducts.com	Tel: 86-21-51086700	
Mail: info@dikaiproducts.com	Fax: 86-21-65102603	

This label is on the back of controller with following information:

- ❖ Model Number
- ❖ Factory Location
- ❖ Serial Number
- ❖ Electricity Requirements
- ❖ DK logo
- ❖ Contact Information
- ❖ CE LOGO



## 1.4 TECHNICAL SPECIFICATIONS

Print head	24mm, 200dpi;
Print Area	Intermittent Motion 1: 24mmx20mm(W * L); Intermittent Motion 2: 24mmx40mm(W * L);
Ribbon Length (max.)	450mm
Ribbon Width	22mm ~ 25mm;
Print Speed	4-28m/min
Print frequency	≤120ppm;
Supported Field Types	Real time, dates, variable information, graphic, picture,
Communication Interface	USB;
Electricity Requirements	AC110-240V, 50/60Hz;
Power	120W;
Environmental	0 ~ 40°C;
Relative Humidity	10% ~ 95%;
Weight	Printer Unit 6.7kg, Controller Box 0.48kg;
Dimensions	Printer Unit 175mm*165mm*197mm (L*W*H); Controller Box 173mm*140mm*83mm (L*W*H);



## 2. SAFETY

### 2.1 OPERATION GUIDELINES

Before operating this unit, read this manual thoroughly. Pay particular attention to the **WARNINGS** AND **CAUTIONS** to prevent possible injury to personnel.

1. Power socket is suggested to be no far as 3 meters from coders;
2. Before attempting any maintenance or repair on any part of the printer, disconnect the printer from the power supply;
3. Do not put anything between printhead and rubber anvil when the printer is running. Damage to the printhead may occur;
4. Do not run the printer when any covers are taken off;
5. Do not place the printer in a hazardous location. Make sure the printer will not turn, remove or topple;
6. The use of incompatible consumables can damage your printer. Use only consumables approved by DIKAI company;
7. Do not remove the printer with a separate hand shank;
8. Do not ignore or remove warning labels on the printer.
9. Only trained service or maintenance personnel should perform these electrical installation procedures.



## 2.2 APPLICATION AND ABUSING

The information for the safety, installation, operation, trouble shooting, schematics, parts illustrations and routine maintenance is listed throughout this manual.

The following operation methods, but not limited to, are considered as abusing:

- ✧ Maintain the printer without DK authorization;
- ✧ Do not abide by the safety requirements in this manual;
- ✧ Connect other brand machine to the printer;
- ✧ Un-qualified personnel operate or repair the system;
- ✧ Use unspecified power supply or unsuitable plastic film.

The above information is the best instruction principle which is aimed to guide usage but not to guarantee.

## 3. INSTALLATION & ADJUSTMENT

### 3.1 COMPONENTS

Check the kit of D02 carefully; refer to the list of components on Diagram 2:



#### COMPONENTS LIST:

1. D02 Operation Handle	7. Encoder (Continuous Only)
2. D02 Printer Unit	8. Rubber Anvil
3. D02 Power Supply	9. I/O Cable
4. D02 Ribbon Sample	10. Relay
5. Print Head Cleaning Wipe	11. Power Cable (with plug)
6. Proximity Sensor	12. Power Cable (no plug)

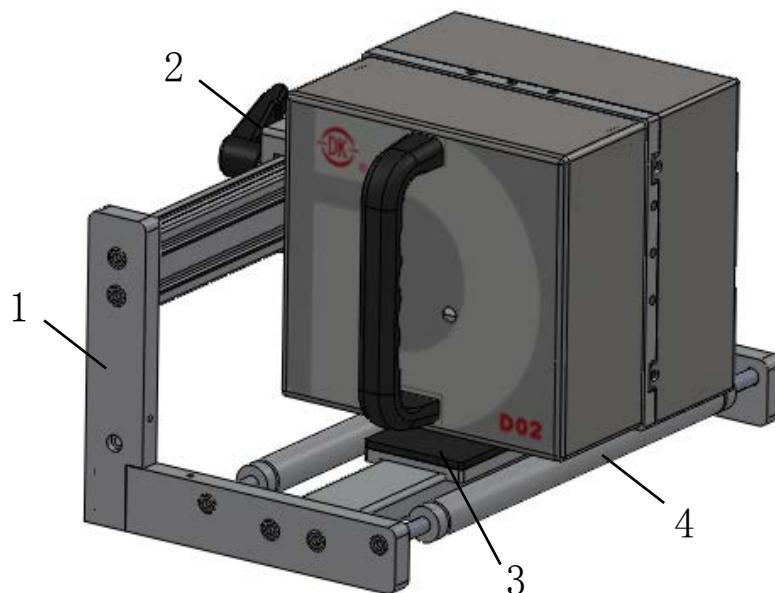
## 3.2 INSTALLATION REQUIREMENTS

1. Packaging machine runs well
2. Stable power supply AC220V±10V, max. 2A fuse (AC110V±10V, max. 3A fuse)
3. Reliable printing signal——can be from relay, NPN/ PNP sensor, photo sensor or PLC
4. Enough space for installing printer

The installation should be done by DIKAI engineer or well trained operator

## 3.3 STANDARD BRACKETS

### L-Shape



1. L-Shape Side Plate Assy

2. Fixed Slider Block Assy

3. Rubber Anvil Assy

4. Transition Roller Assy

**Note: the length of standard bracket for D02 can be 350mm, 450mm, 500mm, 542mm, 600mm. We can also provide customer-made bracket.**

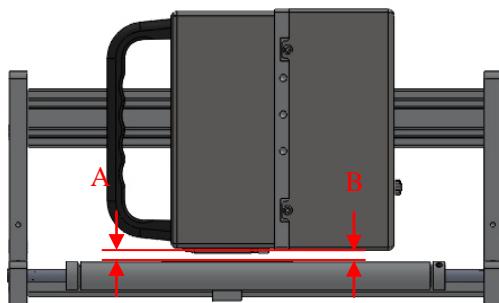
### 3.4 INSTALLATION OF THE MOUNTING BRACKET

Follow below items when mount the bracket:

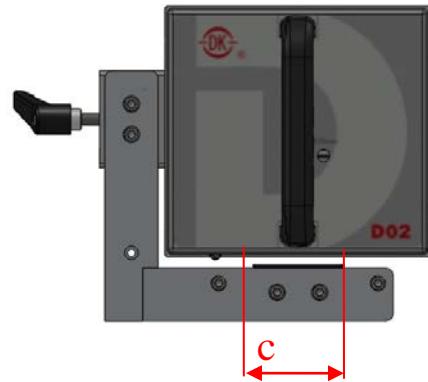
- ✧ Make sure enough room for the mounting bracket installation and easy operation;
- ✧ Make sure the bracket is well fixed, bracket and the packaging machine roller are parallel;
- ✧ Mount the Printer Unit after the bracket is well installed, make sure Printhead is paralleled to the rubber anvil;
- ✧ Make sure the gap between Printhead and substrate is within 1.5~2.5mm;
- ✧ Make sure all the screws used for installation not influence the packing machine running.

**Note:** Use wood, plastics or other non-conductive material, but not metal to measure the gap. Adjust the gap into proper by adding or removing cushion.

#### Intermittent Motion:



$A=B=1.5\sim2.5\text{mm}$



$C\geq40\text{mm}$

Make sure Peel Roller (Printhead) is paralleled to the Rubber Anvil.

### 3.5 INSTALLATION OF OPERATION HANDLE

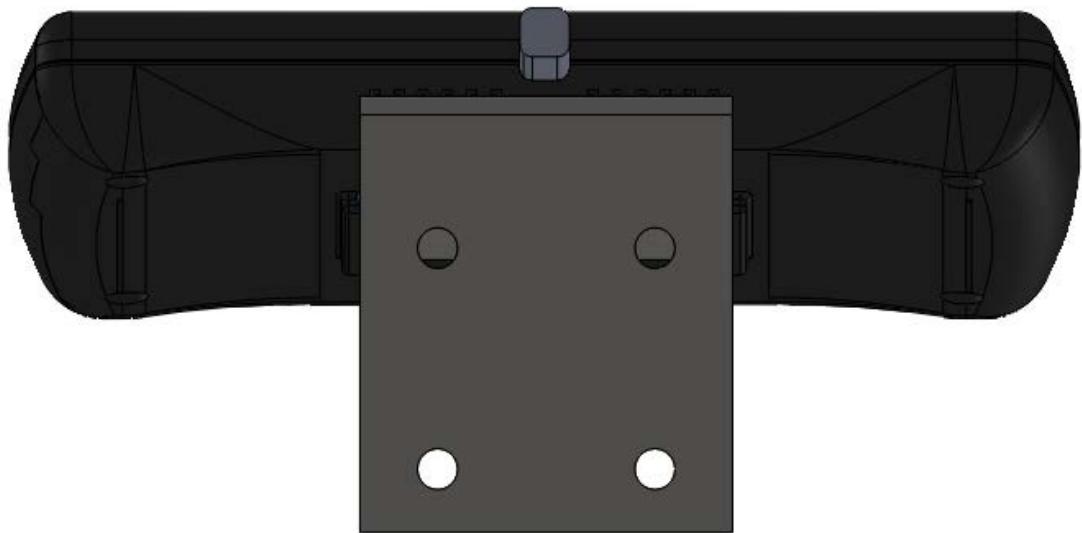


Diagram 3: Bottom of Operation Handle

Operation Handle can be used to change settings of print unit, to maintain & diagnose the coder.

1. Mount the operation handle in the location convenient for operation and taking cables, no more than 3m from the printer unit.
2. Keep cables in order.

There are 4 installing holes  $\varnothing 6.5$  under the fixing block, pls refer to 3.9.2.

### 3.6 Printer Unit Terminals

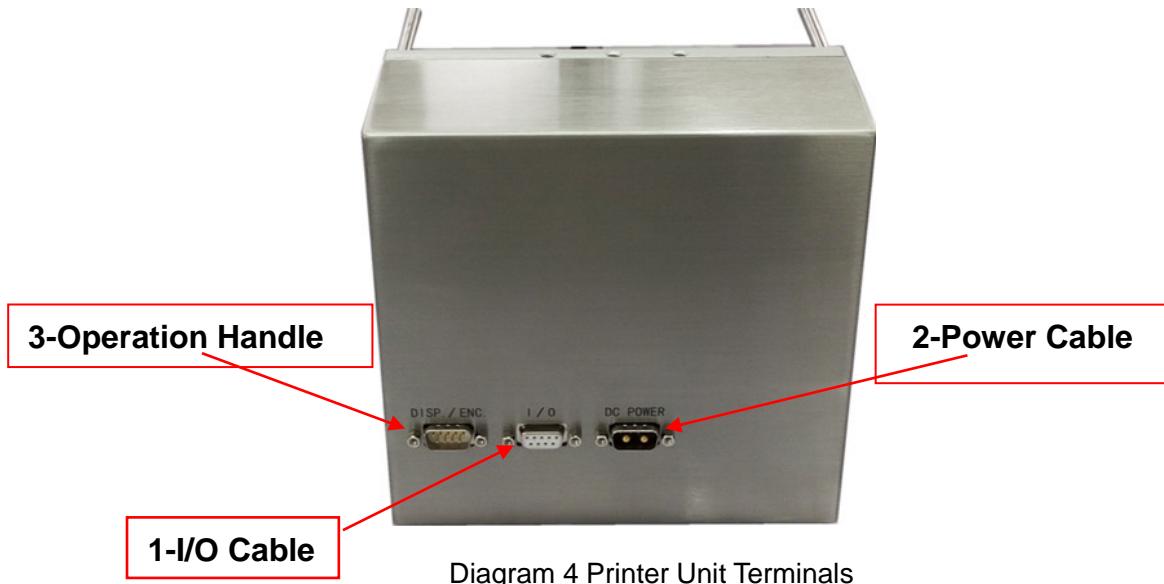


Diagram 4 Printer Unit Terminals

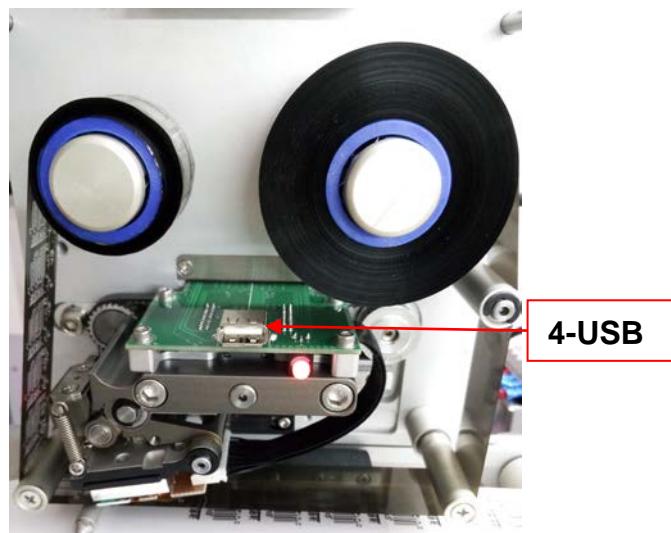


Diagram 5 Printer Unit Terminals



The terminals for the Printer unit are shown below:

### 1. I/O Cable connection:

It's used to transfer input signal & output error reporting signal.

I/O Cable:

Wire No.	Instruction	Color
1	24VDC(printing signal power cable)	brown
2	SIGNAL(printing signal I/O Cable)	black
3	GND (printing signal GND)	blue
4	Error reporting 1 COM port of relay	purple
5	Error reporting 2 COM port of relay	green
6	24VDC Output supply of power	red
7	Error reporting 1 NO port of relay	Orange
8	Error reporting 2 NO port of relay	yellow
9	Output supply of power 0V	grey

### 2. Power Cable connection

For the input of 27V direct current.

### 3. Controller connection

For connecting the operation handle.

### 4. USB connection

For inserting U-disk, file loading and program updating.

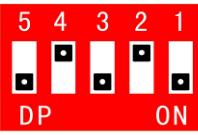
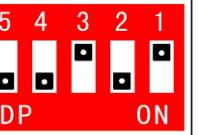
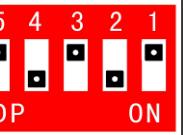


### 3.7 PRINT SIGNALS

The print signal sources from PLC or sensor. If sourcing from PLC, Print Go Input uses a voltage free contact relay. If a voltage free contact is used it should be wired between terminals 2 (PRINTGO, black) and 3 (GND, blue), pls refer to chapter 3.9 the I/O cable connection. D02 is edge triggered and prints whenever the contacts close, but will not print again until the contacts have opened and closed again after printing is complete.

**Note: the default signal type is NPN. For other types of signal, please adjust according to below diagram.**

Pls adjust the switch position according to the signal sources as below table. The switch can be found in the Main PCB in the controller box.

信号类型配置 Signal Type Configuration				
信号类型 Signal Type	NPN型传感器 NPN Sensor	PNP型传感器 PNP Sensor	电信号(PLC) Ext. Signal	
拨码位置 Switch Position				

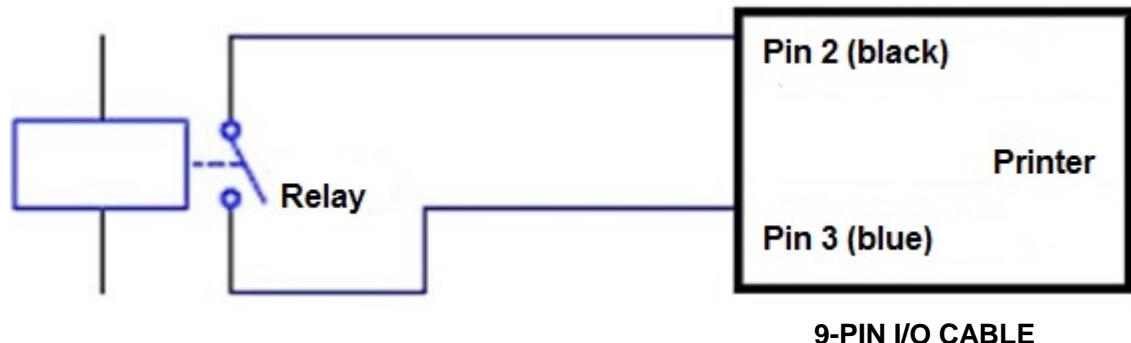
备注: 1. 当使用继电器触点信号时, 拨码位置参照NPN方式:  
Note : When using relay signal, switch position refer NPN mode;  
2. 使用电信号 (PLC) 或继电器触电信号时, +12V (棕色线) 输出线不接。  
When using the electricai (PLC) or relay signal, do not  
Connect the +12v (Color: BR) output wire  
更详细说明请查阅操作手册 Details could refer to manual

Signal Source	Switch Position				
	1	2	3	4	5
NPN Sensor	ON	OFF	ON	OFF	ON
PNP Sensor	OFF	ON	OFF	ON	ON
PLC	OFF	ON	OFF	ON	OFF

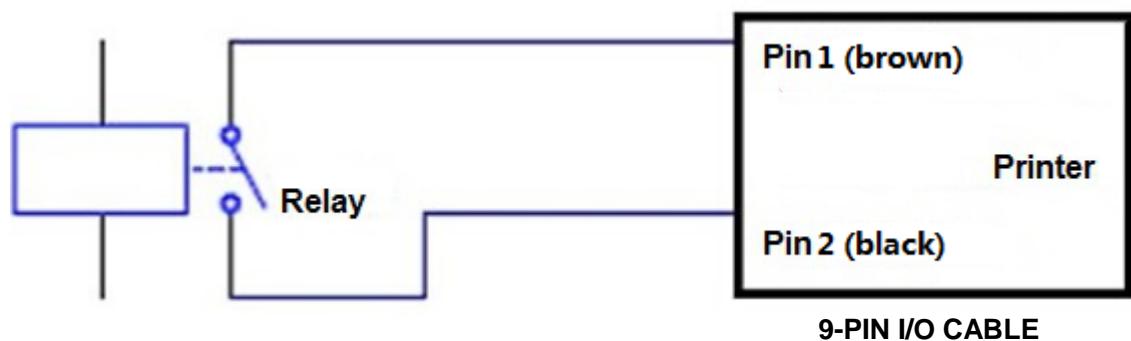
### 3.8 CONNECTION OF I/O CABLE

#### 1. Connect the Print Signal

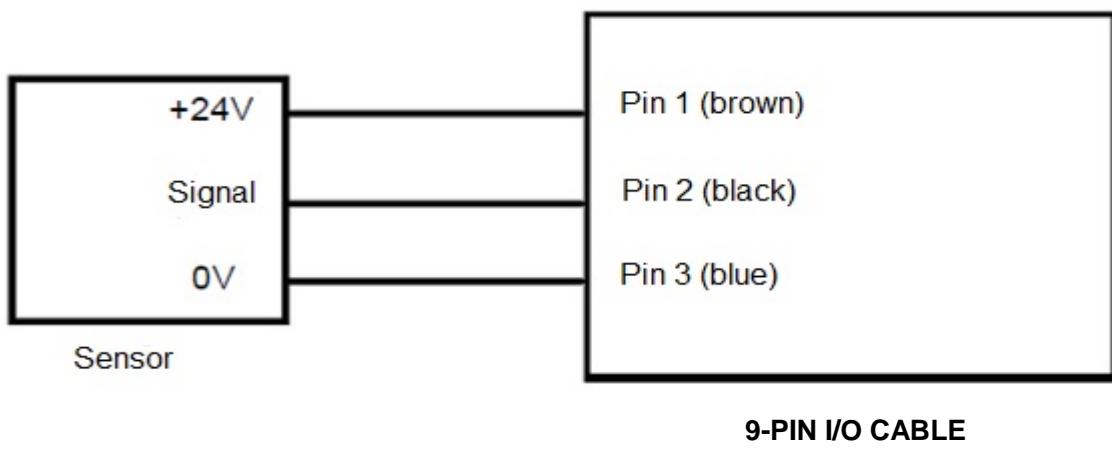
PLC



PNP



**Note:** The Print Signal into D02 Controller must be voltage free, can be got by connecting a contact relay or optical coupler.



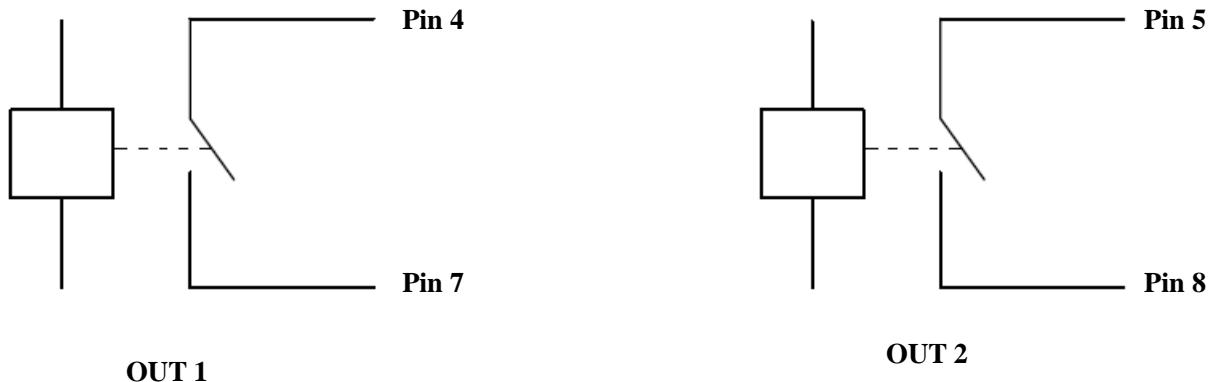
**Note:** NPN sensor should be connected with terminals 1(+24V,brown), 2(PRINT GO, black) and 3(GND, blue).

**Please be careful that all connections should be insulated, avoiding any electrical accident when connections contact with each other.**



## 2. ALARM

In I/O cable, PIN 4 & 7, 5 & 8 are connection for normal open fault-indicating.



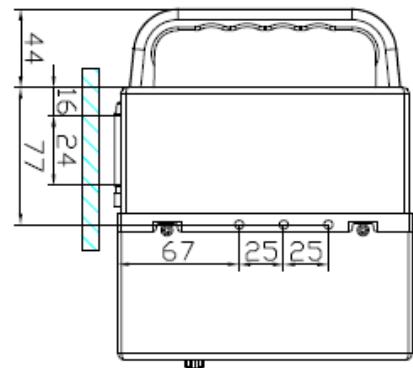
NOTE: Max current for relay is AC125V 0.5A, DC24 1A. Use external RELAY or CONTACTOR SWITCH for higher current or voltage.

**All plugs should be insulated and protected, in case of any electrical accidents.**



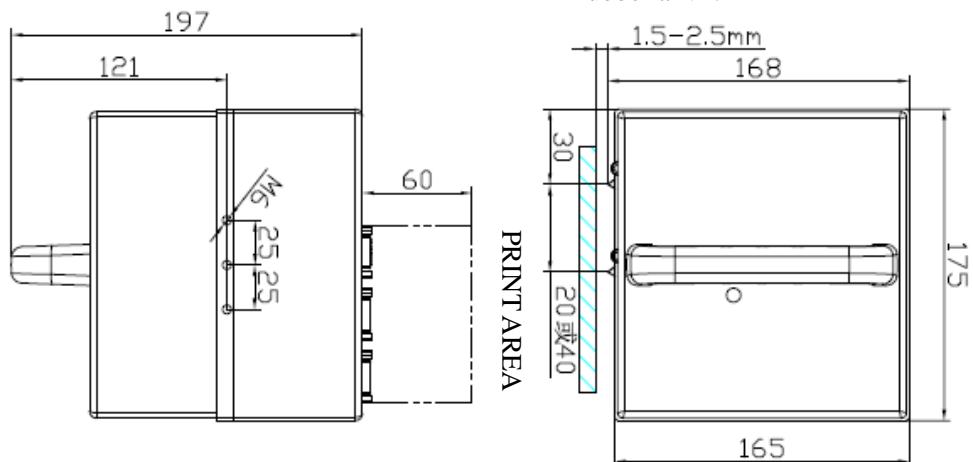
## 3.9 INSTALLATION DIMENSION

### 3.9.1 RIGHT HAND

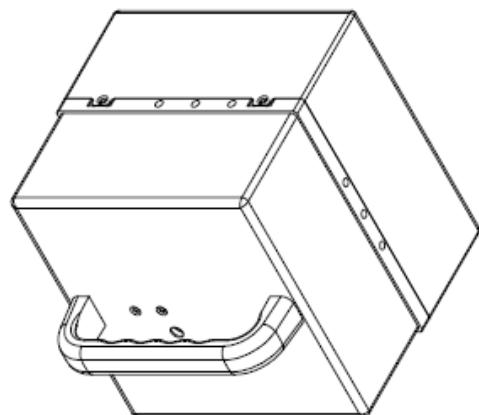


PRINT HEAD

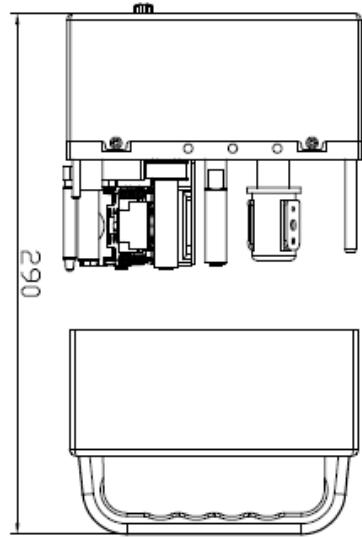
Best gap between peel roller & rubber anvil.



PRINT AREA

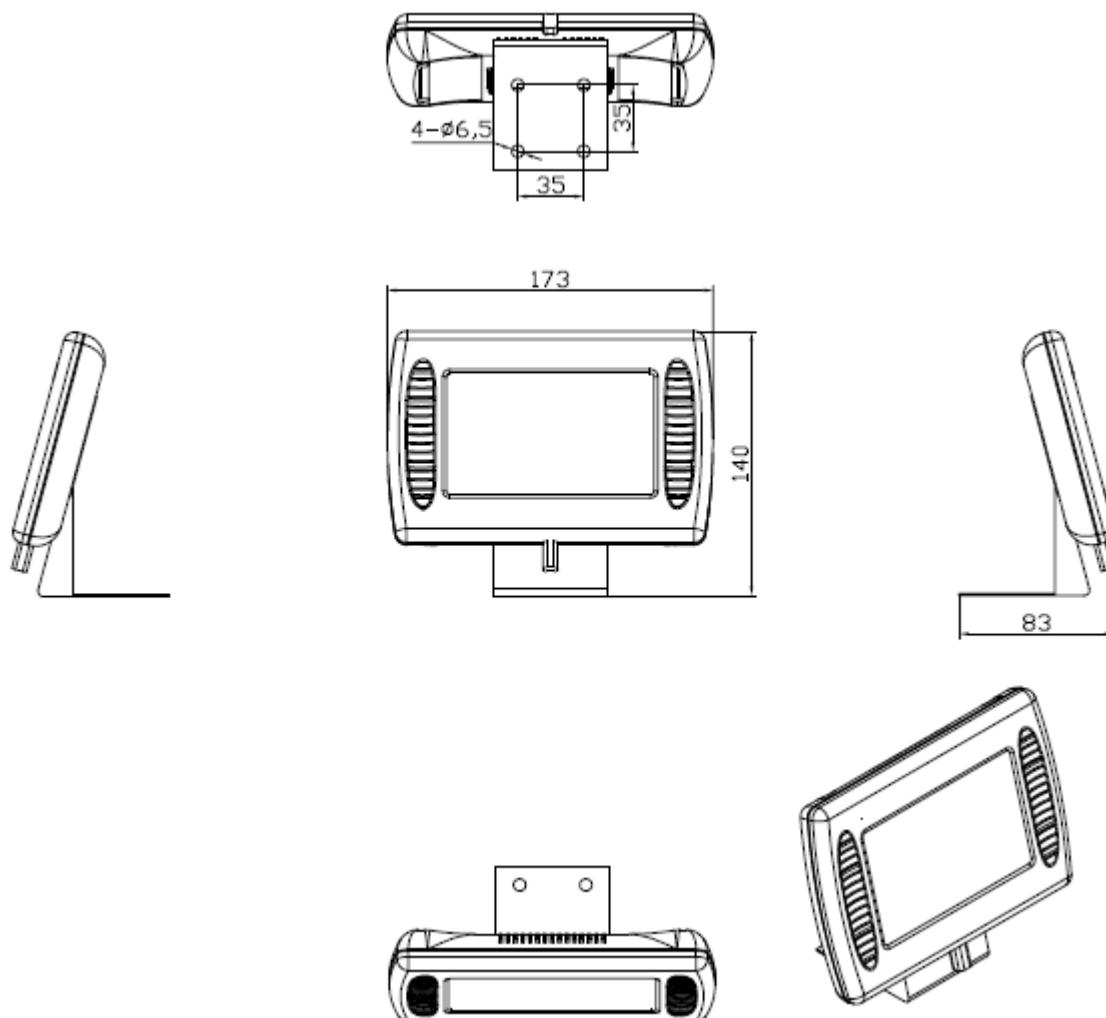


Operate space for the cover





### 3.9.2 OPERATION HANDLE DIMENSION



## 4 OPERATION

### 4.1 Start



1. Please check if all cable are connected well before power on;

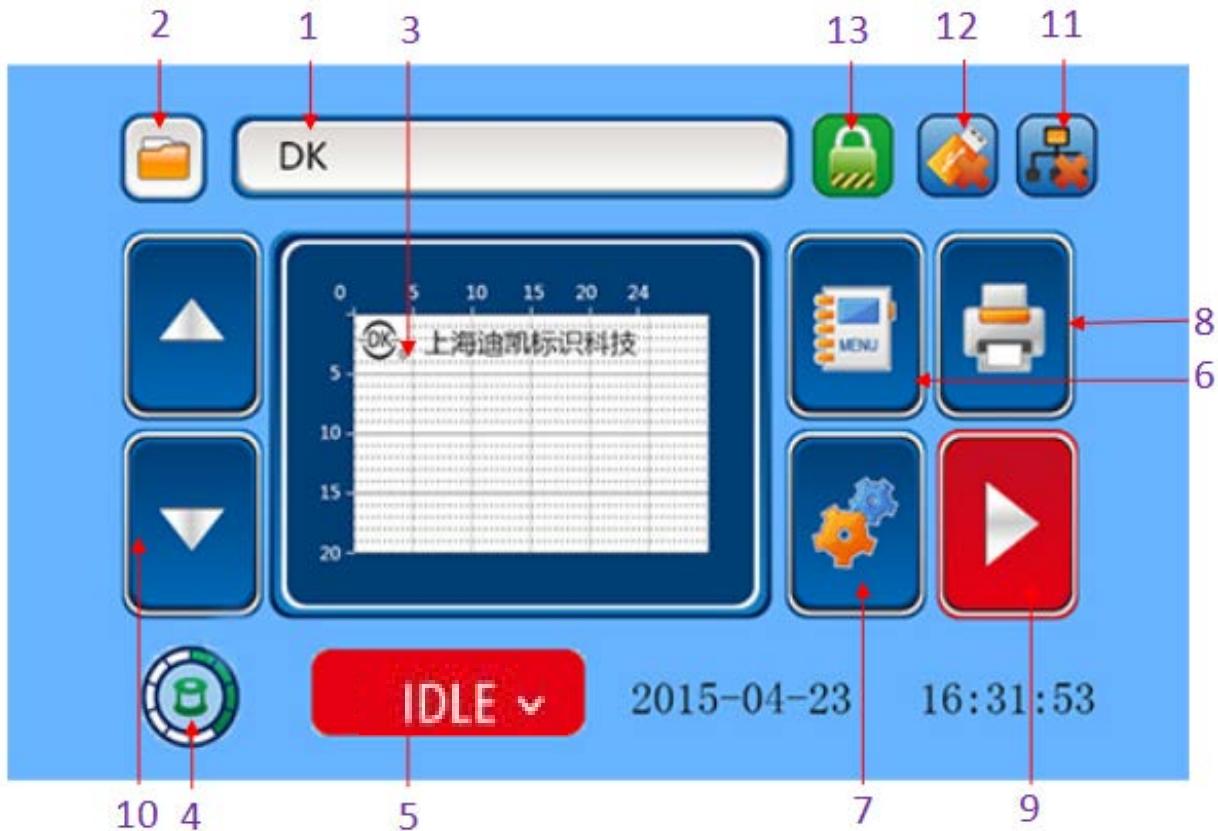


2. Power on the printer, enter into the above screen after a boot animation. Touch  to enter Software Update. Touch  to enter home screen. If no touch in 5 seconds, it will automatically enter into home screen.



3. The printer starts initialization after entering home screen, then comes into “IDLE” mode (ready to print) after seconds of self-testing.

## 4.2 HOME PAGE



Item	Name	Icon and Description	
1	The Current Print Job		
2	Files Management		This option allows you to manage the various Database files.
3	Print Preview		
4	The Percentage of Ribbon Remaining		100%
			Less than 70%
			Less than 30%
			Less than 3%

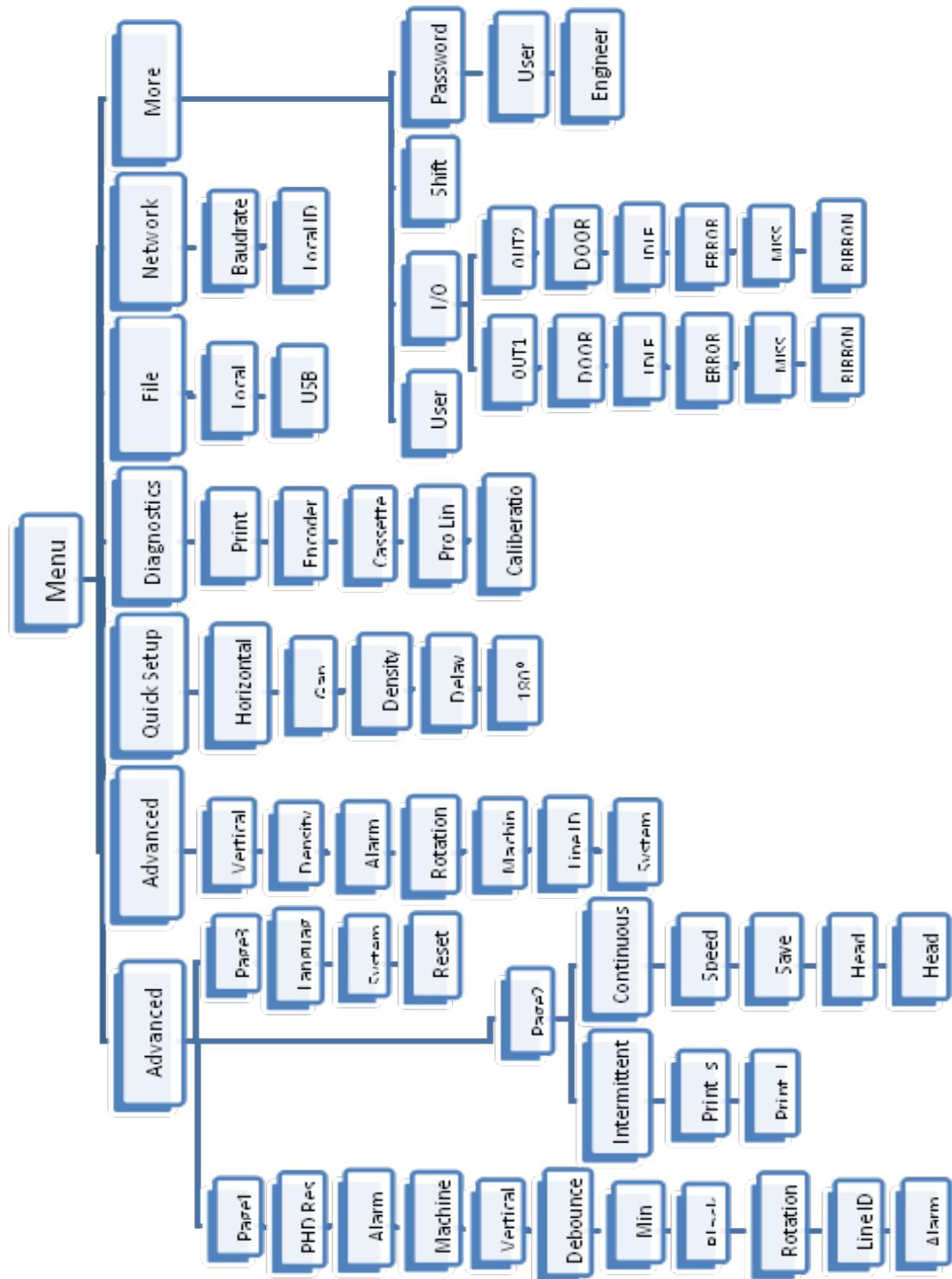


			0%, change a new ribbon
5	Current System Status		Ready
			Cassette Open
			Initialization
			Running
			Hardware Fault
			SD card fails to upload
			Folder warning This indicates there is one or more warning active
6	Menu		Enter the menu
7	Quick Settings		Enter the setting
8	Print Test		Click for testing
9	On/ Off		Stop
			Start
10	Page Down/ Up		Down to next page
			Up to previous page
11	Network Connection		Online
			Offline
12	USB Connection		Connect
			Disconnect

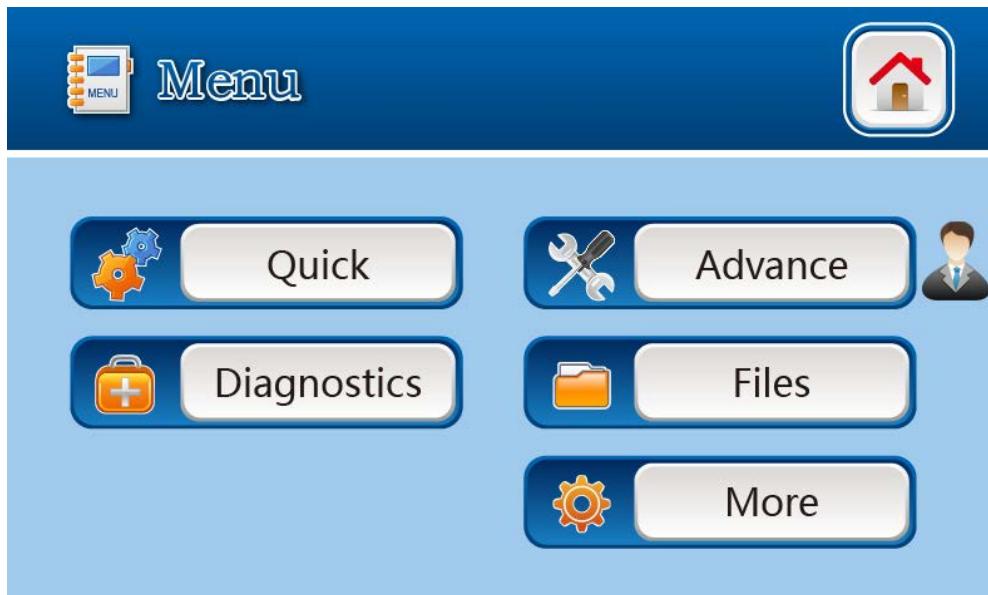
13	<b>Cassette Status</b>		Cassette closed
			Cassette open

## 4.3 SCREEN ICONS

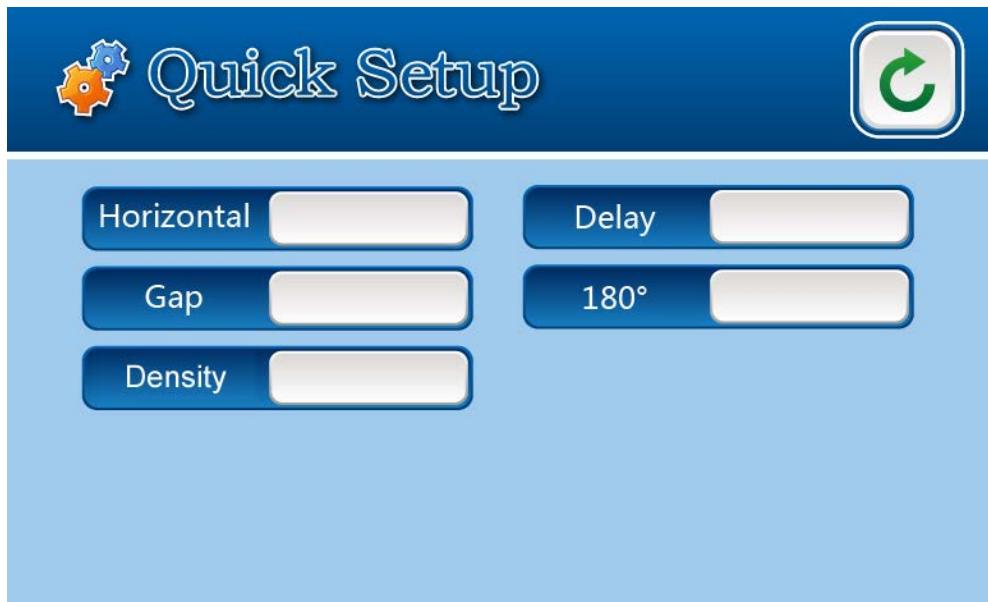
### 4.3.1 Menu Structure



#### 4.3.2 Menu Screen

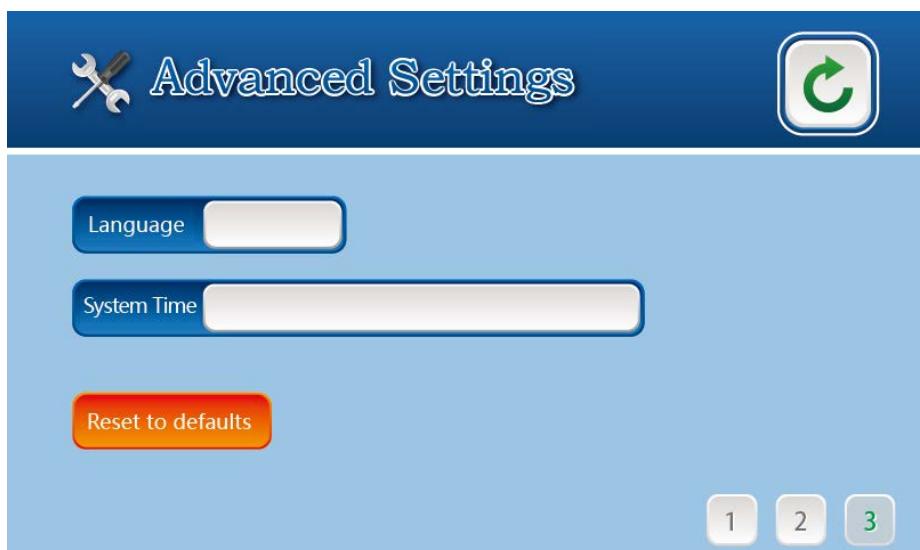
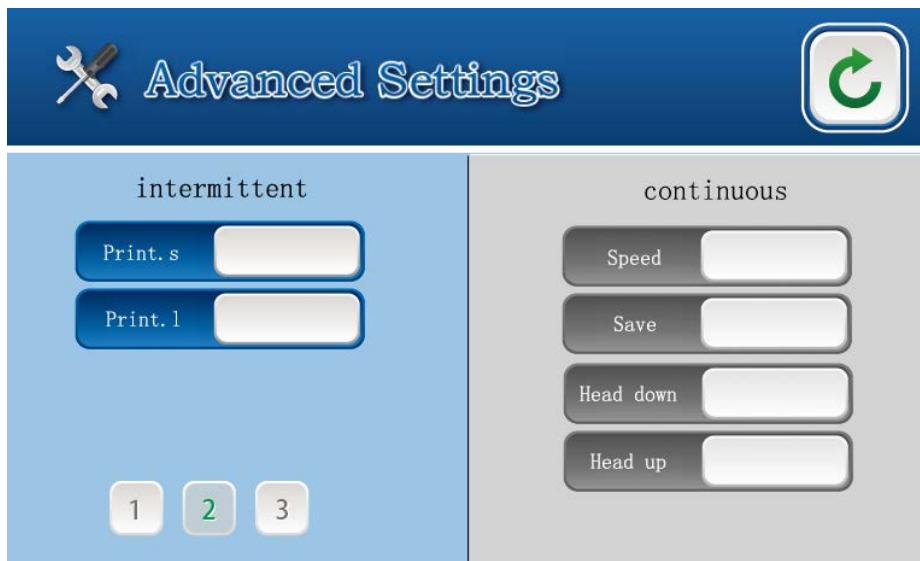


#### 4.3.3 Quick Setup Screen



Name	Description	Option
<b>Horizontal</b>	Adjust the print in mm in the direction parallel to the print head	Unit 0.1mm
<b>Gap</b>	Ribbon gap between two prints	Unit 0.1mm
<b>Density</b>	Adjust the amount of energy being transferred into the print head	50-150, default is 100
<b>Delay</b>	Delay to print after getting the print signal	Unit 1ms
<b>180°</b>	Preview of printing jobs at 180° rotation, only preview, the actual printing result no changes	On Off

## 4.3.4 Advanced Setting Screen(engineer page)





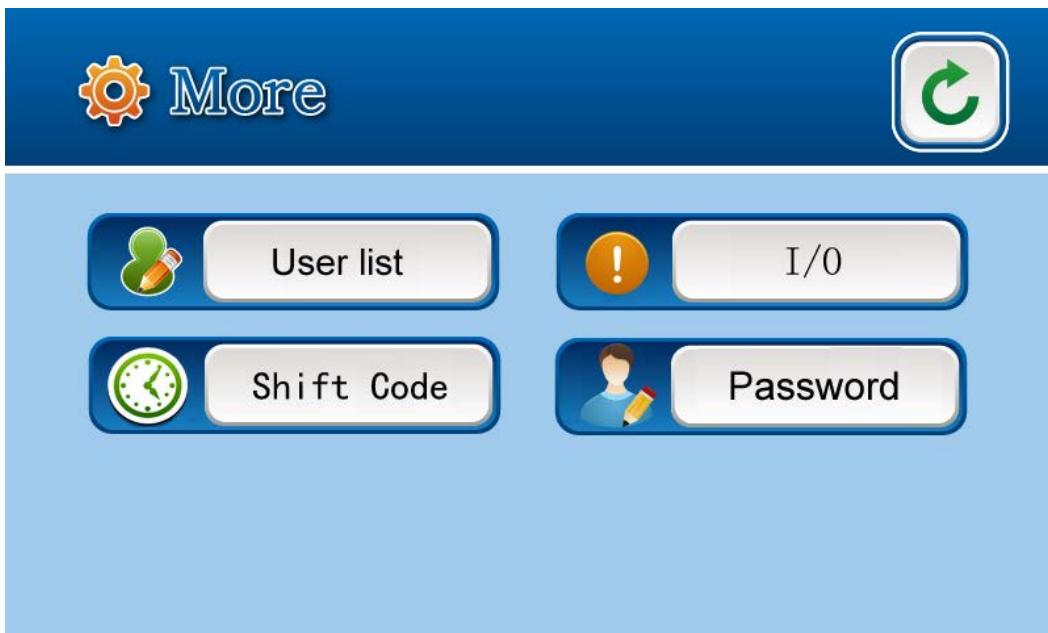
Name	Description	Option	
<b>PHD Resistance</b>	Set the correct print head resistance	Enter the real value printed on the PCB side of the new Print head.	
<b>Head Up Time</b>	Time of print head going up	Unit: ms	
<b>Head Down Time</b>	Time of print head going down	Unit: ms	
<b>Vertical</b>	Adjust the print in mm in the direction perpendicular to the print head	Unit: 0.1mm	
<b>Debounce</b>	Shield the useless print signal	Unit: ms	
<b>Min Interval</b>	Shield print signal in interval	Unit: ms	
<b>Darkness</b>	Set the print darkness		
<b>Machine Type</b>	Configure the print motion	Intermittent/Continuous	
<b>Language</b>	Set the language	Chinese/ English	
<b>Machine Speed</b>	Set up the speed type of operation: low speed/high speed	Low	Not in use
		High	Not in use
<b>Alarm Type</b>	Select the output alarm type	Normally Open / Normally Close	
<b>Rotation</b>	Options for image rotation	0°	
		90°	
		180°	
		270°	
		Mirror	
<b>Ribbon save</b>	Not in use		
<b>Alarm Signal</b>	Alarm signal output	On/Off	
<b>Machine ID</b>	Definition of the machine ID	Can enter two numbers or letters	
<b>Print s.</b>	Set the speed of the heating and moving of printhead to adjust the print quality.	4m/min—28m/min,	
<b>Print l.</b>	Set the length of print head block, & the max print length.	20mm or 40mm	
<b>Line ID</b>	Definition of the line ID	Can enter two numbers or letters	
<b>Language</b>	Languages of the operation screen	Chinese/English	
<b>System Time</b>	Set up the system time of the printer		

#### 4.3.5 File Management Screen



Item	Name	Icon and Description	
1	Local	Local	This button allows you to manage files in the printer database
2	USB	USB	This button allows you to manage files in the USB
3	Home	Home	This button allows you return to home screen

#### 4.3.6 More



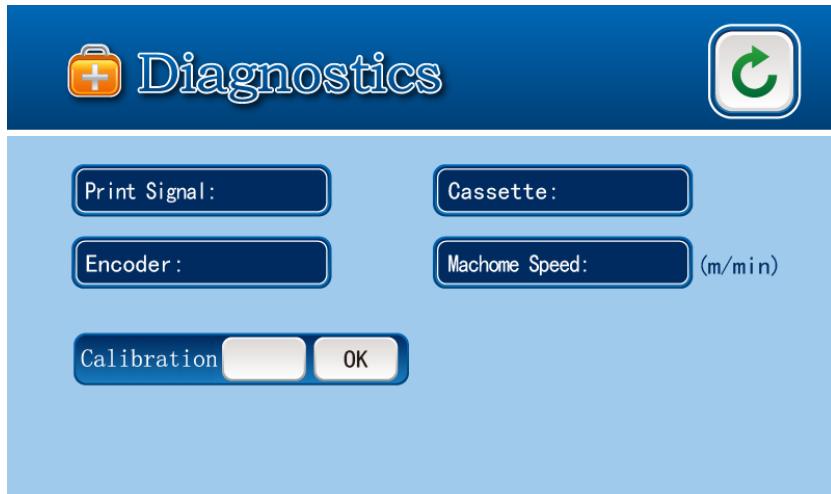
Item	Purpose	Options
<b>User list</b>	No. of the production shift or team	Only available when shift information is added
<b>I/O</b>	Set up the alarm status	ON/OFF
<b>Time Conversion</b>	With the help of SHIFTCODE, define the printing content within a certain period	3 digits for each item, max 100 items
<b>Password</b>	Password Management on User interface	Four Arabic digits

#### 4.3.7 I/O



Item	Purpose	Options
<b>DOOR OPEN</b>	Cassette open alarm	ON/OFF
<b>IDLE</b>	Alarm when the machine is not running	ON/OFF
<b>ERROE</b>	Alarm when there's printing missing, 200ms output	ON/OFF
<b>MISS</b>	Alarm when there's printing missing, 200ms output	ON/OFF
<b>RIBBON</b>	Alarm when the ribbon is running out	ON/OFF

## 4.3.8 Diagnostics



Name	Description	Option
<b>Print Signal</b>	Shows if there is print signal or not	YES/NO
<b>Encoder</b>	Show if there is encoder signal or not	YES/NO
<b>Calibration</b>	Get the tension value	Please make sure you have taken off ribbon before performing this job, otherwise the calibration will not be correct.
<b>Head home/out</b>	Check the head pressing down position	Press "OK" Print Head out, Press "OK" again head home
<b>Cassette</b>	Check if the Ribbon Cassette be installed correctly	Open/Close
<b>Machine Speed</b>	Check the line speed on continuous motion	Display the actual speed

### 4.3.9 System Information

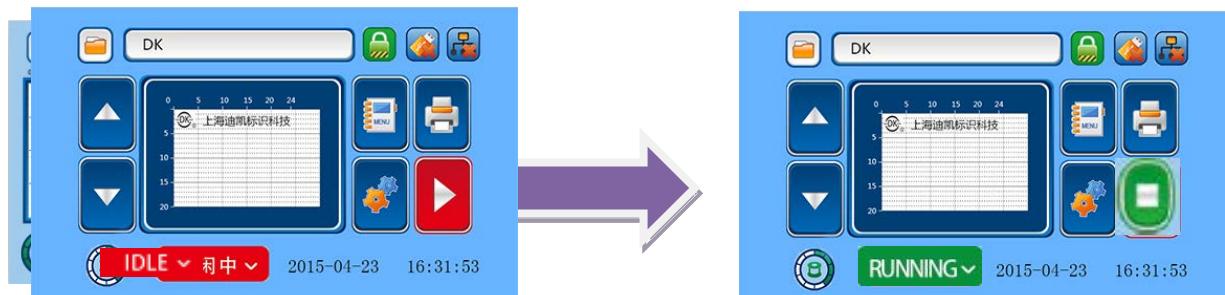


Name	Description	Option
Status	Display the current machine status	Normal/Abnormal
Cassette	Display the cassette status	Open/Close
Break Ribbon	Display the Ribbon status	Normal/Abnormal
Miss Print	Alarm of the missed prints after receiving print signal	Normal/Abnormal
Strain	Ribbon tension	Normal/Abnormal
Print Signal	Display of the print signal	Yes/No
Encoder	Signal of the encoder	Yes/No
Hall	If the print head inducted by Hall	Normal/Abnormal
PHD temp	The current environment temp of PHD	Unit °C
Speed	Running speed of packaging film	M/MIN
Ribbon Remain	Ribbon remaining percentage	Remain percentage
Print Counts	Total counted prints	
Version	Software version	
Clear Warning	Can clear the warnings	
Reset Counts	Reset the counts numbers	



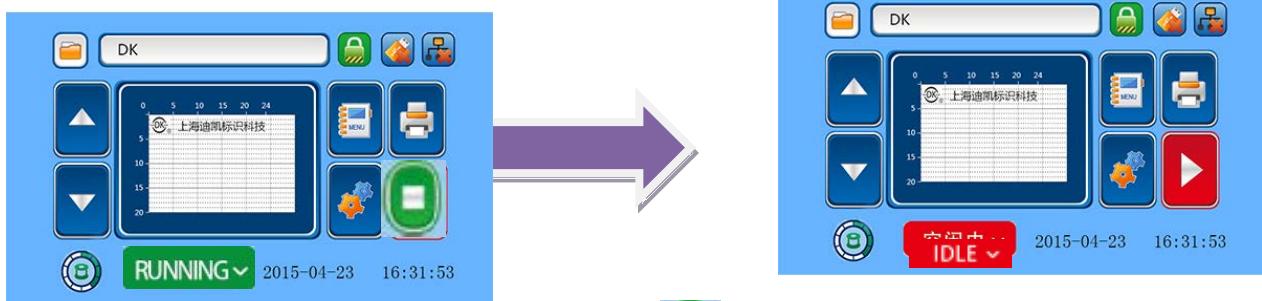
## 4.4 START/STOP THE PRINTER

### 4.4.1 Start the printer



1. After initialization, the printer stops in the Ready Screen (IDLE), choose the print job (refer to 4.5).
2. To start the printer press “on/off” bottom, this will put the D01 into “Running” mode.
3. The system shifts from IDLE to RUNNING, then the machine is successfully started

### 4.4.2 Stop the Printer

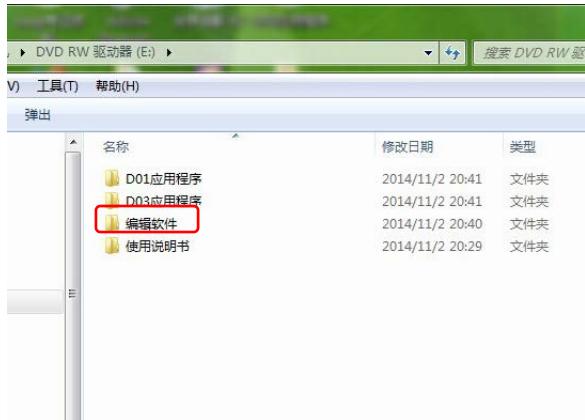


1. To stop the printer press the right hand button . This will put the printer into (IDLE) mode and the printer will ignore any print signals from the Host machine.
2. The system shifts from RUNNING to IDLE, then the machine is successfully stopped

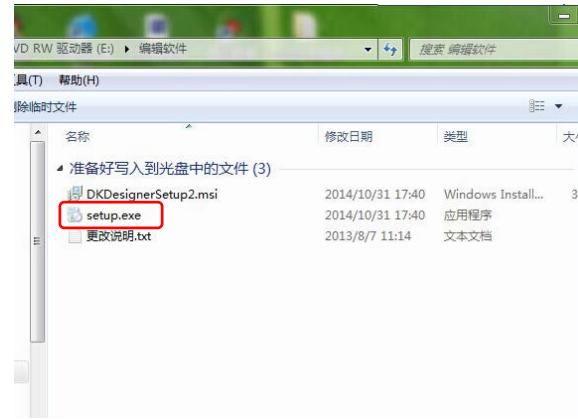


## 4.5 FILE MANAGEMENT

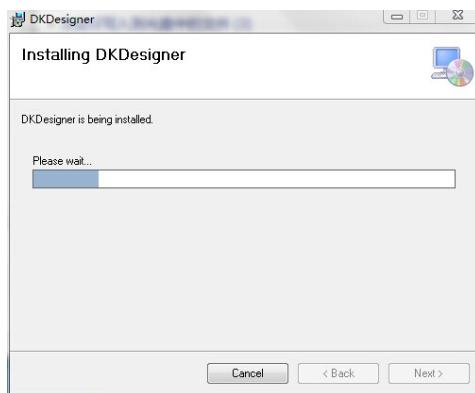
### 4.5.1 Create the Print Job



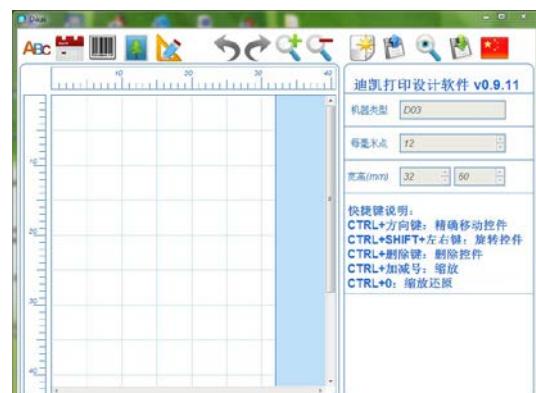
1. Find "DK Designer" file from CD, copy it to the computer.



2. Install the setup software following the instructions.



3. Double click the icon  to enter the software.



4. Enter the home screen of the edit software.

5. Save the print job by clicking  button, will have 4 files named with .bmp, .dk, .ft and .xml.
6. Build a folder named 'dikai' on the Sandisk USB provided by DIKAI, copy all 4 files to the 'dikai' folder. The print job saved in other folder cannot be read by printer.
7. Connect the USB with the printer, and transfer the print job to LOCAL FILE.



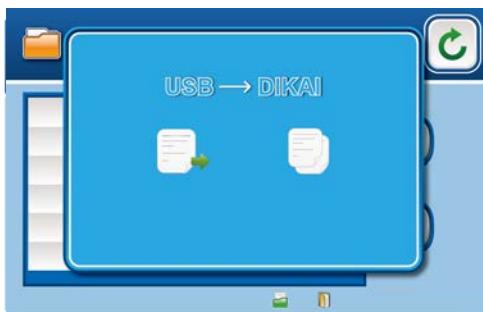
#### 4.5.2 Import Print Job to Local



1. Connect the USB, enter file management from home screen or menu screen in IDLE.



3. Select the print job from USB File Management screen.



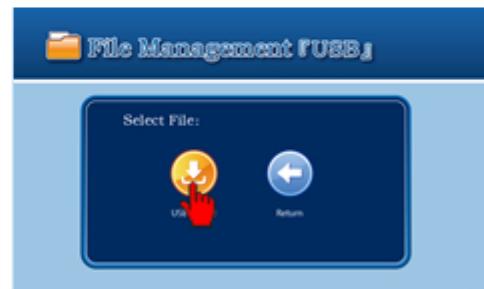
5. The print job is saved successfully when shows "succeed".



7. Back to Home screen.



2. Select the USB file.



4. Save the print job to LOCAL by clicking "save to local".



6. Back to File Management screen.



**Note: Import to local means import the print file from the USB to the machine to get ready for printing**



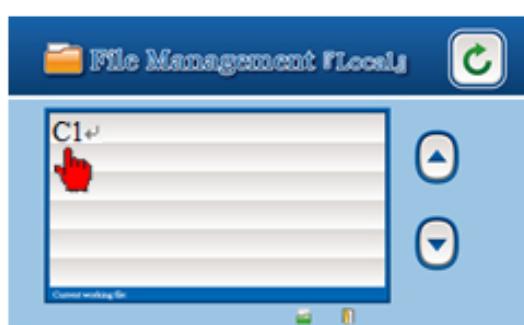
#### 4.5.3 Select the Print Job



1. Enter file management from home screen or menu screen in IDLE status.



2. Select the Local file.



3. Select the Print Job.



4. The print job is selected successfully when shows "success".



5. Back to Home screen.



6. Preview the print job selected on Home screen.

**Note:** Select the print job means to select a local file to be the current print job



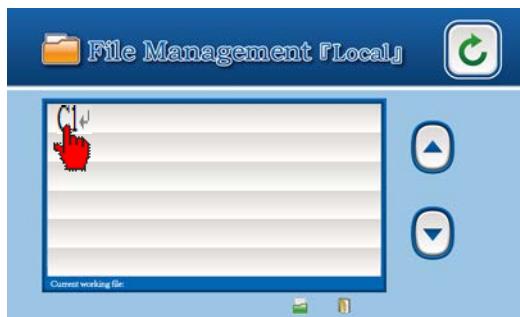
#### 4.5.4 Export Print Job to USB



1. Insert the USB containing the "dikai" folder; enter file management from home screen or menu screen in IDLE status.



2. Select the Local file.



3. Select the Print Job.



4. Save the print job to USB by clicking "save to USB"; hit Return if there is any wrong action



5. The print jobs are saved successfully when SUCCESS appears.



6. Go back to Local File Management screen by clicking Return.  
Repeat to export more or finish by simply take off the USB

**Note: Export the file means copy the local file to USB**

## 4.6 PARAMETER SETTING

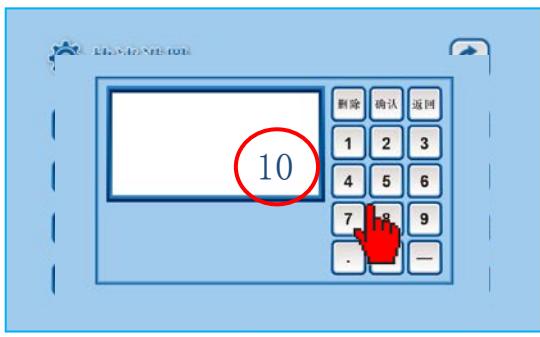
### 4.6.1 Horizontal Offset



1. From the Home Screen (IDLE), click "Quick Set Up".



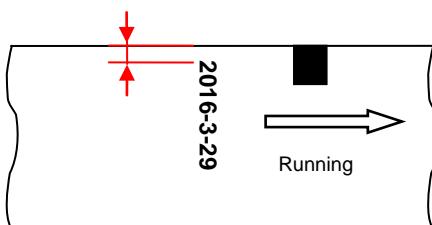
2. Click "Horizontal" option to pop up a Digit Keypad.



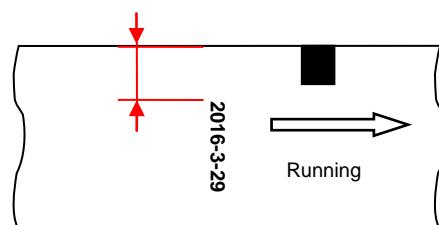
3. Enter the number (1 refers to 0.1mm), then click "OK" button back to Quick Setup Screen.



4. Click "Back" button back to Home Screen. The Lateral Offset setting is done.



Print position (10=1mm)



Print position (100=10mm)

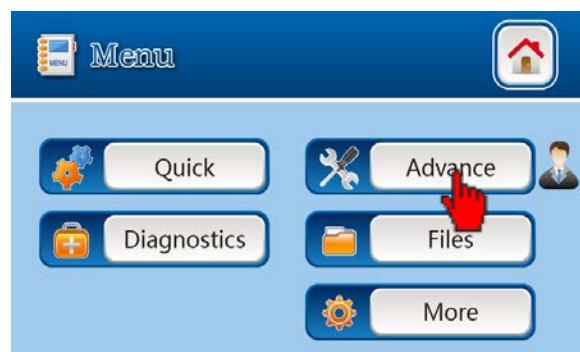
**Note: You can adjust the print position largely by moving the Printer unit along the bracket.**



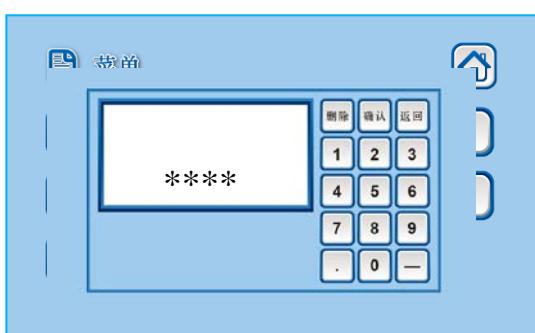
#### 4.6.2 Set the Vertical Offset



1. From the Home Screen (IDLE), click "Menu" button



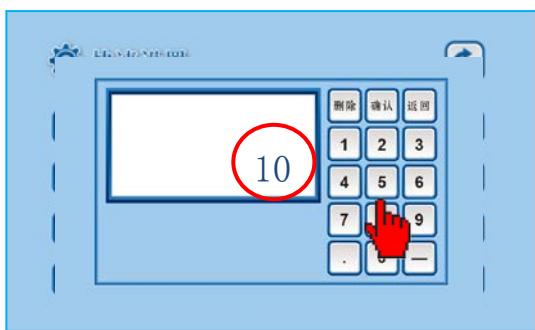
2. Click "Advance" to pop up a Digit Keypad.



3. Enter password "1111", and press "OK" to enter the Advanced setup Screen.



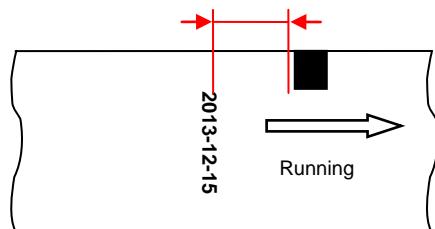
4. Press "Vertical" pop up to Digit Keypad.



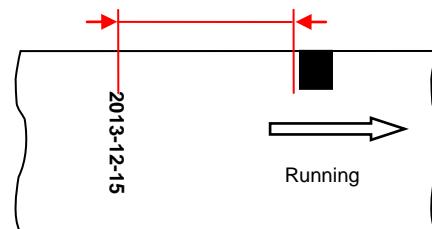
5. Enter the number (1 refers to 0.1mm), then click "OK" button back to Advanced Setup Screen.



6. Click "Back" button back to Home Screen. The Vertical Offset setting is done.



Print position changes (100 = 10mm)



Print position changes (200 = 20mm)

**NOTE: Advanced Setting & Diagnostics can only be entered in "IDLE" status.**



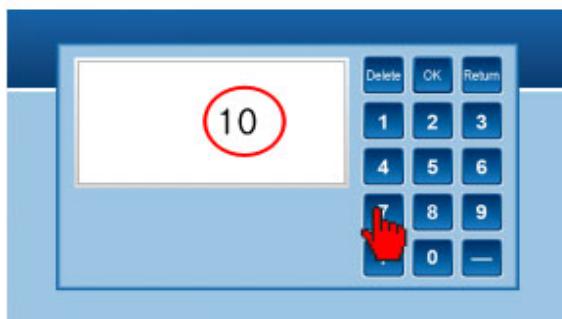
#### 4.6.3 Set the Print Delay



1. Click "Quick Set Up" from home screen.



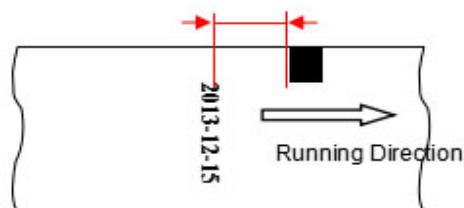
2. Click "Delay" to Digit Keypad.



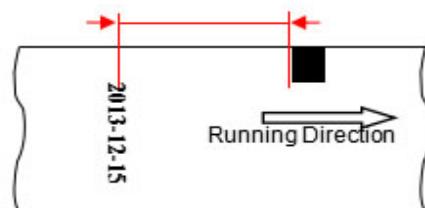
3. Enter the number (intermittent: 1 means 1 MS; continuous: 1 means 1mm), click "OK" to quick setup screen.



5. The delay setting is done, click "back" to home screen.



Print position when delay setting is 10



Print position when delay setting is 100

**Note: The unit of delay setting of intermittent motion is: 1MS. It means the delay time of the print after receiving the print signal.**

**The unit is 1mm for continuous motion, It is a distance delayed after receiving the print signal (cannot be larger than the pouch length)**

For example, if want the print be made 100ms after getting the print signal, you can set the Print Delay in the Quick Setup screen as 100).

**Note:** The print position can be small-scale precisely adjusted by "Lateral Offset" and "Vertical Offset". (1=0.1mm).

The big-scale adjust of print position can be done by adjusting the printer position on mounting bracket.



#### 4.6.4 Set the Print Gap



1. Select "Gap" from Quick Setup screen.



2. Enter the number (1 means 0.1MM), the setting is done clicking OK.

**NOTE:** This parameter refers to the gap between each print job on ribbon, can not change the print position.

#### 4.6.5 Set the Density from quick setup screen



1. Click "Density" button from the Quick Setup Screen.



2. Enter the number (1 refers to 1%), then click "OK" button.

**Note:** Density means the color density percentage, the density increases as the percentage grows, meanwhile the stroke grows bolder.

#### 4.6.6 Print File Rotation



1. Click Quick Set Up from home screen.



2. Click quick setup on the Home screen and click 180°



3. There are ON/OFF options to choose, click ON.



4. The setting is done, click back to home screen.



5. The print job rotates 180° on the preview screen.

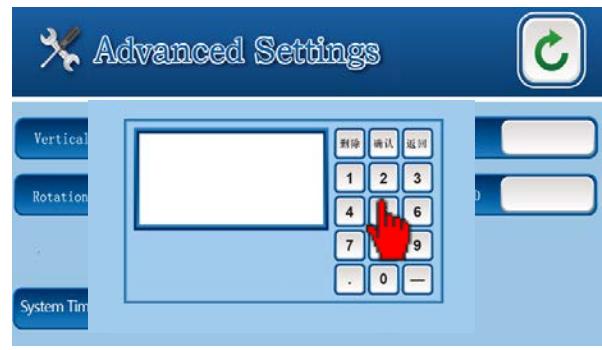
**Note:** The setting is only to preview the 180° rotation of print job. The real print does not rotate.



#### 4.6.7 Darkness



1. Enter Advanced settings from Menu, click "Darkness";



2. Input the darkness data you need and click "OK".



3. Click "Back" to Home Screen.

The darkness setting is done.

**Note:** The user can setup the darkness to adjust printing heat according to the material used. The printing head could be damaged if the temperature is too high. You can setup the darkness by changing the heating or cooling time of each line of points.

Usually, the printing strokes grow bolder as the darkness increases, vice versa. Some ribbons and underlayment may require special darkness to ensure the printing quality.

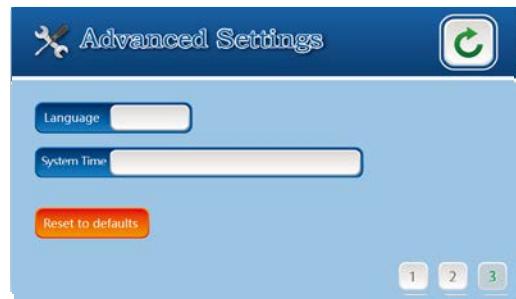
The darkness data can be adjusted between 0-50 to avoid print head damage because of wrong darkness input. Our suggestion is to set the darkness at the lowest level as required, thus the print head can sustain as long as possible. If the darkness level is too high, it can cause poor printing quality or ribbon broken (especially while printing bar code or horizontal lines). If there is printing point damaged and there is no spare part, you can increase the darkness to fill the gap by enlarge the heat area. This is an emergency method before you got the new printing head.

If the new printing head is installed, the darkness should be decreased.

#### 4.6.8 Set the System Time (Real Time Clock)



1. Enter into Advanced Settings from home screen.



2. Click System Time to pop up the digital keyboard.



3. Input the time you want and click OK, you can set up from year to second.



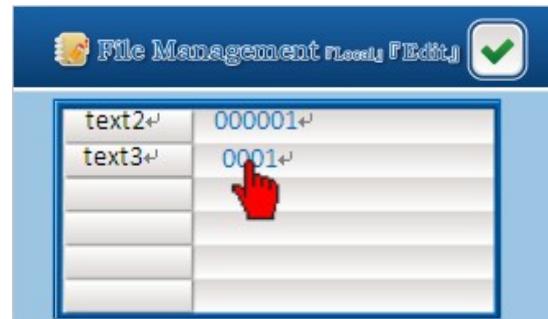
4. Click back to Home screen.



#### 4.6.9 User Input



1. Click the file name to enter Edit screen from Home screen.



2. Choose the file need to be edited.



3. Delete the current contents, and enter new contents needed (It won't work if enter directly)



4. The Custom texts, like text3, supports all info entered from the key board. (The count file, like text2, only supports numbers), Click OK when set is done.



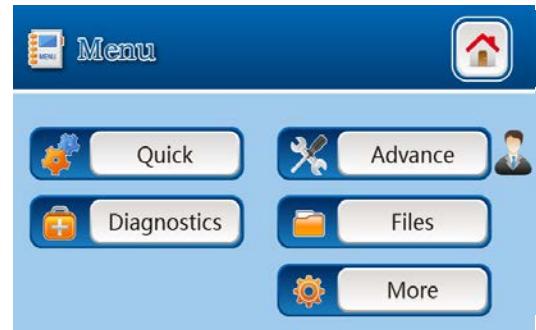
5. Click back to home screen.



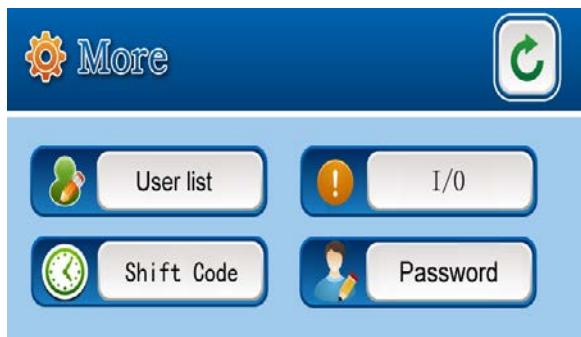
#### 4.6.10 Set User List



1. Enter into Menu screen in IDLE status.



2. Click MORE from Menu screen.



3. Click User List.



4. Select requested shift No. from User List screen (at most 32 shifts).



5. The setting is done, click back to home screen.



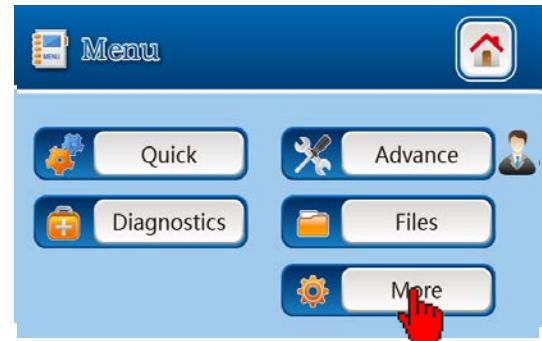
6. Preview the changes of the shift code from preview screen.



#### 4.6.11 I/O



1. Click Menu on IDLE screen



2. Click More



3. Click I/O



4. There are OUT1 and OUT2 for option, choose ON or OFF as needed



5. There will be alarm output if you choose ON, and no alarm if OFF



6. Click Return, the settings will save automatically

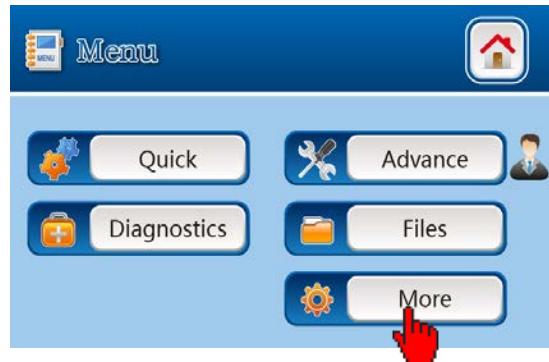
**Note: I/O control the alarm output in current situation. ON means there will be alarm output if any fault occurs, OFF not.**



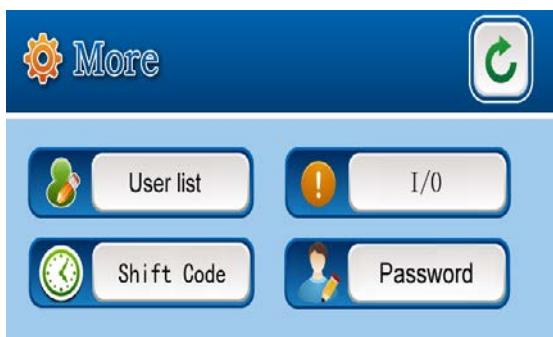
#### 4.6.12 Change the Password



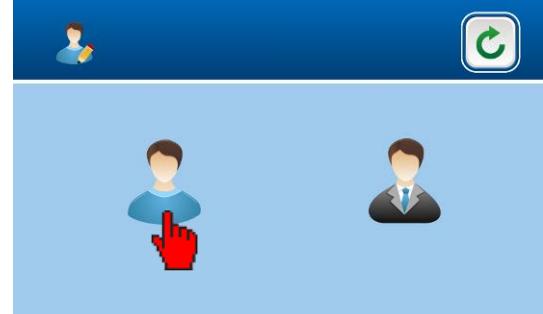
1. Click Menu



2. Click More



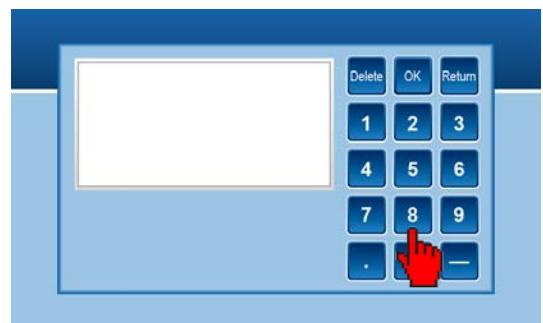
3. Click Password



4. Input the current password on the password management screen and click OK. The default password is "1111"



5. Click the password input column



6. Input the password with 4 digits (the same password for the two columns, otherwise the new password is invalid)



7. Click OK and finish



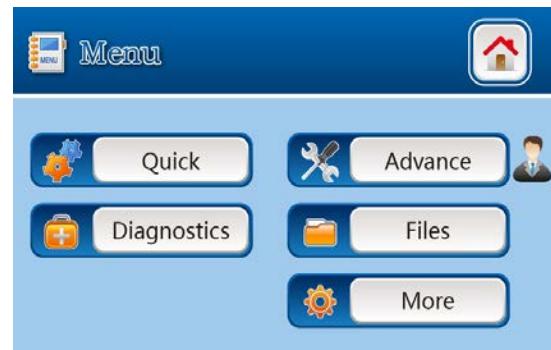
8. Finish and return (Success , Fail ).



#### 4.6.13 Shift Code



1. Enter into Menu screen in IDLE status.



2. Click MORE from Menu screen.



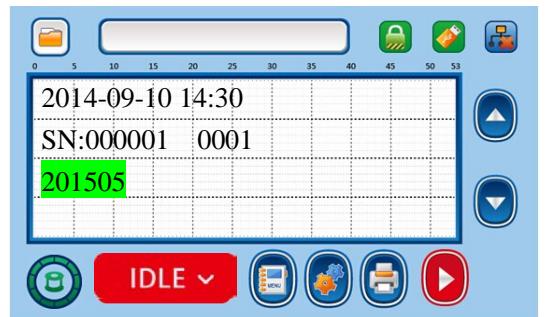
3. Click Shift Code.



4. Import the shift code;



5. The setting is done, click back to home screen.



6. Preview the changes of the shift code from preview screen.

## 4.7 UPGRADE THE CONTROLLER BOX



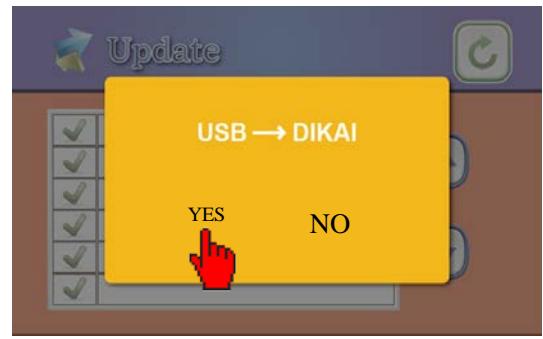
1. Save the upgraded software to USB with folder named "dkupdate". Connect the USB with controller box. Turn on the controller box.



2. It enters into the upgrading screen by clicking Update (It enters into the Home screen if does not click update in 5 seconds).



3. Click the right upgraded software from the screen.



4. Click YES to finish updating, and NO back to the previous screen.

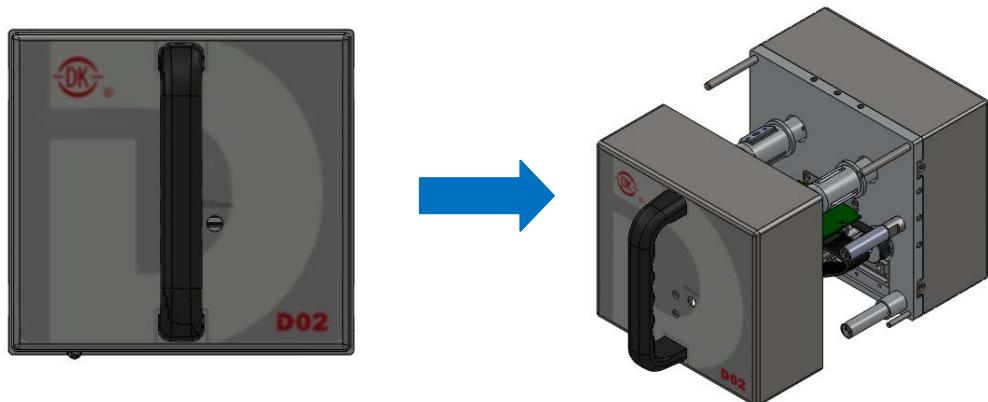


5. Don't unplug the machine or have other illegal operations;  means the upgrading is failed and you need to reboot to do it again



6.  means upgrading succeeds, reboot the machine and finish.

## 4.8 REMOVING THE FRONT CASE

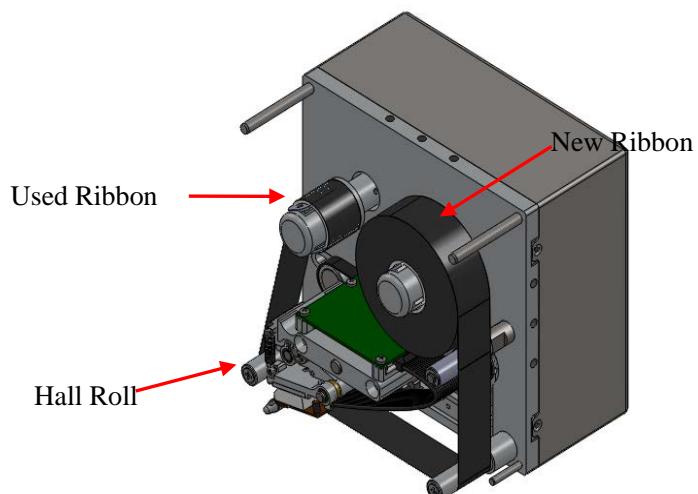


1. Stop the printer into "IDLE" status
2. Withdraw the case with the handle

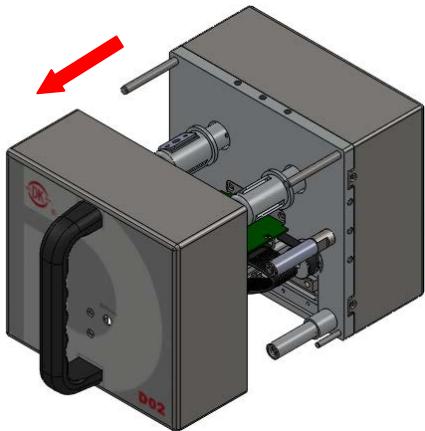
**Note: Follow the opposite steps to install the cassette**

## 4.9 LOADING OR REPLACING THE RIBBON

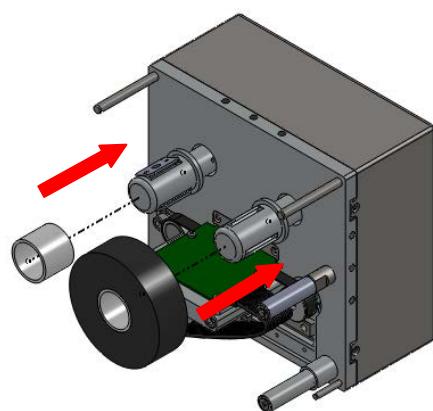
### 4.9.1 CASSETTE CONFIGURATION



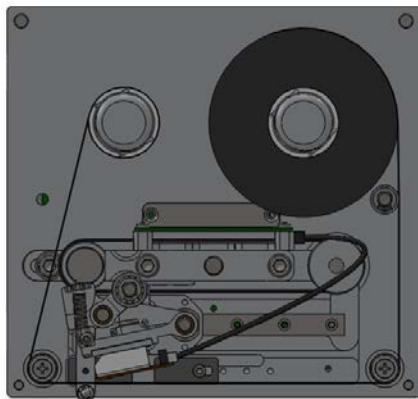
#### 4.9.2 Loading TTR



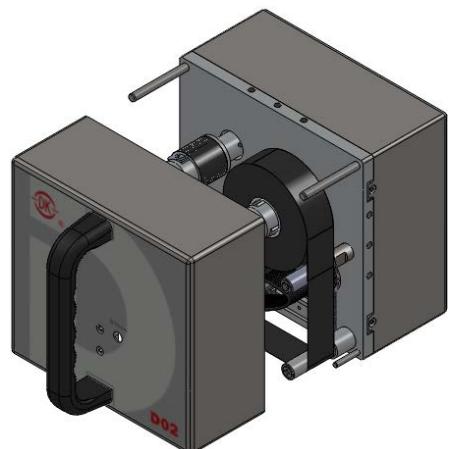
1. Remove the front case;



2. Put a new ribbon and core in Supply Reel Assy as shown.

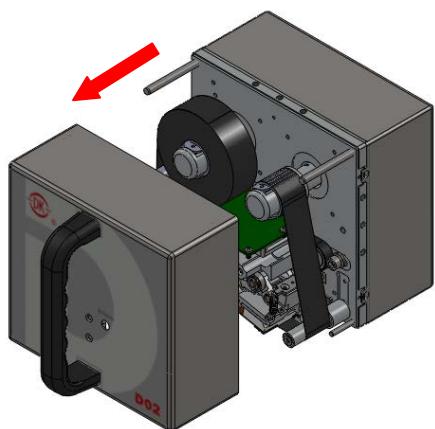


3. Rewind the ribbon on the hall roller and peel roller as shown.

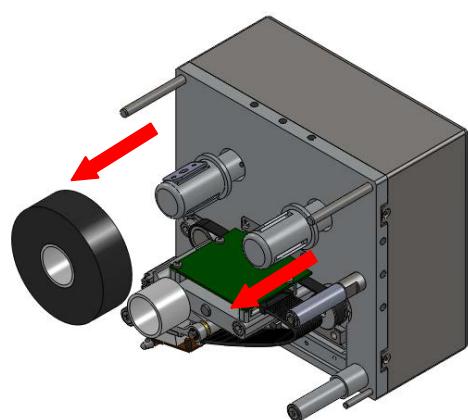


4. Install the front case as shown.

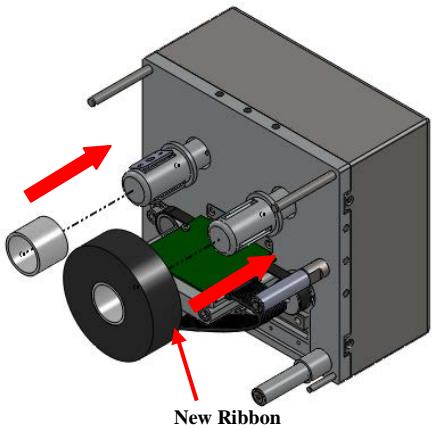
#### 4.9.3 Replacing TTR



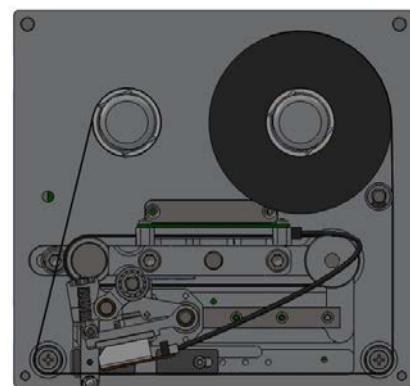
1. Remove the front case;



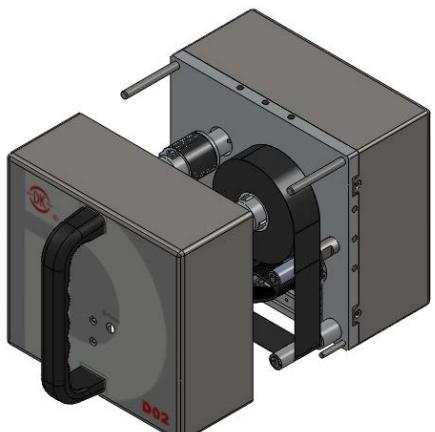
2. Take out the used TTR as shown.



3. Put a new ribbon and core in Supply Reel Assy as shown.



4. Rewind the ribbon on the hall roller and peel roller as shown.



5. Install the front case as shown.

## 4.10 TEST THE CURRENT PRINT JOB



**We need to test the print result after installation.**

- ❖ Turn on the printer, wait to enter the Ready screen.
- ❖ Select print job (Refer to 4.7).
- ❖ Press TEST button  to make test print (there is no test function in continuous mode).
- ❖ Check if print is correct.

**Note: TEST only works in “IDLE” status.**



## 5 MAINTENANCE

### 5.1 CLEANING AND CARE

- ❖ To ensure that your D01 operates correctly, the entire unit should be cleaned on a regular basis.
- ❖ Turn off the power to the controller.
- ❖ Turn off and isolate the air supply to the printer body.
- ❖ Remove the printer cassette and clean inside the printer body. Since there are electronic components inside this casing, DO NOT use water to clean the unit. Isopropanol cleaning wipes can be used for this purpose.
- ❖ To clean the debris from the inside of the printer body, DIKAI recommend the use of a soft bristle brush.

#### 5.1.1 Care of the Printhead

Although purpose-built for its application, the print head is still subject to wear and tear. Careful consideration at the time of installation and regular preventative maintenance can significantly help to maximize print head life.

The most frequent cause of print head damage is abrasion-either from ingress of airborne particles or from an abrasive substrate surface. Consequently, print head life varies considerably among substrate materials and among applications.

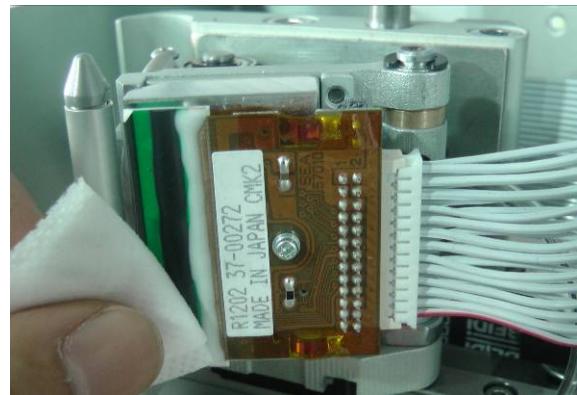
The thermal ribbon protects the printhead against wear. With use of various ribbon widths and an abrasive substrate, it is possible that the unused, unprotected, section of the printhead is subjected to wear and damage. Usually, abrasive substrates have preprinted inks. Particularly, some red inks maybe more abrasive than other colors.

Procedures for all thermal transfer printers follow:

- Regularly clean the printhead. The frequency of cleaning is entirely application and environment specific.
- To minimize printhead wear, always use the minimum air pressure than delivers an acceptable print quality. Never exceed the maximum air pressure recommended for the particular D01 used.
- Use the minimum darkness setting that delivers the required print quality.

#### Cleaning of Printhead, better to clear it before operation:

1. Turn off the power to controller and remove the ribbon cassette. Allow the printhead to cool to normal room temperature before proceeding in order to prevent the possibility of thermal shock damage.
2. Please use printing head cleaning wipe provided by DIKAI or a soft cloth in Isopropanol (Refers to the below image).
3. Better clean the print head once a day if the printer is keep running.
4. Please DO NOT use any water, sharp items or abrasive materials to clean the print head



### 5.1.2 Clean of Rubber Anvil

The rubber anvil also needs to be cleaned, use clean no-woven cloth, soaked in clean water and wrung, clean dirt on the surface and make sure no hard object there in case the damage of print head.

DO NOT use alcohol to clean rubber roller or rubber anvil.

## 5.2 MAINTENANCE SCHEME

### 5.2.1 Quick/Regular Daily Checks

- ✧ Check and clean print head. Use Isopropanol wipes.
- ✧ Check that the ribbon is tracking through the cassette correctly. Pull the ribbon through by hand, and visually check to see if the ribbon is creasing across the width of the ribbon.
- ✧ Check Air is set to recommended pressure.
- ✧ Check for wear or internal debris.
- ✧ Check the peel roller, for any damage, must change a new one to make sure the roller works smoothly.
- ✧ Check if the print head is damaged by print result
- ✧ Check driving and connection parts of bracket and print head: Pulleys, bearings, mounting bracket and the shaft, the carriage moves smoothly.
- ✧ Check the elasticity of the return spring.
- ✧ Check that darkness/Speed settings are site standard. This will ensure that the print remains a good quality, and it may also highlight any potential problems. For example, if the darkness is unusually high, the print head may need cleaning. The darkness has probably been set up high to compensate.
- ✧ Check condition of Platen rubber. Clean or replace it if necessary. The platen rubber needs to be smooth, flat and free from debris. To change the platen rubber, first take the old platen rubber off. The entire adhesive should be removed from the metal platen base. Replace with a DIKAI platen rubber for best results.

✧

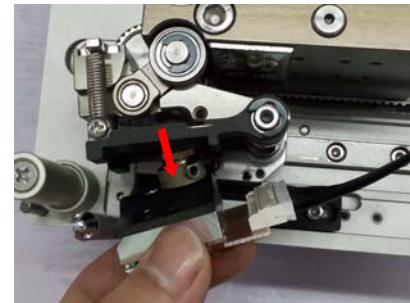
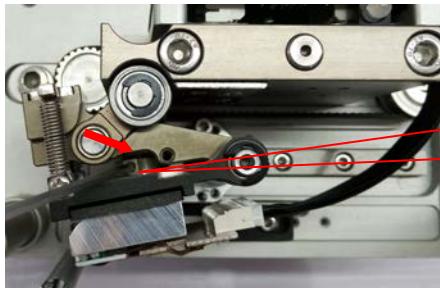


### 5.2.2 Monthly Checks

- ❖ Check the mounting bracket: Check if the mounting bracket is firm, make sure each screws is fixed.
- ❖ Check cable connection: you must have proper tools to install DB44 cables, make sure the cable is securely connected before supplying power to the equipment.
- ❖ Check condition of peel roller: remove roller and inspect internally for wear. Replace or clear if necessary.
- ❖ Check condition of the ribbon guide rollers: Check that bearings are smooth.
- ❖ Check condition of ribbon sensor roller. Inspect the roller coating for wear and damage, if worn or damaged, replace the roller.
- ❖ Check condition of the ribbon seats: make sure they can rotate smoothly, pressure of tensioning clip is suitable, ribbon can be well fixed;
- ❖ Check condition of print head carriage drive belt and associated components: pulleys, bearings, retainers and shafts.
- ❖ Check if the linear guide rotates well, clean the dust on the roller, apply some lubrication if necessary;
- ❖ Confirm belt is not worn, assembly works well, tension is stable, change if necessary;
- ❖ Print a test image to check print head quality and alignment.

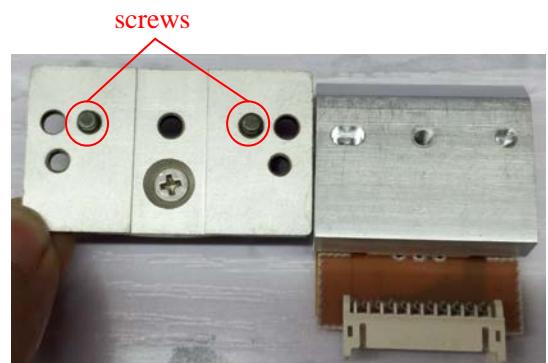
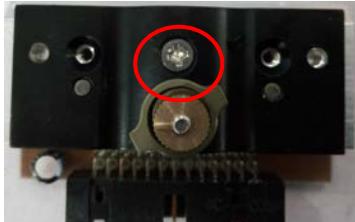
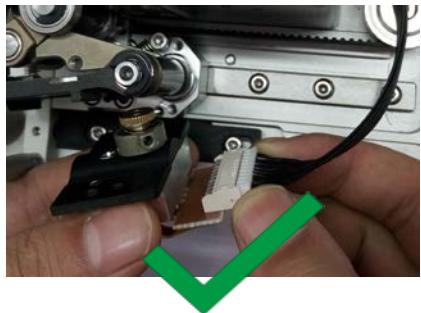
## 5.3 REPLACING THE PRINthead

1. Switch off;
2. Remove the front case;



3. Insert 2mm screwdriver to the hole, rotate clockwise.

4. Take out the Printhead as shown.



6. Remove the retaining screw.

7. Note the location pin, remove the connection block, and carefully handle the old

8. Operate oppositely to replace a new printhead.

9. Make sure printhead is secured into the print module, set the correct printhead



Each print head has an individual resistance level, and the voltage level setting required for each is different. A label on the print head displays the rating for that particular one. In this case, R=808

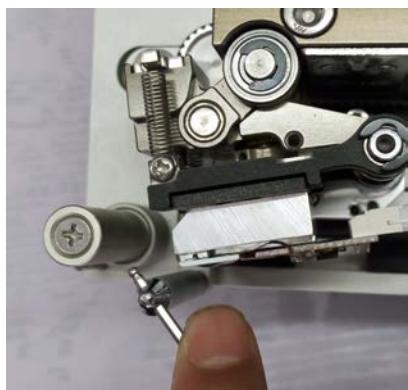
This value must be entered into the controller menu structure, or will be taken as an



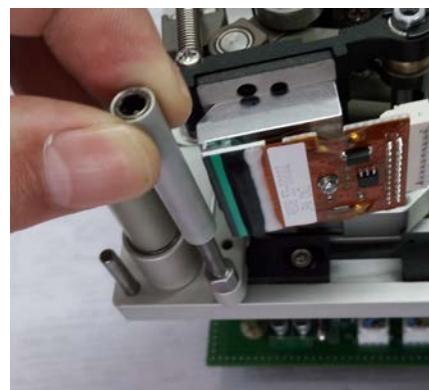
From the Advance Setup screen, select the Printhead Resistance to enter the real value printed on the label.

## 5.4 REPLACING THE PEEL ROLLER

The peel roller is a wear part and should be checked for damage and changed if necessary.



1. Remove the retaining screw from the end of peel roller using a 2mm wrench.



2. Remove the worn peel roller, replace a new one and fix it.



## 6 TROUBLE SHOOTING

The Diagnostics is displayed in abbreviated form on the Home screen, gives an aid to troubleshooting.

The icons informing you of problems or potential problems include the followings:

Icon	Diagnose	Cause	Solution
ERROR	Error with hull of printhead	The printhead is not at the home position or Hull can't recognize the magnet in printhead	Turn off power, remove ribbon cassette, check items as below. 1. reel support can move flexibly 2. hull H6 can recognize magnet 3. Driving belt is tight if not, please exchange with new one accordingly
	Ribbon Shortage	Ribbon finish or ribbon break	Pull out ribbon cassette, load a new ribbon or reconnect broken ribbon. Check if ribbon is installed correctly. Check if hull works, there are three magnets in hull roller, all of them can recognize, if not, adjust the position of H4 until all of them can do it.
	Abnormal Tension	Ribbon break or abnormal tension	Reconnect broken ribbon Check if hull works, there are three magnets in hull roller, all of them can recognize, if not, adjust the position of H4 until all of them can do it.
DOOROPEN	Cassette Open	The cassette is not installed or doesn't installed correctly	Check if ribbon cassette is installed correctly. Check if hull works.
DISKERROR	Local hard disk error	SD card error	Power off printer, remove SD card and insert again.



<b>WARNING~</b>	Missed Prints	Missed prints	Check speed of packaging machine. Frequency: less than 120ppm Printing signals are not acquired correctly Make sure printing signals effective.
<b>FILEERROR~</b>	Print Job Error	Print job can't be recognized	Re-load print job. Change new SD card and reload print job. Re-edit print job.

Normal Error:

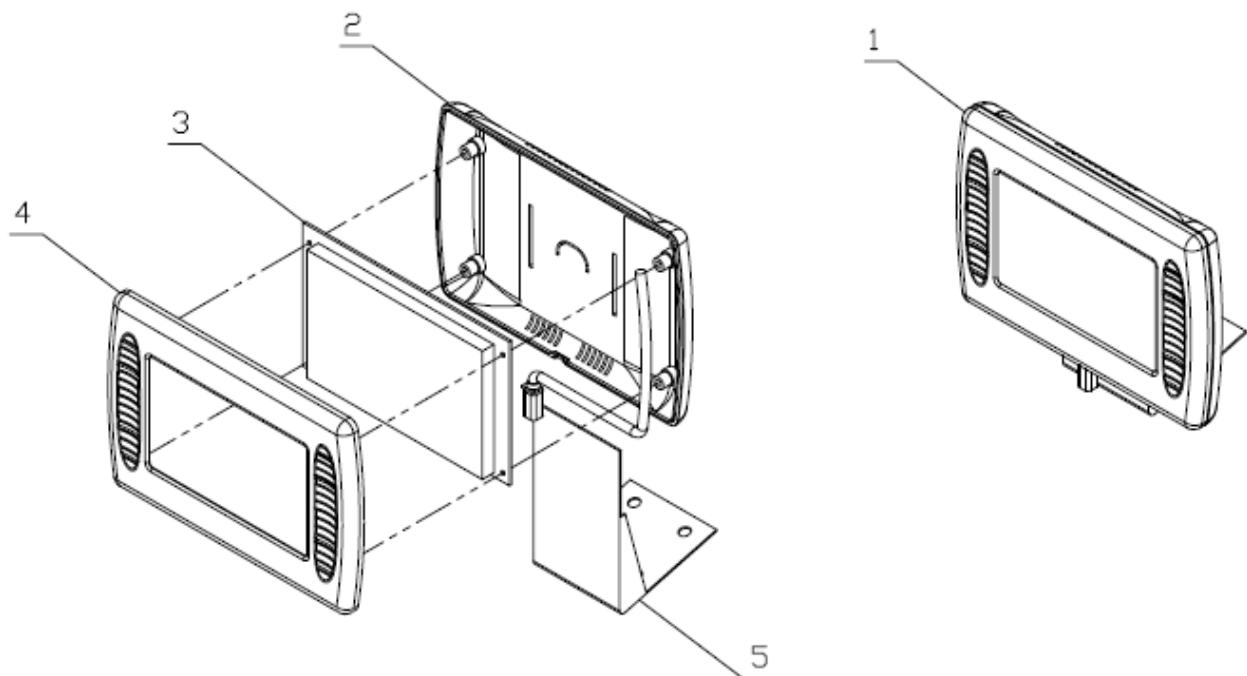
Common Errors	Solution
<b>Boot screen can't jump to ready screen</b>	Restart printer
<b>System time change to year 2069 automatically.</b>	Restart printer. Change the button battery of touch screen.
<b>Touch screen error</b>	Calibrate touch screen. Keep touching no work area until sound "di..." stop, follow instructions shown in blue screen.
<b>Control box is well connected, error flashes on the screen</b>	Check if time in control box is set correctly. Check if there are too many merge variable data, if yes, cancel merge.
<b>Print job download from USB is not fully shown</b>	Use DIKAI U-disk.. Re-load print job.
<b>No printing</b>	Check if print job is selected correctly. Make sure proper space between printhead and rubber anvil or roller. Problem with printhead. Encoder isn't well connected (continuous mode).



<b>Poor Printing Quality</b>	<p>TTR is not even.</p> <p>Dirty printhead, clean it with DK clean wipe.</p> <p>Dirty or damaged rubber anvil or roller.</p> <p>Make sure proper darkness.</p> <p>TTR is not available between printhead and reel roller.</p> <p>Make sure printer is steadily installed without any swing.</p> <p>Make sure proper space between printhead and rubber anvil or roller.</p> <p>Make sure proper air pressure.</p>
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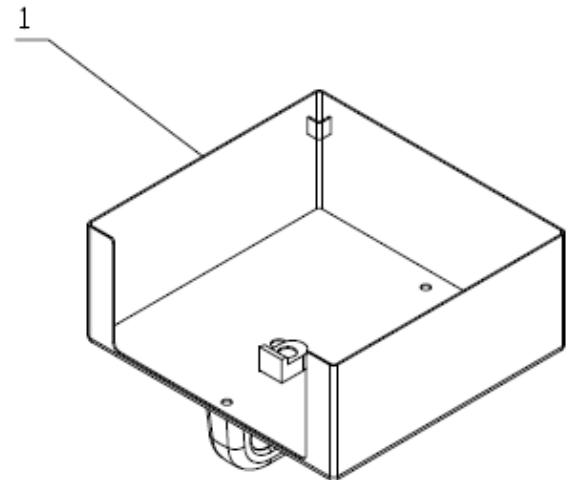
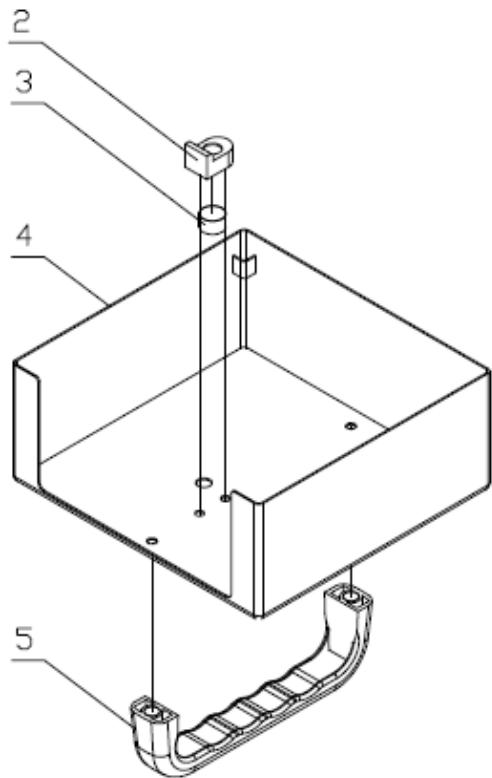
## 7. SCHEMATICS AND PARTS ILLUSTRATIONS

### 7.2 CONTROLLER BOX

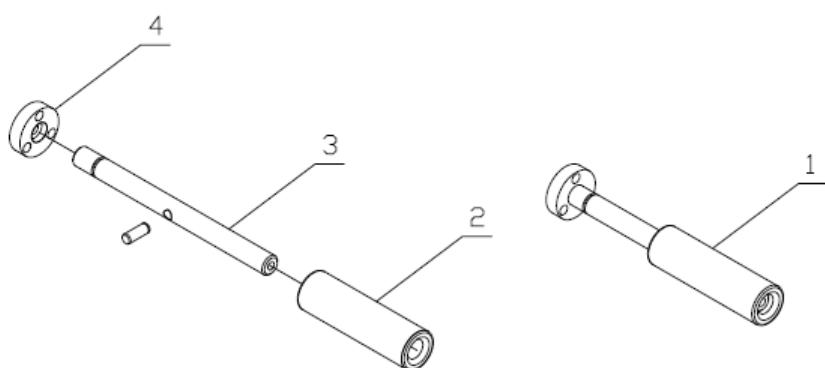


Item No	Description	Part No.	Quantity
1	D02 Controller Box	C0201038	1
2	Back Cover	Y0201039	1
3	Touch Screen	C0201040	1
4	Front Cover	Y0201038	1
5	Controller Box Retainer	Y0201043	1

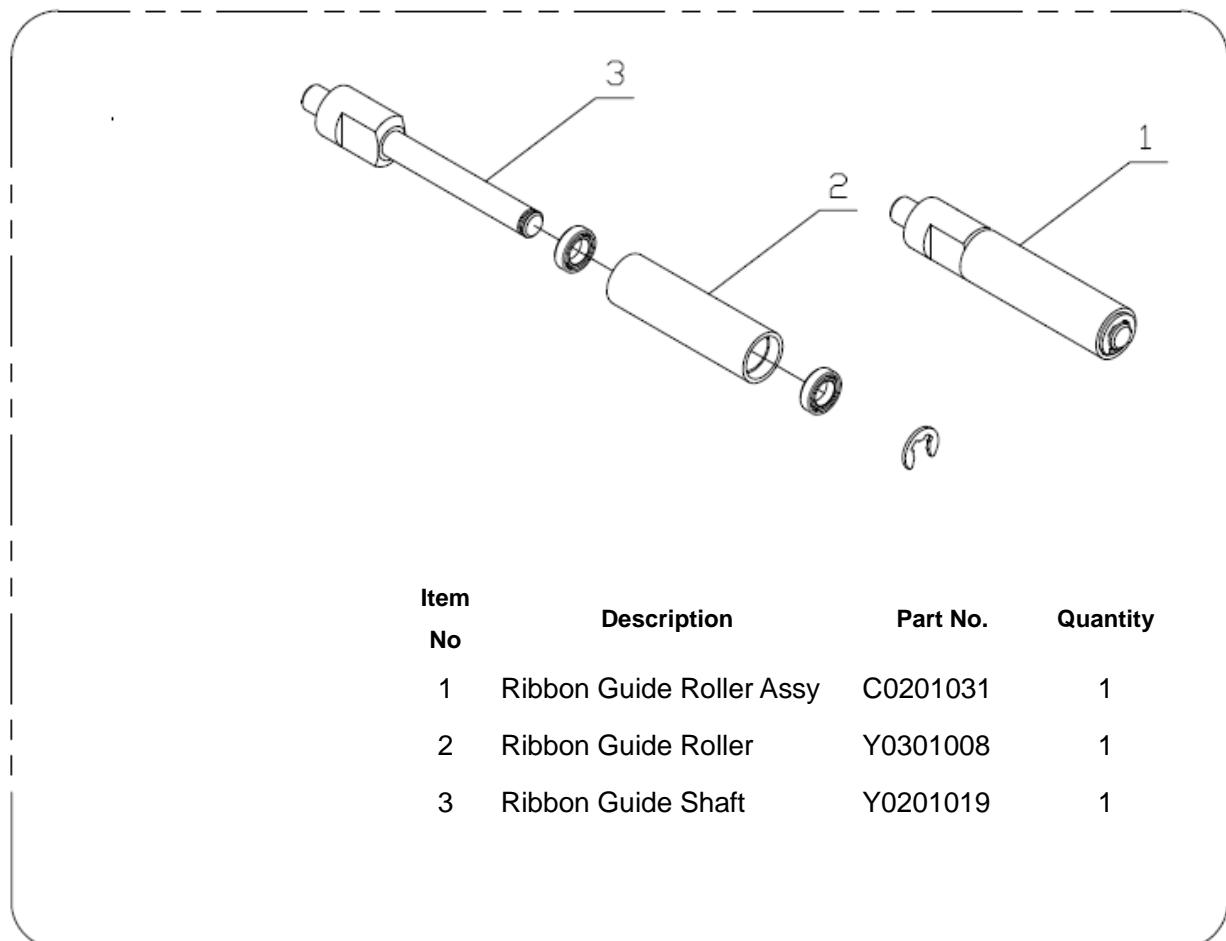
## 7.3 PRINTER UNIT



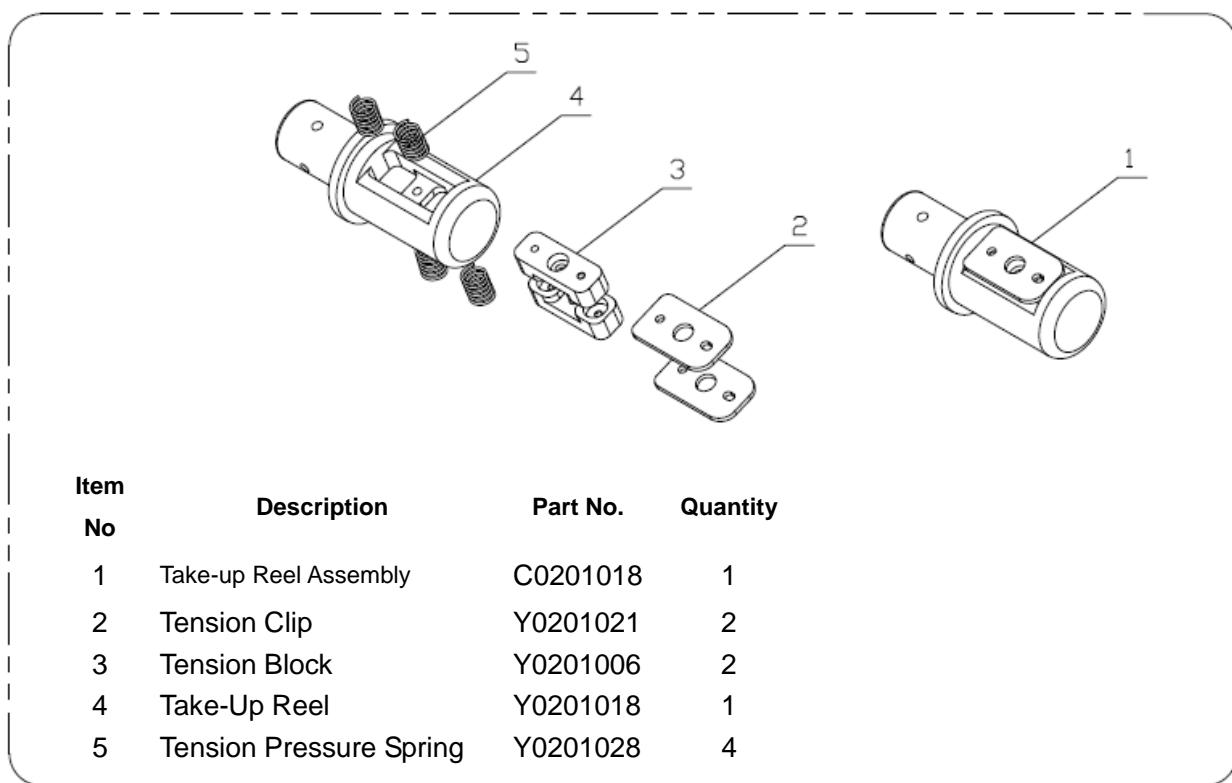
Item No	Description	Part No.	QTY
1	Front Case Assy	C0201025	1
2	Retainer Block	Y0201005	1
3	Strong Magnet	Y0201032	1
4	Front Case	Y0201026	1
5	Cassette Handle	C0301023	1



Item No	Description	Part No.	Quantity
1	Hall Assembly	C0201022	1
2	Hall Roller	Y0201023	1
3	Hall Roller Shaft	Y0201022	1
4	Magnet Disc Retainer	Y0201024	1

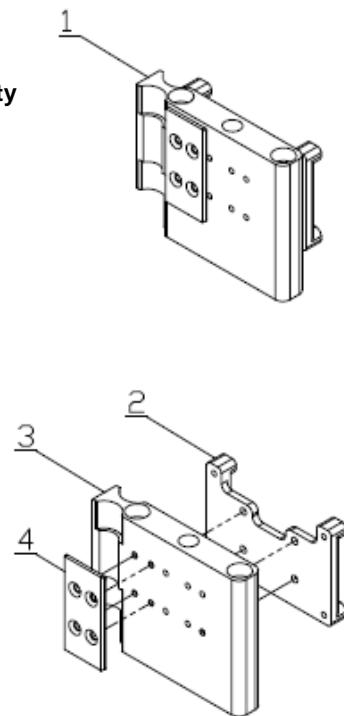


Item No	Description	Part No.	Quantity
1	Ribbon Guide Roller Assy	C0201031	1
2	Ribbon Guide Roller	Y0301008	1
3	Ribbon Guide Shaft	Y0201019	1

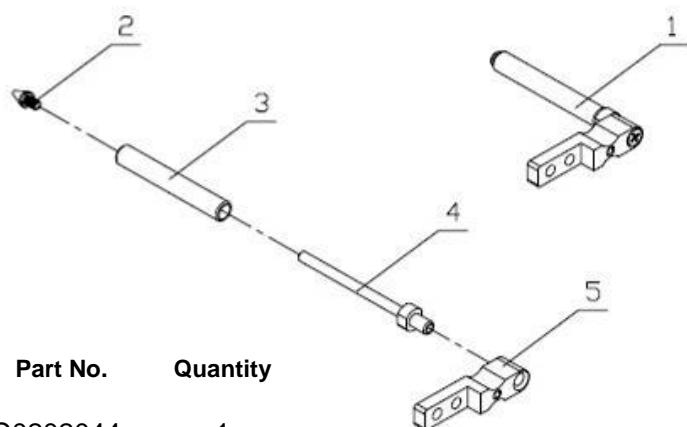


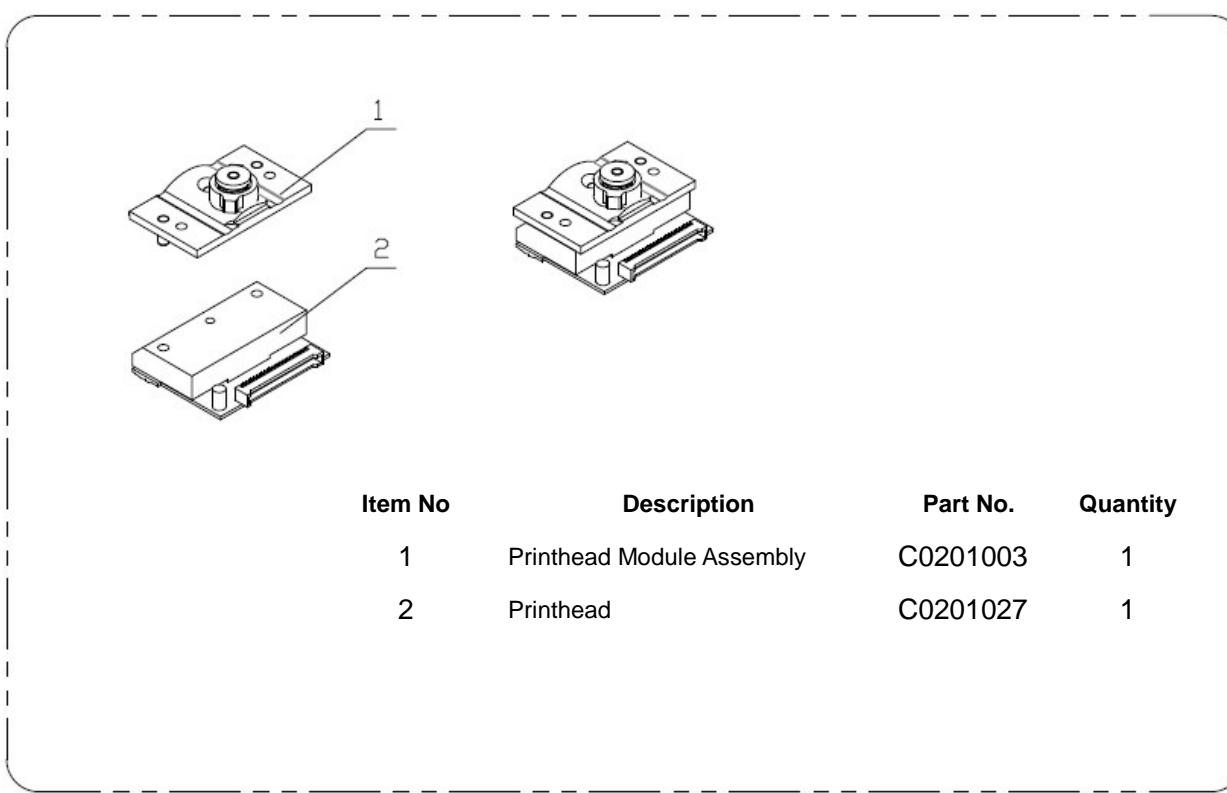
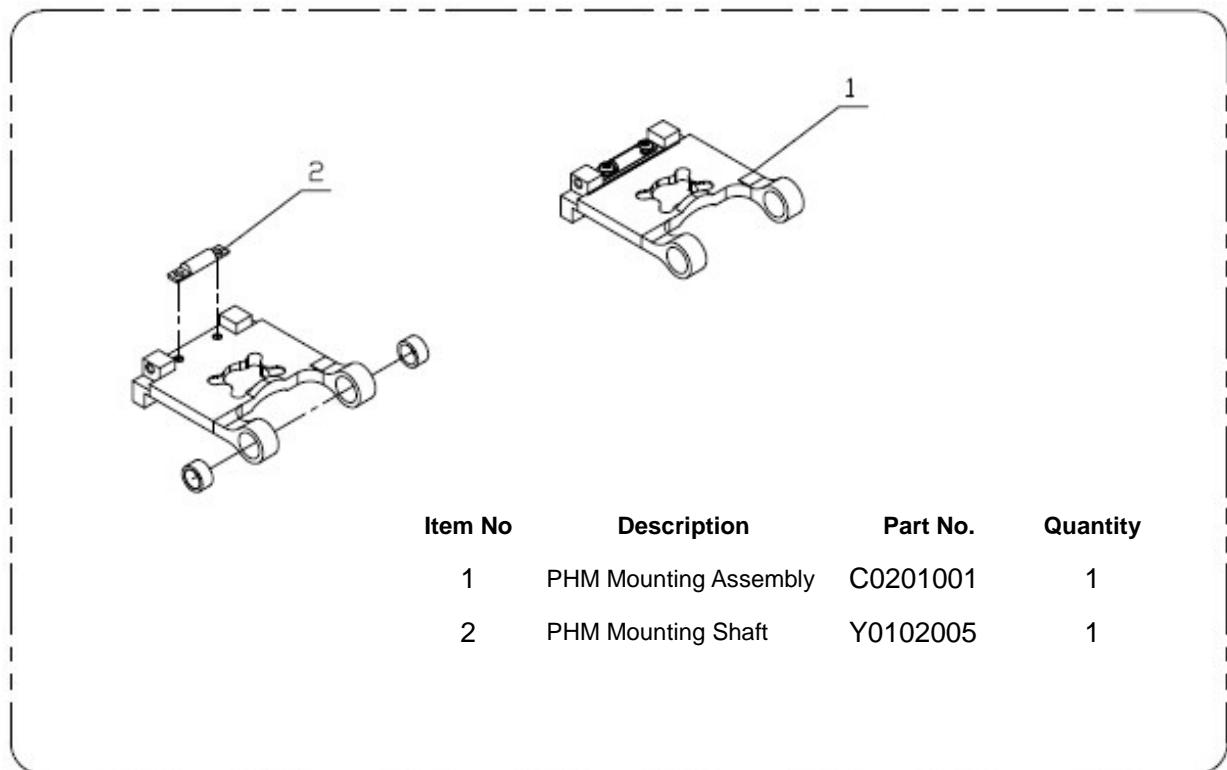
Item No	Description	Part No.	Quantity
1	Take-up Reel Assembly	C0201018	1
2	Tension Clip	Y0201021	2
3	Tension Block	Y0201006	2
4	Take-Up Reel	Y0201018	1
5	Tension Pressure Spring	Y0201028	4

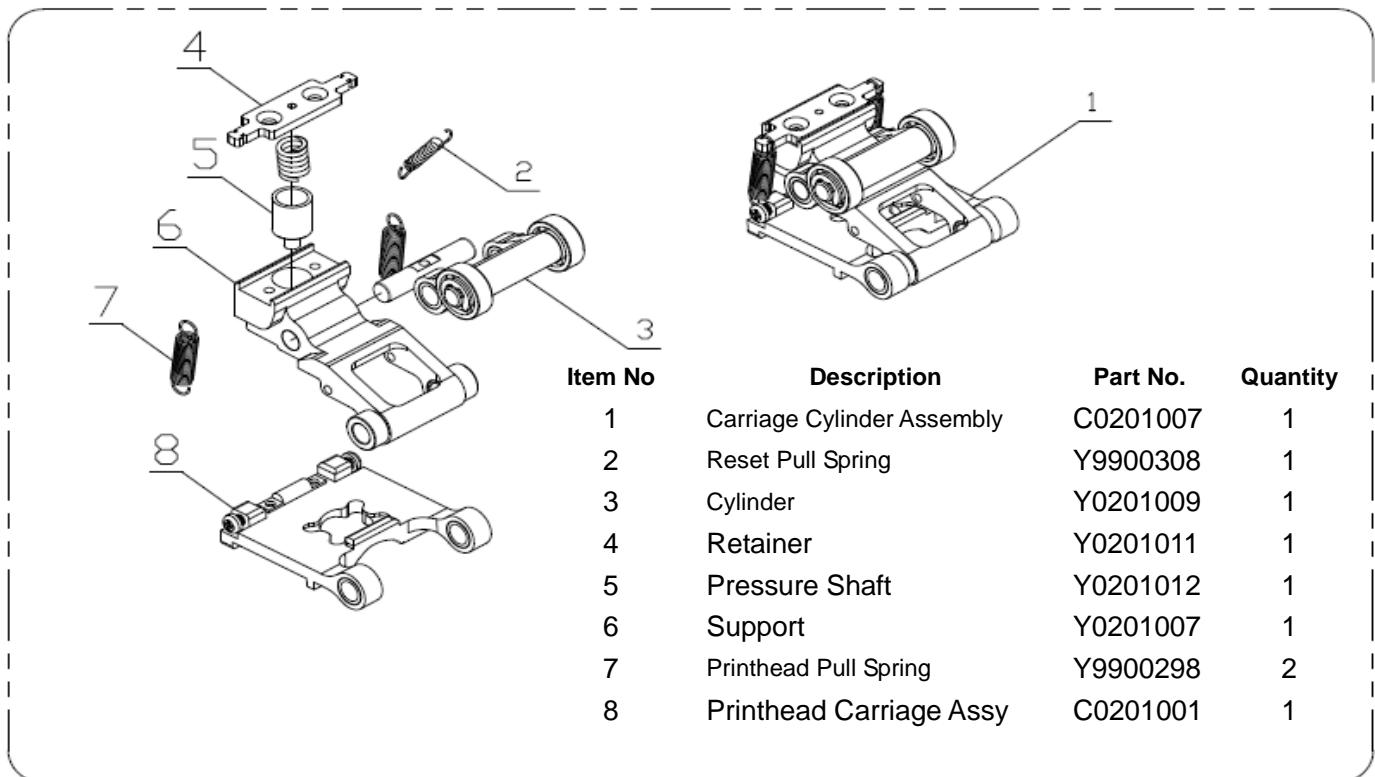
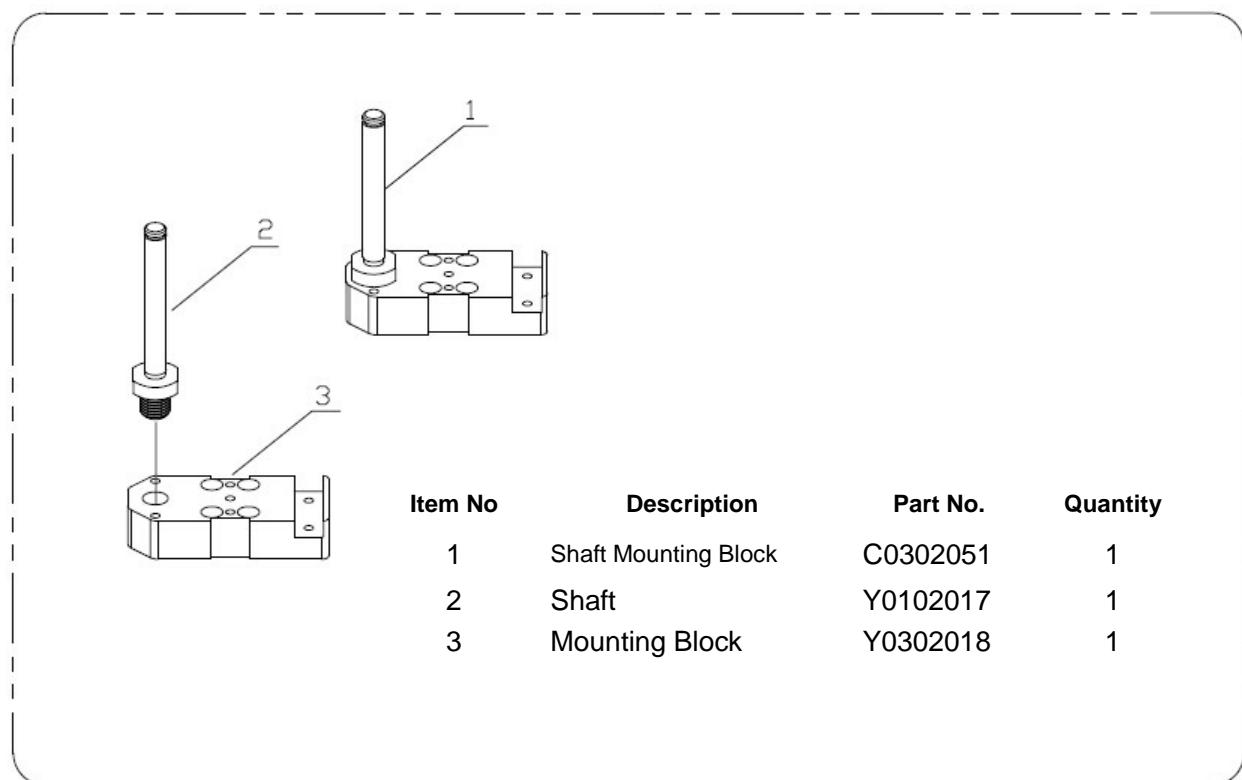
Item No	Description	Part No.	Quantity
1	Support Plate Assembly	C0201014	1
2	Interface Plate Support	Y0201020	1
3	Support	Y0201016	1
4	Support Plate Spacer A	Y0201014	1
	Support Plate Spacer B	Y0201015	1

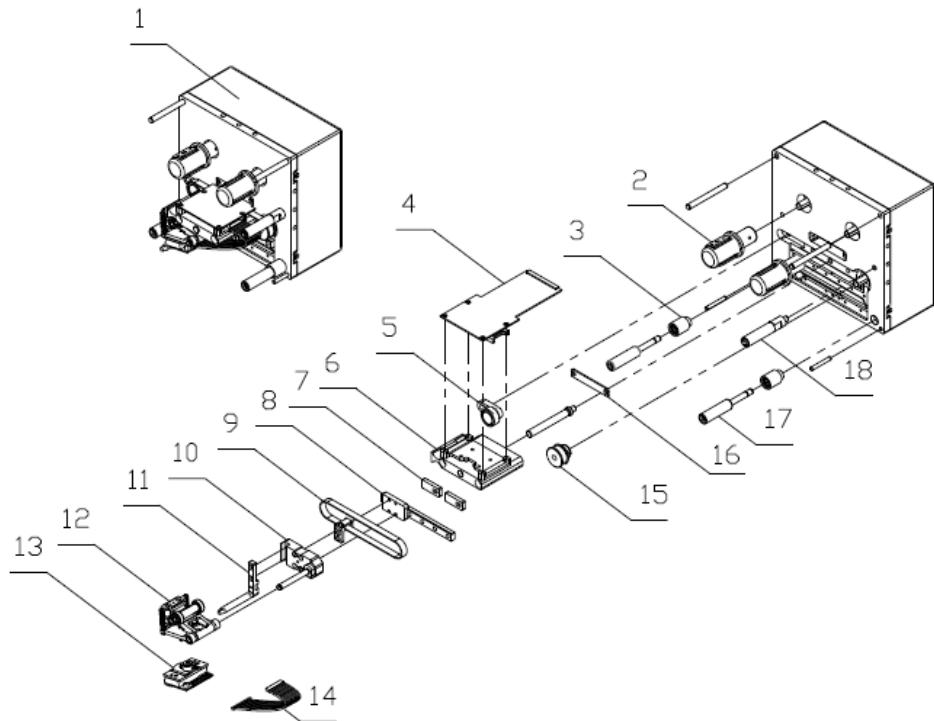


Item No	Description	Part No.	Quantity
1	Peel Roller Assembly	C0202044	1
2	Ribbon Guide Sheath	Y0102062	1
3	Peel Roller	C0102014	1
4	Peel Roller Shaft	Y0302015	1
5	Peel Roller Support	Y0202044	1

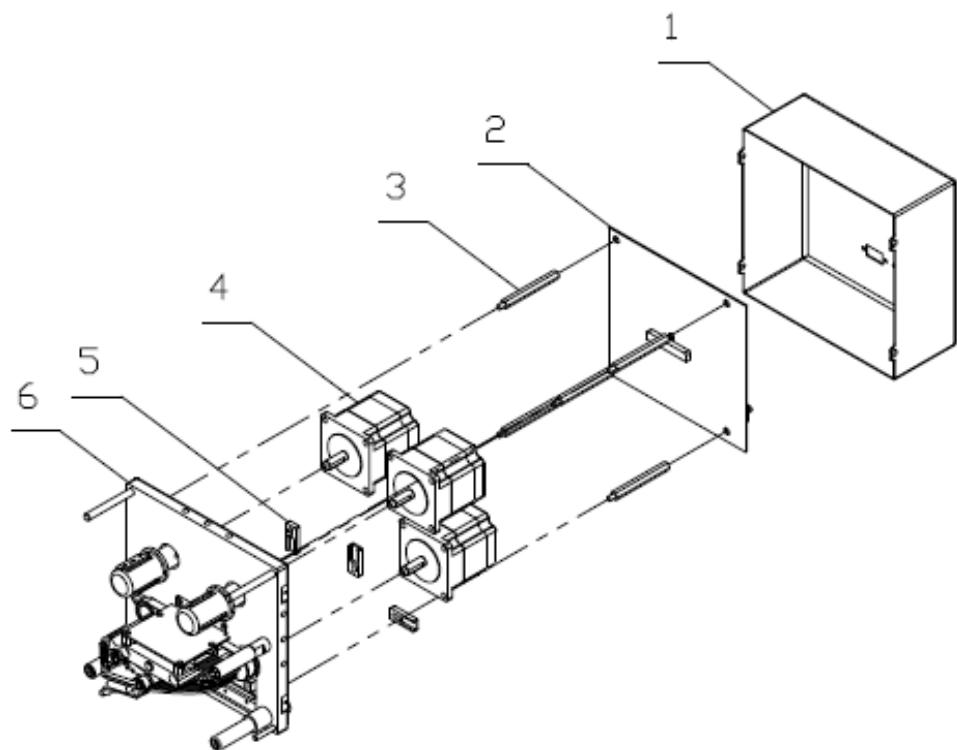








Item No	Description	Part No.	Quantity
1	Printer Unit	C0201000	1
2	Take-up Reel Assembly	C0201018	1
3	Bearing Seat	C0201030	4
4	Interface PCB	C0201030	1
5	Drive--Driven Assembly	C0302019	1
6	Support Assembly	C0201014	1
7	Hall Assembly	C0201022	2
8	Linear Guideway	C0201033	1
9	Belt	Y9900328	1
10	Shaft Mounting Block Assy	C0302051	1
11	Peel Roller Assy	C0202044	1
12	Carriage Cylinder Assembly	C0201007	1
13	Print Head	C0201027	1
14	Print Head Connect Cable	C0201045	1
15	Drive Wheel	Y0102025	1
16	Interface Board Retainer	C0201034	1
17	Hall Assembly	C0201022	2
18	Ribbon Guide Roller Assy	C0201031	1



Item No	Description	Part No.	Quantity
1	Back Cover	C0201036	1
2	PCB	C0201037	1
3	Distance Post	D0150460	1
4	Motor	Y0102052Z	1
5	Hall Element	C9900326	1
6	Base Board	C0201029	1



## 7.4 OTHER SPARES

Item No	Description	Part No.	Specification	Quantity
1	UI	C0201038		1pc
2	Printer Unit	C0201000		1pc
3	Ribbon Sample	Y0205006	25mm width	1pc
4	Proximity Sensor	C9900011NP		1pc
5	Proximity Sensor Mounting Screws Assembly	D9906003		2kits
6	Power Cable	Y0105001		1pc
7	Power Cable(no plug)	Y0105002		1pc
8	I/O Cable	Y0105004		1pc
9	D02 Mounting Bracket	Y0205003		1pc
10	Mounting Bracket Screws Assemly	Y0105008	4pcs M6*16 4pcsm4*20screws	1kit
11	Relay	Y0105021		1pc
12	Print Head Clean Wipe	Y0105011	5pcs	1kit
13	D02 AC/DC	C0201046		1kit
14	Manual	Y0205014		1pc
15	D02 CD	Y0205012	Designer Program + Manual	1pc
16	USB	Y9900321	8G	1pc

### Optional Spares:

Item No	Description	Part No.	Specification	Quantity
1	Rubber Anvil	SD31100JD	98mm*98mm (Intermittent only)	1
2	Encoder Assy	C9915000-B45	5-24V (Continuous only)	1

### Consumables:

Item No	Description	Part No.	Specification	Quantity
1	Print Head	C0201027	24mm width	1
2	Rubber Anvil	SD31100JD	98mm*98mm	1
3	Clean Wipe	C9900286	50pcs/box	1



## 7.5 RECOMMENDED SPARES

Item No	Description	Part No.	Quantity
1	Peel Roller	C0102014	1
2	Ribbon Guide Roller Assy	C0201031	1
3	Hall Assembly	C0201022	2
4	Timing Belt	Y9900328	1
5	Hall Element	C9900326	1
6	Print Head Connect Cable	C0201045	1



## 8. CONSUMABLES INTRODUCTION

### DIKAI TTR

- ⇒ DG, Wax/Resin TTR;
- ⇒ DC, Premium Wax/Resin TTR;
- ⇒ DB, Ultrathin Wax/Resin TTR;
- ⇒ DT, Resin TTR

### Wax/Resin TTR

- ✧ Combination with wax and resin, with advantages of two material.
- ✧ Need medium temperature transfer ink to packing film.
- ✧ Suitable for high speed printing.
- ✧ Have good adhesion on most of packaging film.
- ✧ Best solution for most applications.
- ✧ Reasonable costs.
- ✧ Mostly used for candy/fast food industry.

### Resin TTR

- ✧ High melting point, need higher temperature to transfer ink to packaging film.
- ✧ Suitable for low printing speed.
- ✧ Excellent adhesion and abrasive-resistance.
- ✧ Suitable for high demanding applications, such as polyethylene or low-temperature environment.
- ✧ Higher cost.
- ✧ Mostly used on infant food, pharmaceutical industries.

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