

THARO

T-4210/T-4307/T-4604 Users Manual



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FCC COMPLIANCE STATEMENT FOR AMERICAN USERS

This equipment has been tested and found to comply with the limits for a CLASS A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

THE T-SERIES PRINTER TO WHICH THIS DECLARATION RELATES IS IN CONFORMITY WITH THE FOLLOWING STANDARDS

European Standard EN 55022:2010/AC:2011 Class A, EN 61000-3-2:2006/A1:2009 and /a2:2009, EN 61000-3-3:2008 and EN55024:2010(IEC 61000-4-2:2008, IEC 61000-4-3:2006/A1:2007/A2:2010, IEC 61000-4-4:2004/A1:2010, IEC 61000-4-5:2005, IEC 61000-4-6:2008, IEC 61000-4-8:2009, IEC 61000-4-11:2004). CFR 47, Part 15

WARNING

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to correct the interference at their own expense.

此为Class A产品，在生活环境中，该产品可能造成无线电干扰，在这种情况下，可能需要用户对其干扰采取切实可行的措施。

SAFETY INSTRUCTIONS

During the print process the Printhead will become hot. Do NOT attempt to clean the Printhead until it has had time to cool.

The Printhead is the most fragile part of your Printer. Do NOT use sharp or hard objects to clean the Printhead. Do NOT touch the glass surface of the Printhead with your hand.

This Printer is built exclusively to print labels, tickets and tags, continuous paper, etc. Only use media that is recommended for a direct thermal or thermal transfer Printer.

The Printer is configured for input voltages of 110 to 240 V. Connect only to a power outlet with a grounded contact. Always ensure the Printer is switched OFF before connecting the power cord to an electrical outlet.

Do not expose the Printer to moisture or operate it in wet or damp areas.

The Printer will operate with the cover open if necessary. This is not recommended, as the Printer's moving or rotating parts can cause injury. Keep long hair, jewelry and loose clothing away from any moving parts.

Remove the power cord from the rear of the Printer when disconnecting or attaching accessories such as rewind units, cutters, etc.

Caution

This printer is equipped with a button cell lithium battery. This battery is inside the left side cover on the main circuit board.

- * There is a Danger of explosion if the battery is replaced incorrectly.
- ** Dispose of used batteries according to the manufacturer's instructions.
- *** Only replace the battery with an equivalent type.

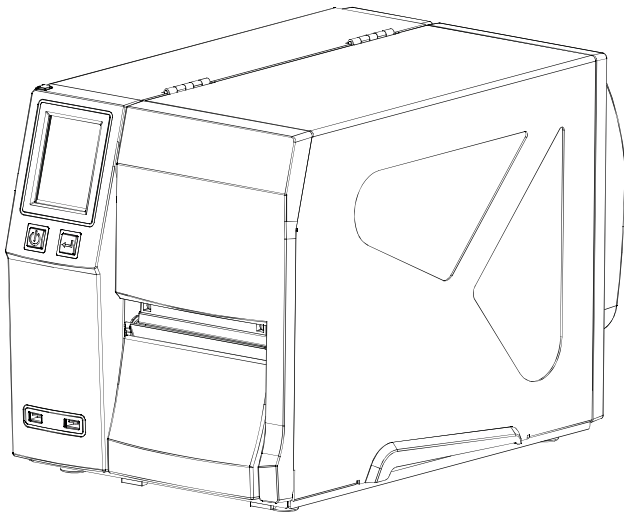
Specifications are subject to change without notice.

1 Barcode Printer

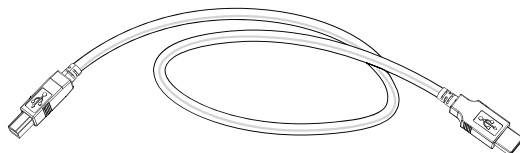
1.1 Box Contents

Please check that all of the following items are included with your printer.

- T-4210 / T-4307 / T-4604 Printer



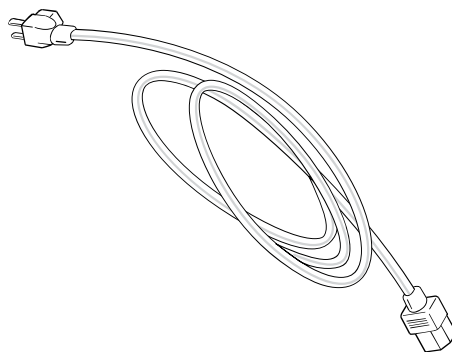
- USB Cable



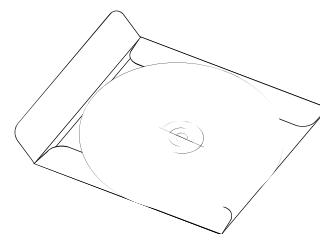
- Quick Guide



- Power Cord



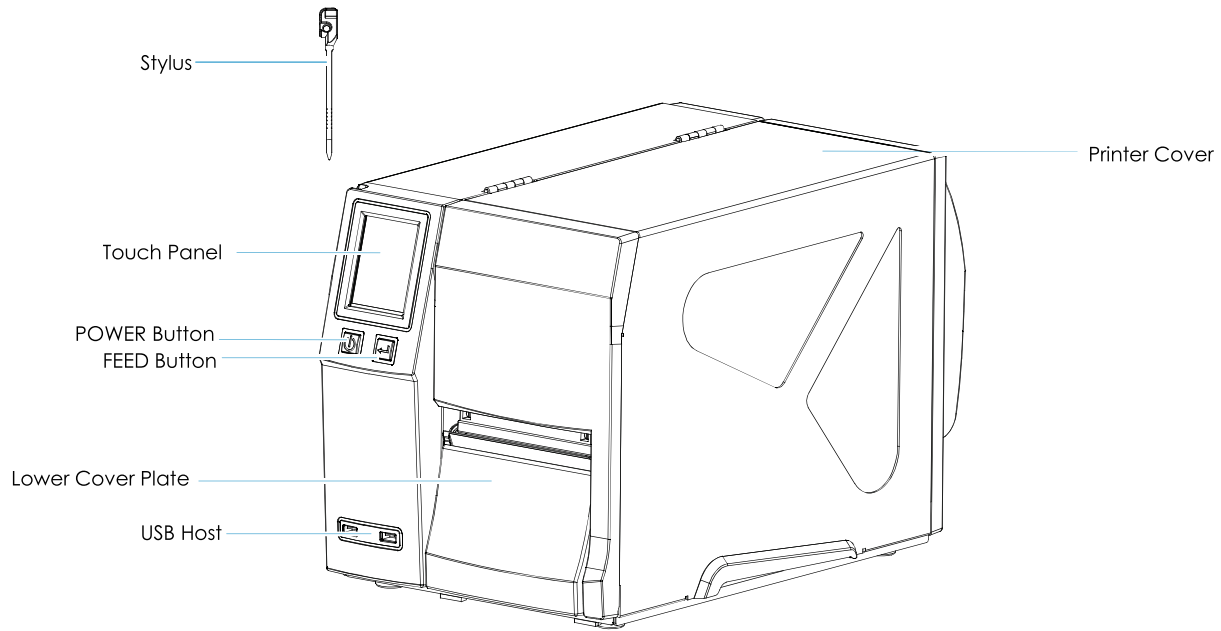
- CD
Including EASYLABEL Start software
and user's manual.



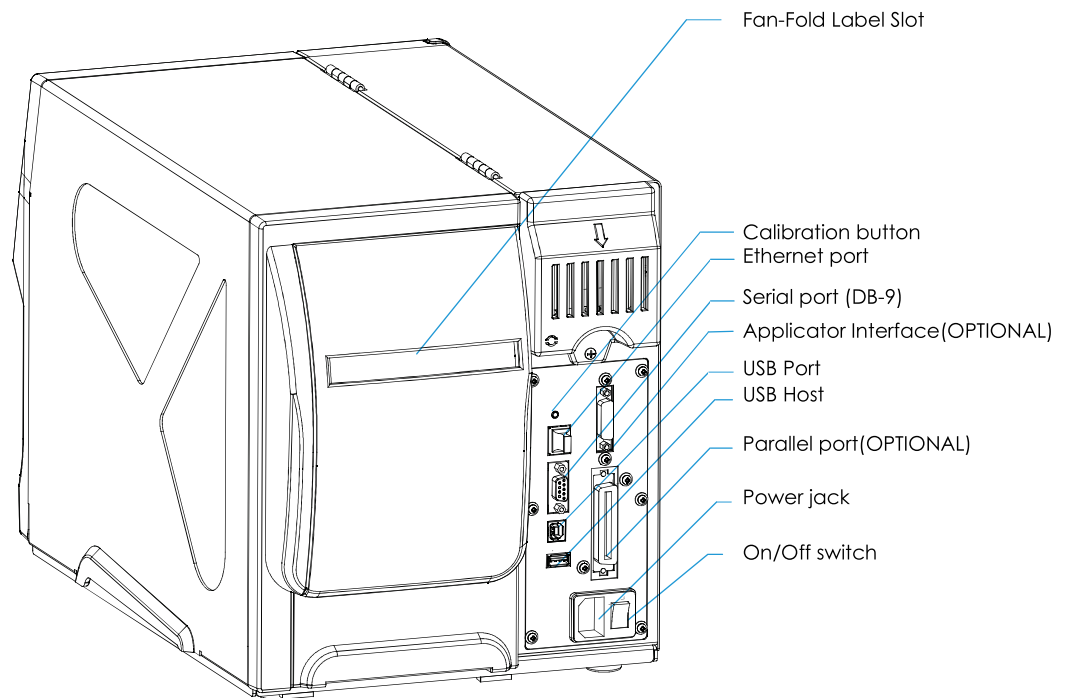
1 Barcode Printer

1.2 Getting to Know Your Printer

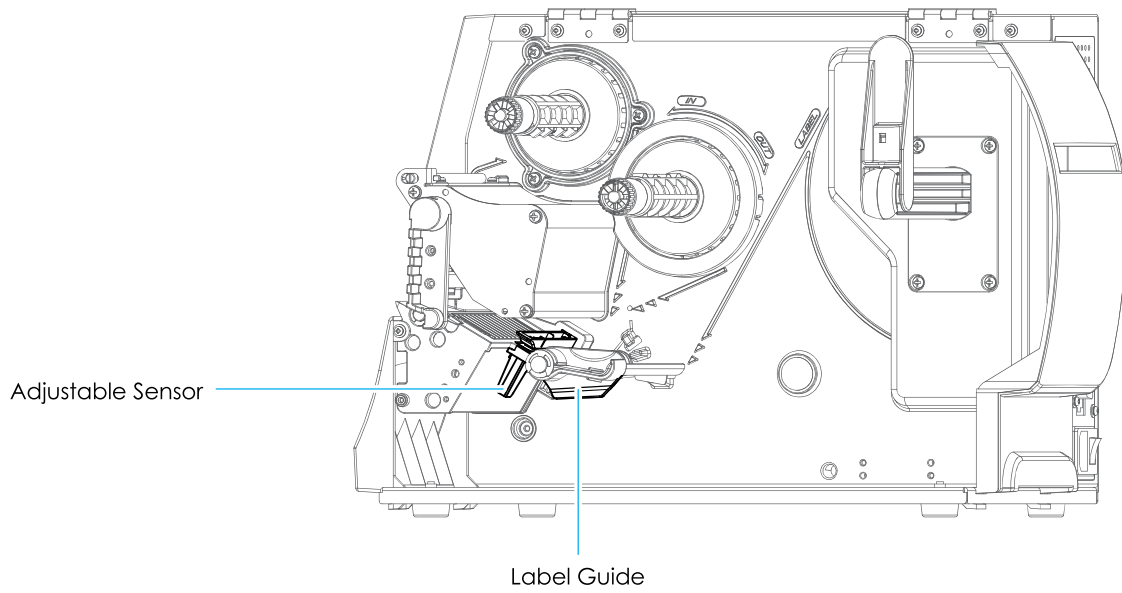
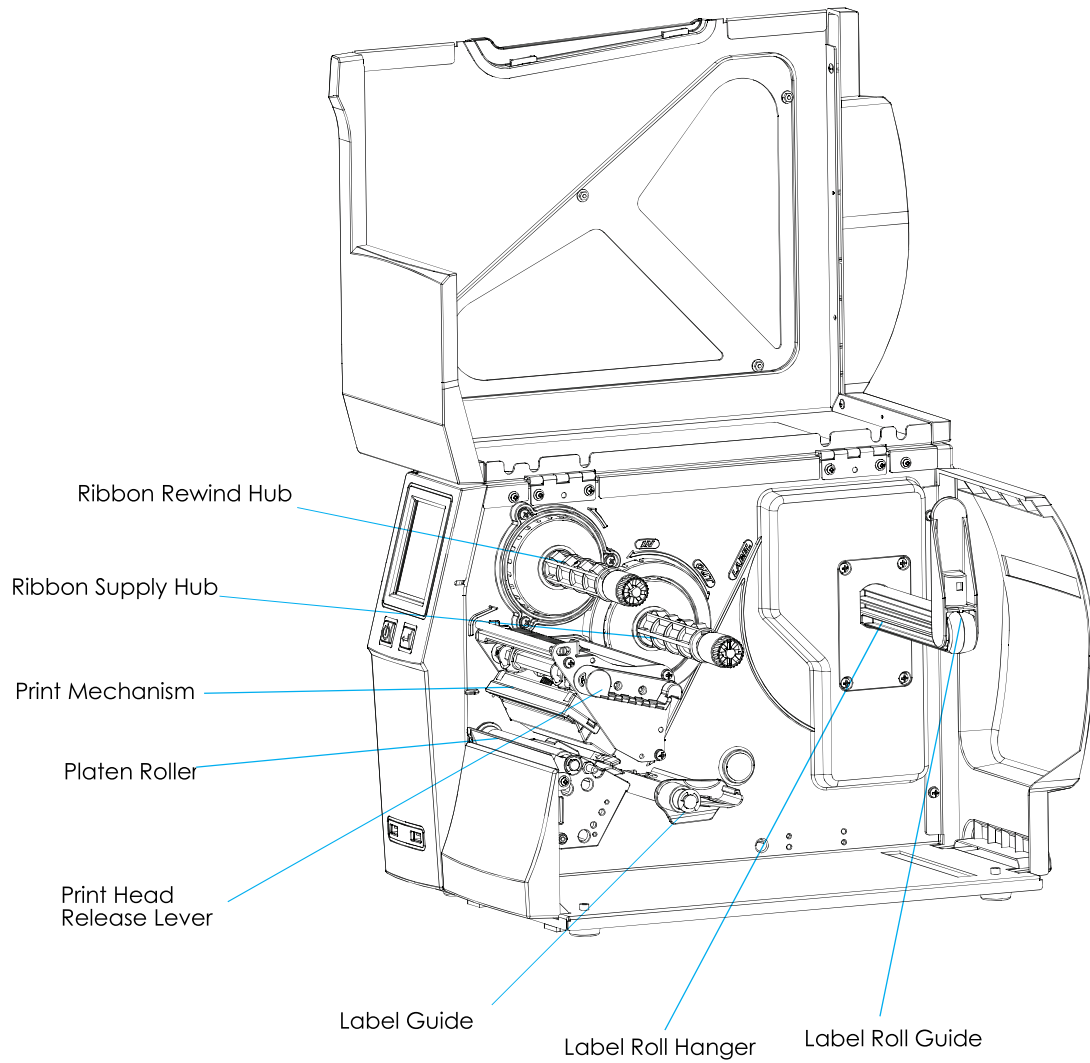
- Front View



- Rear View



1 Barcode Printer



2 Printer Setup

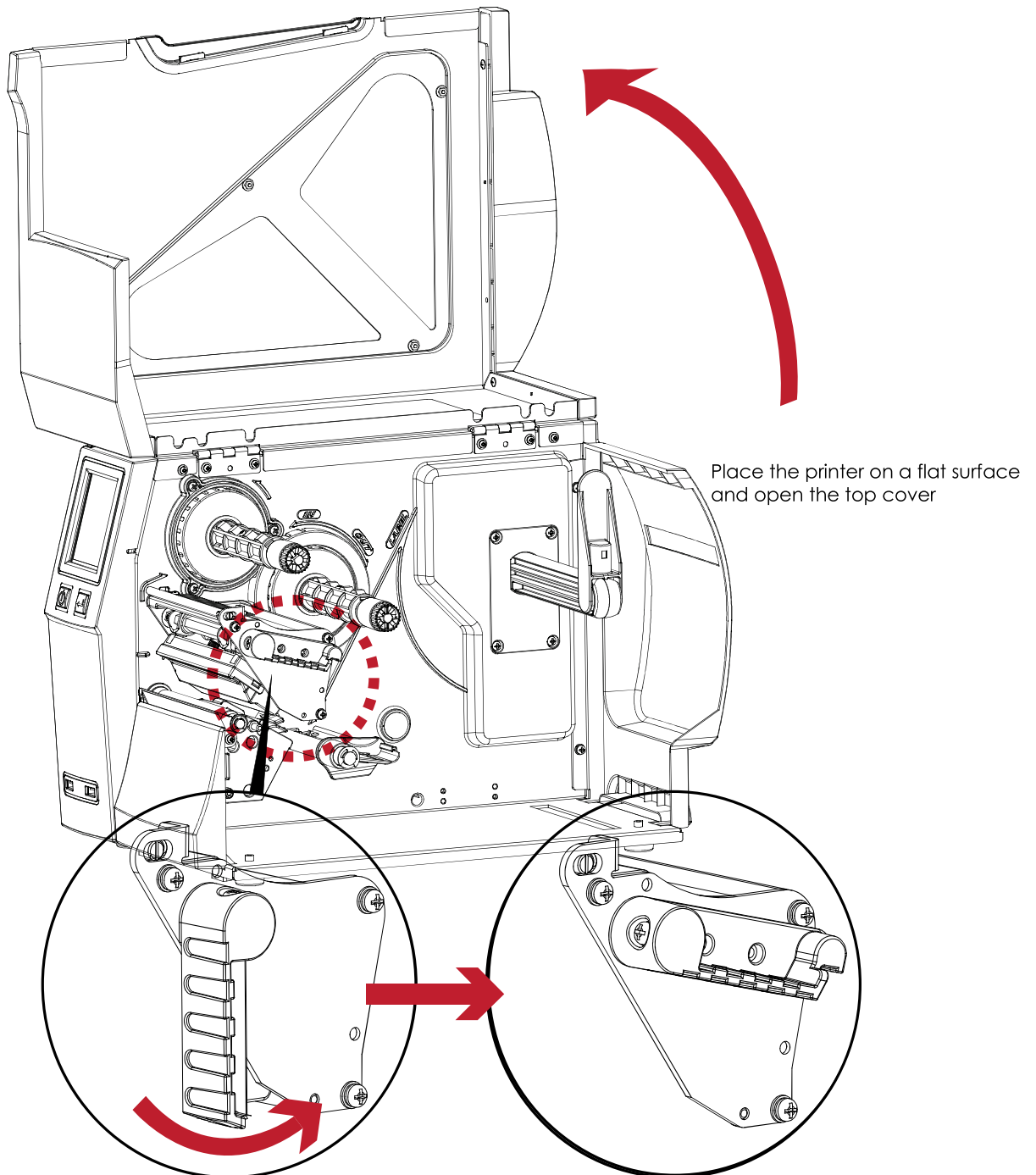
2.1 Loading Labels

This printer supports the following printing methods:

Thermal Transfer Printing (TTP) : Requires a ribbon for transferring the printed image to the labels.

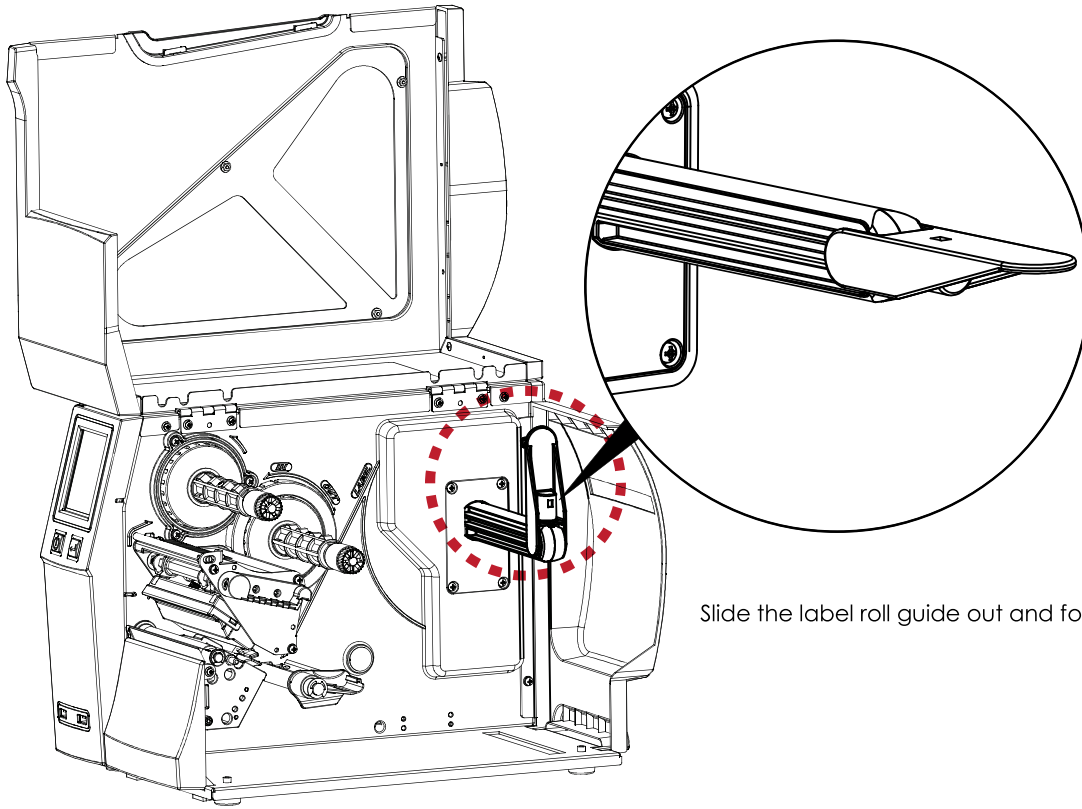
Direct Thermal Printing (DTP) : Uses Thermal Paper and does not require a ribbon.

Verify which printing method you are using and modify the settings in the printer driver, printer menu, and/or software.

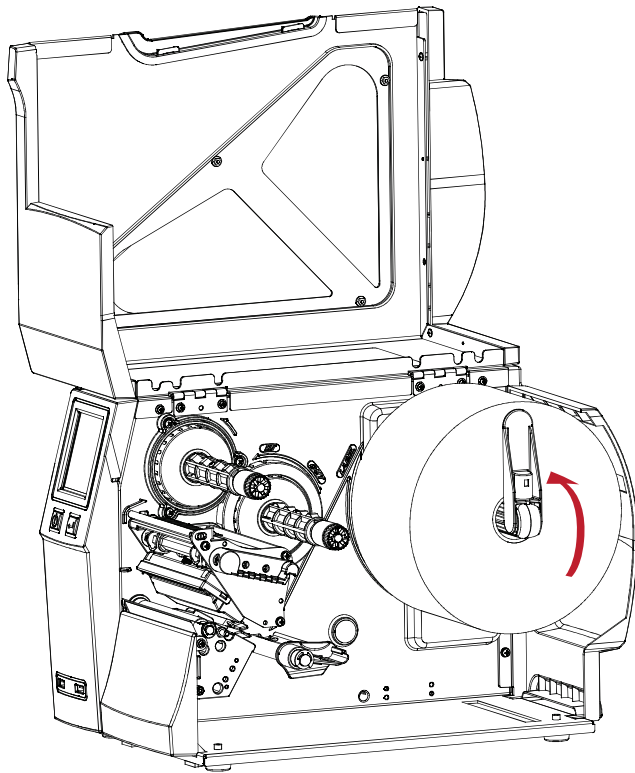


Rotate the Print Head Release Lever counterclockwise as shown

2 Printer Setup



Slide the label roll guide out and fold it down



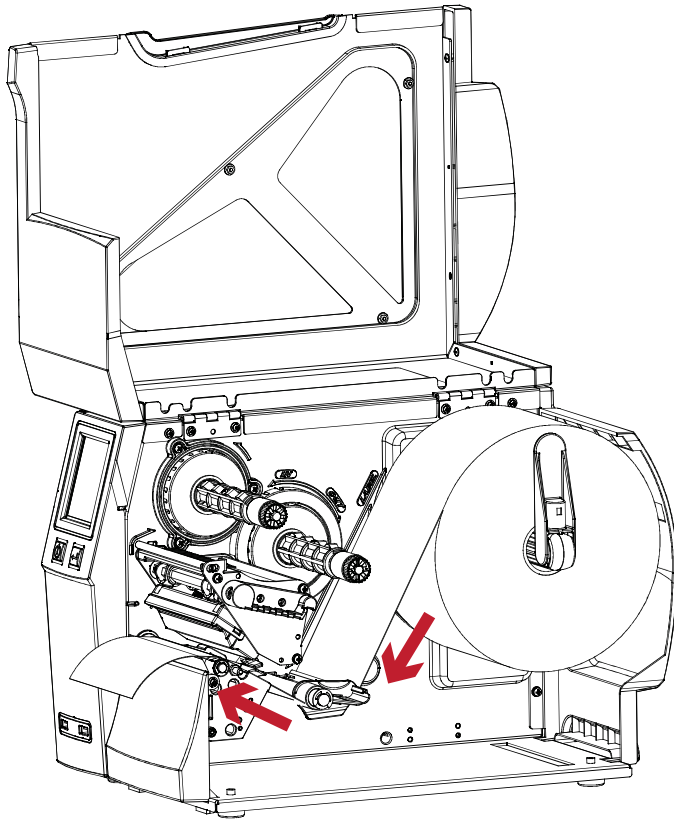
Place the label roll on the label supply hub until it contacts the printer housing.

(Do not apply too much pressure to avoid damaging the label stock.)

Note

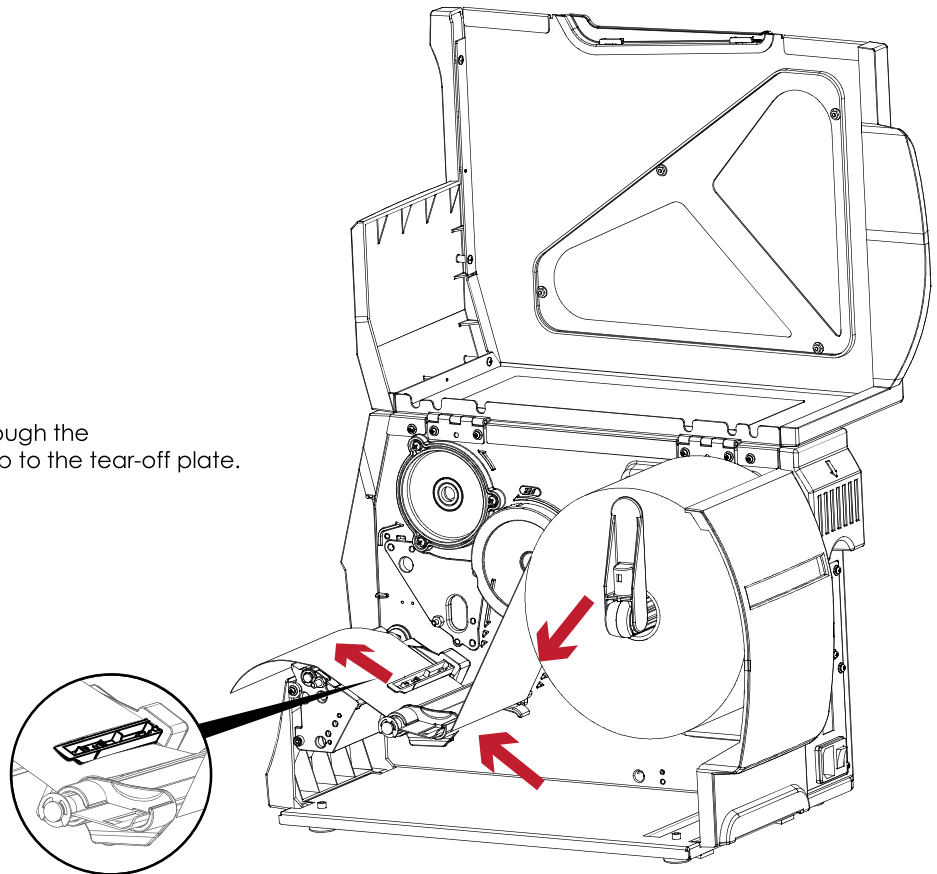
* When moving the label roll guide, hold it only by the end that is attached to the bracket, not by its top.

2 Printer Setup



Feed the label stock through the printer as indicated by the red arrows

Feed the label stock through the Adjustable Sensor and up to the tear-off plate.

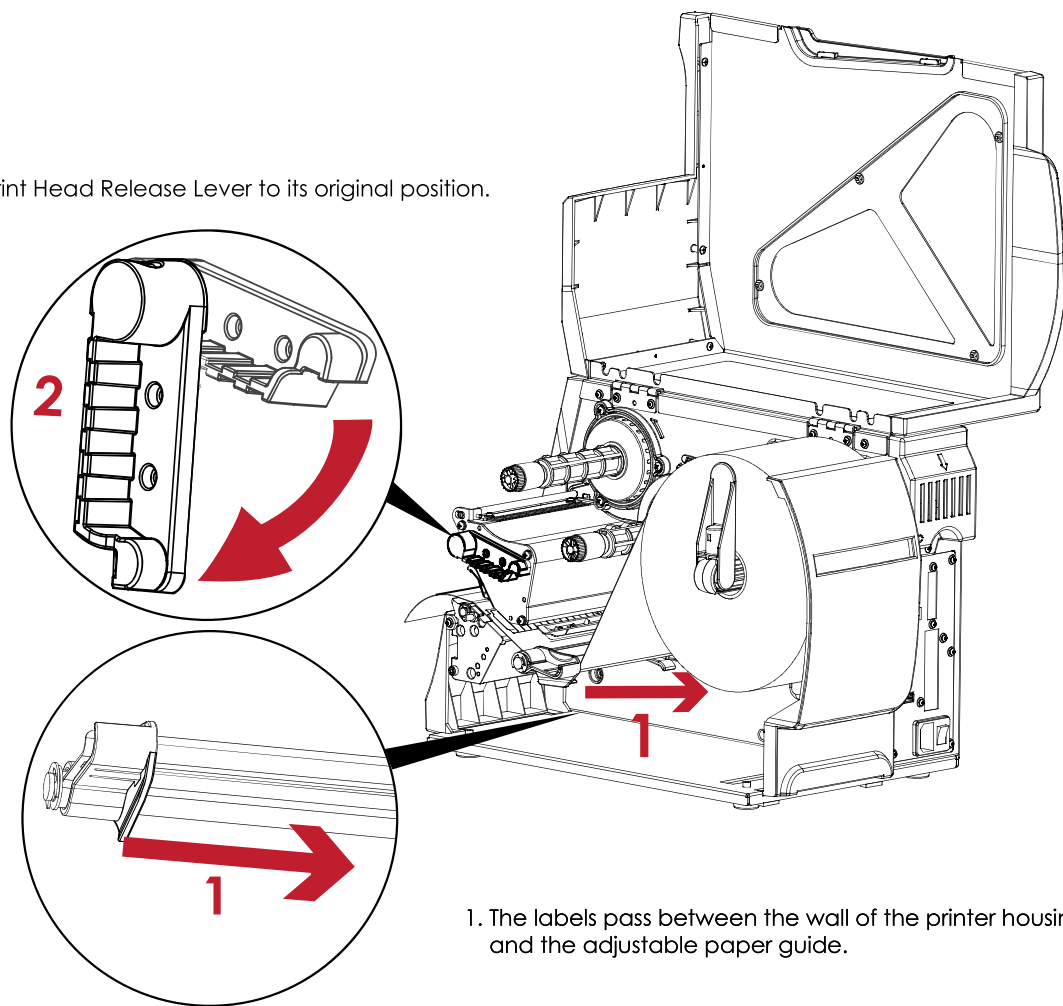


Note

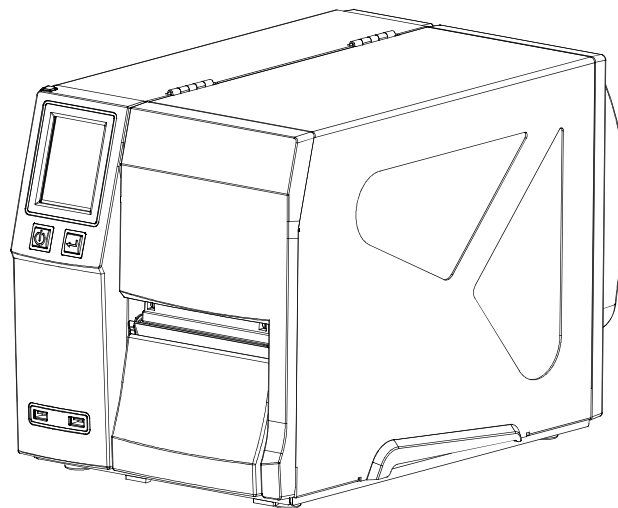
* Remember to change the position of the movable sensor and align it to the gap, black mark, or tag hole in the media.

2 Printer Setup

2. Return the Print Head Release Lever to its original position.



1. The labels pass between the wall of the printer housing and the adjustable paper guide.

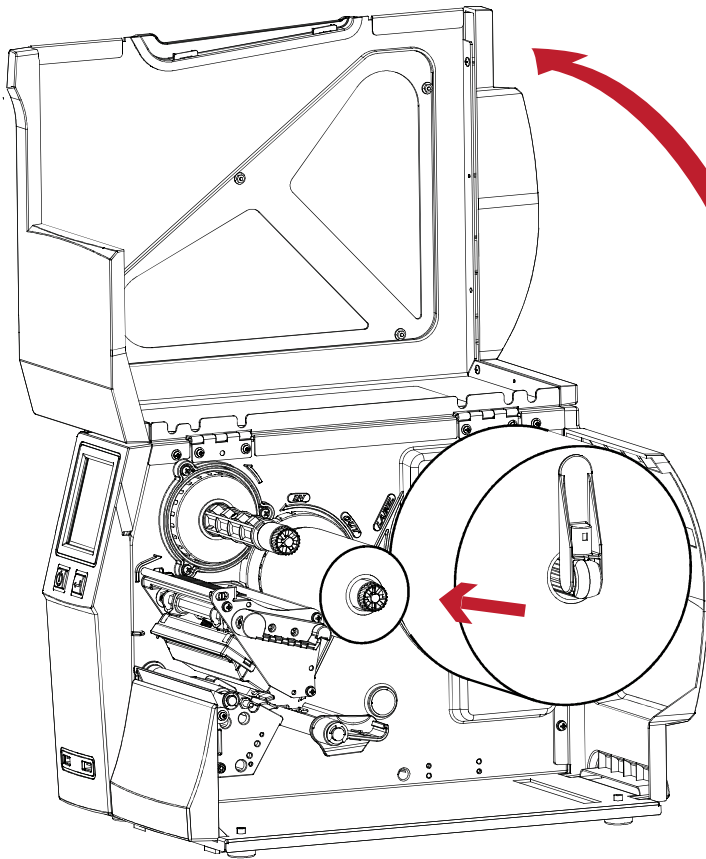


Then close the printer cover.

2 Printer Setup

2.2 Loading Ribbon

Loading Ribbon

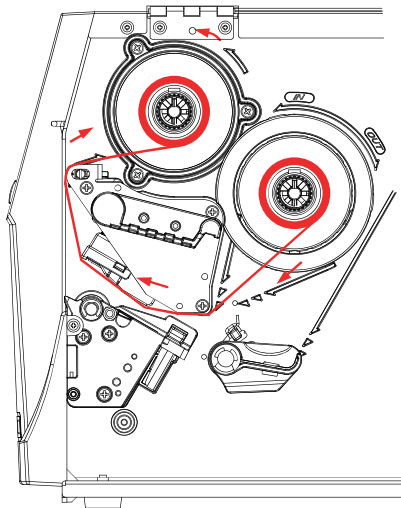


Place the printer on a flat surface and open the top cover

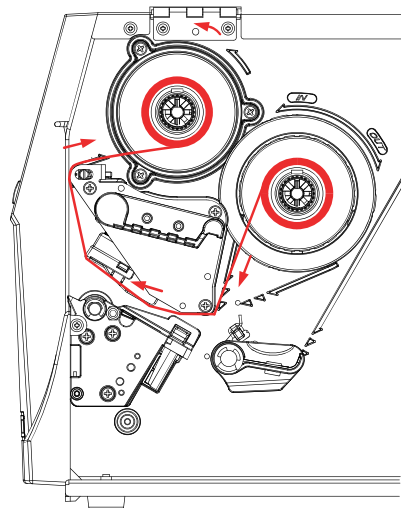
Place a new ribbon on the ribbon supply hub.

The two illustrations below show you how to route the ribbon depending on the ribbon type (ink side in or out).

Ink side out

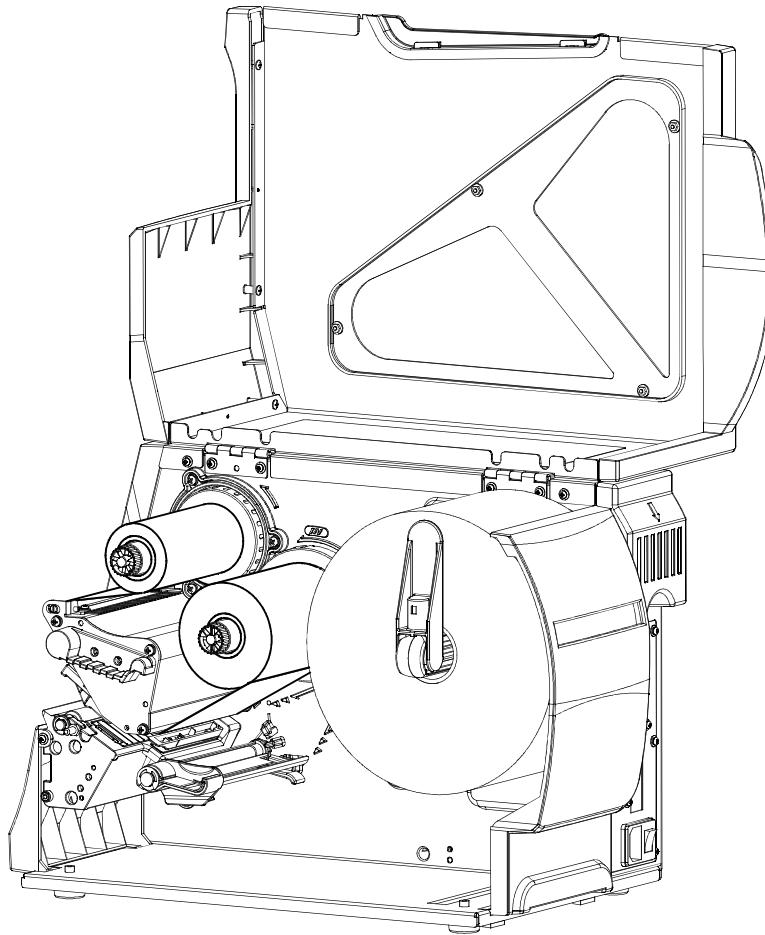


Ink side in



2 Printer Setup

Feed the ribbon under the print head and back up on the other side.
Attach the ribbon to an empty ribbon core on the Ribbon Rewind Hub.



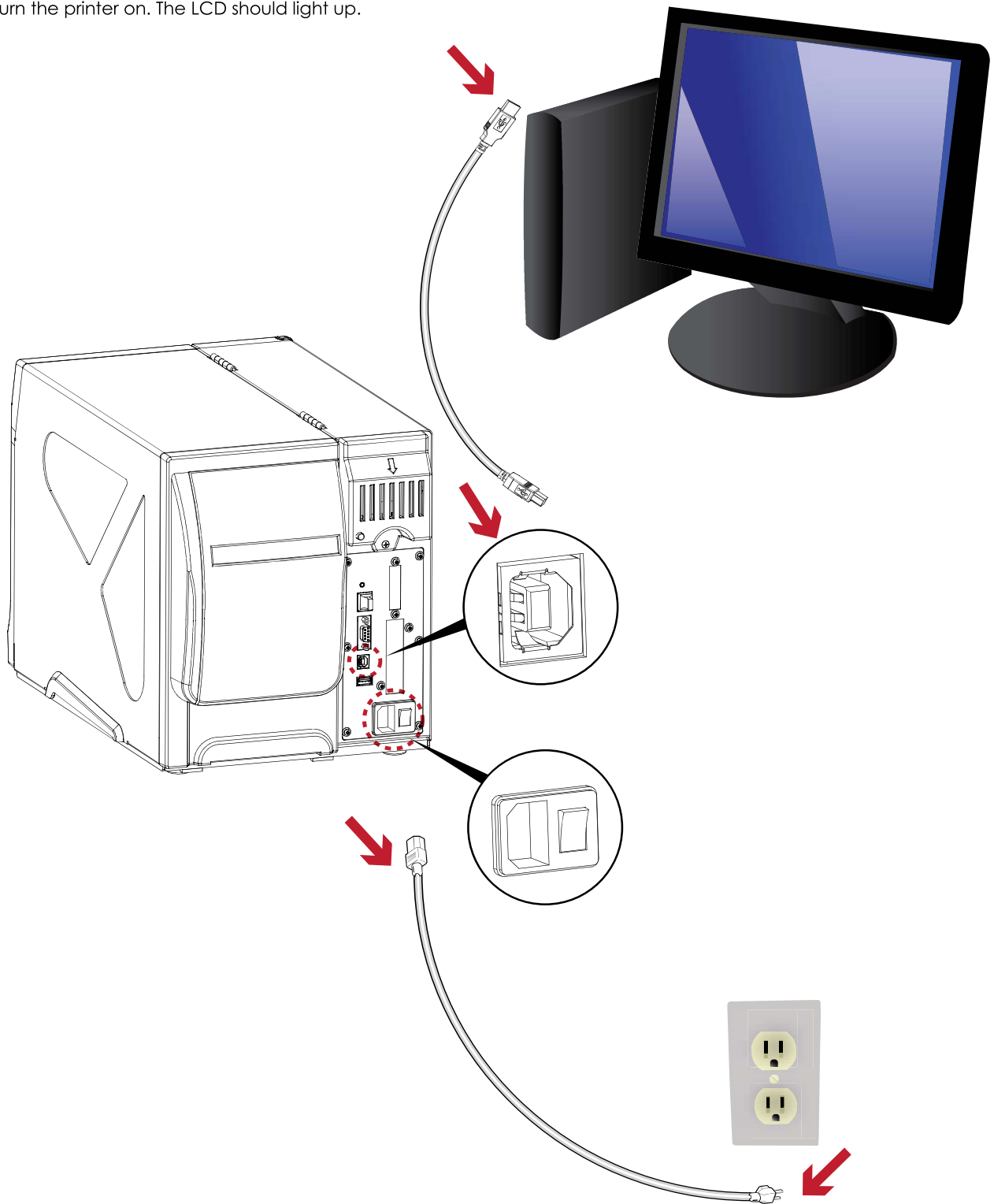
Note

* Do not feed the ribbon under the Adjustable Label Sensor.

2 Printer Setup

2.3 Connecting the Printer to your Computer

1. Ensure that the printer is turned off.
2. Connect the power cord to the printer. Plug the power cord into an electrical outlet.
3. Connect the USB cable to the printer and your computer.
4. Turn the printer on. The LCD should light up.



2 Printer Setup

2.4 EASYLABEL Start Installation

EASYLABEL Start is the free labeling package included with every Tharo printer.

1. Insert the product CD into CD/DVD drive of your computer. Open the "install" folder on the CD. Right click on the setup.exe icon and choose "Run as Administrator" to start the installation. Select a language for the installation and click OK to continue.



2. The EASYLABEL InstallShield Wizard starts. Click "Next" to continue.

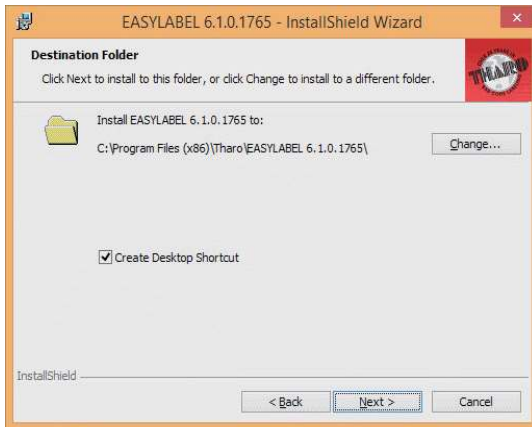


3. The next screen you can read EASYLABEL's License Agreement. Click the "I accept the terms in the license agreement" radio button and click "Next" to continue the installation.

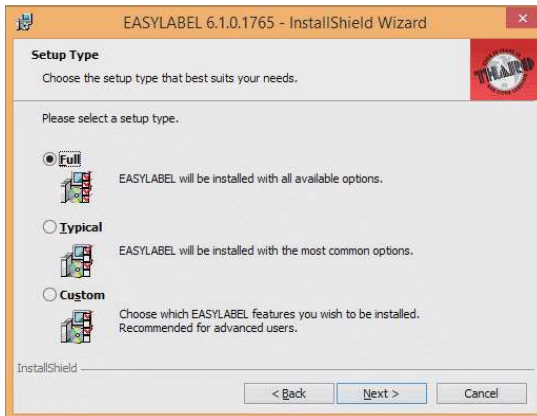


2 Printer Setup

- The next screen allows you to specify the directory to install EASYLABEL into. In most cases the default is fine. You may also specify if you want an EASYLABEL icon on your desktop. Click on "Next" to continue.



- The next step allows you to specify the installation type. "Full" is recommended for most users. Click "Next" to continue.

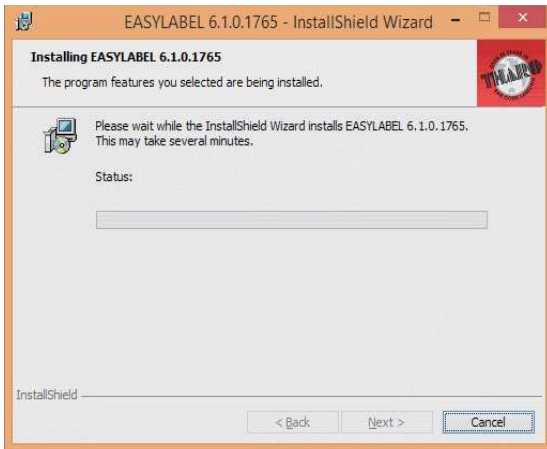


- This is the confirmation screen. Click Install to install EASYLABEL Start.



2 Printer Setup

- The Status screen will show the progress of the EASYLABEL Start installation.



- The installation is complete. Click "Finish" to close the InstallShield Wizard.



- You are ready to start using EASYLABEL. If you are a new EASYLABEL user we recommend that you view the EASYTutor tutorials. EASYTutor is the best way to get acquainted with your new labeling software. EASYTutor can be found in the "EZtutor" folder on the product CD. You may also view EASYTutor online at www.tharo.com/interactive.php We suggest getting started with "Adding a USB printer" which is a great step-by-step walk through of how to add a USB printer to EASYLABEL.
www.tharo.com/Interactive/adding_a_usb_printer/adding_a_usb_printer.htm

2 Printer Setup

2.5 Windows Driver Installation

Windows Drivers are NOT needed when printing to your Tharo Printer with EASYLABEL.

If you want to print to your Tharo Printer from other Windows applications then a Windows driver is needed.

Insert the product CD into CD/DVD drive of your computer.

STOP!

Do NOT plug the Printer's USB cable into your computer yet. There are some special installation steps for Windows 8 and 10 users. If you are NOT using Windows 8 or 10 you can skip to the next page.

To install the Printer driver in Windows 8 or 10:

1. Open the "Tharo_Driver_Win8_Win10" folder.
2. Right Click on **thr.inf** and select "install"
3. Click on "Yes"
4. When the install finishes, Click on "OK"
5. Then plug the Printer's USB cable into your computer.

The printer should now be ready for use in Windows 8 or 10.

If you plugged in the printer without doing the above steps first, the printer is installed as an "Other Device" and you will have to install the driver this way:

1. Open the Windows Control Panel
2. Click on "Hardware and Sound"
3. Under "Devices and Printers" heading click on "Device Manager"
4. Expand "Other Devices"
5. Right-click on the Tharo Printer and select "Update Driver Software"
6. Select "Browse my computer for driver software"
7. Click "Browse" and browse to where the "Tharo_Driver_Win8_Win10" folder and then click on "Next"
8. Click on "Install"
9. Click on "Close" to exit the wizard

The printer should now be ready for use in Windows 8 or 10.

2 Printer Setup

The printer can be installed on Windows releases other than Windows 8 or Windows 10 without any special steps.

Insert the product CD into CD/DVD drive of your computer.

Turn the printer on and connect it to your computer with a USB cable.

The "Found New Hardware Wizard" should take over and install the drivers.

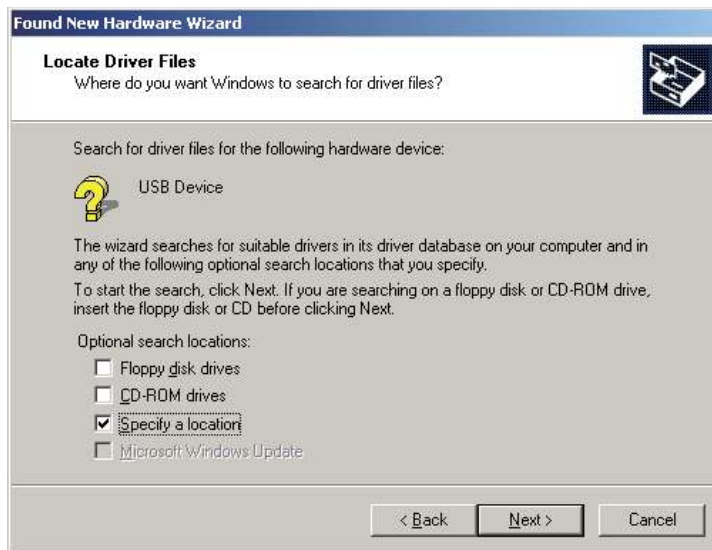
At some point you will be able to specify a location of the drivers.

Simply point the Wizard to the thr.inf file in the **Windows Driver** folder on the product CD.

1. USB is a Plug & Play facility. Once the USB cable is connected from PC to the printer, the PC will automatically detect the new device and begin the installation process.

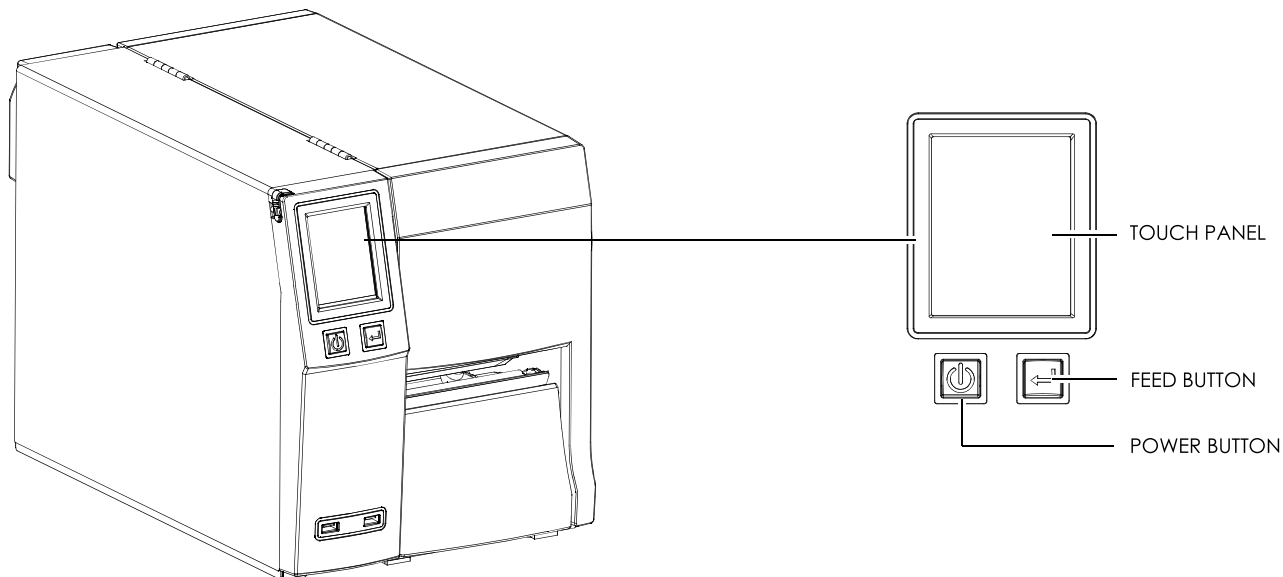


2. Select 'Specify a location' and specify the path of the printer driver.
3. Follow the instructions in the Wizard to complete the installation.



3 Printer Setting and Control

3.1 Operation Panel



POWER Button

Press the POWER button to turn on the printer.
Press and hold the POWER button for 3 seconds to turn the printer off.

FEED Button

Press the FEED button to advance the media.
If you are using continuous labels, the printer will advance a length of media.
If you are using media with gaps or black marks, the printer will advance one label.*

*If the printer feeds more than one label or the label does not stop in the correct position, you should perform a label calibration for your media.
See Section 3.4 Label Calibration and Self-Test.

PAUSE PRINTING using the FEED Button

Pressing the FEED button while the printer is printing will PAUSE the printer.
When the FEED button is pressed again, the printer resumes printing.

Example: While a 10-label print job is running, you press the FEED button to pause the printer.
Two of the labels have been printed. To resume printing and print the remaining eight labels, you will need to press the FEED button again.

CANCEL PRINTING using the FEED Button

Press and hold the FEED button for 3 seconds while the printer is printing to CANCEL the print job.
The current print job is then cancelled.

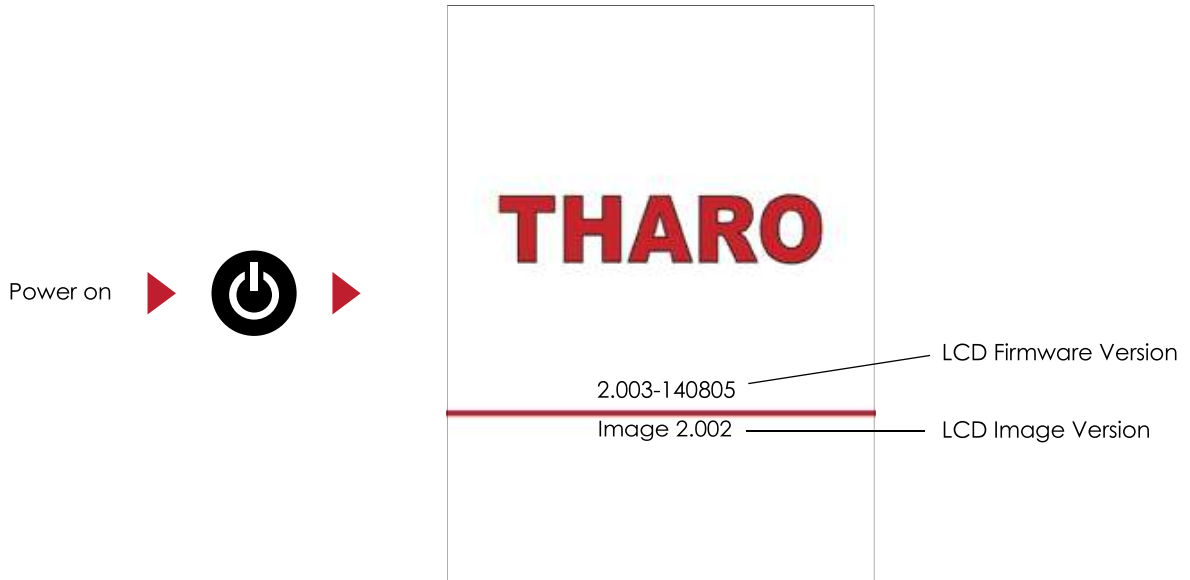
Example: While a 10-label print job is running, you press and hold the FEED button for 3 seconds.
Two of the labels have been printed.
The print job is cancelled and the remaining eight labels will not be printed.

3 Printer Setting and Control

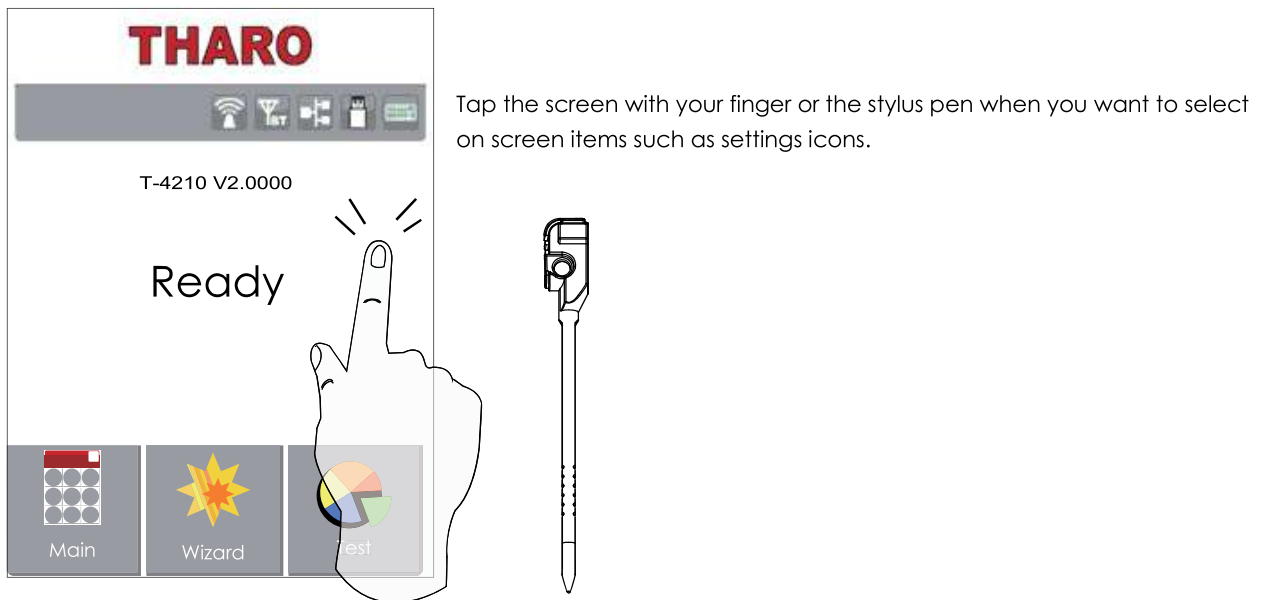
3.2 LCD Interface Introduction

Getting Started

Press the POWER button to turn on the printer. You will see the START UP SCREEN while the printer is booting up.



Once the printer has booted, the LCD screen will display “Ready”. This indicates the printer is online and ready for use.



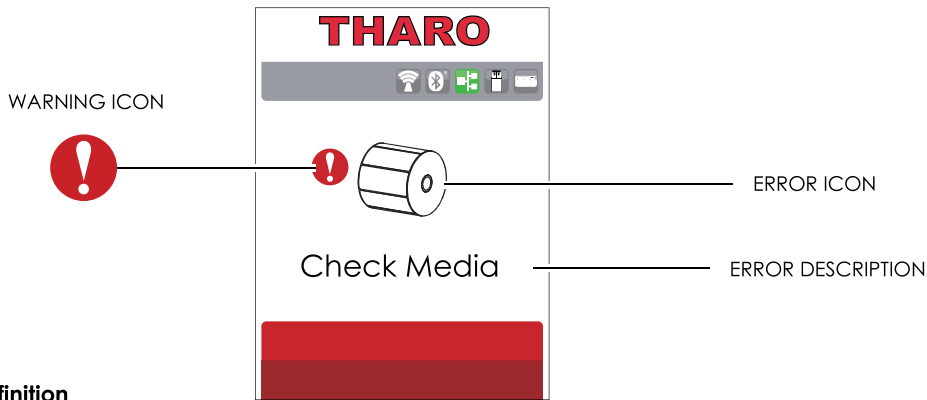
3 Printer Setting and Control

Status of LCD Interface

When the printer is in standby (ready to print), the LCD will display "Ready" on screen. You can only print when you see the "Ready" status.



The LCD screen will display error messages on the screen when they occur. See section 3.5 for the list of errors, causes and solutions.



Icon Definition

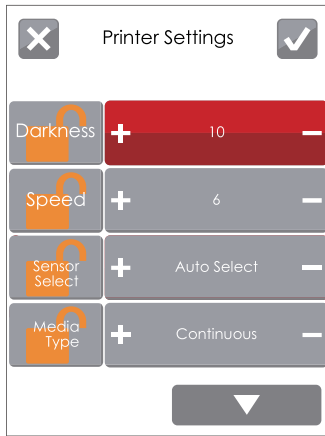


Up one level Tap this icon to go back one level.

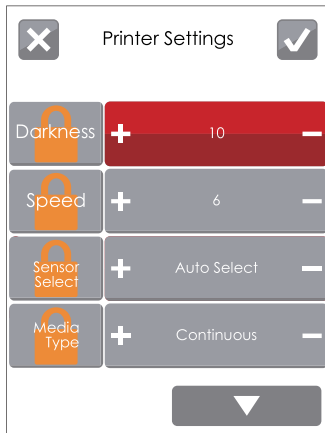
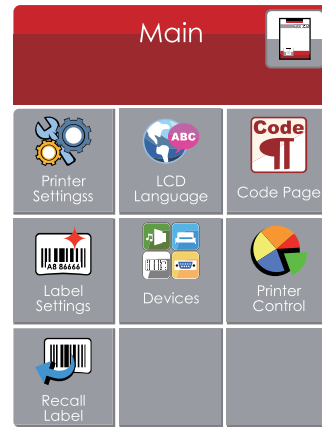


Main Menu Tap this icon to enter or return to the main menu

3 Printer Setting and Control



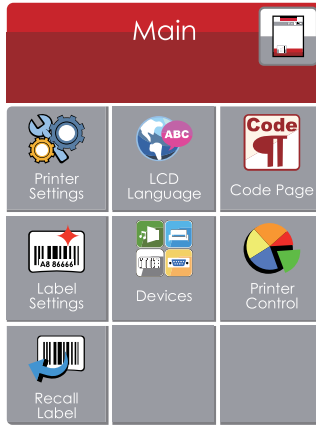
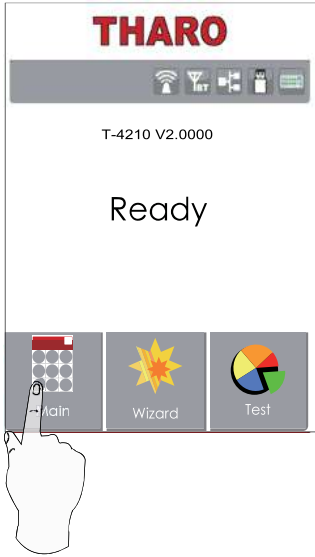
- ✓ Tap this button to accept the changes and return to the main page
- ✗ Tap this button to Cancel the changes and return to the main page.



- ▶ If the printer setting is UNLOCKED, the printer will process any commands to change that setting. Tap the UNLOCKED icon to LOCK
- If the printer setting is LOCKED, the printer will ignore any commands to change that setting. Tap the LOCK icon to UNLOCK

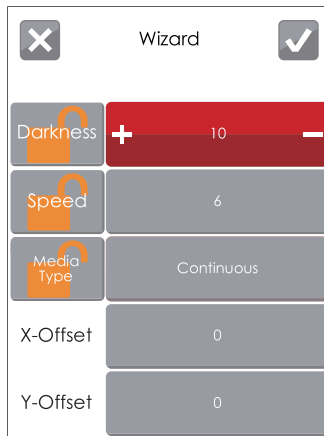
3 Printer Setting and Control

On the Ready Screen there are three icons that allow you to access three different menus.



Tap "Main"--

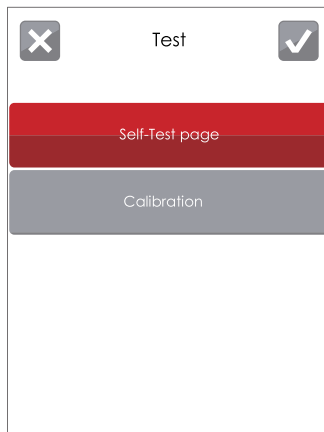
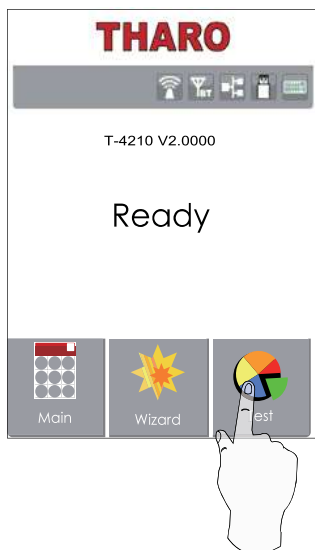
The screen now shows the "Main" Menu selections allowing you to access the various printer settings.



Tap "Wizard"--

The screen now shows the "Wizard" menu selections. The Wizard menu provides quick access to the more commonly changed printer settings.

Darkness	0-19
Speed	2-10 see specification page
Media Type	Label with Gaps
	Label with Marks
	Continuous
X-Offset	-100-100 (default 0)
Y-Offset	-100-100 (default 0)



Tap "Test"--

The Test screen allows you to perform a Label Calibration and print a Self-Test page.

3 Printer Setting and Control

3.3 LCD Interface Functions

Main Menu



Printer Settings - Setting options for printing such as print speed, darkness, etc.



LCD Language- Allows selection of the language used in the printer's LCD



Code Page- Allows selection of what Code Page to use when printing



Label Settings- Setting options for the label such as label rotation, print position, label offset, etc.



Devices- Setting options for optional modules and communication ports.



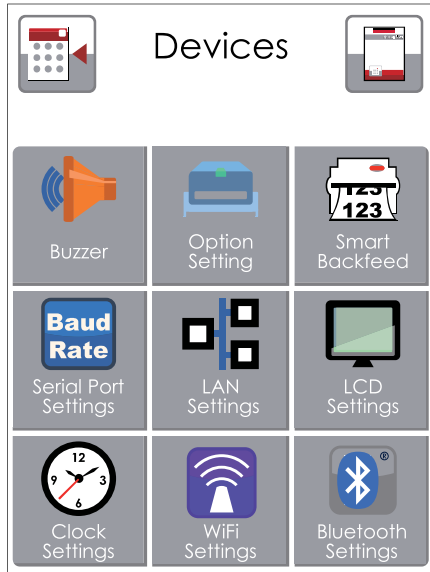
Printer Control- Includes self-diagnosis functions for the printer such as a TPH test and self-test page printing.



Recall Label- Allows the selection and printing of a label stored in memory.

3 Printer Setting and Control

Devices Menu



Buzzer- Defines operation of Buzzer. When this option is turned on the printer will sound the buzzer (beep) for most events. When this option is turned off the printer will only sounds the buzzer (beep) when there is a condition that requires the operator's attention.



Option Setting- Used to specify the presence of the optional Cutter, Label Dispenser or Applicator Interface



Smart Backfeed- When in stripper, applicator, or cutter mode, a label is printed and moved forward to be peeled off, taken by applicator or cut. If Smart Backfeed is ON, the next label will be partially printed so the printer does not have to backfeed to find the original starting point when printing continues.



Serial Port Settings- Options to configure the Serial Port such as Baud Rate, Parity, Data Bits, St op Bits.



LAN Settings- Options to configure the wired LAN such as DHCP, IP Address, Gateway, Subnet Mask.



LCD Settings- Has an option to password protect access to the LCD menu and a Calibration function for the touch screen.



Clock Settings- Allows for setting the Printer's Clock, ex. Year, Month, Day, Hour, Minute



WiFi Settings- Options to configure the WiFi module in order for the Printer to join a wireless network



Bluetooth Settings- Options to configure the Printer so it may join a Bluetooth network.

3 Printer Setting and Control

Available Menu Settings



	Darkness	0-19
	Speed	2-10 based on print resolution see specification page
Printer Settings	Sensor Select	Media Detection
		Media Type
		Print Mode
	Tear-Off Position	0-40
	Top of Form	OFF



LCD Language	Auto Select
	See-Through
	Reflective
	Label with Gaps
	Label with Marks
	Continuous
	Direct Thermal
	Thermal Transfer
	TPH Open Only - After Print Head is opened/closed
	English



Code Page	Deutsch
	繁體中文
	簡體中文
	Français
	Español
	日本語
	Italiano
	Русский
	Türkçe
	850
	852
	437
	860
	863
	865
	857
	861
862	



Label Settings	855
	866
	737
	851
869	
Win 1252	
Win 1250	
Win 1251	
Win 1253	
Win 1254	
Win 1255	
Win 1257	
Rotation	0°, 90°, 180° or 270°
X-offset	-100-100 (default 0)
Y-offset	-100-100 (default 0)
Start Offset	-100-100 (default 0)

3 Printer Setting and Control



Devices

Buzzer	OFF		
	ON		
Option Setting	None		
	Cutter		
	Label Dispenser		
	Applicator		
Smart Backfeed	Off		
	On		
Serial Port Settings	Baud Rate	4800 bps	
		9600 bps	
		19200 bps	
		38400 bps	
		57600 bps	
		115200 bps	
		None	
	Parity	Odd	
		Even	
	Data bits	7 bits	
	8 bits		
Stop bits	1 bits		
	2 bits		
LAN Settings	DHCP	On	
	IP Address	0.0.0.0	
	Subnet Mask	255.255.255.0	
	Gateway	192.168.0.254	
LCD Settings	Password	OFF	
	Calibration		
Clock Settings	Year		
	Month		
	Day		
	Hour		
	Minute		
	Visible (on LCD)	ON/OFF	
WiFi Settings	WLAN Details	Module Active	ON/OFF
		SSID	
		Security	None, WEP, WPA, WPA2
		Auth	Open, Shared Key
	WEP	Default Key	1-4
	Encryption	WEP Key	Disable, 40 bits, 128 bits
		Key Format	Hex, ASCII
		Key	
	WPA/WPA2	Pre-Shared Key	TKIP, AES
	Encryption	Key	
Bluetooth Settings	Clear Bind		ON/OFF
	Make Device Visible		ON/OFF
	SSP		ON/OFF
	PIN Code		0000
	Search Devices		ON/OFF
Printer Control	Test		
	Sample Pattern		
	Select Memory		
	Clear Memory		
	Calibration		
	Restore Defaults		
	Printer Info -Print Length and Cutter Count		



3 Printer Setting and Control


Keyboard Mode

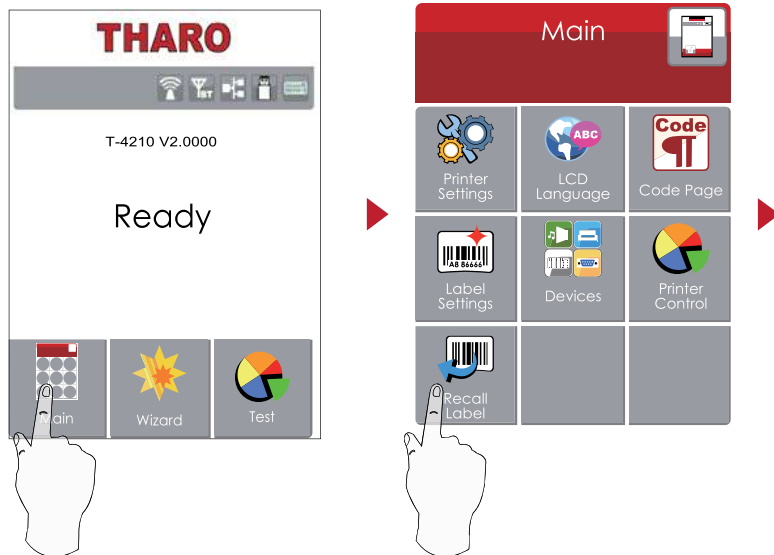
When a USB keyboard is plugged into the printer, the LCD will prompt "Enter Standalone". Press the "Y" key on the keyboard to enter the "Keyboard Mode" menu.



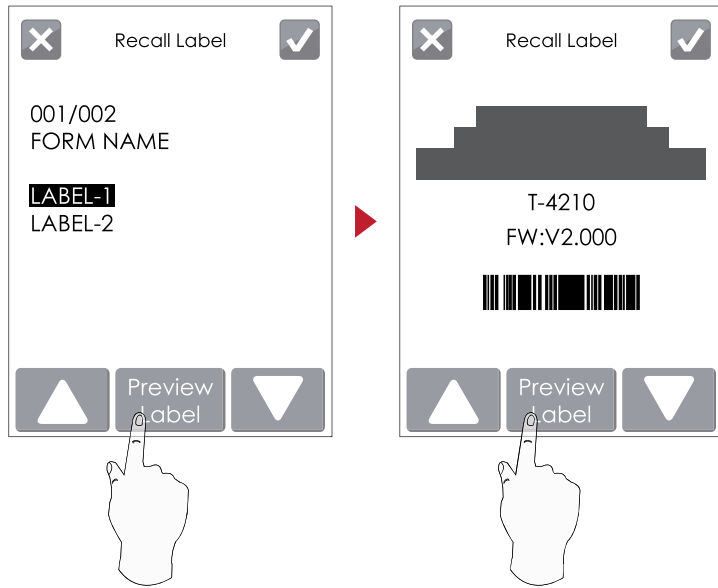
Recall Label function

Allows the user to Recall any labels in the printer and preview them.




From the Home screen, tap  to enter the Main Menu.
From the Main Menu tap Recall Label to enter the Recall Label Menu.



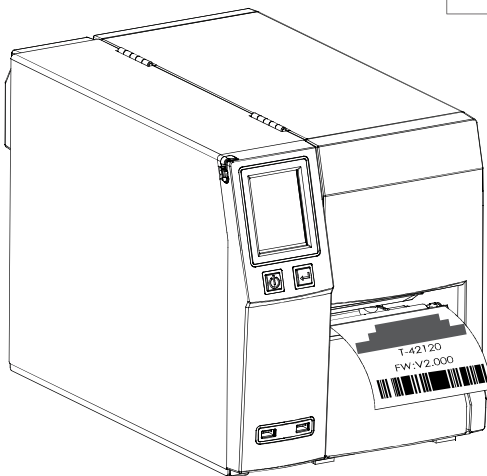
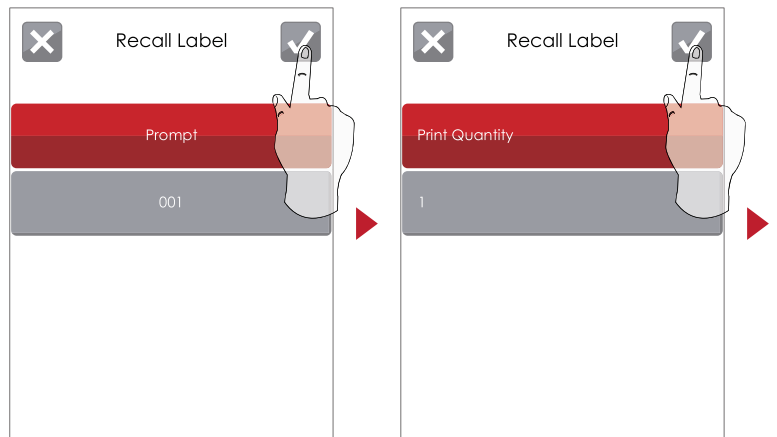
3 Printer Setting and Control



The Recall Label Menu allows review and selection of labels,

-  Tap up to move up the list of labels
-  Tap down to move down the list of labels.
-  Tap Preview Label to see a preview of the label.

Keep tapping  to move to the next page



The selected label prints.

Note

* After using the recall label function the printer returns to the Ready Page.



3 Printer Setting and Control

3.4 Label Calibration and Self Test

Label Calibration

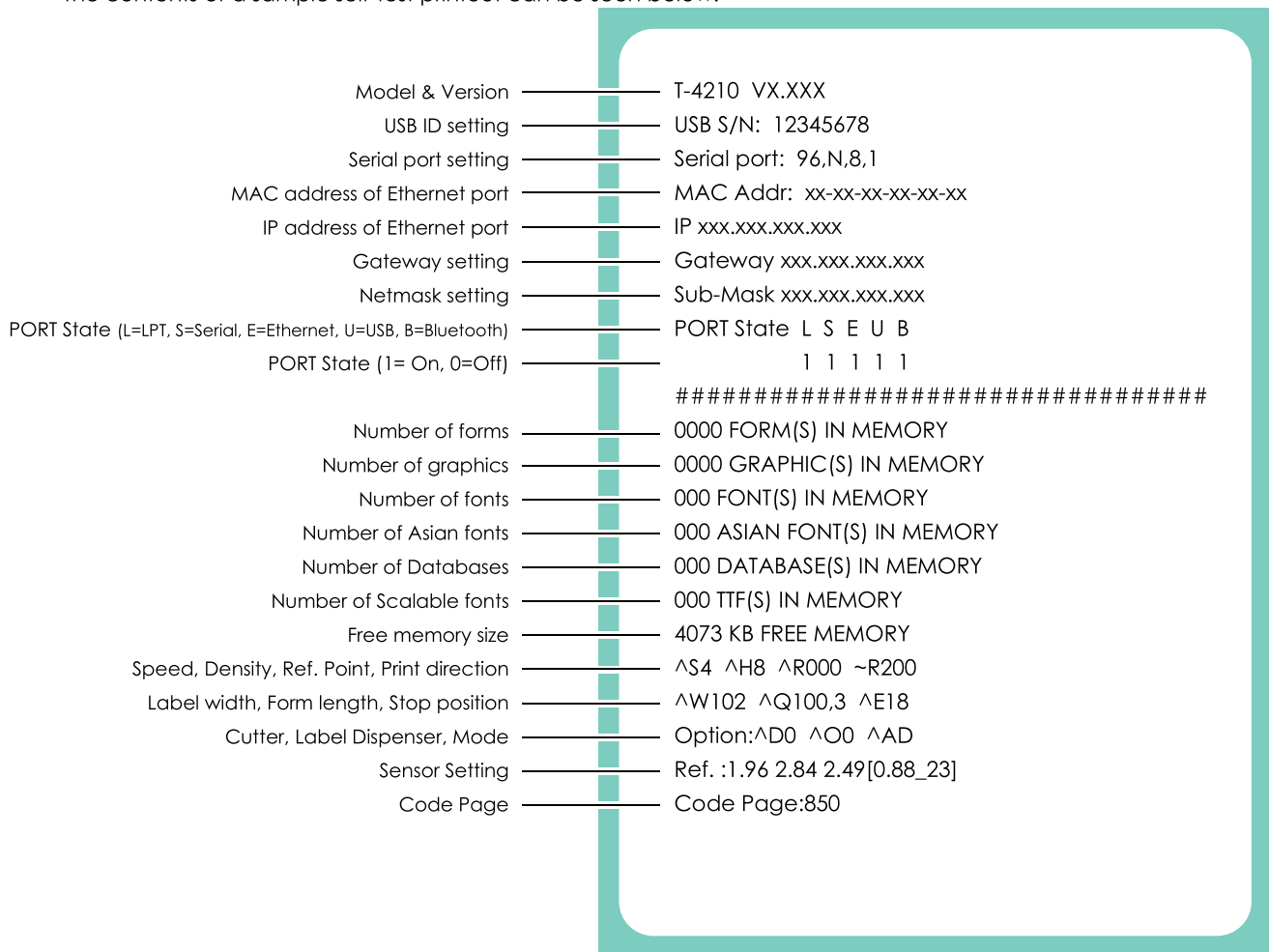
The printer can automatically detect and store label height. That means the host computer does not need to transmit the label height to the printer.

Self Test

The Self Test function lets you check whether the printer is functioning normally. Follow these steps to run the Label Calibration and Self Test.

1. Check that the label stock is loaded correctly.
2. Turn off the printer and press the FEED key.
3. Turn the printer on, keeping the FEED button pressed. When the LED around the power button starts to flash red, release the FEED button. The printer will now perform a Label Calibration.
4. Once the Label Calibration is complete, the printer will print a Self Test label.

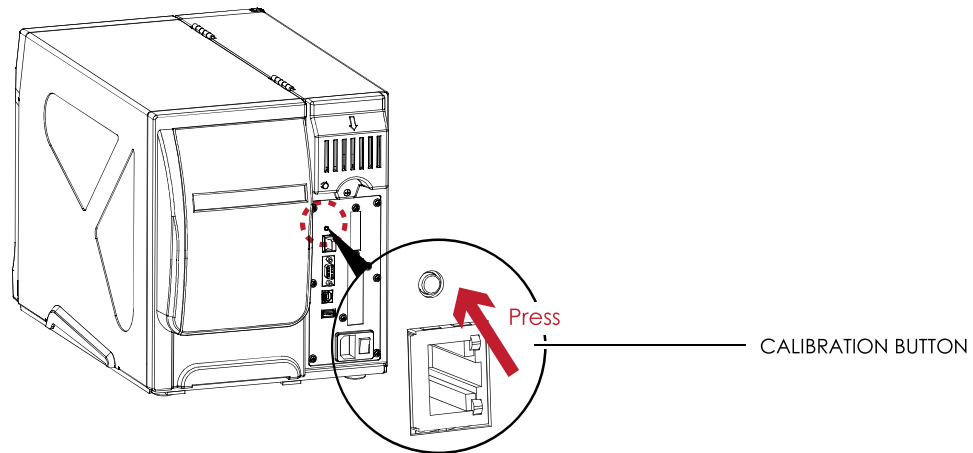
The contents of a sample self-test printout can be seen below.



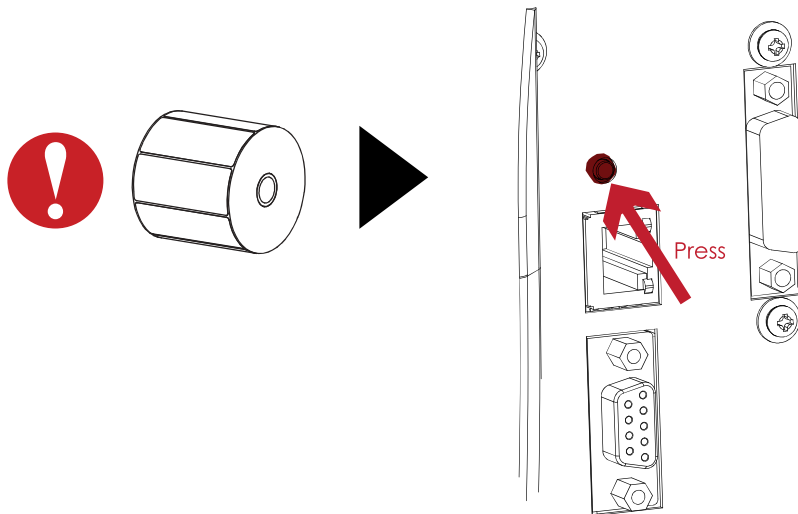
3 Printer Setting and Control

Label Calibration Button

The Label Calibration button is used to perform a Label Calibration. This is useful to correct any Media Errors that may occur when changing the labels to another type, such as changing gap labels to black mark labels or continuous media.



Press and hold the Calibration Button for 2 seconds to start the Label Calibration.



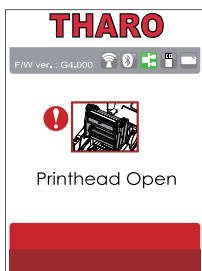
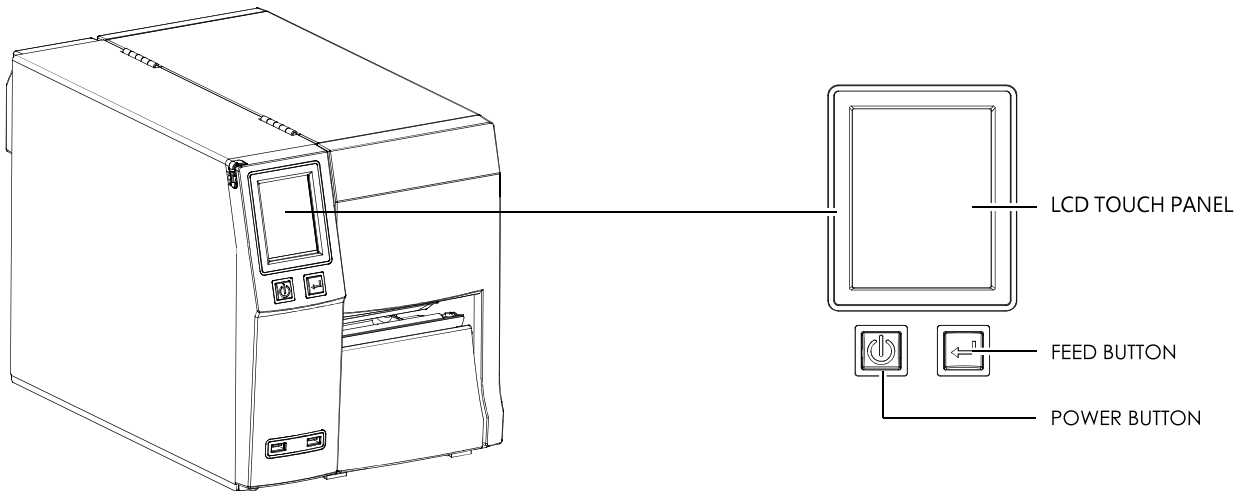
Note

* Pressing the Calibration Button is equivalent to the auto-sensing command "`~S,SENSOR`".

3 Printer Setting and Control

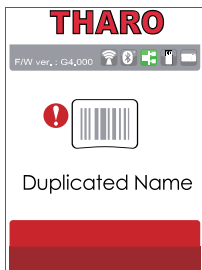
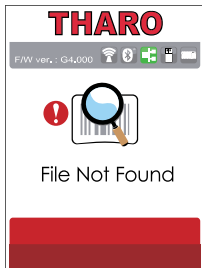
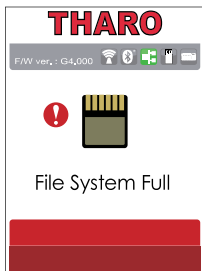
3.5 Error Alerts

In the event of a problem that prevents normal functioning of the printer, you will see an error message on LCD screen and hear some beep signals. Please refer to below table for the errors, causes and possible solutions.



Type	Beeps	Description	Solution
Print Head Error	2 x 4 beeps	The print head mechanism is not locked in place.	Open the print mechanism and close it again.
Print Head Error	None	High temperature at the print head.	Once the print head has cooled down, the printer goes back to standby mode.
Media Error	2 x 3 beeps	No ribbon is installed and using Direct Thermal label stock.	Make sure that the printer is set to Direct Thermal printing mode.
		The ribbon is used up or the label supply hub is not moving.	Replace the ribbon roll.

3 Printer Setting and Control



Type	Beeps	Description	Solution
Media Error	2 x 2 beeps	No labels are detected.	Make sure that the label sensor is positioned correctly. If the sensor still does not detect the paper, run the auto-detection function again.
		Label stock is used up.	Replace the label roll.
File Error	2 x 2 beeps	Printer feed problem.	Possible reasons: the print media has become trapped around the rubber roller; the sensor cannot detect a gap or black mark between the labels; there is no paper. Please reset the sensor.
		The memory is full. The printer prints the message "File System full".	Delete unnecessary data or install additional memory.
		Unable to find file. The printer prints the message "File Name not found"	Use the "~X4" command to print all files. Then check whether the files exist and whether the names are correct.
		A file of the same name already exists. The printer prints the message "Duplicate Name".	Change the name of the file and try storing it again.

3 Printer Setting and Control

3.6 USB Host and Standalone Mode

USB Host Uses

The USB Host port supports the use of a USB memory stick, keyboard or scanner.

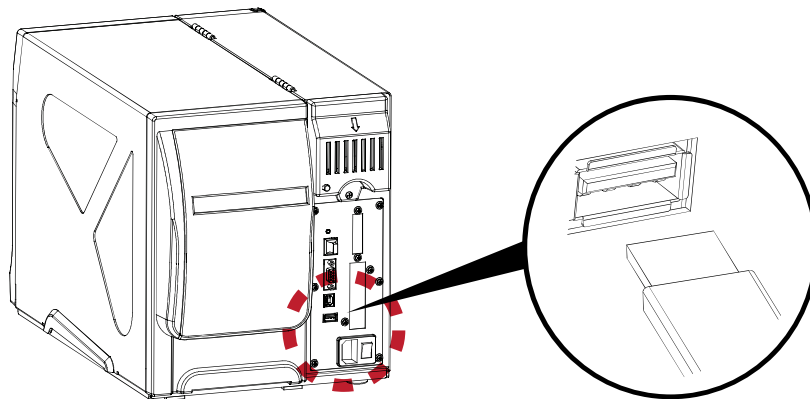
- A USB memory stick can be used to extend the user accessible storage memory up to 32GB

The printer's Firmware also can be updated using a USB memory stick.

- Connect a USB keyboard to printer for Keyboard Mode/Standalone operation.
- Plug-in an USB scanner to operate the printer in Keyboard Mode/Standalone.

Using Extended Memory

- The printer will create a Folder called "\LABELDIR" and switch "User Flash" to "Extended Memory" automatically when the user plugs a USB memory stick into the printer.
- Connect the printer to a PC with the USB Stick plugged in and use EASYLABEL (Silver or higher) software to download Graphics, Fonts, Label Formats and Database files to the printer.



Updating Firmware

- Remove the USB memory stick from printer and plug-in it to a PC's USB port. Delete any existing firmware (*.bin) file from \LABELDIR\FW. If there is no FW folder in the LABELDIR directory, create one.
- Copy the new firmware (xxxx.bin) into the Folder \LABELDIR\FW. Then remove the USB Memory Stick from the PC and plug it back into the printer.
- The printer will automatically update the firmware when the firmware on the USB stick is newer than the firmware loaded in the printer.
- Do Not remove the USB memory stick until the firmware is finished updating and you see 'Ready' on the LCD.

3 Printer Setting and Control

USB Keyboard

- Plug a USB keyboard into the printer and the "Enter Standalone?" prompt will appear on the LCD. Press the "Y" key on keyboard to enter Standalone Mode. You can also press "F1" on the keyboard to enter Standalone Mode from the "Ready" screen.
- When in Standalone Mode the keys on the keyboard have the following functions:
 1. Press the "ESC" key on the keyboard to go back to the previous dialog.
 2. Use the Alphabetic keys and the Enter key on the keyboard as you usually would to enter variables and Print Quantity when the printer prompts for them on the LCD when in Standalone Mode.

There are seven selections in Standalone Mode:

1. Recall Label - This selection allows you select a label that is stored in memory and print it.
2. Keyboard Country Code - This selection allows you to set the Country Code to match the keyboard you are using.
3. Code Page - This selection allows you to set the Code Page.
4. RTC Settings - This selection allows you to set the Real Time Clock (RTC)
5. Edit Database - This selection allows you to browse and edit records in any database stored in the printer memory.
It is NOT possible to add or delete records.
6. Edit Label - This selection allows you to edit the TPL of any label format that is stored in the printer memory.
7. Exit Standalone - This selection allows you to EXIT Standalone mode and return to the Ready screen.

Scanner

- When a USB scanner is plugged into the printer the LCD will prompt "Enter Standalone?". Tap the "Y" to enter Standalone Mode operation.
- In Standalone Mode the scanner can be used to enter variables and Print Quantity when the printer prompts for them on the LCD.

Note

- * The USB Host port cannot be used as a USB HUB.
- * The printer supports FAT32 formatted USB Memory Sticks up to 32GB only. The certified venders are Transcend, Apacer, Patriot, Corsair and Kingston.
- * The user may copy the entire \LABELDIR directory from the USB memory stick to the PC or vice-versa.
Copying of any of the individual subfolders or individual files in the LABELDIR directory is not supported.

4 NetSetting for Ethernet

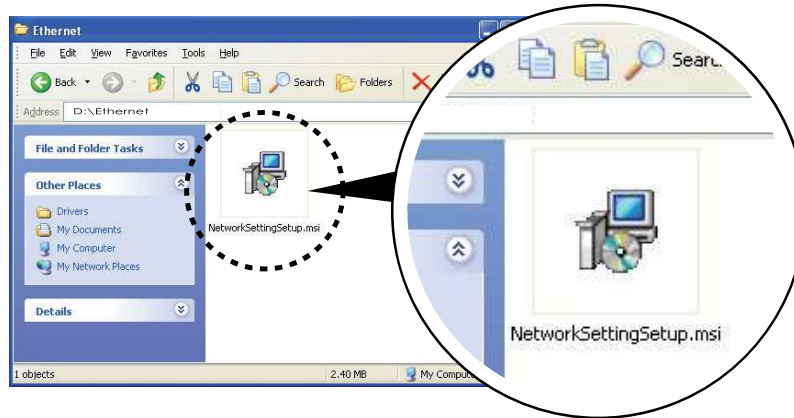
4.1 Installing the NetSetting software

The NetSetting software is used to manage the network configuration of the Ethernet port.

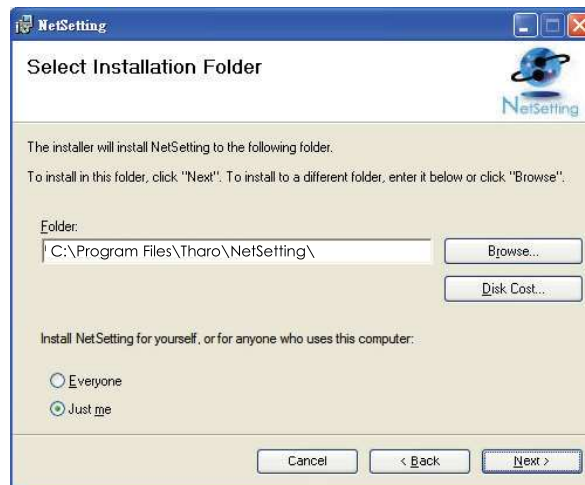
NetSetting is available on the CD that ships with the printer or it can be downloaded from our website (www.tharo.com).

To install NetSetting:

1. Insert the Printer CD in your computer's CD/DVD drive. Browse the contents of the CD and open the "Ethernet" folder.
2. Doubleclick on the NetworkSettingSetup.msi icon to start the installation.



3. The Setup Wizard will guide you through the installation procedure. Follow the instructions on the screen.
4. Specify an "Installation Folder".



5. Click "Next" to continue the installation.
6. Once the installation has completed, you will see the NetSetting icon on your desktop.

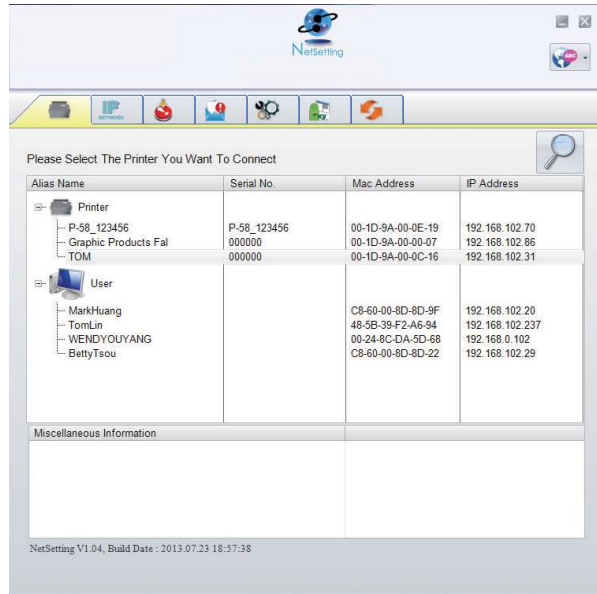


4 NetSetting for Ethernet

4.2 NetSetting Interface

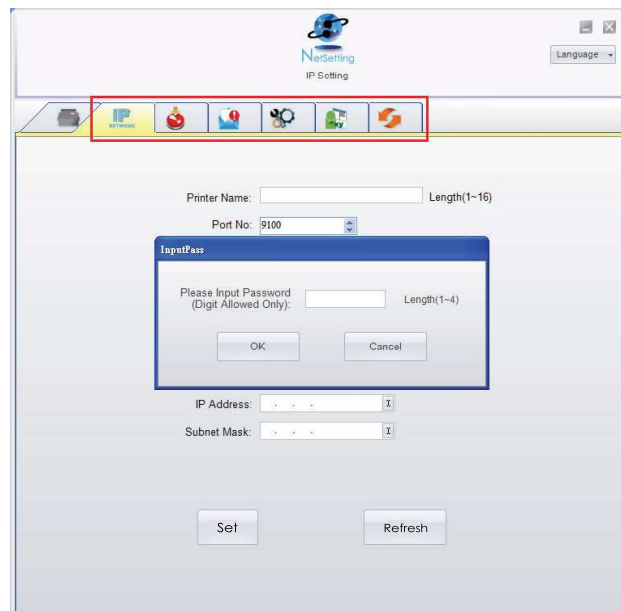
Doubleclick on the NetSetting icon to start the program.

You will see the start page below. The start page will display the basic information of any connected printer and your PC.



Click on the magnifying glass icon to search your network for Tharo Ethernet printers.

Any printers that are detected are listed on the start page.



There are six tabs on the top of interface which are used to access different network configuration settings.

You will need to enter a password to enter the configuration pages.

Notice

* The default password is "1111". You can change the password from the "IP Setting" tab.

4 NetSetting for Ethernet

IP Setting

On the IP Setting tab you can change the Printer Name, Port Number, Default Gateway and Password. You can also set the printer's IP address either by DHCP or by Static IP.

Printer Name: Length(1~16)

Port No:

Default Gateway:

Password: Length(1~4)

Get IP From DHCP Server

Static IP

IP Address:

Subnet Mask:

Click the "Set" button to apply the settings and the "Refresh" button to re-query the printer and refresh the values.

Notice

- * To fully benefit from the NetSetting software, you should be familiar with basic networking principles. Please contact your network administrator for the required related network settings.

4 NetSetting for Ethernet

Alert Mail Setting

The Printer can send the alert messages to a designated mail account when errors occur. The alert messages are sent by SMTP (Simple Mail Transfer Protocol) or SNMP (Simple Network Management Protocol). You can set or change the configurations of SMTP and SNMP on the "Alert Mail Setting" tab.

Alert Mail Setting

Enable SMTP Alert Message Notification

Login Account: default Length(1~64)
Login Password: ***** Length(1~16)
Server IP Address: 192 . 168 . 0 . 1 xxx.xxx.xxx.xxx
Mail Subject: Barcode printer message Length(1~60)
Mail From Address: default@default.com Length(1~32)
Mail To Address: default@default.com Length(1~32)
Duration Cycle: 1 0 ~ 168 Hours
Event Counter: 5 1 ~ 100

Enable SNMP Alert Message Notification

SNMP Community: public Length(1~16)
SNMP Trap Community: public Length(1~16)
Trap IP Address: 192 . 168 . 0 . 1 xxx.xxx.xxx.xxx

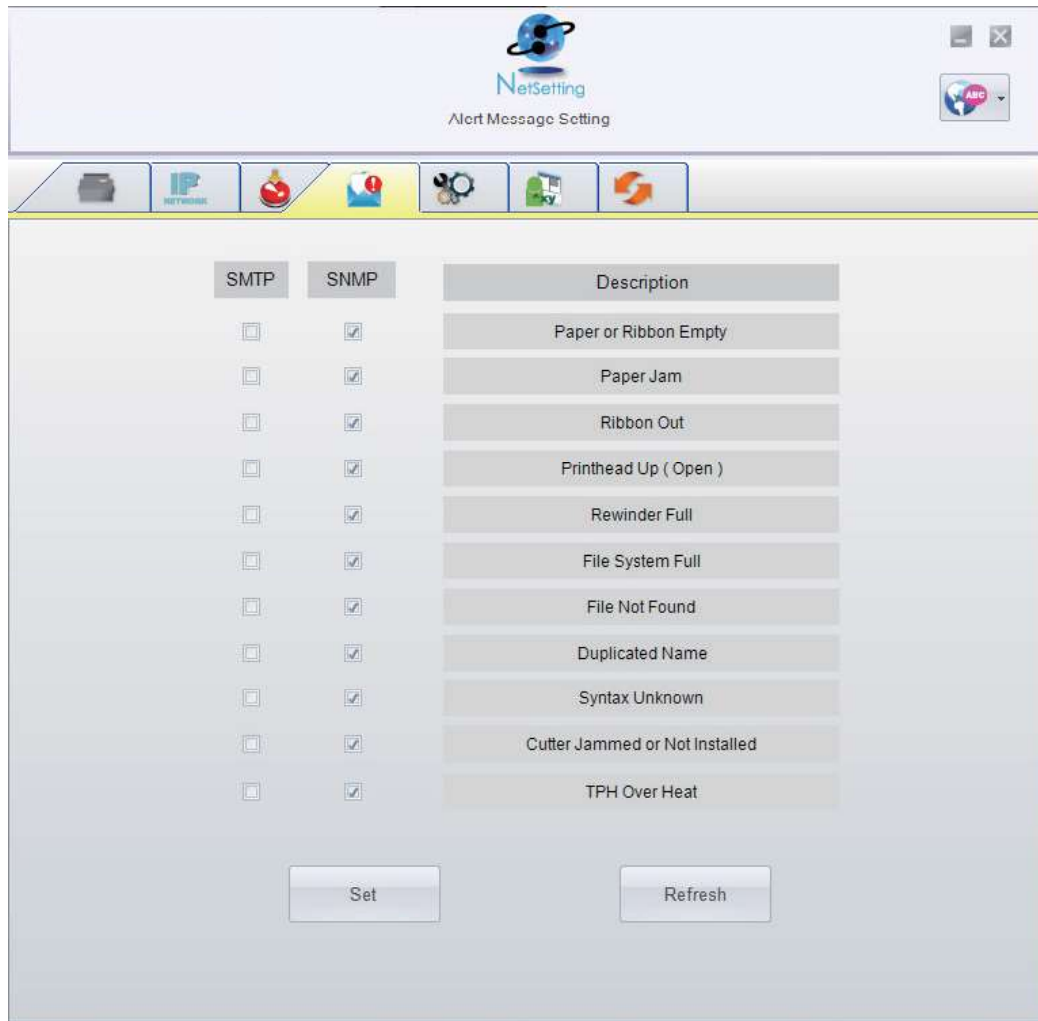
Set Refresh

Click the "Set" button to apply the settings and the "Refresh" button to re-query the printer and refresh the values.

4 NetSetting for Ethernet

Alert Message Setting

Here you can specify which errors should trigger sending an email. The alert messages can be sent by SMTP, SNMP or both.



Click the "Set" button to apply the settings and the "Refresh" button to re-query the printer and refresh the values.

4 NetSetting for Ethernet

Printer Configuration

This tab allows you to change the configuration of the connected printer. Many of the printer settings can be modified on this setting page.

The screenshot shows the 'NetSetting Printer Configuration' window. At the top, there is a title bar with the 'NetSetting' logo and 'Printer Configuration' text. Below the title bar is a toolbar with icons for printer, network, help, settings, and refresh. The main content area is divided into two sections: 'Printer Setup' and 'Miscellaneous'.
Printer Setup
Printer Model: T-4210
Tear-off Position: 12
Speed: 2
Darkness: 12
Dispenser/Applicator: 0 (None)
Labels per Cut: 0
Printing Mode: Thermal Transfer
Serial Port Setting
Baud Rate: 4800
Parity: None
Data Bits: 8
Stop Bits: 1
Miscellaneous
LCD Language: English
Sensing Mode: 0 - Reflective
Keyboard Country Code: US
Pre-Printing: OFF
Code Page: Code Page 850
Top Of Form: ON
Buzzer: ON
At the bottom of the window, there are two buttons: 'Set' and 'Refresh'.

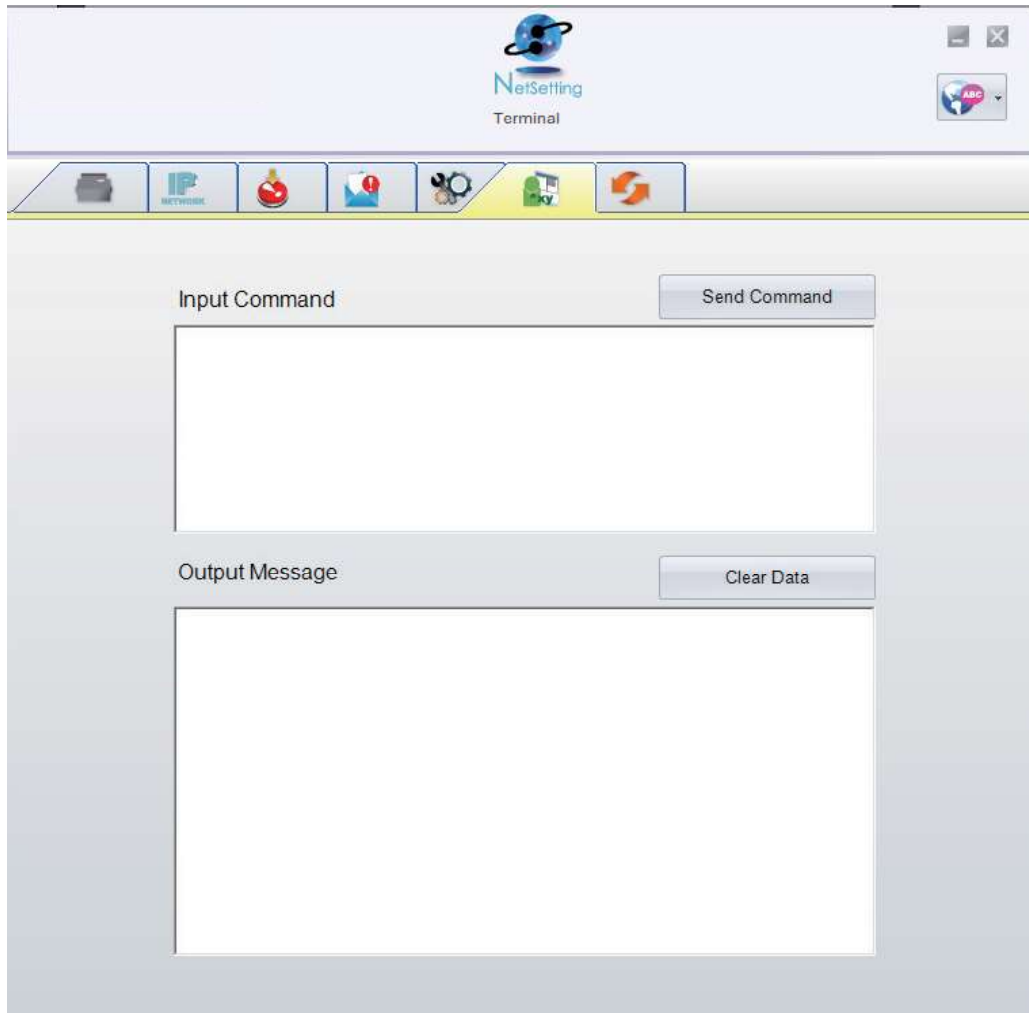
Click the "Set" button to apply the settings and the "Refresh" button to re-query the printer and refresh the values.

4 NetSetting for Ethernet

Terminal

The "Terminal" tab provides a communication interface for operator to control the printer. Enter printer commands into the "Input Command" window and press the "Send Command" button, the commands will be sent to the printer.

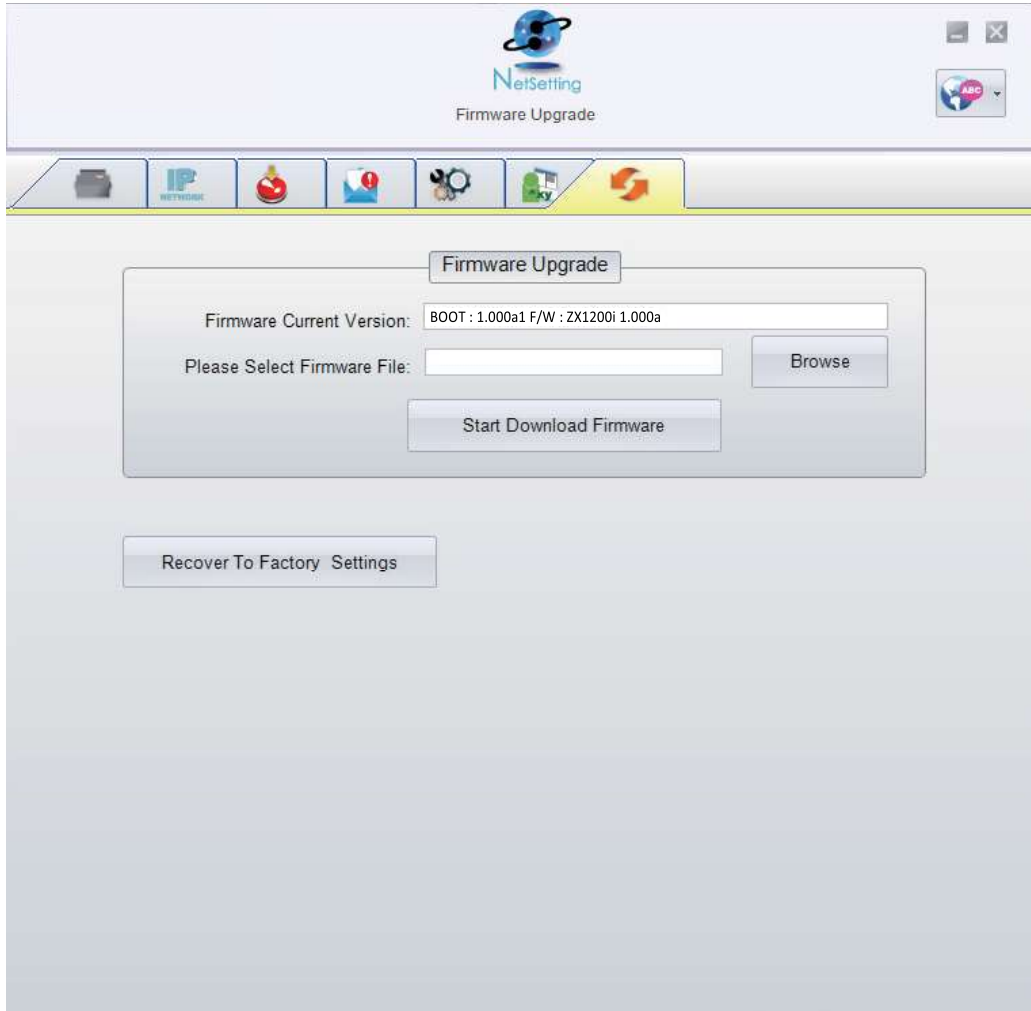
For the commands that return a response message, the message will be displayed in "Output Message" window. Click on the "Clear Data" button to clear these messages.



4 NetSetting for Ethernet

Firmware Upgrade

The current printer firmware version is shown on the "Firmware Upgrade" tab. You may also upgrade the printer firmware from this screen. Simply click the "browse" button and specify the firmware file location. Then click the "Start Download Firmware" button. The printer firmware will be updated remotely.



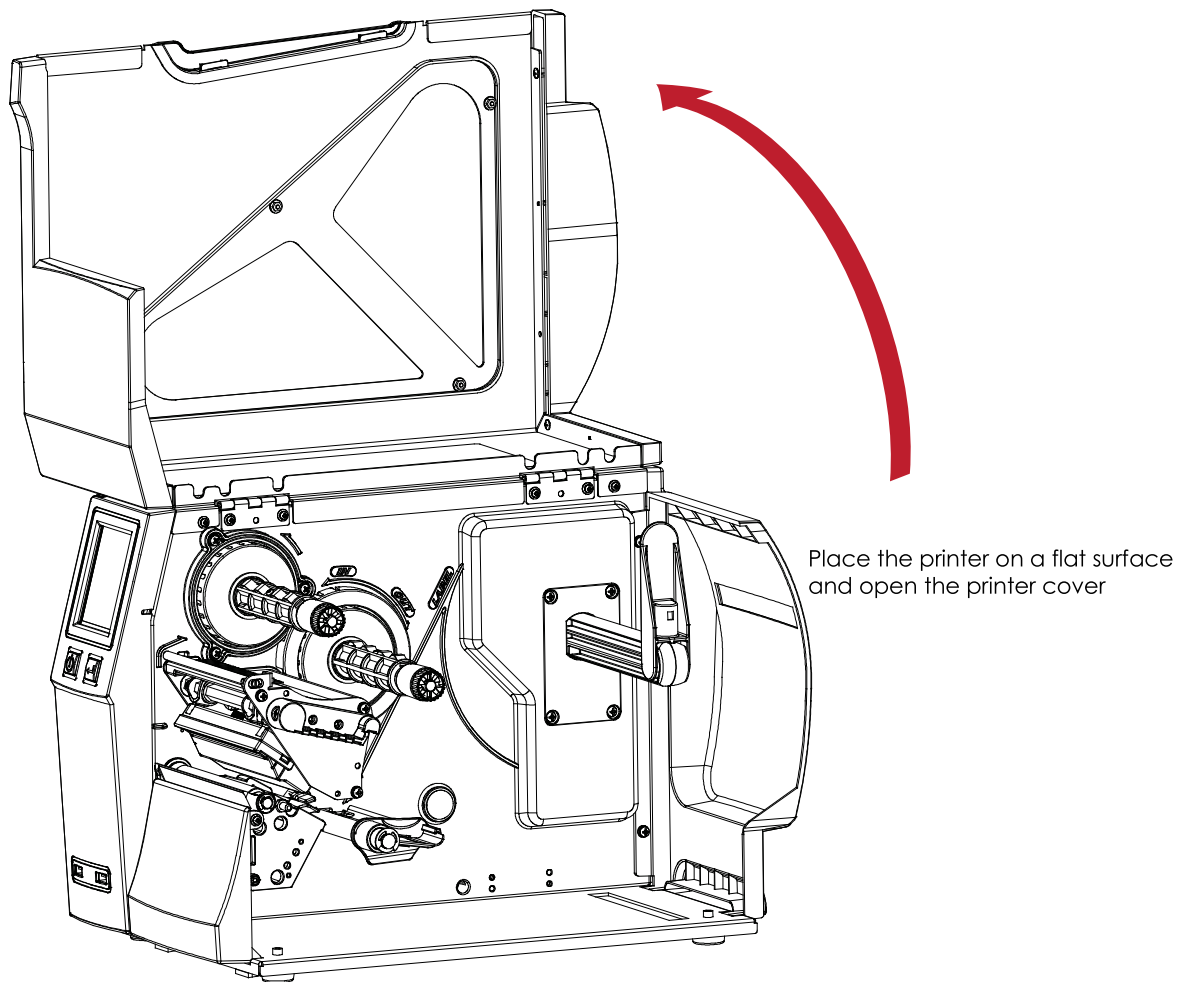
In addition to the firmware update, you can click the "Recover To Factory Settings" button to restore all of the printer configuration settings back to factory default.

5 Accessories

5.1 Preparation

Before installing any of the optional accessory modules:

1. Turn off the printer and unplug the power cord
2. Open the top cover



Notice

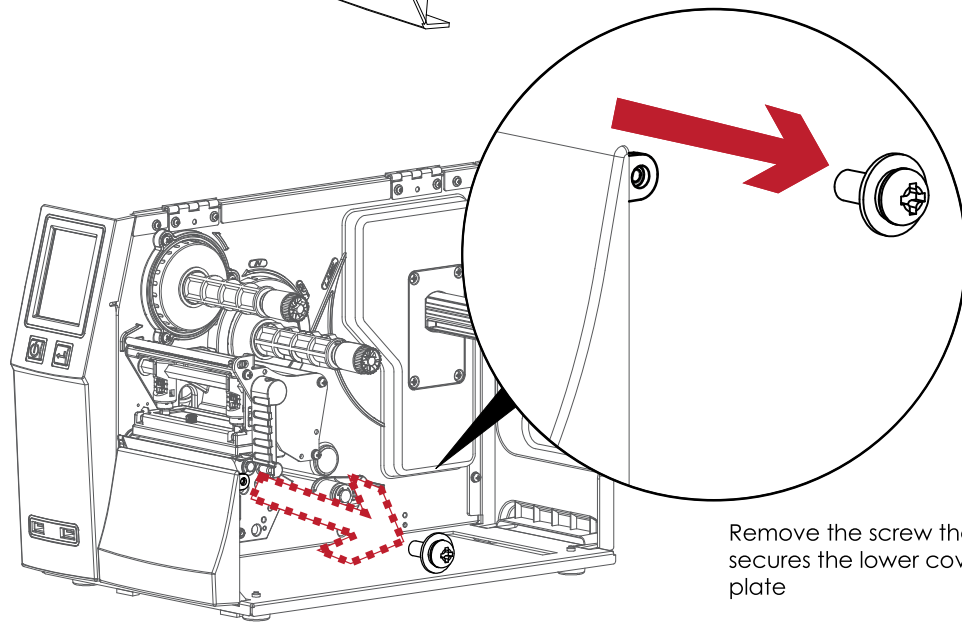
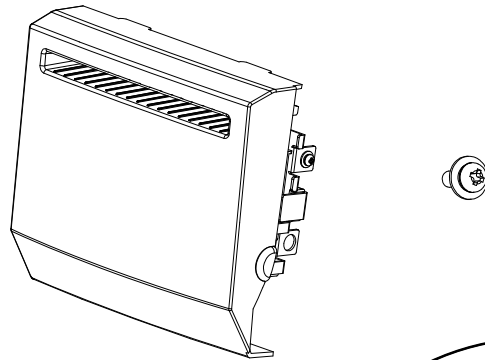
-
- * Remember to switch off the printer before installing the cutter.
 - ** Do not use to cut adhesive labels! Glue residue will be left on the cutter blade and impair proper operation.
 - *** The cutter can perform 300000 cuts of heavy paper up to 250 μm thick or 100000 cuts of plastic sheet up to 300 μm thick.

5 Accessories

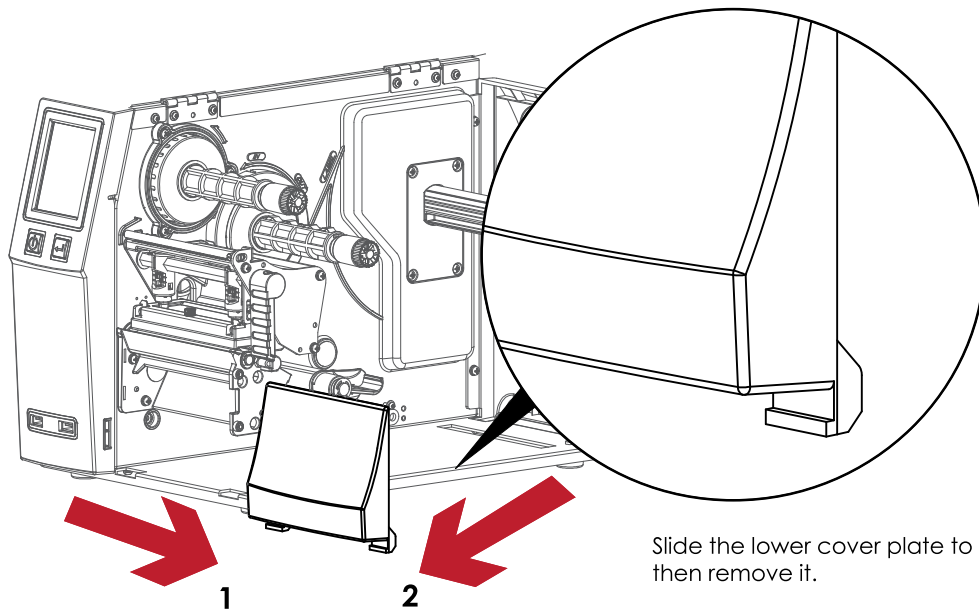
5.2 Installing the Cutter

Cutter Components

- 1. Cutter Module
- 2. Screw



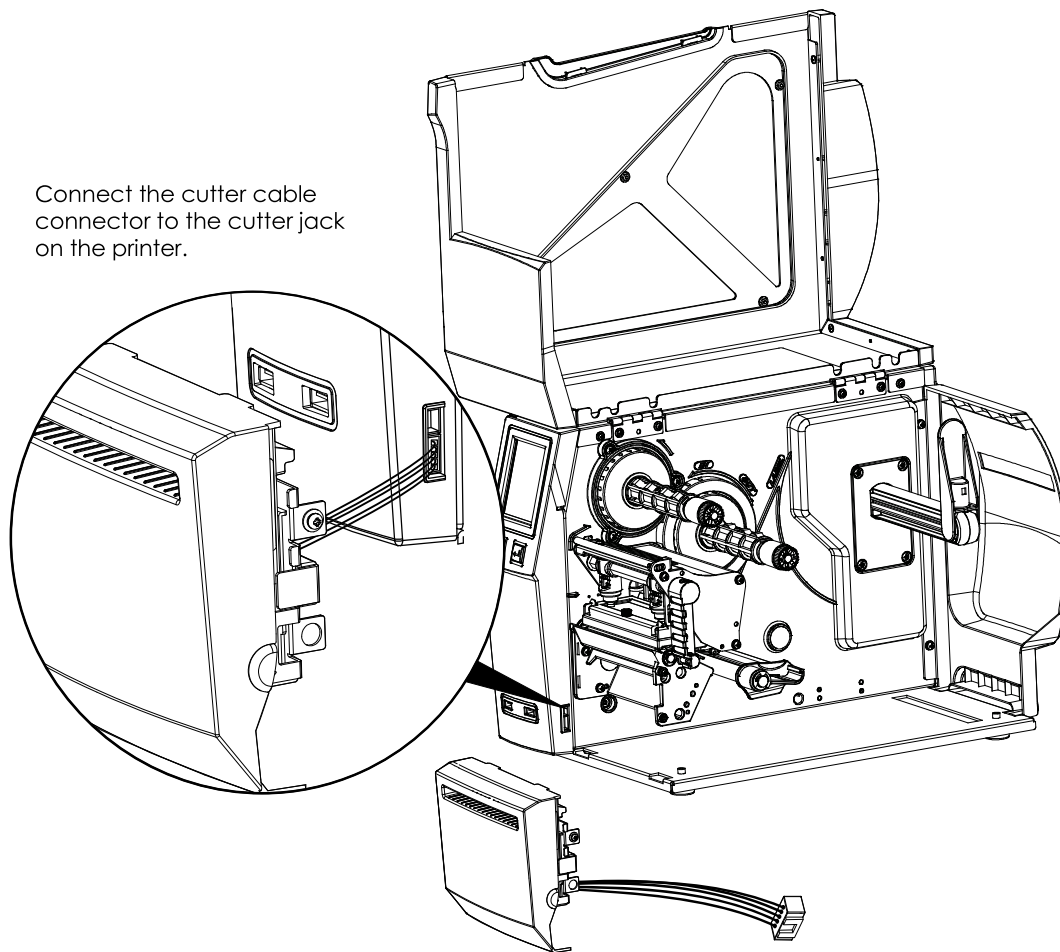
Remove the screw that secures the lower cover plate



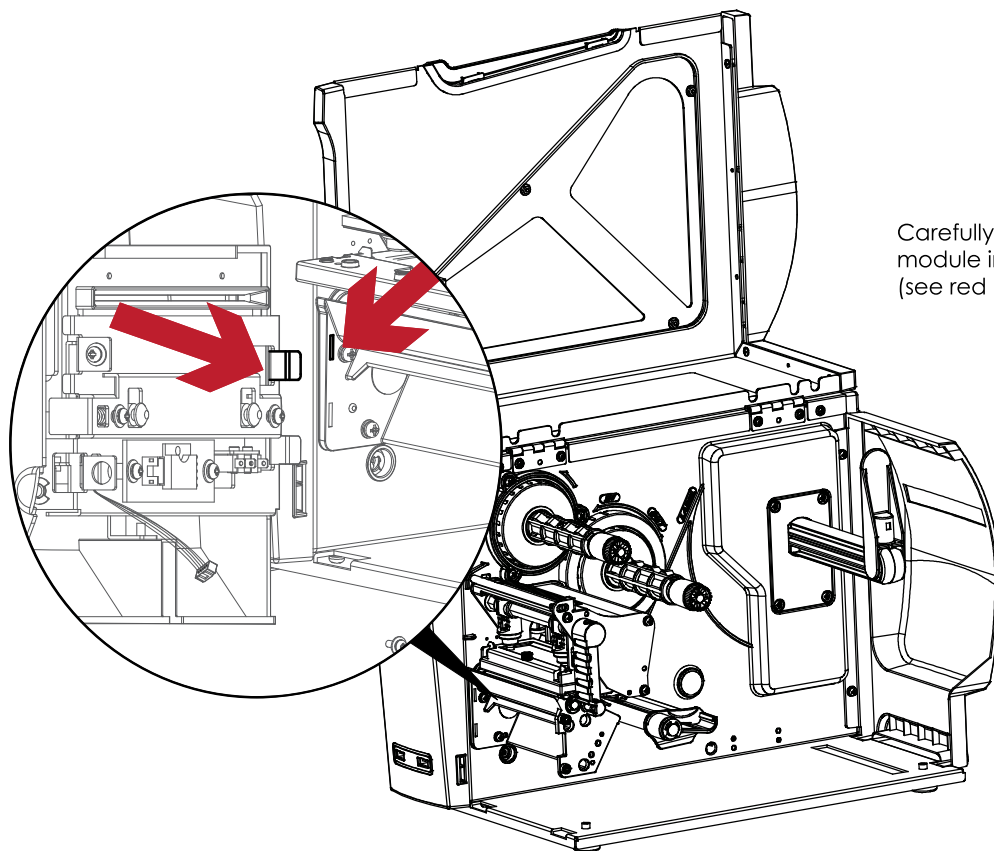
Slide the lower cover plate to the right a little bit and then remove it.

5 Accessories

Connect the cutter cable connector to the cutter jack on the printer.

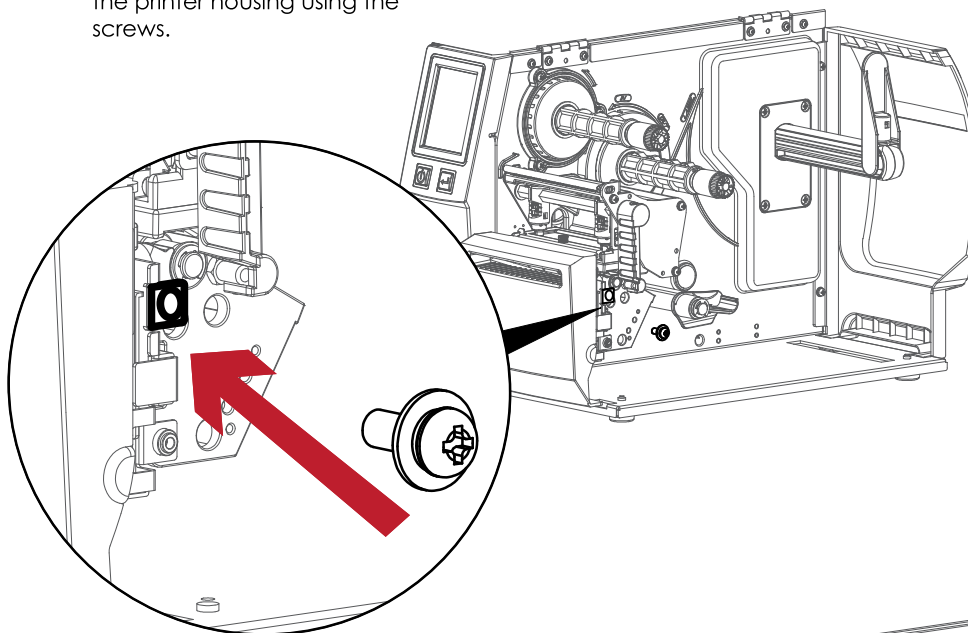


Carefully insert the tabs on the cutter module into the slots on the printer.
(see red arrows)

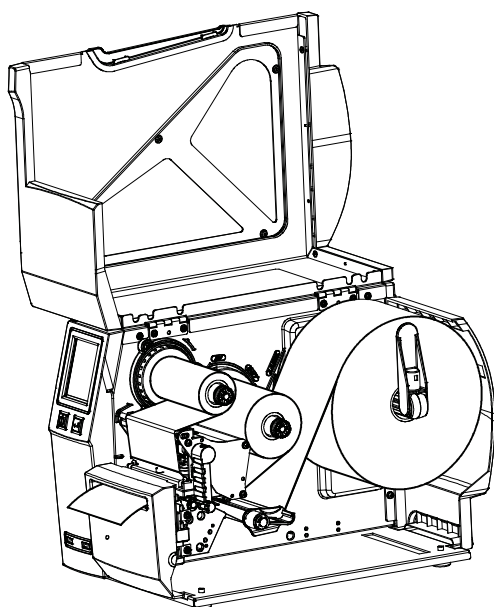


5 Accessories

Secure the cutter module to the printer housing using the screws.



The cutter module is now installed.



Load a label roll into the printer and close the printer cover.

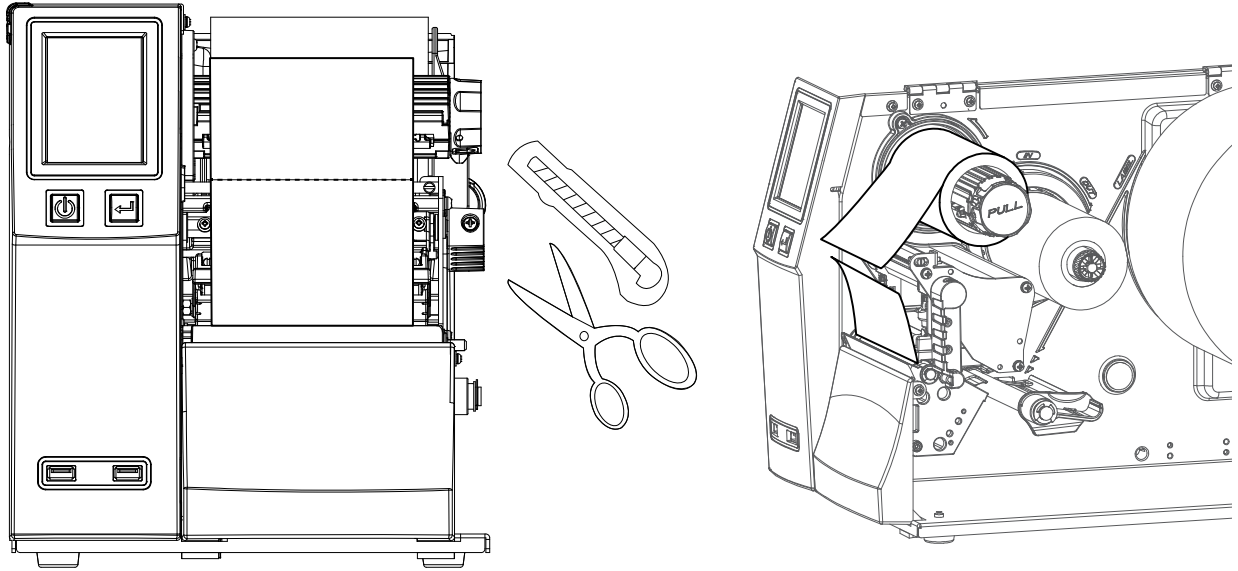
Notice

- * Be sure to enable the cutter function is enabled in the printer.(Main--Devices--Option Setting)
- ** For proper cutter operation, the labels should be at least 30 mm high.
- *** After installation of the cutter module, set the stop position (^E) to 30.

5 Accessories

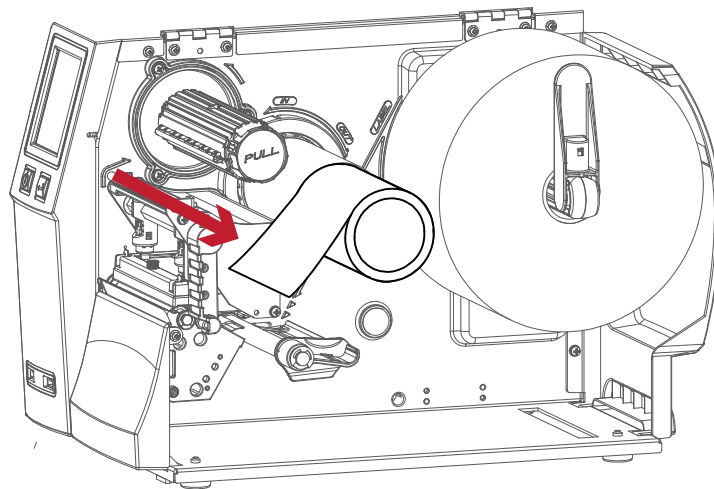
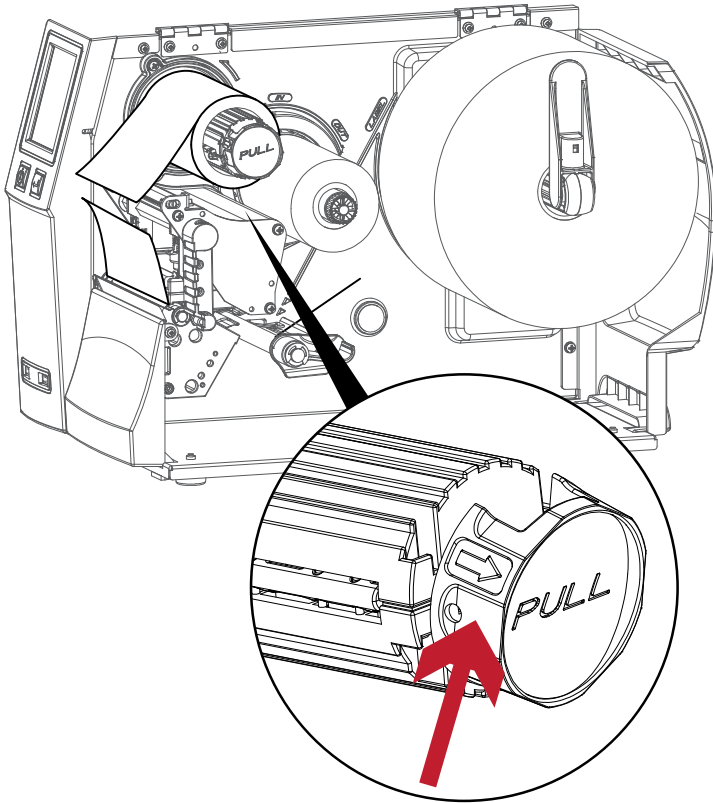
5.3 Ribbon Removal from the Optional Core-free Ribbon Hub

Use a tool to cut off the ribbon.



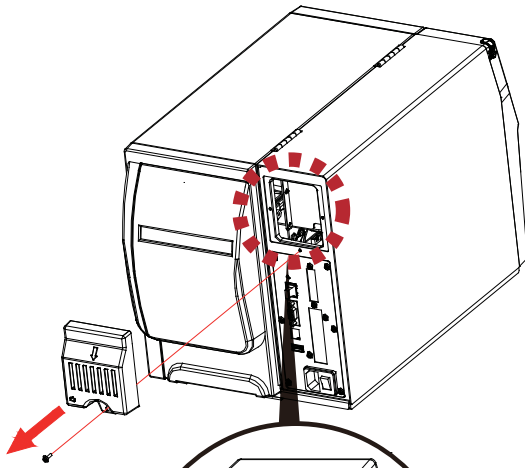
5 Accessories

Pull the knob open, the ribbon should be easy to remove.

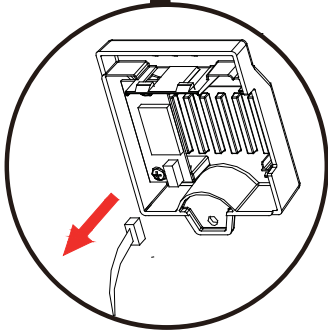


5 Accessories

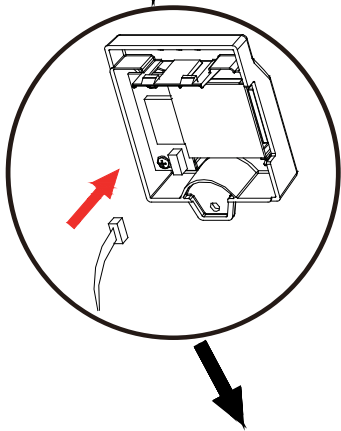
5.4 Installing the WiFi Interface Module



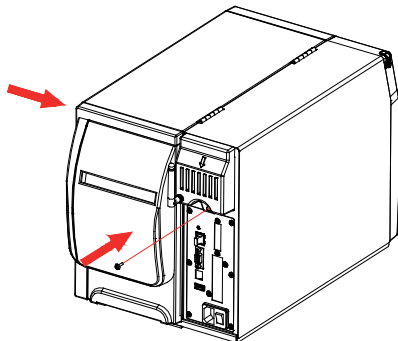
1. Remove the screw
2. Remove the option cover



3. Unplug the connection cable



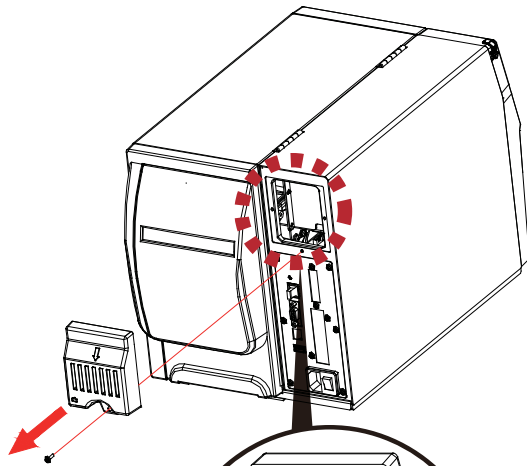
4. Install the Wifi Module
5. Plug in the connection cable



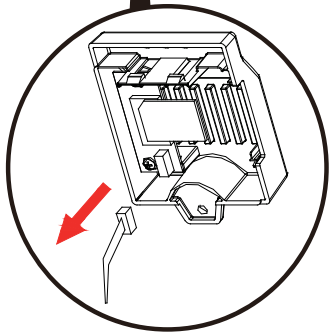
6. Reinstall the option cover and screw

5 Accessories

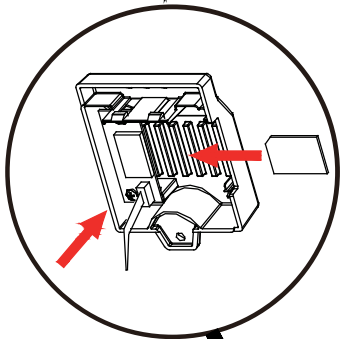
5.5 Installing the Bluetooth Interface Module



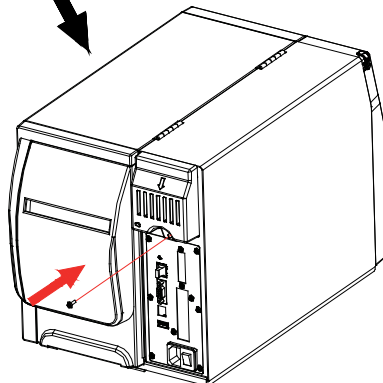
1. Remove the screw
2. Remove the option cover



3. Unplug the connection cable



4. Insert the Bluetooth Module
5. Plug in the connection cable

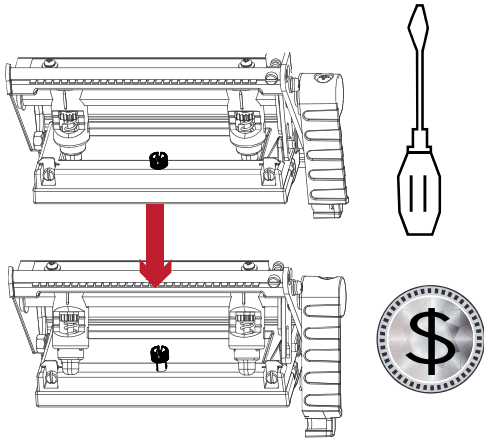
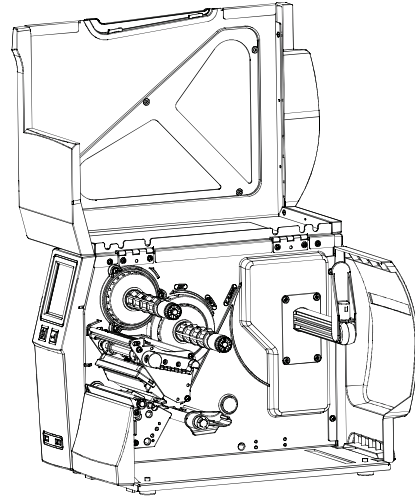


6. Reinstall the option cover and screw

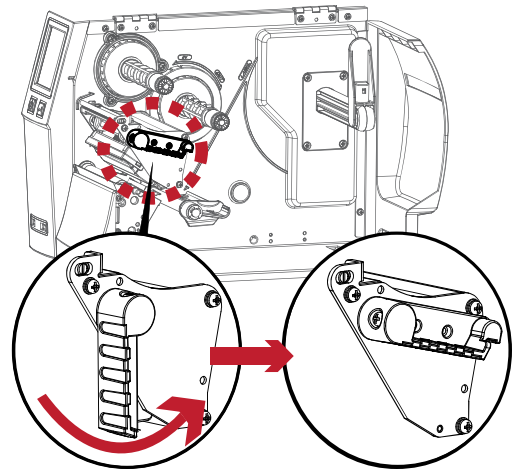
6 Maintenance and Adjustment

6.1 Removing / Installing the print head module

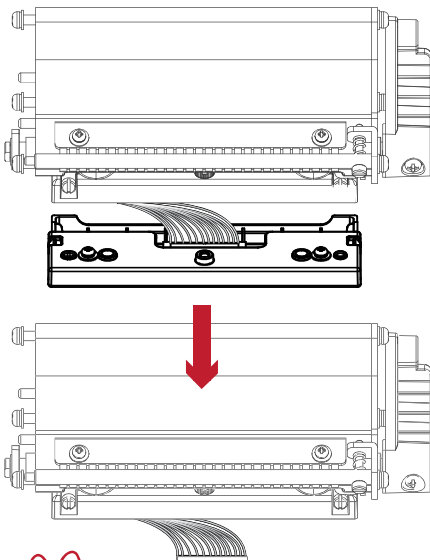
Open the top cover.



Use a screwdriver or a coin to loosen the TPH module screw.

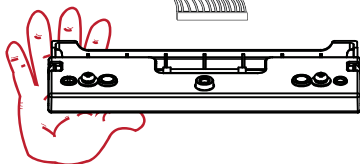


Rotate the print head release lever counterclockwise as shown.



Hold the print head module and gently unplug the TPH cable.

Reverse these steps to install the TPH module



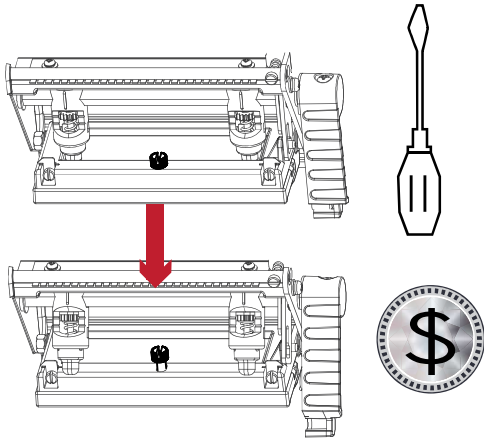
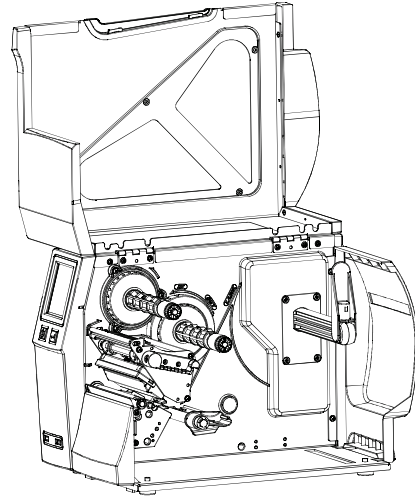
Note

* Remember to switch off the printer before removing the print head module.

6 Maintenance and Adjustment

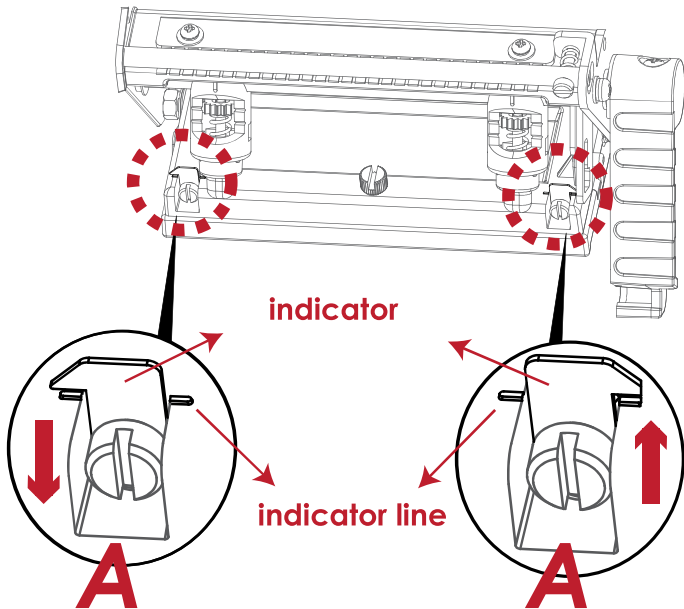
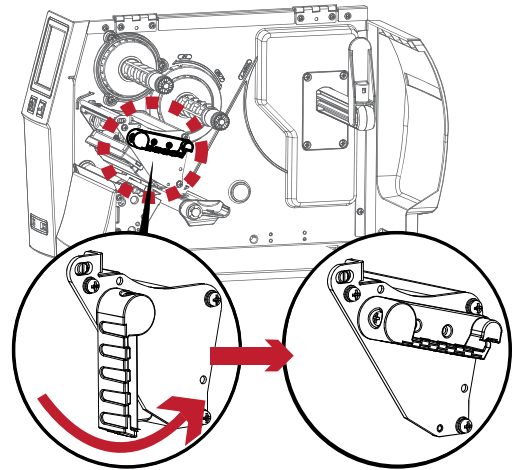
6.2 Adjusting the print line

Open the top cover.



Use a screwdriver or a coin to loosen the TPH module screw.

Rotate the print head release lever counterclockwise as shown.



Turn the adjustment screws(A) clockwise or counterclockwise to align the indicator with the indicator line.

Repeat the adjustment process until print quality has improved.

6 Maintenance and Adjustment

6.3 Adjusting ribbon tension

You can adjust the ribbon tension by turning the ribbon shaft knob (see illustration) clockwise or counterclockwise. There are 4 possible settings marked (1-4) on the ribbon supply hub.

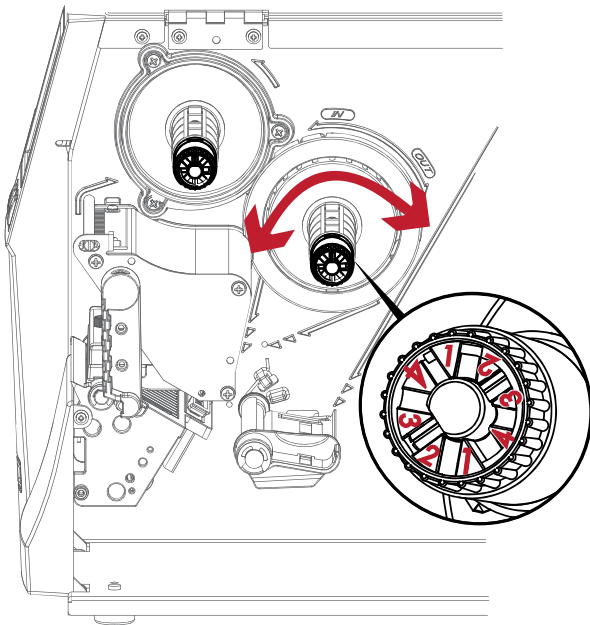
1 : Tension is the highest

4 : Tension is the lowest

To set the tension, press in the knob and turn it clockwise or counterclockwise as required.

Increasing the tension of the ribbon rewind hub may help remove wrinkling of the ribbon during printing. For additional details about the wrinkling/creasing of ribbons, see Section 6-6 Ribbon Shield Settings.

If you are using a very narrow ribbon, the printer may not move the label stock forward (particularly with a ribbon that is less than 2" wide). In that case, reduce the tension by turning the knob of the ribbon supply hub counterclockwise.

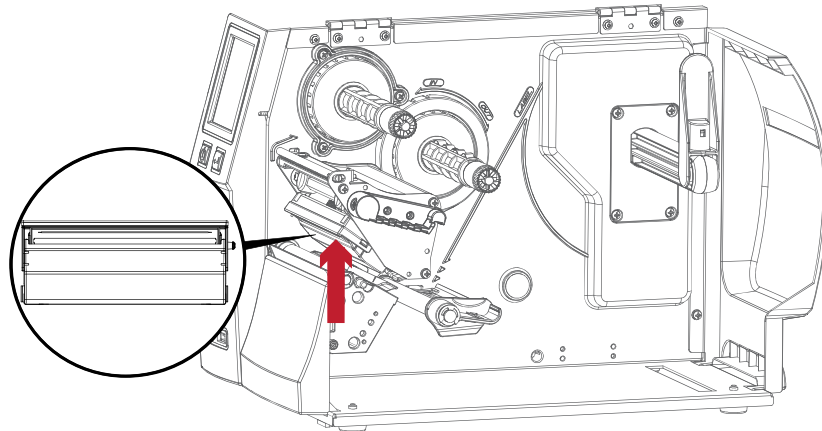


6 Maintenance and Adjustment

6.4 Cleaning the thermal print head

Printing labels will cause dirt such as paper dust, particles of ink and label adhesive to accumulate on the thermal print head. This can cause poor print quality and incomplete print outs. When this happens, the print head must be cleaned:

1. Turn off the printer.
2. Open the top cover.
3. Remove the ribbon.
4. Release the print head by turning the print head release lever counterclockwise.
5. Clean the print head surface (see Red arrow) with a special cleaning pen or a cotton swab soaked in Isopropyl Alcohol.
6. Allow the print head to dry for 2-3 minutes before turning the printer back on.



Note

* The print head should be cleaned once a week or when the print media is changed.

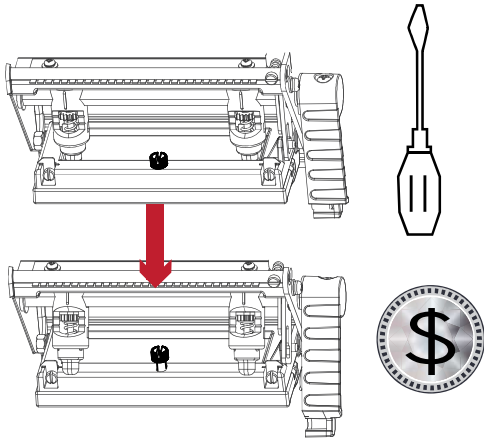
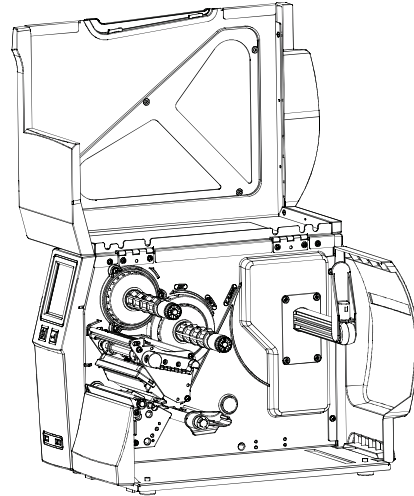
**To help keep the print head clean, the top cover should be closed when printing.

***To ensure print quality and prolong print head life, do NOT use dusty or dirty print media in the printer.

6 Maintenance and Adjustment

6.5 Print head balance and tension adjustment

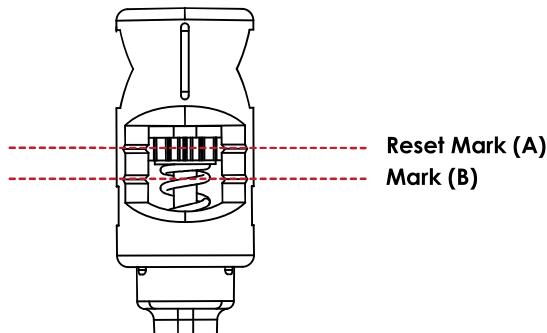
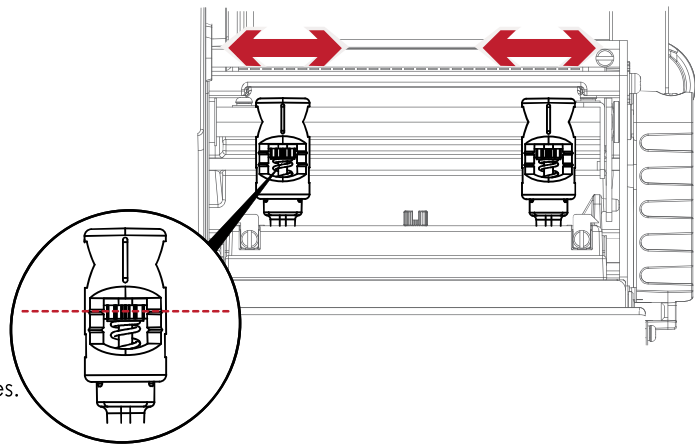
Open the top cover.



Use a screwdriver or a coin to loosen the TPH module screw.

When using a variety of label stock and ribbons, the ink may not be evenly distributed. If there is no printed image on one side of the paper then the print head pressure must be readjusted using the TPH spring boxes.

Move the TPH spring boxes as shown in the illustration to change the location of the print head pressure. The wider the label you are using, the further apart the TPH spring boxes must be moved away from each other. If there is no quality improvement, you need to change the pressure on the TPH spring boxes.



Turning the screw to the left increases the pressure, while turning it to the right reduces the pressure. Be sure not to turn the screw so that it goes below Mark(B).

6 Maintenance and Adjustment

6.6 Ribbon shield adjustment

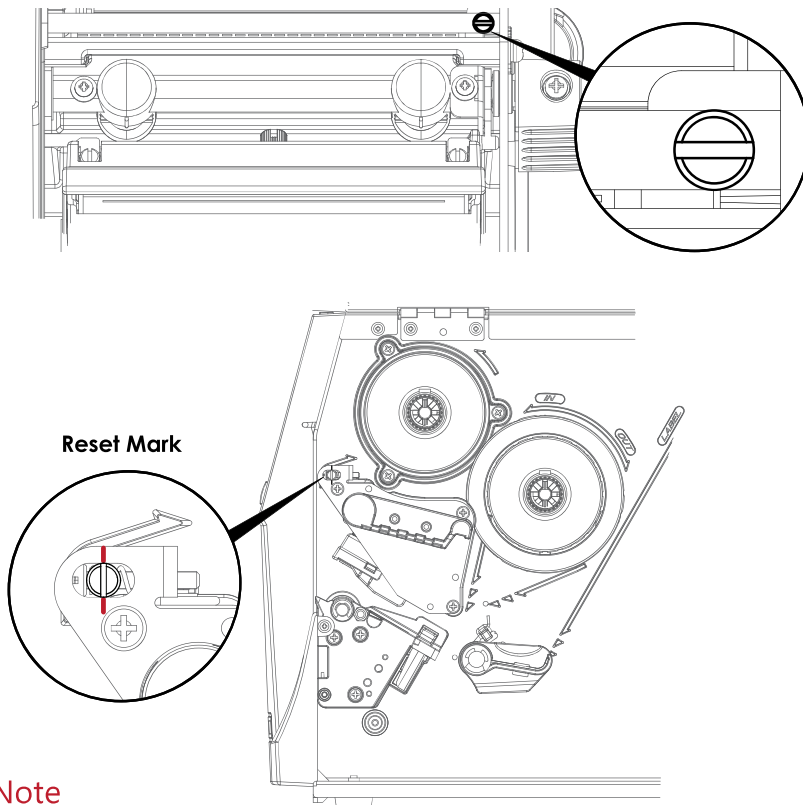
If ribbon wrinkle occurs during printing, adjust the ribbon shield.

If ribbon wrinkle occurs as shown in figure (a), you need to turn ribbon shield screw clockwise.

If ribbon wrinkle occurs as shown in figure (b), you need to turn ribbon shield screw counterclockwise.



To keep track of the change in print quality, you should adjust the screw by a half turn at a time. Print a test page. If there is no improvement in the print result, turn the screw by another half turn. Do not turn the adjustment screw more than two full turns.

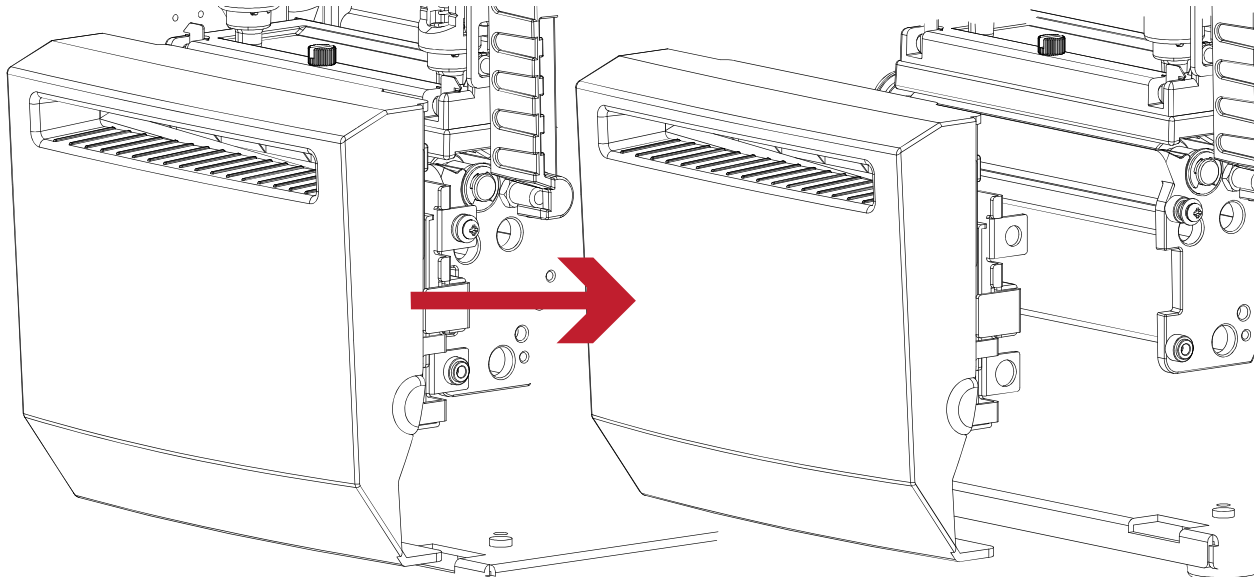


Note

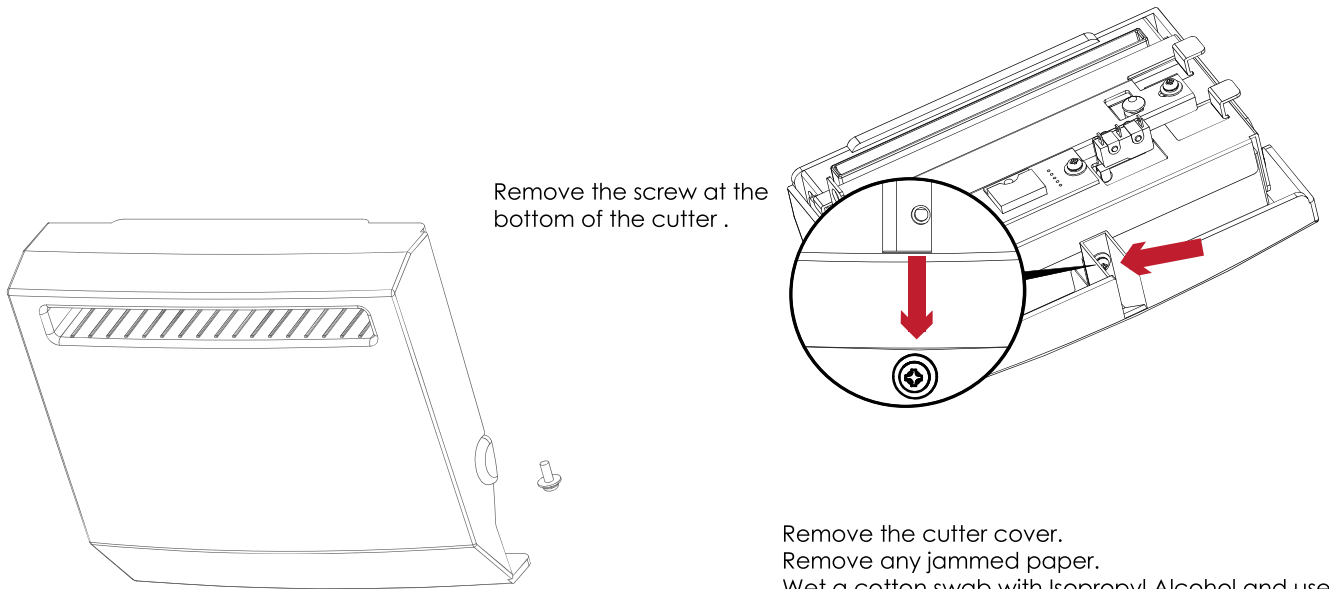
* If you adjust the screw by more than two full turns, the paper may no longer feed correctly. In that case, tighten/loosen the ribbon shield screw to align the reset mark and restart the adjustment process.

6 Maintenance and Adjustment

6.7 Cleaning the cutter

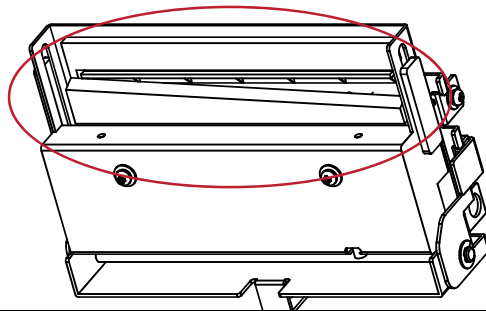


Switch off the printer before removing the cutter.
(To remove or install the cutter refer to "accessories" in Section 5)



Remove the screw at the bottom of the cutter .

Remove the cutter cover.
Remove any jammed paper.
Wet a cotton swab with Isopropyl Alcohol and use it to remove any build ups of adhesive.
Reinstall the cutter on the printer



Note

* Remember to turn off the printer before removing the cutter

**The labels should be at least 30 mm long to ensure correct functioning of the cutter.

6.8 Troubleshooting

Problem	Solution
The printer is switched on but the LED does not light up.	<ul style="list-style-type: none"> ◆ Check the power supply.
The LED lights up red and printing has stopped	<ul style="list-style-type: none"> ◆ Check for software setting or program command errors. ◆ Look for the error in Section 3.3 Error Alerts ◆ Check if the print head mechanism is closed correctly.
The label stock passes through the printer but no image is printed.	<ul style="list-style-type: none"> ◆ Check that the ribbon is installed with the inked side facing the label media. ◆ Select the correct printer driver. ◆ Select the correct label stock and print mode.
The label stock jams during printing.	<ul style="list-style-type: none"> ◆ Clear the paper jam. ◆ Check that the print head is clean.
There is no printed image on some parts of the label.	<ul style="list-style-type: none"> ◆ Check if there is any label or ribbon stuck on the thermal print head. ◆ Check for errors in the application software. ◆ Check if the starting position has been set correctly ◆ Check the ribbon for wrinkles.
There is no printed image on part of the label or the image is blurred.	<ul style="list-style-type: none"> ◆ Check the thermal print head for dust or other dirt. ◆ Use the internal "~T" command to perform a Test Print and check if the print head can print across the entire width. ◆ Check the quality of the print media.
The printed image is positioned incorrectly.	<ul style="list-style-type: none"> ◆ Check if there is paper or dust covering the label sensor. ◆ Check if the label stock is suitable for use. Contact your reseller. ◆ Check the paper guide.
Skipping labels during printing.	<ul style="list-style-type: none"> ◆ Check the label height setting. ◆ Check if there is dust covering the label sensor. ◆ Perform a label Calibration
The printed image is blurred.	<ul style="list-style-type: none"> ◆ Check the print darkness setting. ◆ Check if the print head is dirty.
The cutter does not cut off the labels in a straight line.	<ul style="list-style-type: none"> ◆ Check if the label stock is installed correctly.
The cutter does not cut off the labels completely.	<ul style="list-style-type: none"> ◆ Check if the label thickness exceeds 0.2 mm.
When using the cutter, the labels are not fed through or are cut off incorrectly.	<ul style="list-style-type: none"> ◆ Check if the cutter has been correctly installed. ◆ Check if the paper guides are sticky.
The label dispenser is not functioning normally.	<ul style="list-style-type: none"> ◆ Check if there is dust on the label dispenser sensor. ◆ Check if the label stock is installed properly.

Note

* If any problems occur that are not described above, please contact your reseller.

APPENDIX

PRODUCT SPECIFICATIONS

Model Name	T-4210	T-4307	T-4604
Print Method	Thermal Transfer / Direct Thermal		
Resolution	203 dpi (8 dots/mm)	300 dpi (12 dots/mm)	600 dpi (24 dots/mm)
Print Speed	Up to 10 IPS (254 mm/s)	Up to 7 IPS (177 mm/s)	Up to 3 IPS (76.2 mm/s)
Print Width	4.25" (108mm)	4.16" (105.7mm)	4.16" (105.6mm)
Print Length	Min. 0.16" (4 mm)** – Max. 180" (4572 mm)	Min. 0.16" (4 mm)** – Max. 85" (2159 mm)	Min. 0.16" (4 mm)** – Max. 26" (660 mm)
Processor	32-bit MPU		
Memory	Flash	128 MB Flash (60 MB for user storage)	
	SDRAM	32 MB	
Sensor Type	Adjustable reflective sensor and transmissive sensor, left aligned		
Media	Type	Continuous form, gap labels, black mark sensing, and punched hole; label length set by auto sensing or programming	
	Width	Tear : Min. 1" (25.4 mm) – Max. 4.64" (118 mm) Cutter : Max. 4.61" (117 mm) Dispenser / Rewind : Max. 4.64" (118 mm)	
	Thickness	Min. 0.003" (0.06 mm) – Max. 0.01" (0.25 mm)	
	Label roll diameter	Max. 8" (203.2 mm)	
	Core diameter	Min. 1.5" (38.1 mm) – Max. 3" (76.2 mm)	
Ribbon	Types	Wax, wax/resin, resin	
	Length	Max. 1476' (450 m)	
	Width	Min. 1.18" (30 mm) – Max. 4.33" (110 mm)	
	Ribbon roll diameter	3" (76.2 mm)	
	Core diameter	1" (25.4 mm)	
Software	Printer Language	TPL	
	Label design software	EASYLABEL Start	
Resident Fonts	Driver	Windows and CUPS (Linux and Mac)	
	Bitmap Fonts	6, 8, 10, 12, 14, 18, 24, 30, 16X26 and OCR A&B Bitmap fonts 90°, 180°, 270° rotatable, single characters 90°, 180°, 270° rotatable Bitmap fonts 8 times expandable in horizontal and vertical directions	
	Scalable Fonts	90°, 180°, 270° rotatable	
Download Fonts	Bitmap Fonts	Bitmap fonts 90°, 180°, 270° rotatable, single characters 90°, 180°, 270° rotatable	
	Asian Fonts	Asian fonts 90°, 180°, 270° rotatable and 8 times expandable in horizontal and vertical directions	
Barcodes	Scalable Fonts	Scalable fonts 90°, 180°, 270° rotatable	
	1-D Bar Codes	Code 39, Code 93, EAN 8 / 13 (add on 2 & 5), UPC A / E (add on 2 & 5), I 2 of 5 & I 2 of 5 with Shipping Bearer Bars, Codabar, Code 128 (Subset A, B, C), EAN 128, RPS 128, UCC 128, UCC / EAN-128 K-Mart, Random Weight, Post NET, ITF 14, China Postal Code, HIBC, MSI, Plessey, Telepen, FIM, GS1 DataBar	
	2-D Bar Codes	PDF417, Micro PDF417, Datamatrix code, Maxicode, QR code, Micro QR code and Aztec code	
Code Pages	Codepage 437, 850, 851, 852, 855, 857, 860, 861, 862, 863, 865, 866, 869, 737 Windows 1250, 1251, 1252, 1253, 1254, 1255, 1257 Unicode (UTF8 · UTF16)		
Graphics	Resident graphic file types are BMP and PCX, other graphic formats are downloadable from the software		
Interfaces	<ul style="list-style-type: none"> • USB 2.0 (B-Type) • Serial port: RS-232 (DB-9) • IEEE 802.3 10/100 Base-Tx Ethernet port (RJ-45) • 3 USB Host (A-Type), 2 ports at the front panel, 1 port at the rear panel 		
	Control Panel	<ul style="list-style-type: none"> • Backlit 3.2" touch screen LCD • 1 Power on/off button with green color LED backlight • 1 Control key : FEED / PAUSE / CANCEL with dual color LED backlight: Ready (Green); Error (Red) • 1 Calibration button at rear panel 	
Real Time Clock	Standard		
Environment	Power	Auto Switching 100-240V AC, 50-60Hz	
	Operation temperature	41°F to 104°F (5°C to 40°C)	
Humidity	Storage temperature	-4°F to 140°F (-20°C to 60°C)	
	Operation	20-85%, non-condensing	
Agency Approvals	Storage	10-90%, non-condensing	
	Agency Approvals	CE (EMC) · FCC Class A · CB · cUL · CCC · GOST-R · KC	
Dimension	Length	18.30" (465 mm)	
	Height	10.35" (263 mm)	
	Width	12" (305 mm)	
Weight	30 lbs (13.6 Kg), excluding consumables		
Options	Cutter Module		
	Parallel Port Adaptor Module		
	Bluetooth Module		
	WiFi Print Server Module (IEEE 802.11b/g/n)		
	Applicator Interface		
	External label roll holder for 10" (250mm) O.D. label rolls		
	External label rewinder		
Label Dispenser and Internal Rewinder (factory installed)			
Core-free Ribbon Rewind Hub (factory installed)			

Notice

Specifications are subject to change without notice. All company and/or product names are trademarks and/or registered trademarks of their respective owners.

APPENDIX

INTERFACE

- Parallel Port (Optional)

- Handshaking : DSTB is sent to the printer, BUSY to the host computer
- Interface cable : Parallel cable compatible with IBM computers
- Pinout : See below

Pin No.	Function	Transmitter
1	/Strobe	Computer / printer
2-9	Data 0-7	Computer
10	/Acknowledge	Printer
11	Busy	Printer
12	/Paper empty	Printer
13	/Select	Printer
14	/Auto-Linefeed	Computer / printer
15	N/C	
16	Signal Gnd	
17	Chassis Gnd	
18	+5V, max 500mA	
19-30	Signal Gnd	Computer
31	/Initialize	Computer / printer
32	/Error	Printer
33	Signal Ground	
34-35	N/C	
36	/Select-in	Computer / printer

- Serial Port

Default settings : Baud rate 9600, no parity, 8 data bits, 1 stop bit, XON/XOFF protocol and RTS/CTS

RS232 Housing(9-pin to 9-pin)		
DB9 Socket		DB9 Plug
-	1 _____ 1	+5V, max 500mA
RXD	2 _____ 2	TXD
TXD	3 _____ 3	RXD
DTR	4 _____ 4	N/C
GND	5 _____ 5	GND
DSR	6 _____ 6	RTS
RTS	7 _____ 7	CTS
CTS	8 _____ 8	RTS
RI	9 _____ 9	N/C
Computer		Printer

Notice

* The total current to the serial port may not exceed 500mA.

APPENDIX

INTERFACE

- USB Port

Computer Connector: Type A

Pin NO.	1	2	3	4
Function	VBUS	D-	D+	GND

Connector Type: Type B

Pin NO.	1	2	3	4
Function	VBUS	D-	D+	GND

- Ethernet Port (RJ-45)

PIN NO.	FUNCTION
1	T+
2	T-
3	R+
4	N/C
5	N/C
6	R-
7	N/C
8	N/C

- Applicator Port (Optional)

PIN NO.	FUNCTION
1	GND
2	+5V,max 500mA
3	START_PNT
4	SLEW_LABEL
5	PAUSE
6	REPRINT
7	+24V,max 1.5A
8	GND
9	RIBBON_LOW
10	SERV_REQ
11	END_PRINT
12	MEDIA_OUT
13	RIBBON_OUT
14	DATA_READY
15	OPT_FAULT