



T4 series user's manual

Version: 1.1

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About this user's manual

Firstly, thank you for purchasing Sbarco's T4 series printer. T4 printer could provide you a reliable, easy and clear way to print all kind of labels and barcodes you need.

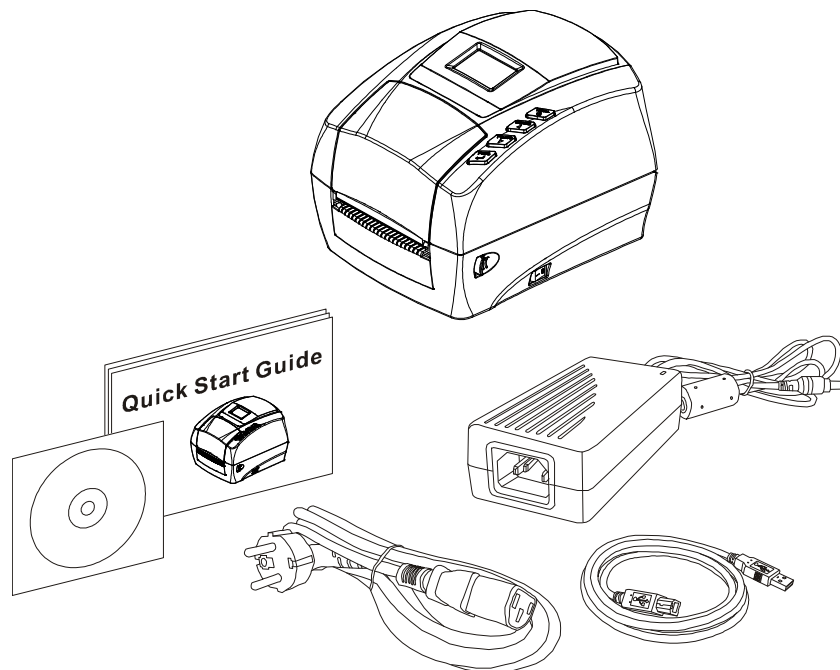
This user's manual is described with a large quantity of illustrations, let the users understand, step by step, how to work this printer to its best. This manual includes also the troubleshooting section which could provide a pre-way to eliminate or find out the troubles, without the help of technician. If users still cannot banish the troubles from the printer, please contact directly the distributors.

1. Introduction

1.1 In the box

After unpacking, please inspect carefully and make sure that you receive all the necessary parts as below:

- ✓ Printer
- ✓ Power supply
- ✓ Power Cord (varies by country)
- ✓ Software CD ROM
- ✓ Quick start guide
- ✓ USB cable

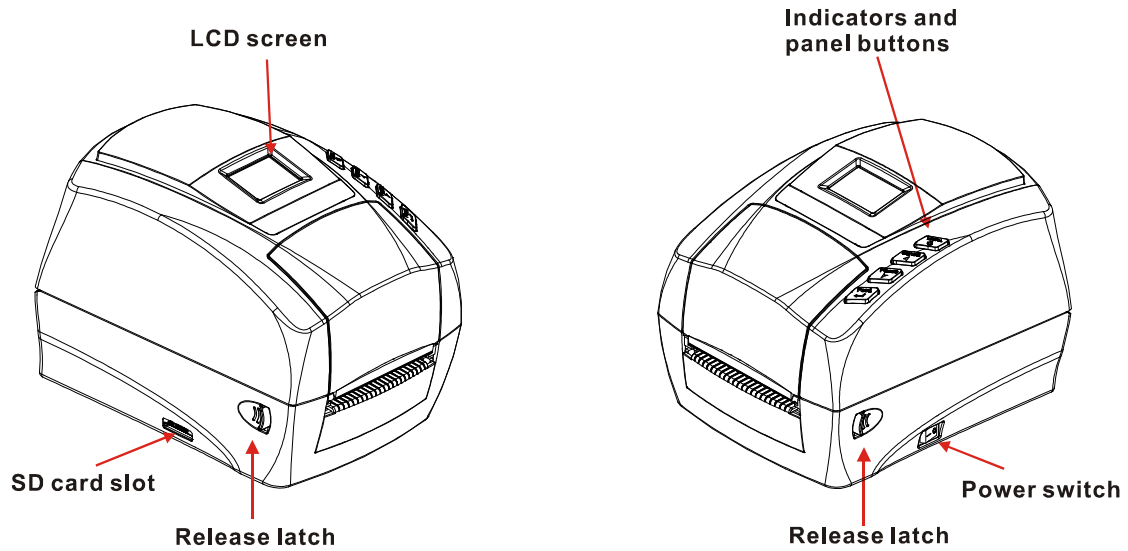


If any parts are missing, please contact the service department of your distributor.

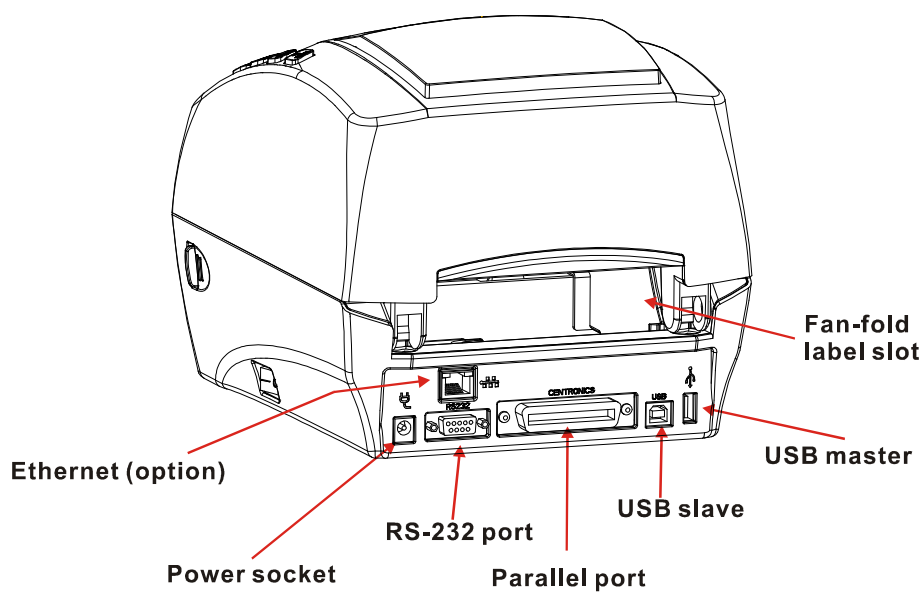
Save the carton and all packing materials in case you need to reship back.

1.2 Printer Features

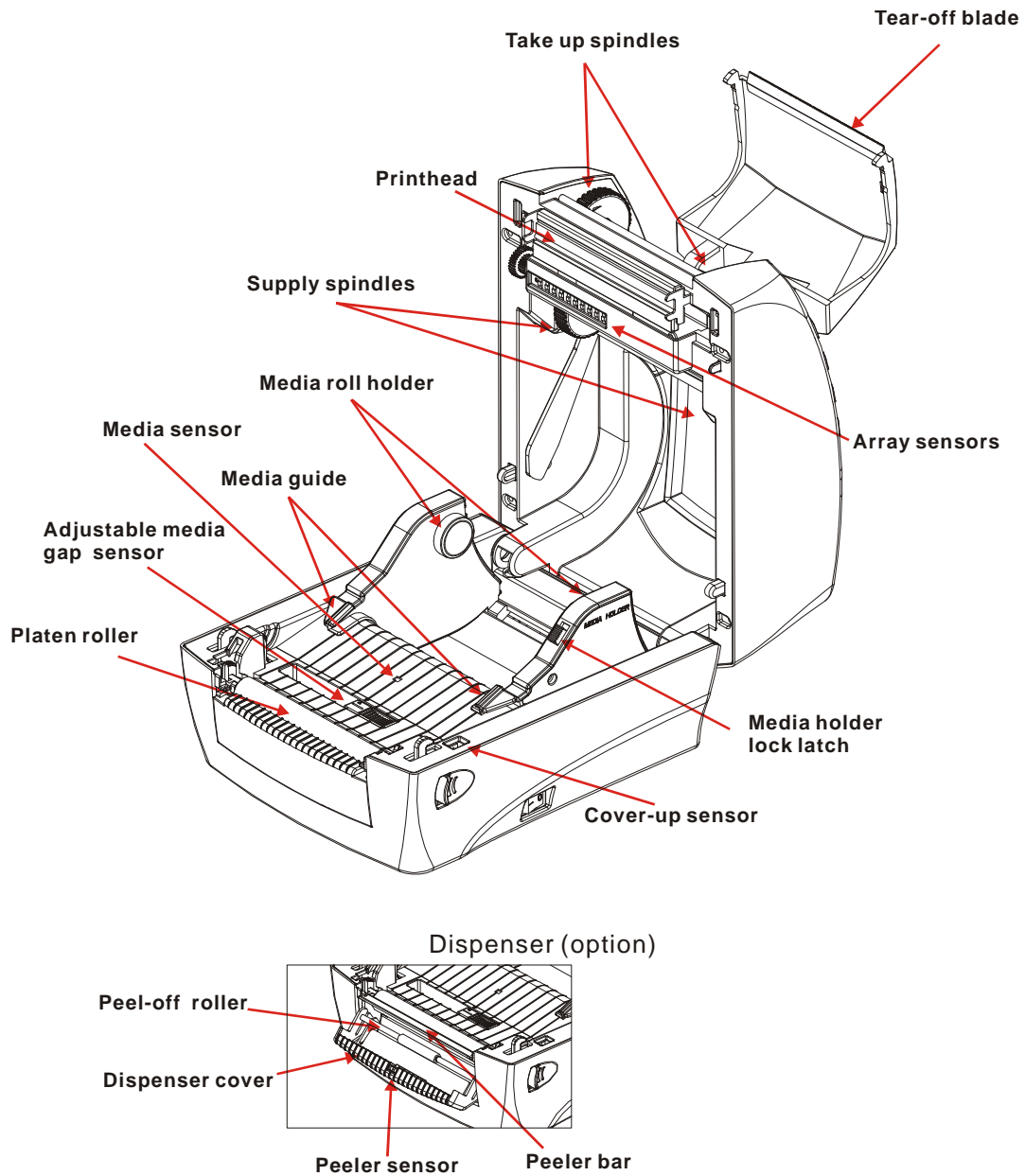
1.2.1 Front view



1.2.2 Rear view



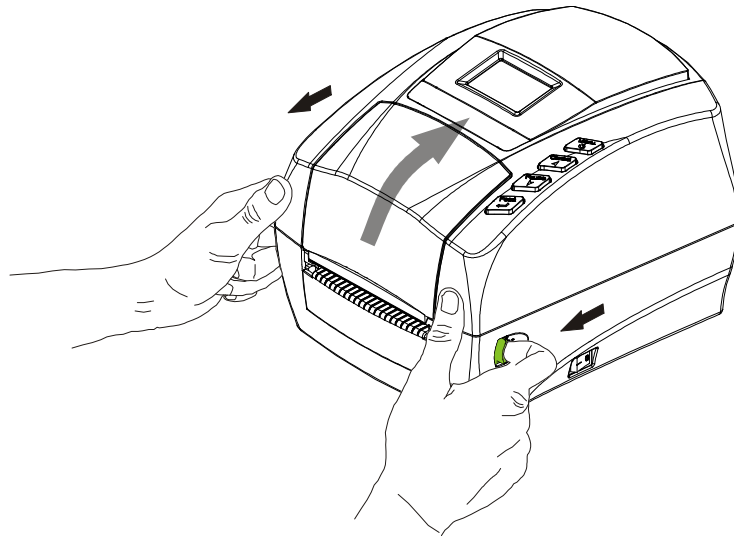
1.2.3 Interior view



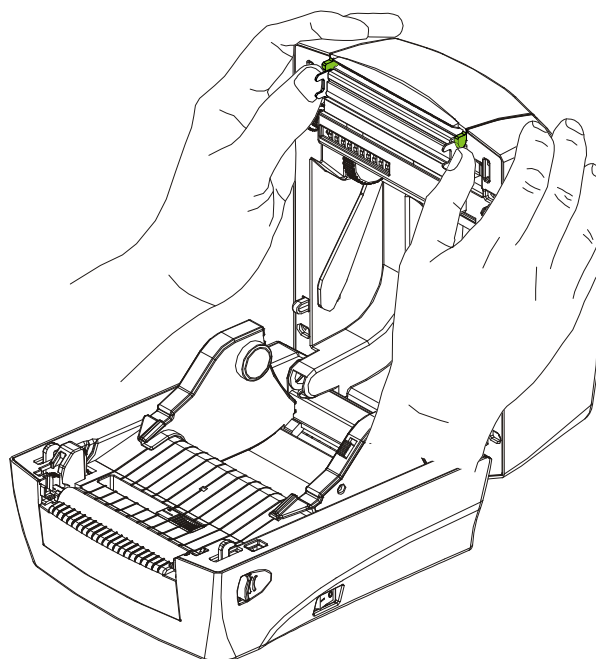
2. Getting start

2.1 Loading the ribbon

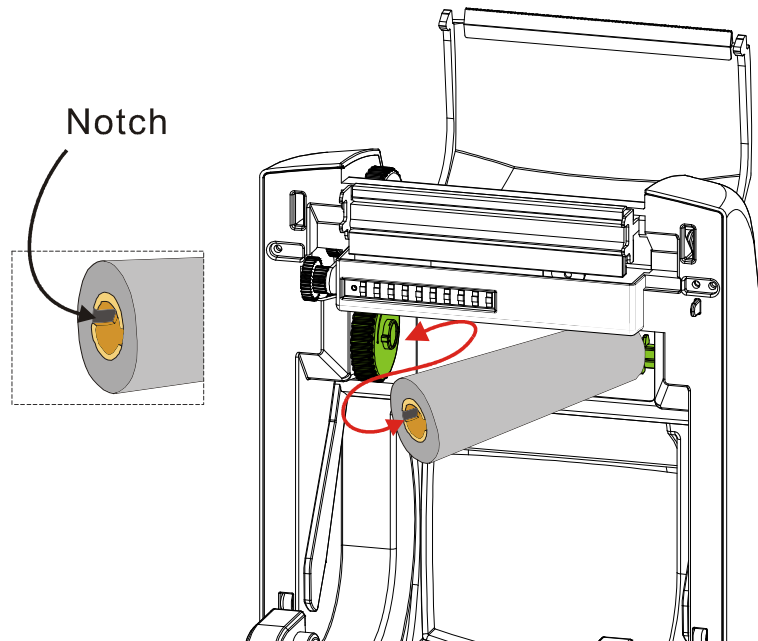
1. Pulling the release latches on two sides toward the front of printer to open the printer cover.



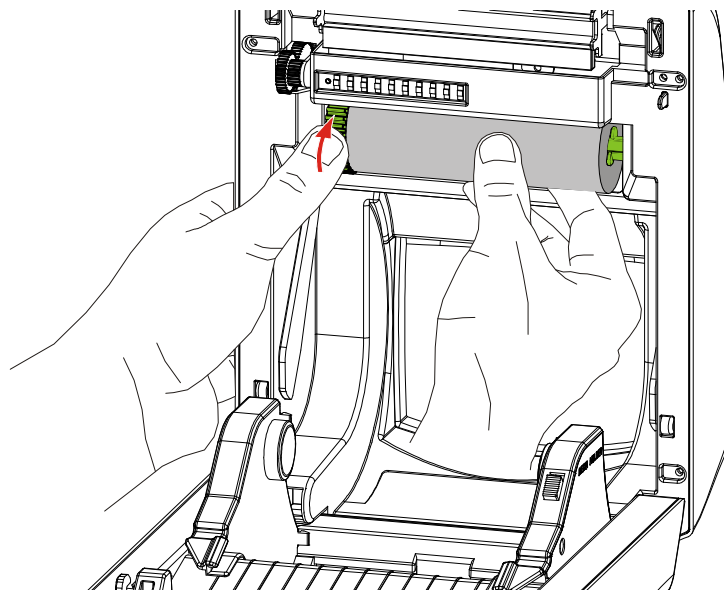
2. Open the ribbon cover by pushing the ribs (as shown in green) of ribbon cover. Do not open the ribbon cover by pushing the cover edge which installed the blade to tear off the label. It might hurt your hands if you push it hardly.



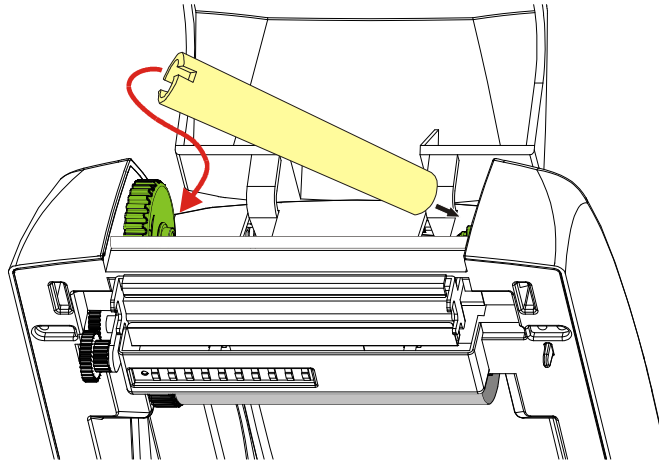
3. Insert the ribbon roll to the supply spindle.



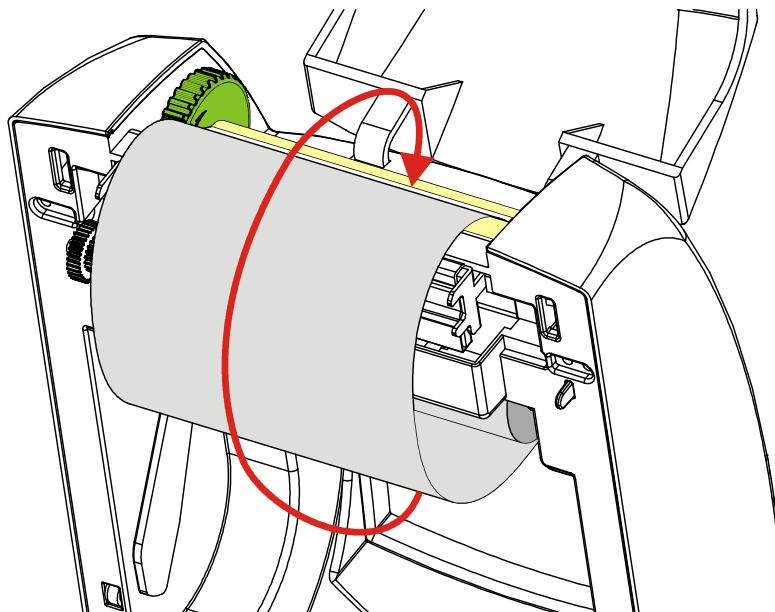
4. Rotate the supply hub until the notches align and lock in to the left side of supply hub.



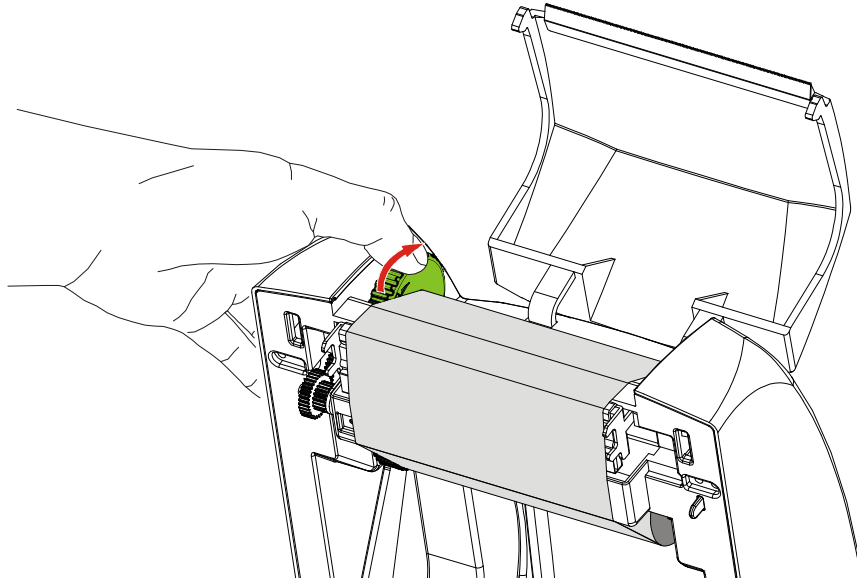
5. Insert an empty media core into the take up spindle. Rotate the take up hub until the notches align and lock on the left side of take up hub.




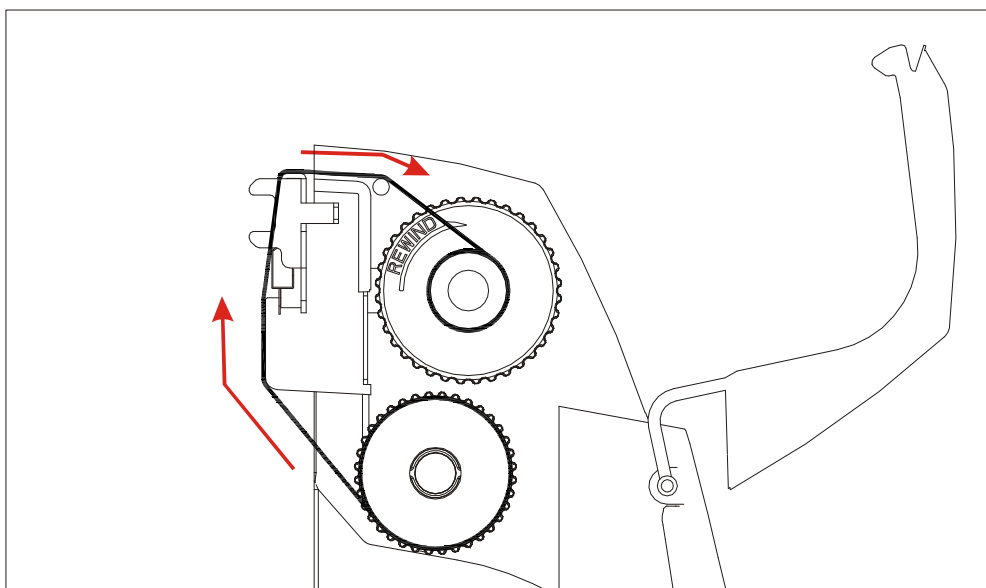
6. Pull the ribbon out from the roll and stick it with the adhesive tape on the empty ribbon take up core.



7. Rotate the take up hub on the left side of ribbon spindle till the ribbon is pulled tight.

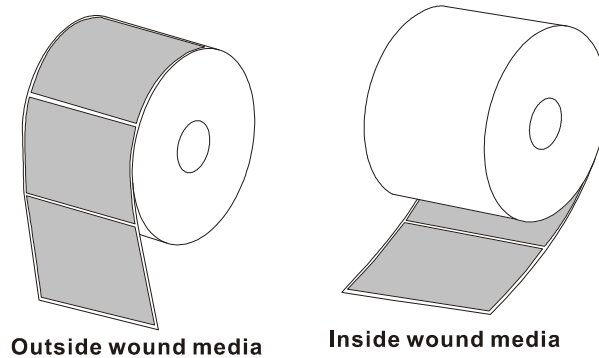


 Note: The loading path of ribbon roll (outside wound)

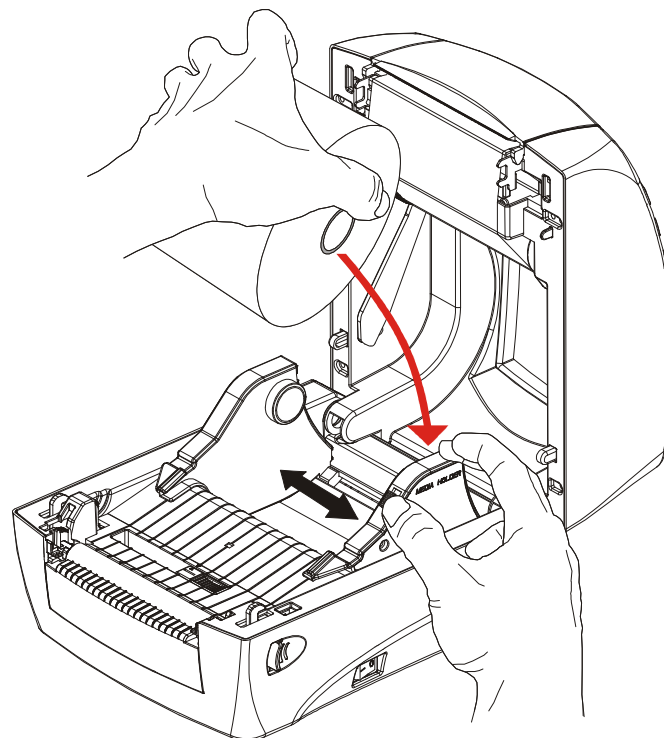


2.2 Loading the media

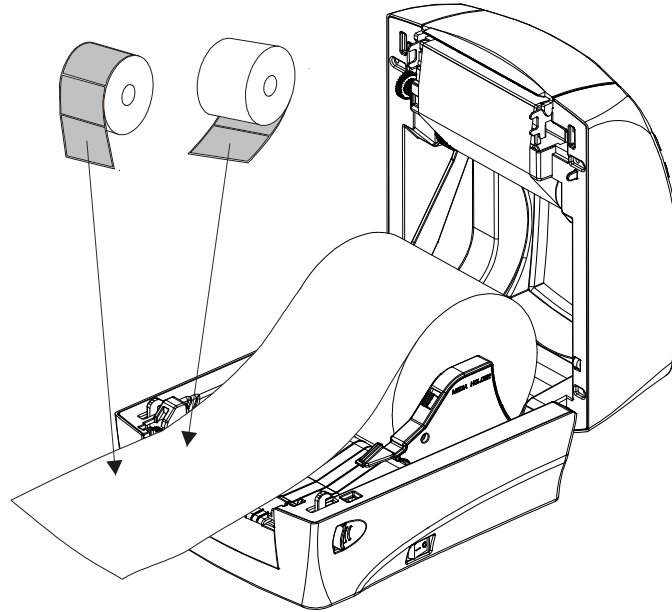
Whether the roll media is inside or outside wound, they could be used in this printer and loaded in the same way.



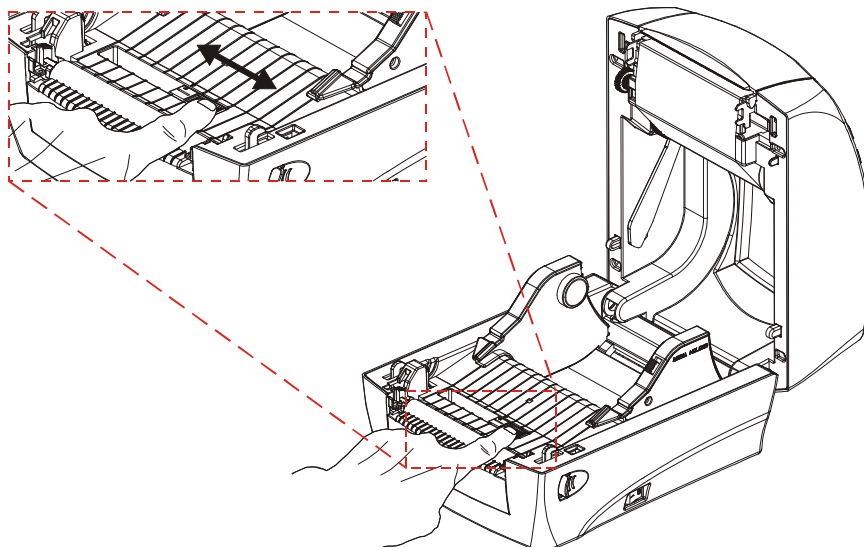
1. Open the printer cover by pulling the release latch toward the front of printer.
2. Press the holder latch and pull the media holders open. Place the media roll on the holders and push media holder toward the roll by pressing the holder latch. Release the latch when the media is on the holder firmly.



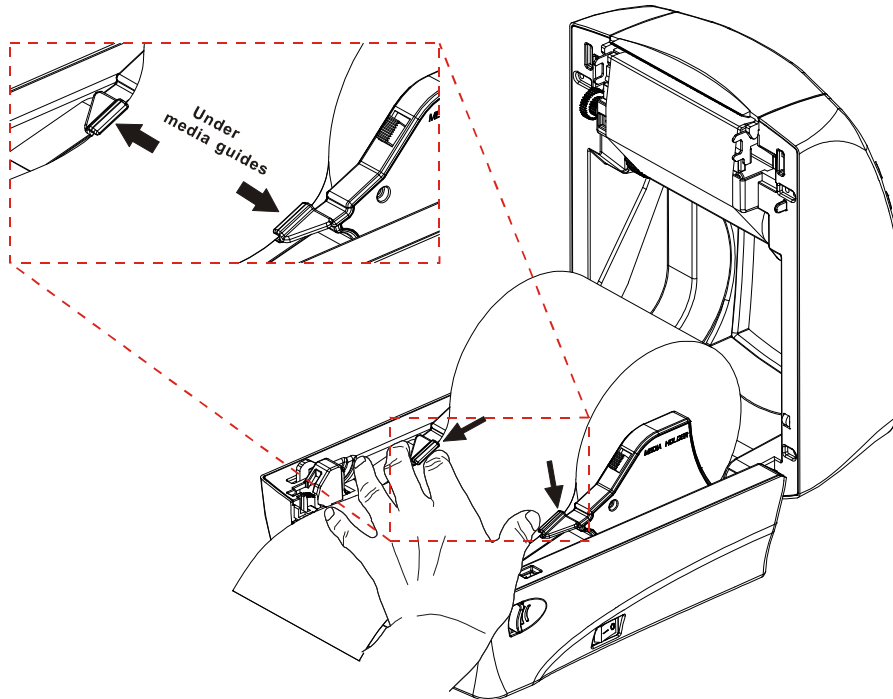
3. Pull the media so it could extend out the printer. Please make sure the printing surface is facing up.




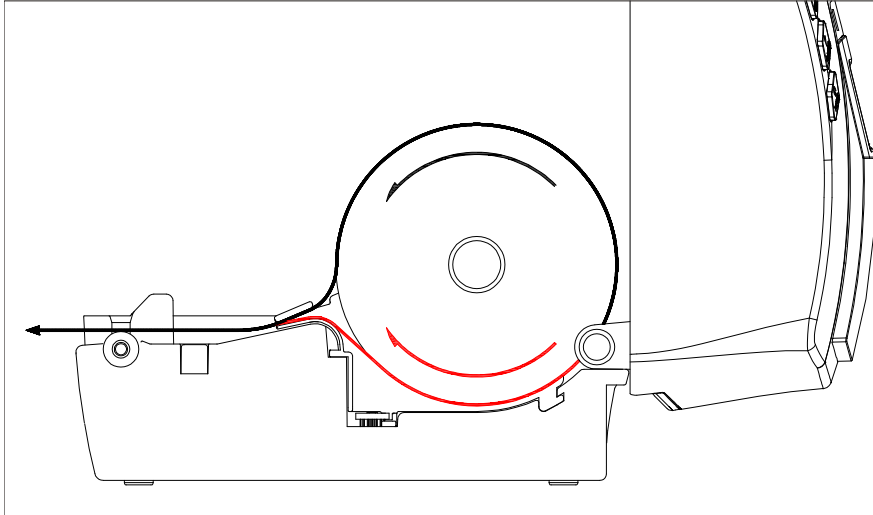
4. Before pushing the media under the guides, adjust the label sensor to appropriate position to detect the labels with gap, hole or black mark.



5. Push the media under the both sides of guides.



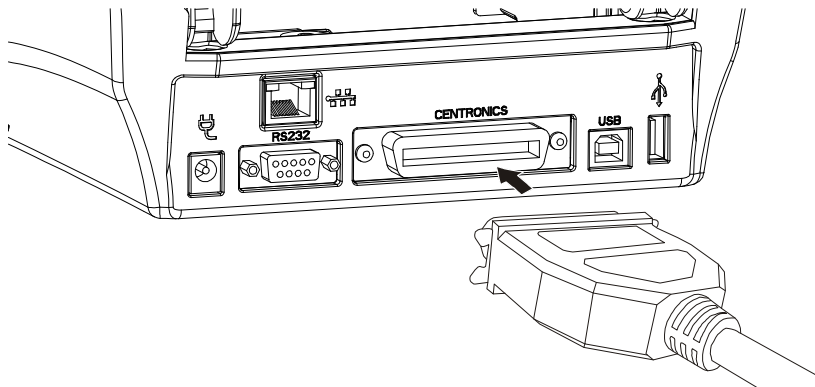
 Note: The loading path of label roll (inside and outside wound)



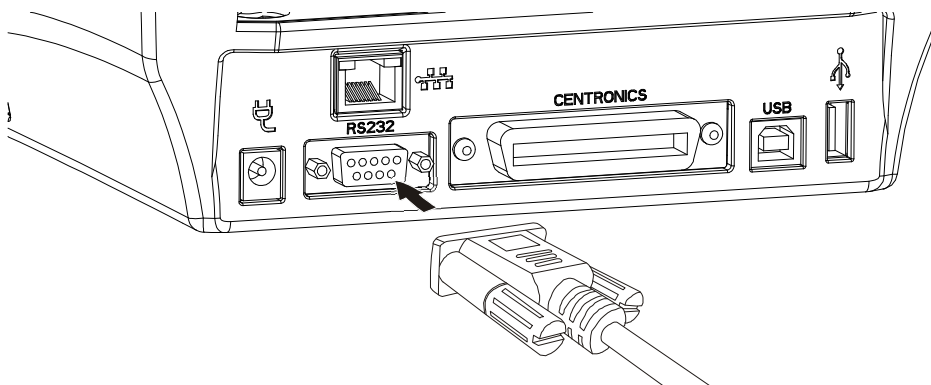
2.3 Connecting interfaces

The following interfaces could be connected to PC to operate the printer:

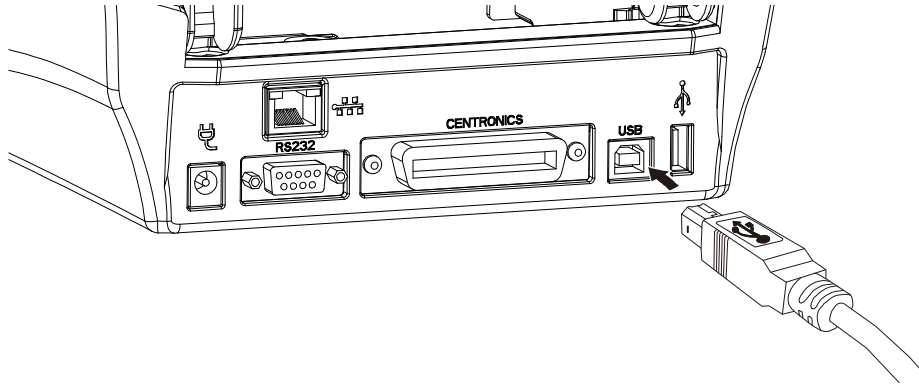
2.3.1 Centronics port (Parallel port)



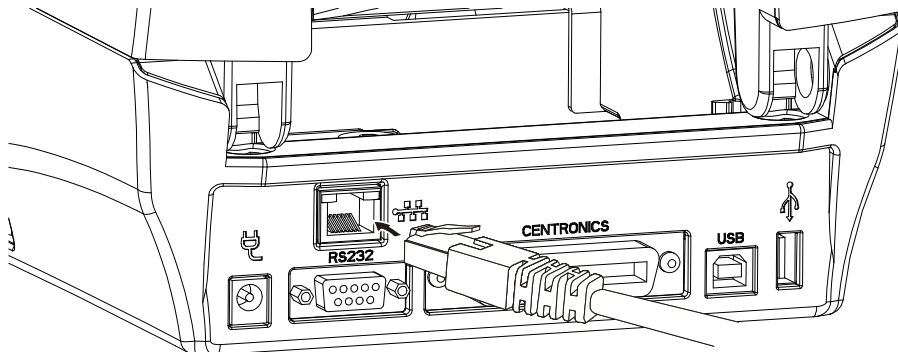
2.3.2 RS-232 port (Serial port)



2.3.3 USB Slave

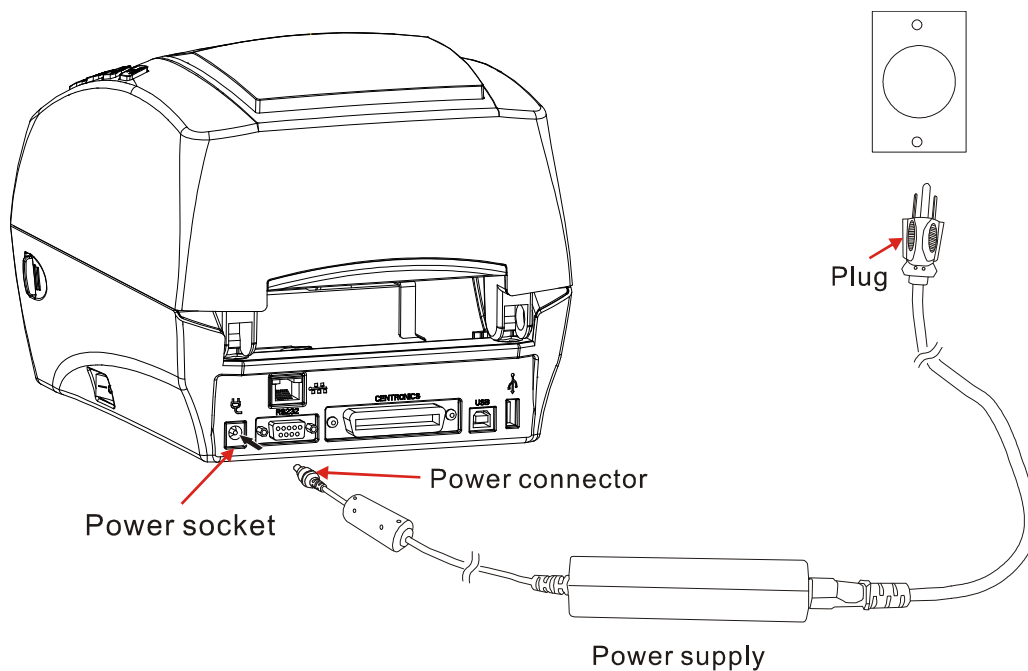


2.3.4 Ethernet (Option)



2.4 Power on the printer



1. Make sure the printer power switch is off
2. Plug the power connector into the power socket at the rear side of printer.
3. Plug the power cord on the power outlet.
4. Turn the printer power switch to on.





Caution. Please ensure that the printer power is off before connecting the interface cable. Connecting the interface cable while printer power is on might cause the damage on printer.

2.5 Control panel





The key functions are available under the printer **READY** mode

Button	Appearance	Function
Menu		Enter the menu list to setup the printer configuration
Feed		Feed a blank label


The key functions are available under the printer **PRINTING** mode

Button	Appearance	Function
Cancel		<ul style="list-style-type: none"> • Stop and cancel the current printing job • Removes the error status when problem is resolved.
Pause		Stop and restart the printing process

The key functions are available in Menu System

Button	Appearance	Function
Return		Return back to previous menu level
Up		<ul style="list-style-type: none"> • Scroll up the menu options • Increase the parameter values
Down		<ul style="list-style-type: none"> • Scroll down the menu options • Decrease the parameter values
Enter		Confirm the selected option

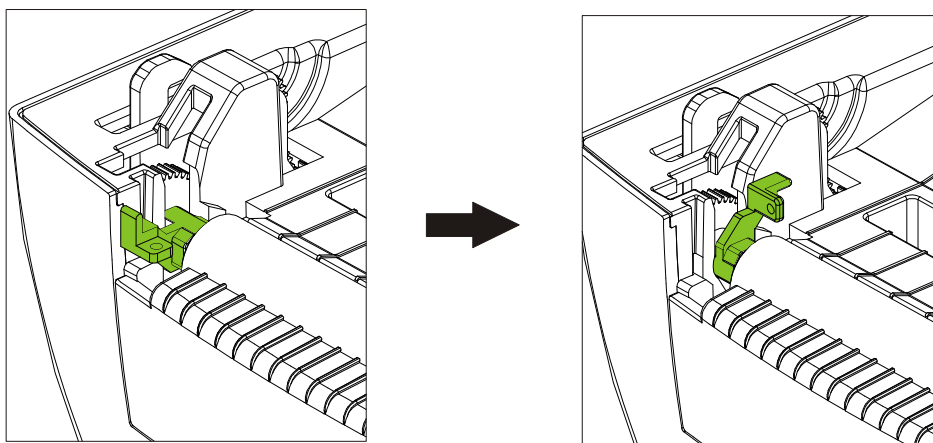
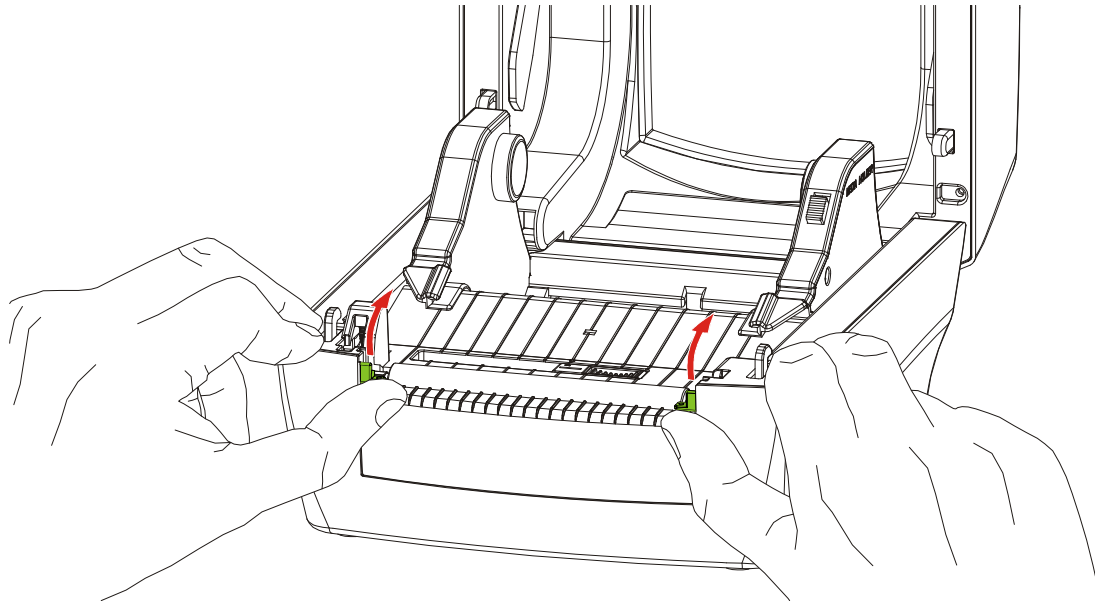
Buttons light

Cancel		Flash in red Bi-sound	Error message <ul style="list-style-type: none">• Ribbon out (error)• Label out (error)• Top cover opened
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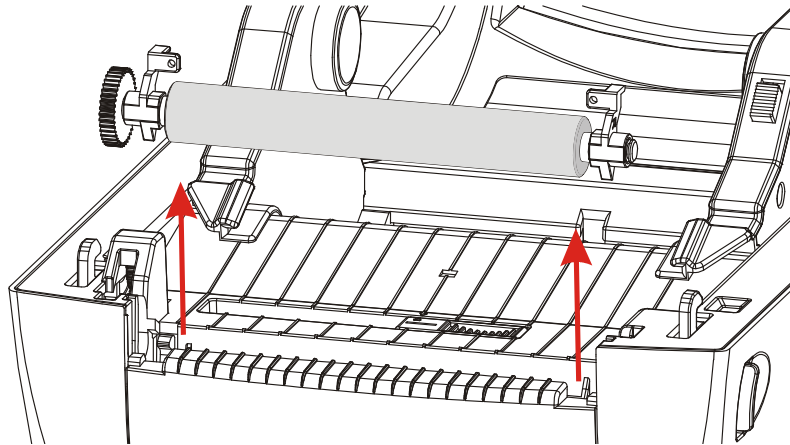
3. Printer options

3.1 Peeler installation

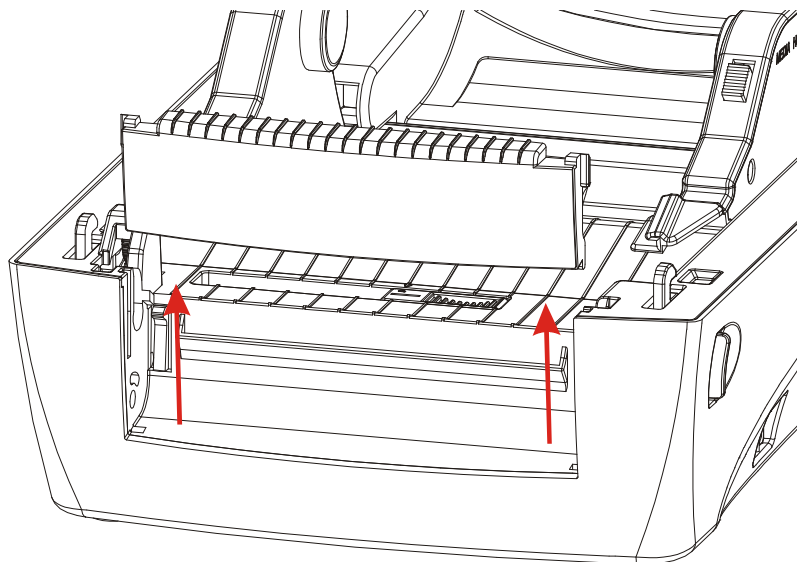
1. Push the platen bearing tabs on the right and left sides upwards and rotate them backwards to the end.



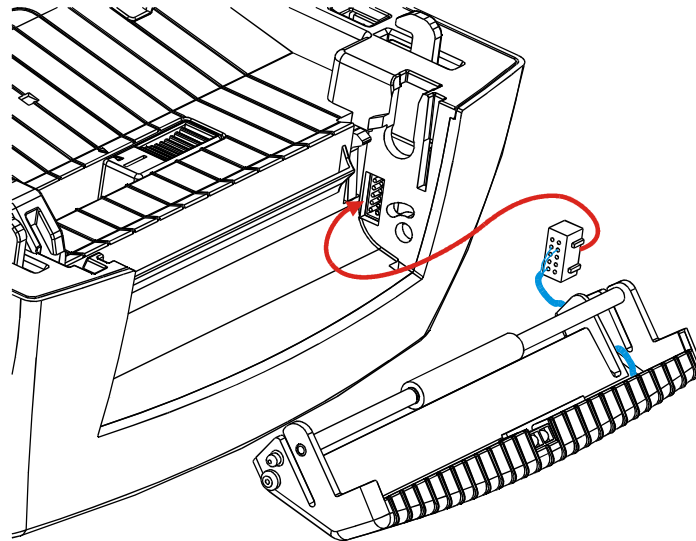
2. Lift vertically the platen from the bottom case of printer.



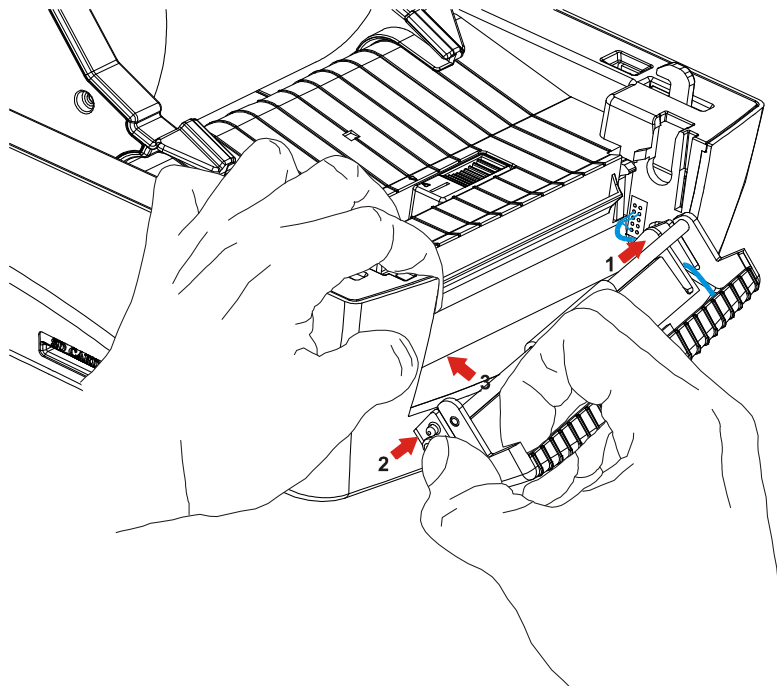
3. Lift vertically the front cover from the bottom case of printer.



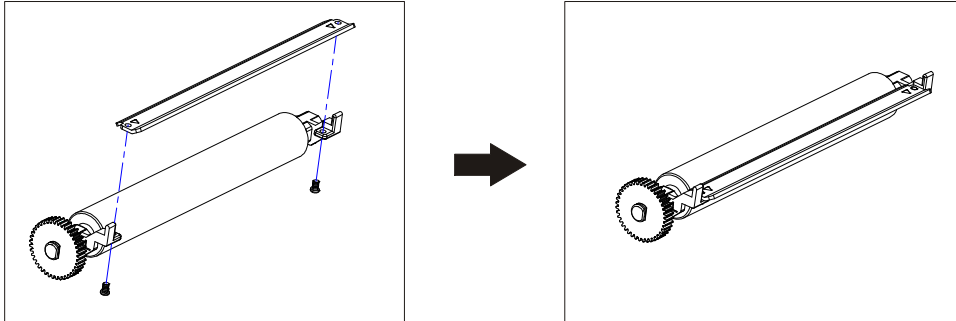
4. Insert the peeler cable to printer. (Please follow the correct connector side as figure shown to insert the cable)



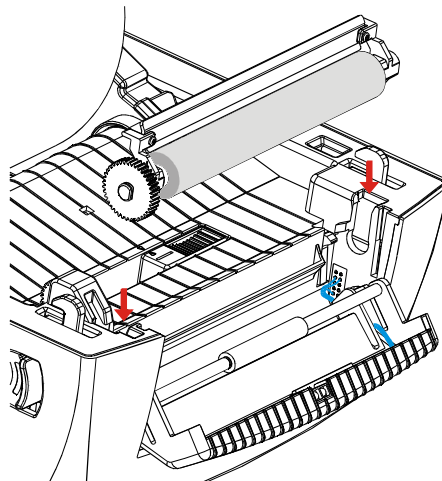
5. Insert firstly the right side of peeler module to the relative holes of printer (arrow 1), press the lower part of left side of module (arrow 2), then push the left side of module to the relative holes of printer to fix firmly the peeler module on printer (arrow 3).



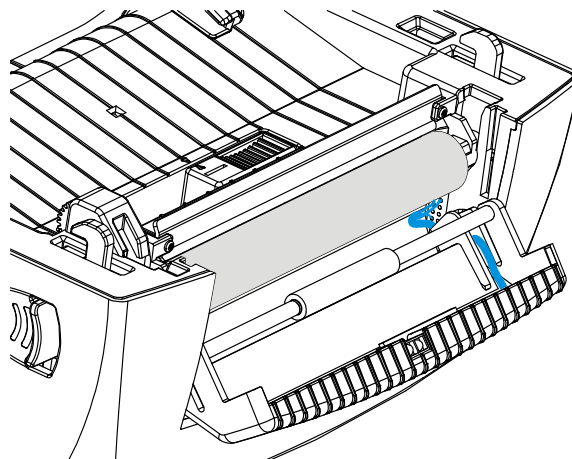
6. Screw up the metal plate on the platen. The metal plate with arrow symbol is upward side.



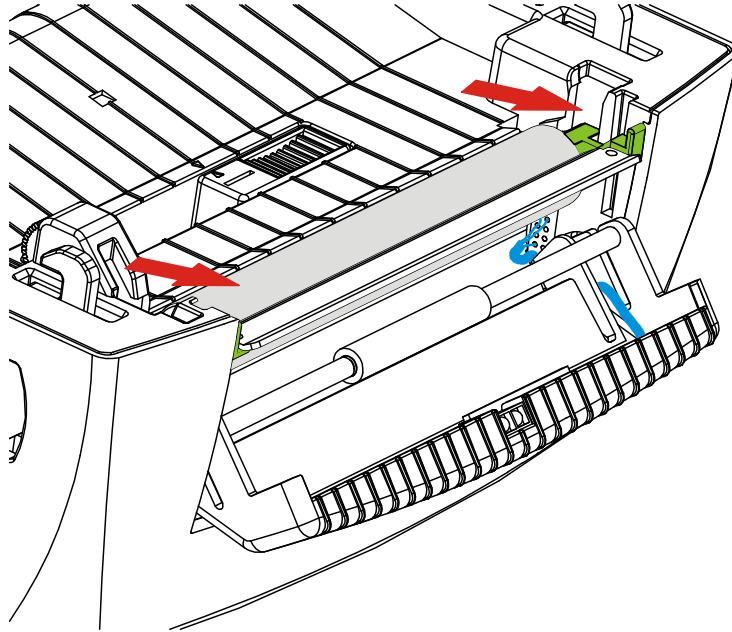
7. Put the platen screwed with metal plate back to printer



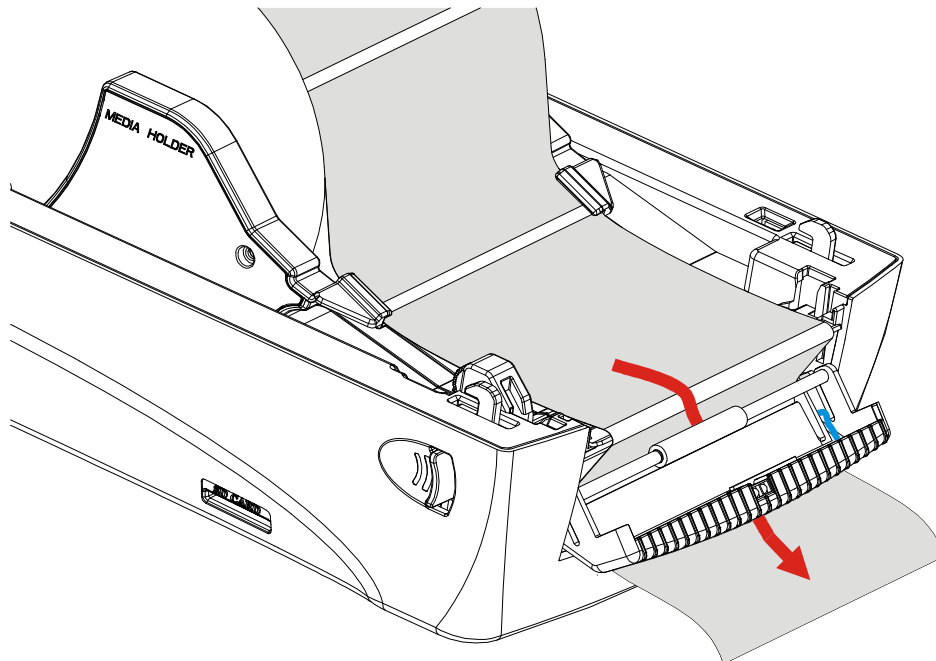
8. Assure the platen is fixed firmly in printer.



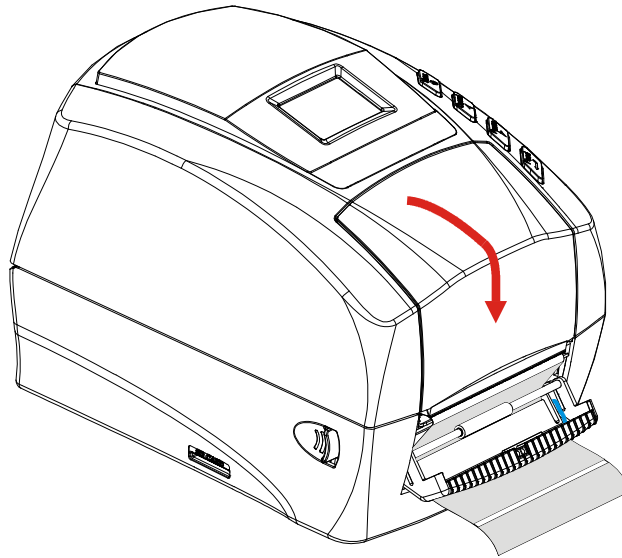
9. Push the platen bearing tab forward to lock the platen.



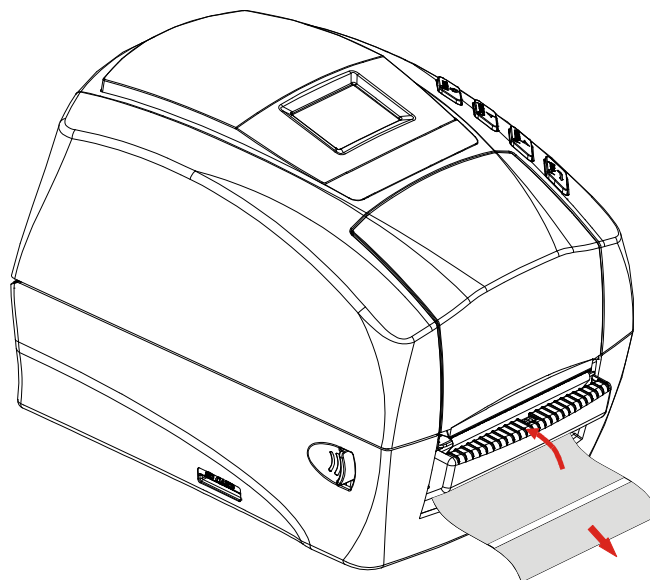
10. Lead the label through the back of peel-off bar, as figure show.



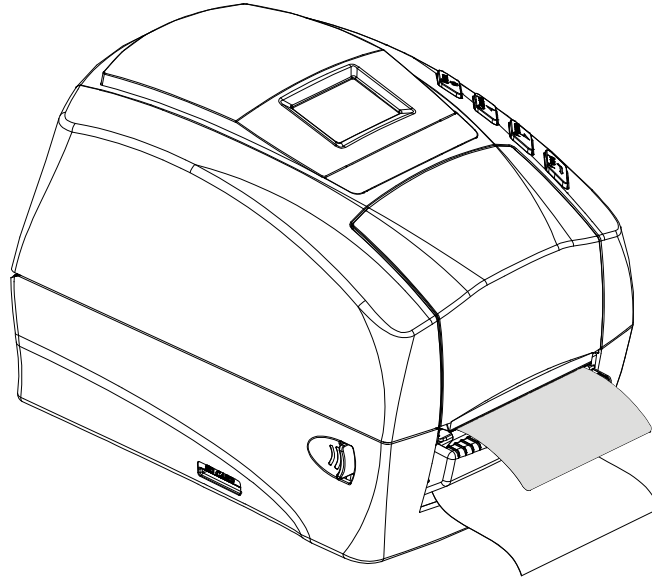
11. Close the top cover



12. Pull the label to the direction as the figure show, then push the peel-off panel back to printer.

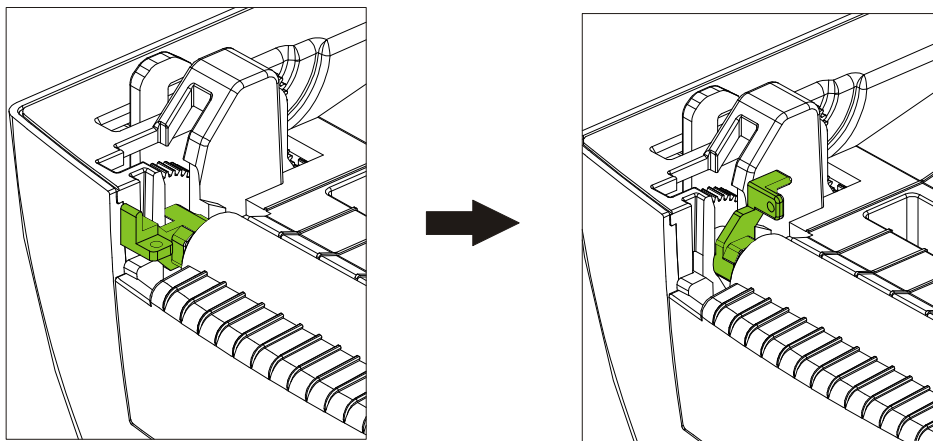
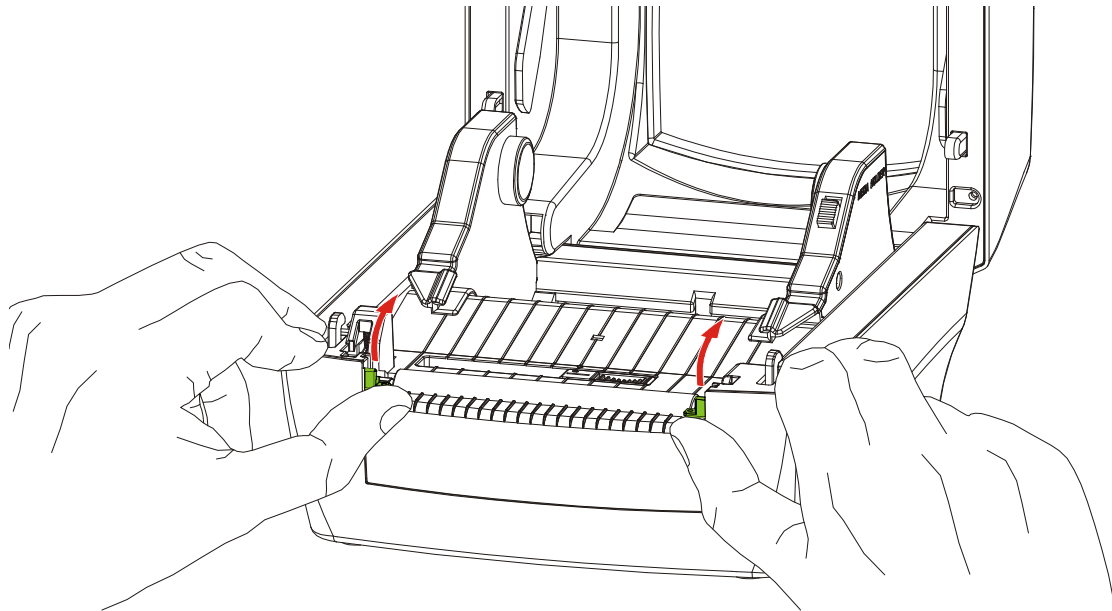


13. Press the Feed button to test the peeler function.

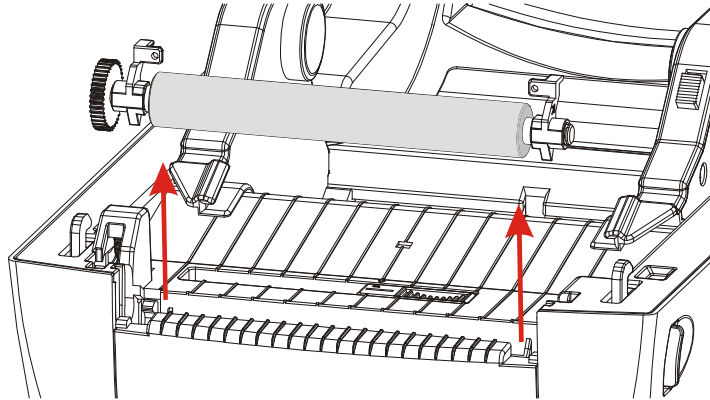


3.2 Cutter installation

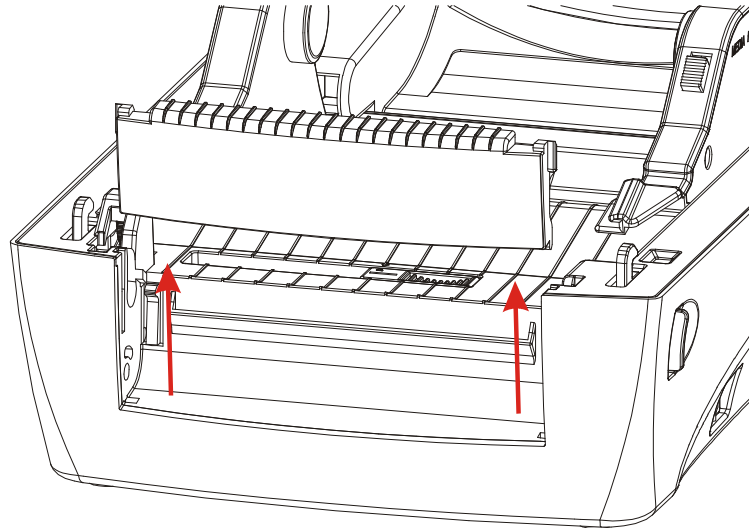
1. Push the platen bearing tabs on the right and left sides upwards and rotate them backwards to the end.



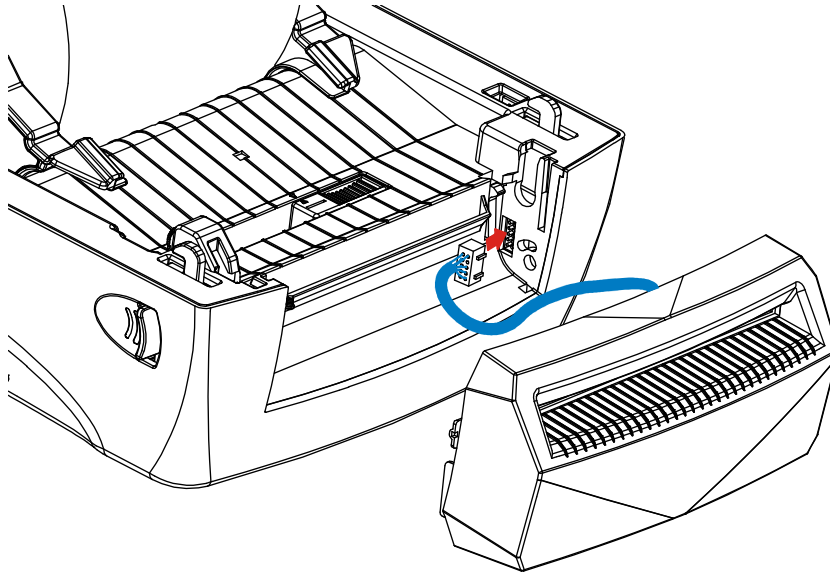
2. Lift vertically the platen from the bottom case of printer.



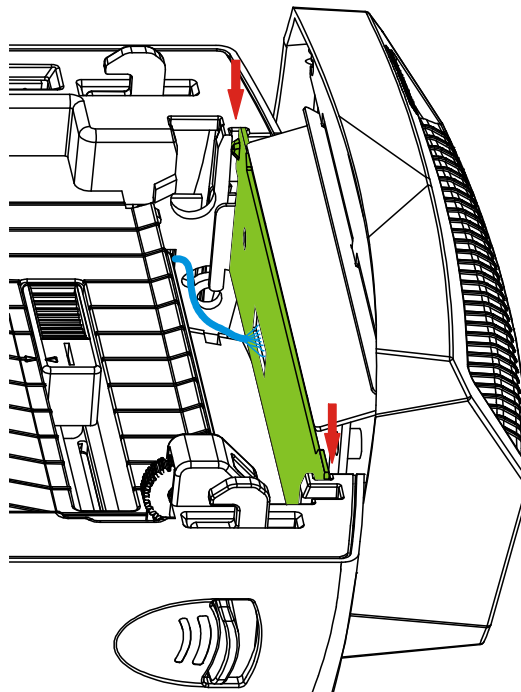
3. Lift vertically the front cover from the bottom case of printer.



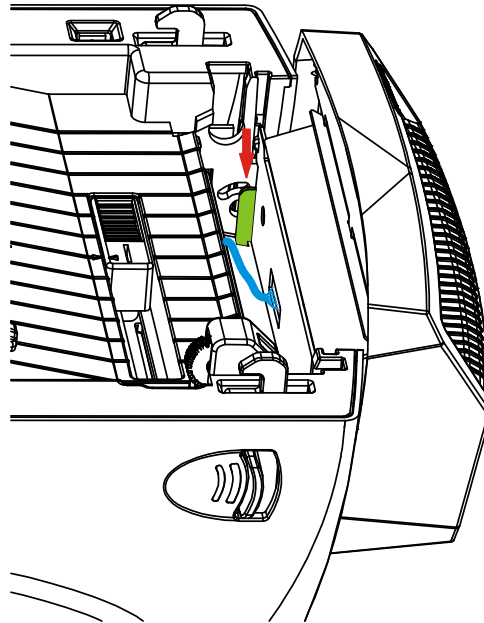
4. Connect the cutter cable to printer



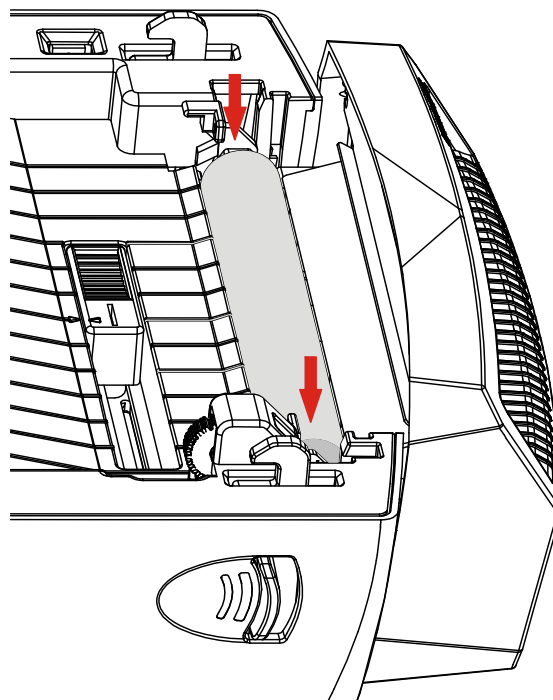
5. Slide vertically the hooks of cutter both side into the slot



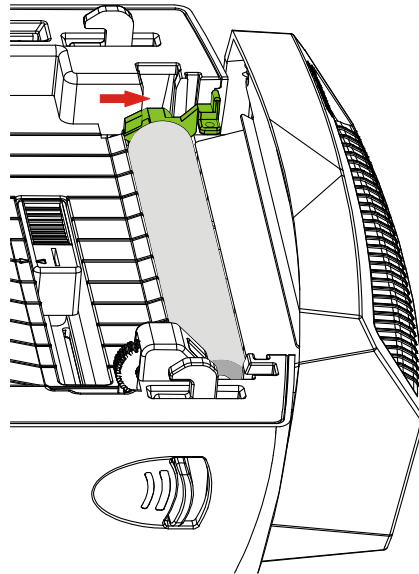
6. Push the cutter hooks to the bottom of two hooks slots, and make sure that lower hooks are fixed firmly on the hooks holes.



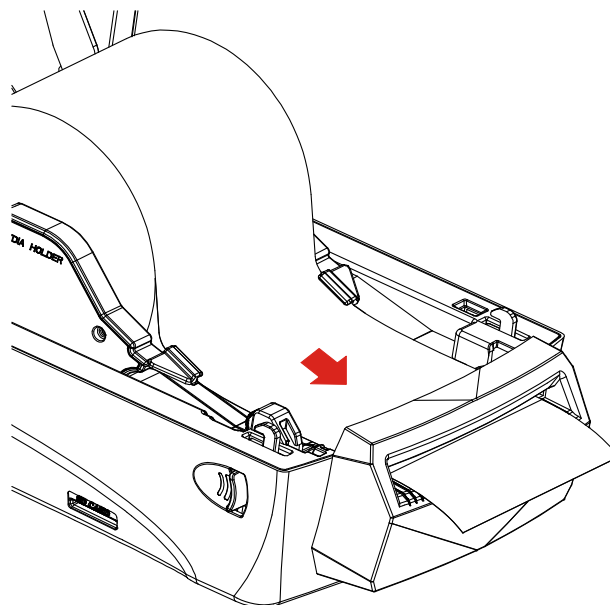
7. Put the platen back in the printer.



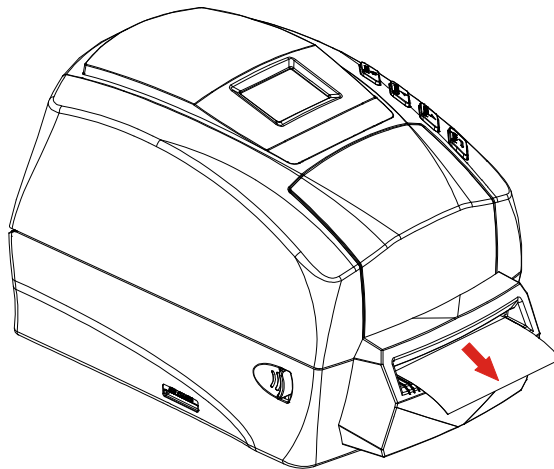
8. Lock the platen bearing tabs



9. Thread the label through the cutter inside slot and press the label under the media guides.



10. Close the printer top cover



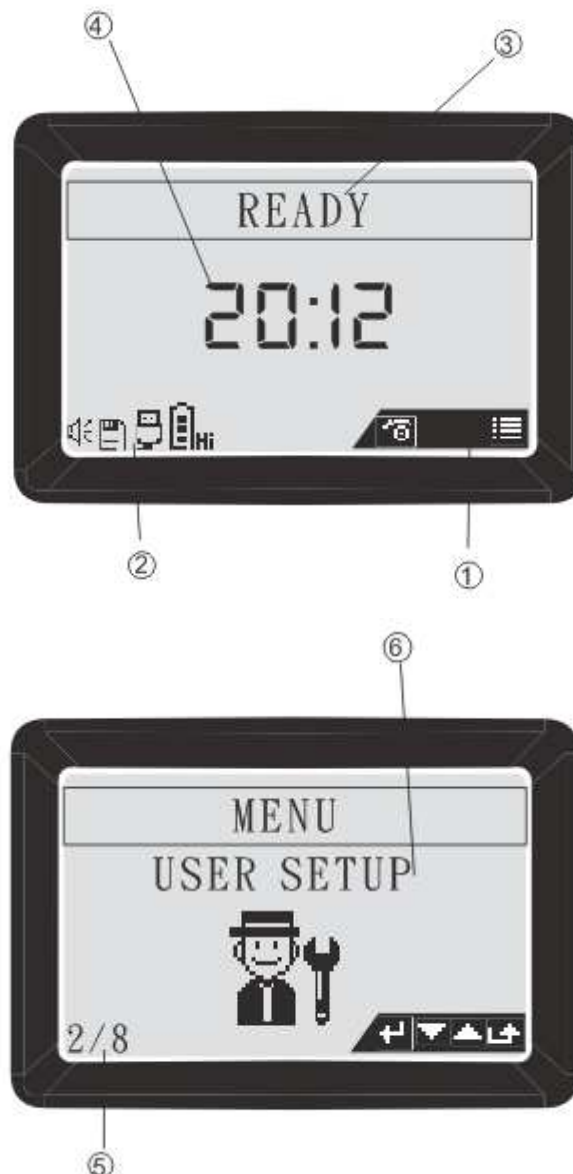
Please do not touch or insert your fingers into the cutter mouth while cutter is active. It will cause extremely hurt.

4. LCD screen icons

4.1 LCD screen information






LCD screen information consists 5 parts to show the printer status.

- ① Buttons status bar
- ② Device status (when printer is in Ready status)
- ③ Printer current status and setting level
- ④ Time and setting icon
- ⑤ Menu pages
- ⑥ Printer current setting level, it shows only when printer is in menu function











4.2 Graphic symbol on LCD screen

Device status bar




















Symbol	Description
	Buzzer on (buzzer symbol will be shown when buzzer is set to on)
	SD card inserted (SD card symbol will be shown when SD card is inserted)
	USB master interface (keyboard or scanner) inserted (USB master symbol will be shown when interface is inserted)
	RTC battery power is full
	RTC battery power is running out






















Button status bar: the symbol will be shown on the button status bar when the button function is available.

Symbol	Description
	Feed labels.
	Scroll down
	Scroll up
	Enter
	Escape
	Main menu
	Pause
	Cancel

5. Configuration







5.1 Menu structure

Main menu	Sub-menu	Description
 Information		Printer configuration information
 User Setup	 LCD Contrast	Contrast of LCD
	 Buzzer Volume	Adjust the buzzer volume
	 Date	Set the RTC Date
	 Time	Set the RTC time
	 Default	Initiate to factory default
	 Password	Set the password to lock the change of parameter
 Comm. Setup	 RS-232	Set RS-232 parameter
	 Ethernet	Ethernet status and set configuration
 Print Setup	 Transfer mode	Thermal transfer or thermal direct
	 Print mode	Set to peeler, cutter or tear off function
	 Speed	Printing speed
	 Darkness	Printing heat value
	 Label type	Select the label type
	 Gap sensor	Select label sensor type
	 Print width	Set the print width



	 Print X offs	Adjust the origin of printer horizontal coordinate
	 Print Y offs	Adjust the origin of printer vertical coordinate
	 TPH Y offs	Set the print head vertical offset
	 Back Y offs	Set the label stop position for peeler, cutter or tear-off mode
	 Error reprint	Reprint the previous label when error occurs
	 Cancel mode	Stop printing the current job
 Test	 Print Config.	Print the printer configuration
	 Print test	Print the test pattern
	 Label calibration	Calibrate the label
	 Dump mode	Print the dump data
	 Cutter	Test cutter function
 Memory	 Free size	Show the free memory size in SDRAM and SD card
	 List	List the forms, images and fonts in memory device
	 Delete files	Delete separately the stored forms, images and fonts in memory
	 Clear memory	Delete all stored forms, images and fonts in the memory
 Form	 Run the form	Execute the stored form in memory
	 Auto form	Execute automatically the selected form as the printer is power on
 F/W update		Update firmware directly from the SD card

5.2 Parameters setup

5.2.1 User Setup












Parameter	Explanation	Default
 LCD Contrast	Contrast of LCD display Value: from 0~5	Level 2
 Buzzer volume	Adjust the buzzer volume Value: off, 1~3	Volume 1
 Date	Set Real-Time clock date This parameter allows users to set the date Type: Year/Month/Date	None
 Time	Set Real-Time clock time This parameter allows users to set the time Type: hour/minute/second	None
 Default	Set the parameters to factory default This parameter allows users to set all the parameters back to factory default	None
 Password	Set the password to protect the parameters This function allows users to set the password to lock the parameters change of User , Communication and Print Setup to prevent the other users to change it carelessly. Password value range: 0000~9999	0000



5.2.2 Communication setup

Parameter	Explanation	Default
 RS-232	Baud rate Selection: 1200 ~115200	9600
	Parity Selections: None, Odd, Even	None
	Data bits Selections: 7, 8 bits	8 bits
	Stop bits Selection: 1, 2	1
 Ethernet	Status (Ethernet)-Show only the Ethernet status Config. Method- DHCP or Static IP IP address	






Net Mask Gateway Mac address	
Configure (Ethernet)-Configure the Ethernet DHCP-Issuing the IP address by DHCP server Static IP- Issuing the IP address by operator	DHCP

5.2.3 Print Setup





Parameter	Explanation	Default
 Transfer mode	Change the printing mode This setting could change the printing mode Selection: By Command, Direct thermal, Thermal Transfer	By command
 Print mode	Select the print mode This setting changes the label delivery mode. Selection: Normal, Tear off, Peel off, cut	Normal
 Speed	Adjust the printing speed This setting could change the printing speed Selection: 1, 2, 3, 4 dpi	3
 Darkness	Adjust print darkness This setting could adjust the printing quality by the printing heat Selection: 0~15	8
 Label type	Select the label type This setting could select the media. Selection: Gap/Notch, Mark, continuous	Gap/Notch
 Label sensor	Change the label sensor type This setting could change the convenient sensor type to detect the label. Selection: By command, see-through, reflective	By command
 Print width	Adjust the print width This setting determines the printable area by setting the printing dot. Selection: 120~832 dot	832 dot
 Print X offs	Adjust the horizontal origin of coordinate Selection: -80~+80 dot	00
 Print Y offs	Adjust the vertical origin of coordinate Selection: -80~+80 dot	00
 TPH Y offs	Adjust the print head vertical offset Selection: -120~+120 dot	000
 Back Y offs	Set the label stop position Selection: -080~+120 dot	000

 <p>Error reprint</p>	<p>Repeat the previous label when error occurs</p> <p>When the error occurs and the printing stops, this function will reprint the label which was interrupted.</p> <p>Selection: Enable, Disable</p>	<p>Enable</p>
 <p>Cancel mode</p>	<p>Set the cancel mode</p> <p>This function allows users to cancel printing immediately or after completing a label</p> <p>Selection: Page complete, immediate</p>	<p>Page complete</p>



5.2.4 Test

Parameter	Explanation
 Print Configuration	Print all the printer configurations
 Print test	Print the programmed file to verify if the printer works properly
 Label calibration	Calibrate the label
 Dump mode	Print the Dump mode information
 Cutter	Cutter function test













5.2.5 Memory

Parameter	Explanation
 Free size	Shows the available memory size on SD card and SDRAM
 List	List the stored forms, images and fonts in SD card and SDRAM.
 Delete file	Delete the stored forms, images and fonts in SD card and SDRAM.
 Clear memory	Clear all the stored forms, images and fonts in SD card and SDRAM









5.2.6 Form

Parameter	Explanation
 Run the form	Execute the form stored in the SD card or SDRAM
 Auto form	This function allows users to run automatically the selected form stored in memory when users re-power on the printer.

5.2.7 Warning message










Icon	Explanation
 No form found	Form in SD card or SDRAM is not found. Check if the files are exactly stored in the memory device
 No Image found	Image in SD card or SDRAM is not found. Check if the image is exactly stored in the memory device
 No font found	Font in SD card or SDRAM is not found. Check if the font is exactly stored in the memory device
 No F/W found	Firmware files are not stored in the SD card when updating the firmware.
 No Batt. found	Battery is not installed in the printer when setting time and date Check if the battery power runs out or not installed well
 Password error	Wrong password is entered Enter the correct password to modify the protected parameters
 SD lock	Printer cannot write the data to SD card Unlock the SD card
 No cutter found	Cutter is not installed on printer when execute the cutter test
 No SD found	SD card in not installed in printer when updating the printer Check if printer is well inserted in printer
 Cutter jam	Cutter jams when execute the cutter test Check if the labels stick in cutter
 No Ether found	Ethernet module is not installed in printer Check if the Ethernet module is installed or well installed
 Flash ROM Full	Internal flash ROM is full Delete un-necessary files to store the current files

5.2.8 Printer status

Icon	Status description
 Feed	Feeding the label
 Cancel	Cancel the current printing job.
 Pause	Pause the current printing job.
 Wait peel	Wait to peel the printed label to print the next label
 Wait on demand	Wait to press the feed button to print next label. (*This function is available only on sending the command)
 Value saved	Save the change of parameters to printer
 Dumping data	Catch the data from communication port and send to printer to print out.
 Push to cal	Press the "Feed" button to calibrate the label. (*This function is available on "Label Cal")

6. Troubleshooting

6.1 LCD error message

LCD Displayed	Possible problem	Resolution
 Label gap out	Improper sensor type	Ensure the sensor type, reflective or see-through, is selected correctly
	Label sensor cable is disconnected or loose	Reconnect or tighten up the sensor cable
	Sensor windows are dirty	Clean the receiver sensors and emitter sensor
	Improper media sensor position	Adjust the media sensor to correct position
	Load the continuous label, but the label type is set to Gap/notch or Mark type	Load the correct media or set the label type to current using media type
 Label out	Label runs out	Reload new media roll
 Ribbon out	Ribbon runs out	Reload new ribbon roll
	Ribbon roll is not loaded correctly	Ensure the ribbon supply and take up core are fixed correctly
 Cover open	Printer cover is open	Close the printer cover
 Update fail	Firmware update fails	Re-update the firmware
 TPH fail	TPH cable is disconnected	Connect the TPH cable
	TPH is faulty damaged	Replace a new TPH
 Check sum error	Firmware update fails.	Re-update the firmware
 No cutter found	Cutter is not installed when printing	Check if cutter is installed in printing
 Cutter jam	Cutter jams when printing	Check if labels stick in cutter

7. Specifications

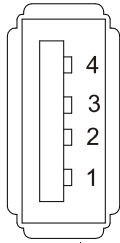
7.1 T4 General specifications

Resolution	200 dpi (8 dots/mm)
Print mode	Direct Thermal/Thermal Transfer
CPU	32-bit CPU
Memory	RAM: 8MB SDRAM ROM: 4MB Flash ROM Expendable slot for SD card (up to 4GB)
Print speed	1" to 4" ips
Max. print length	150 inches
Print width	4.1" (104mm)
Sensor type	Moveable reflective and see through sensor Label sensor Cover open sensor
Display	Backlight LCD display 128x64 dots
Control panel	4 multi-functional keys 4 status LED light 1 error LED light
Media	Maximum label width: 4.33" (110mm) Minimum label width: 0.59" (15mm) Maximum roll diameter: 5" (127mm) Core diameter: 1.0" (25.4mm) Media thickness: 0.002" (0.06mm) to 0.0075" (0.2mm) Media type: Continuous, die-cut, tag, fan-fold, black mark
Ribbon	OD: 1.535" (39mm) Max length: 100m Width: 1.0" (25.4mm) to 4.3" (110mm) ID: 0.5" (12.7mm) Ribbon type: Wax, wax/resin, resin
Interfaces	Serial port-RS-232 Parallel port USB master port USB slave port Ethernet port 10/100Mbps (option)

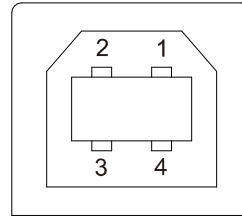
1D barcodes	Code39 standard or extended, Code39 with check digit, Code93, Code128 UCC, Code128 auto A,B,C modes, Codabar, EAN8, EAN8/13 2&5 digit add-on, EAN13, Interleaved 2 of 5, Interleaved 2 of 5 with check digit, Interleaved 2 of 5 with human readable check digit, UCC/EAN 128, UPC A, UPC A 2&5 digit add-on, UPC E, UPC E 2&5 digit add-on, UPC Interleaved 2 of 5
2D barcodes	Data Matrix, MaxiCode, PDF417
Fonts	5 internal expandable bitmap fonts (alpha-numeric) 2 internal expandable bitmap fonts (numeric only) Downloadable soft font 4 directions: 0, 90, 180, 270 degrees
Image	PCX, Direct binary graphic
Options	Peeler kit Cutter Ethernet module Expansion memory card
Power	Switching power adapter Input: 100 to 240V, 1.8A, 50~60Hz Output: 24V, 2.5A
Audio	Beep sound when error occurs
Environment	Operation: 5°C to 45°C (40°F to 112.9°F) Storage: -20°C to 50°C (-4°F to 121.9°F)
Humidity	Operation: 10% to 90% non condensing Storage: 5% to 95% non condensing
Printer dimension	Width: 200.00mm (7.83") Length: 263.19mm (10.36") Height: 188.29mm (7.41") Weight: 2KG
Certification	CE, FCC class B

7.2 Universal Serial Bus (USB) port pin assignment

Connector type: Type A and B



USB A (Master)



USB B (Slave)

Pin	Function
1	VBUS
2	D-
3	D+
4	GND

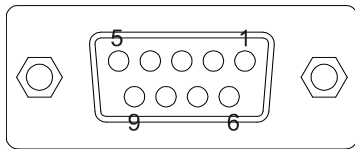


Note: Master VBUS provides +5V max current 500mA. Slave VBUS is N/C.

For more information about USB, please visit the website:

www.usb.org.

7.3 Serial port pin assignment

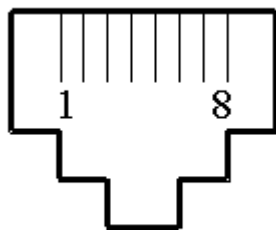


Pin	Printer side
1	N/C
2	TXD
3	RXD
4	DSR
5	GND
6	DTR
7	CTS
8	RTS
9	+5V



Note: Serial port provides +5V max current 500mAh

7.4 Ethernet module port pin assignment



Pin	Signal
1	Tx+
2	Tx-
3	Rx+
6	Rx-