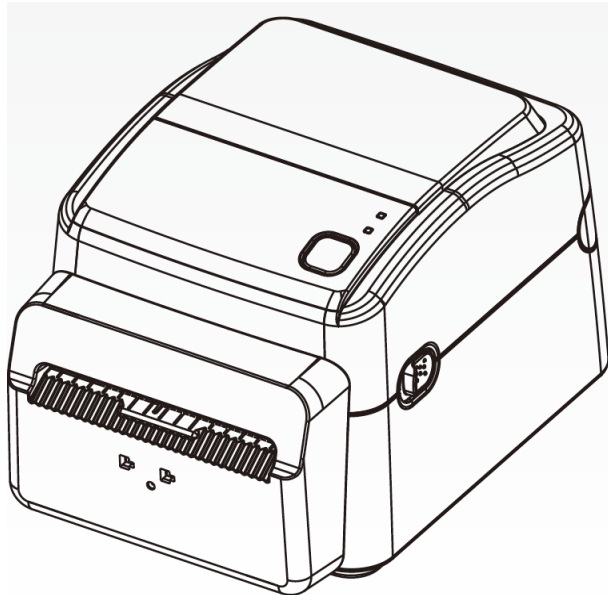




D4-280plus Printer

User Manual



<http://www.argo.com>
service@argo.com

Version: 1.1

FCC ID

In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

FCC Warning

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 in this manual, it 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 his own expense.

FCC Statement for Optional RF module

This device complies with RF radiation exposure limits set forth for an uncontrolled environment.

The antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all people and must not be collocated or operating in conjunction with any other antenna or transmitter.

Bluetooth / Wireless LAN Communication

Compliance Statement

This product has been certified for compliance with the relevant radio interference regulations of your country or region. To make sure continued compliance, do not:

- Disassemble or modify this product.
- Remove the certificate label (serial number seal) affixed to this product.

Use of this product near microwave and/or other Wireless LAN equipment, or where static electricity or radio interference is present, may shorten the communication distance, or even disable communication.

WARNING

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

(for USA only)

Liability Disclaimer

ARGOX Corporation takes steps to assure that the company's published engineering specifications and manuals are correct; however, errors do occur. ARGOX reserves the right to correct any such errors and disclaims any resulting liability. In no event shall ARGOX or anyone else involved in the creation, production, or delivery of the accompanying product (including hardware and software) be liable for any damages whatsoever (including, without limitation, damages for loss of business profits, business interruption, loss of business information, or other pecuniary loss) arising out of the use of or the results of use of or inability to use such product, even if ARGOX has been advised of the possibility of such damages.

Caution

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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1 Introduction

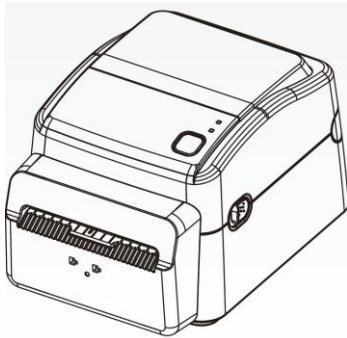
Thank you for purchasing the ARGOX D4-280plus printer. This manual provides information about how to set up and operate your printer, load the media and solve common problems.

1.1 Features

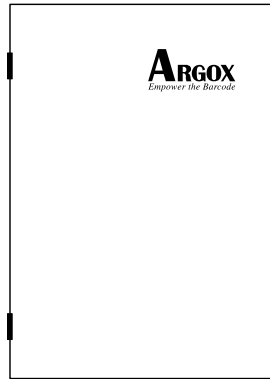
- **Various Connectivity Options** USB, Ethernet, RS-232
- **Easy Operation** One-button design for easy control
- **Fast Print Speed** Max 6 inches/sec
- **Wireless LAN Connection** Build a Wireless LAN printing environment with Bluetooth
- **External Memory** The extra USB port allows you to use a USB flash drive for storage

1.2 Unpacking

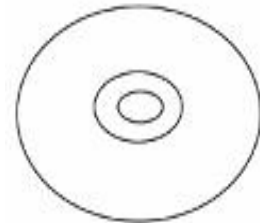
Make sure all of the following items are included in your package.



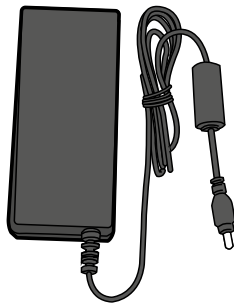
ARGOX D4-280plus
Printer



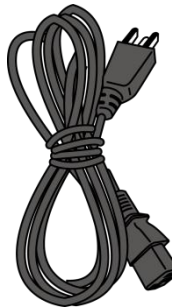
Quick Installation
Guide



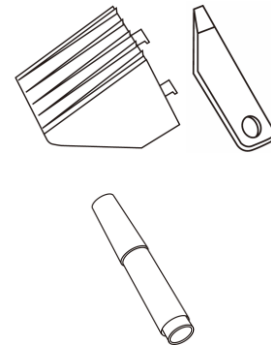
DVD



Power Supply



AC Power Cord



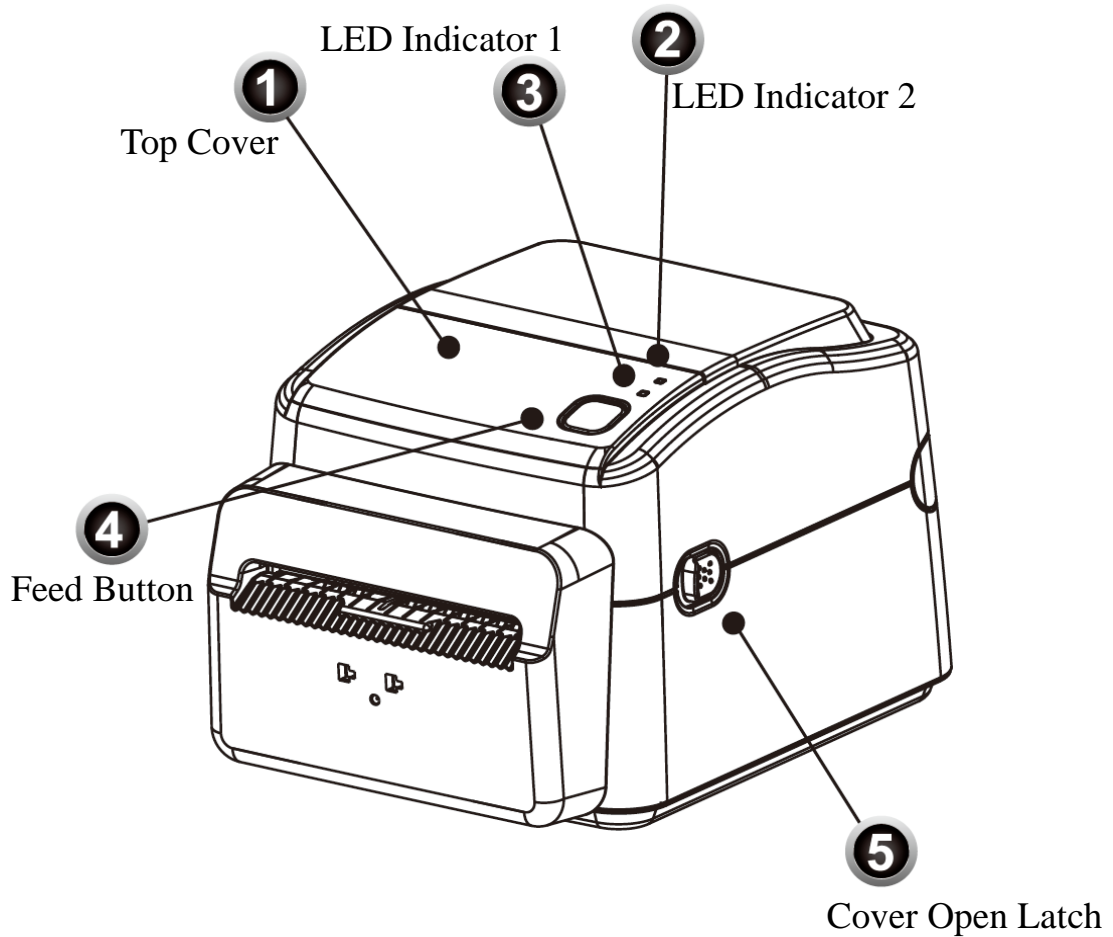
Accessories

When you receive the printer, open the package immediately and inspect for shipping damage. If you discover any damage, contact the shipping company and file a claim. ARGOX is not responsible for any damage incurred during shipping. Save all package materials for the shipping company to inspect.

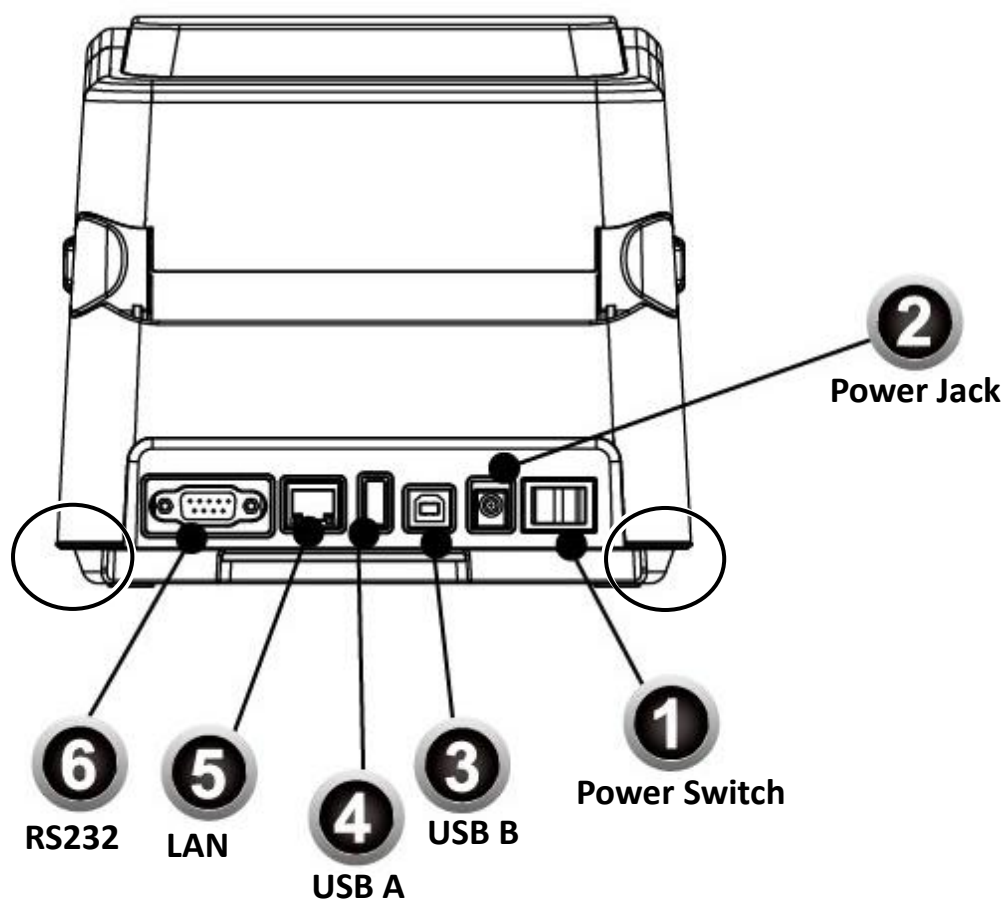
Note If any item is missing, please contact your local dealer.

1.3 Understand your printer

1.3.1 Perspective view



1.3.2 Back view

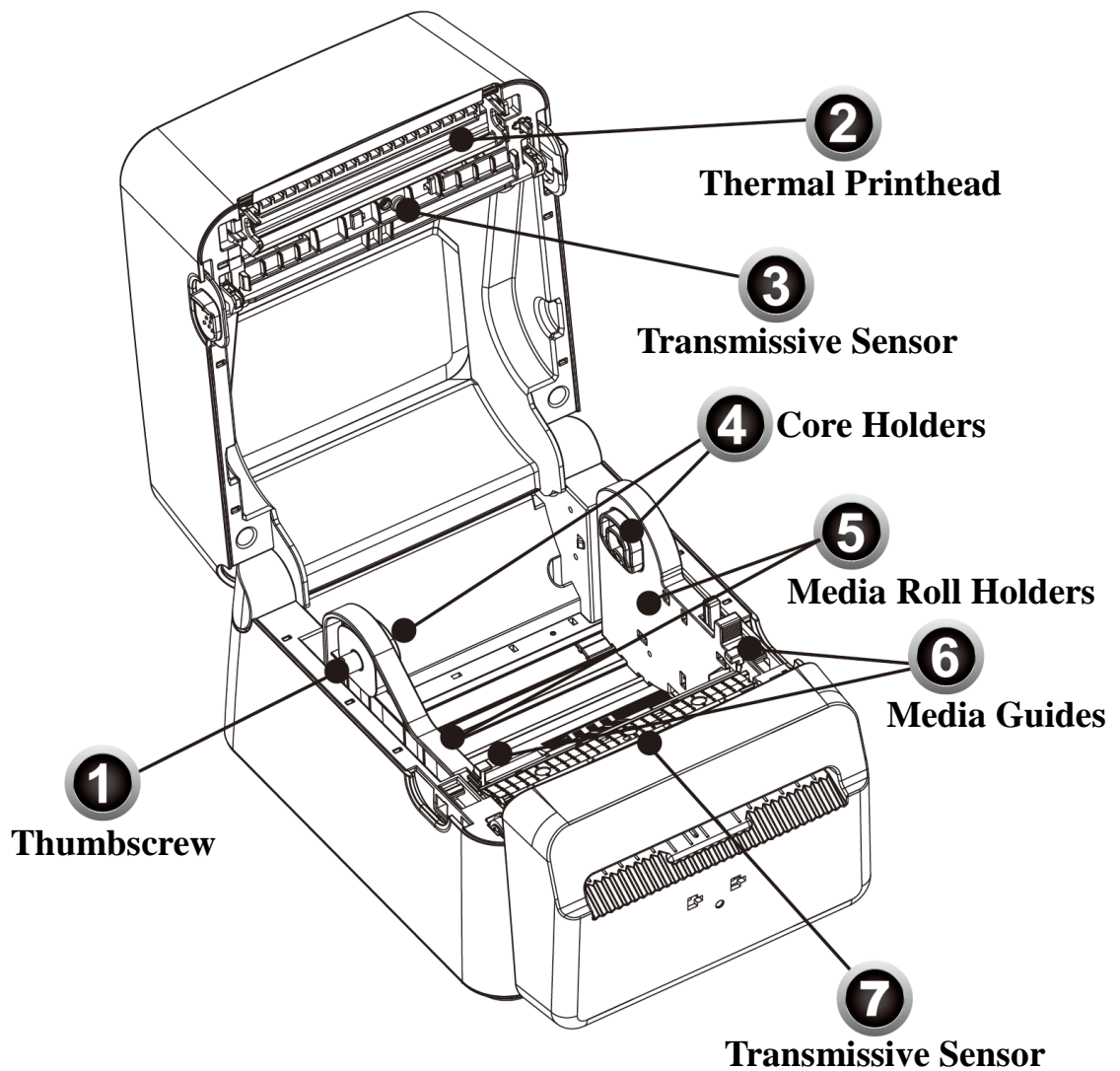


Caution The areas indicated by the ellipse have sharp edges. To avoid injury, be careful not to touch them when handling the printer.



Caution To avoid injury, be careful not to trap your fingers in the Paper Slot while opening or closing the Top Cover.

1.3.3 Interior view





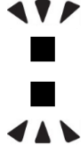
Warning The thermal printhead becomes very hot during printing. Do not touch the thermal printhead or touch around it directly after printing. By doing so you may get burnt.



1.4 Printer lights









There are two LED lights that show the status of your printer.



1.4.1 Status lights

Status lights help you check printer's condition. The following tables show the blinking speed of status lights and the conditions they indicate.

LED image	Blinking Speed	Blinking Interval
	Lightening	Always on
	Slow	0.8 Second
	Fast	0.2 Second

LED image	Blinking Pattern description
	Alternate blinking.
	Blinking at the same time.

Blinking pattern	LED 2	LED 1	Description	
	Green	Green	The printer is ready to print.	
	Green	Green	In pause.	
	Green	Green	The printer is receiving data.	
	Green	Green	TPH high temperature.	
	Green	Green	The printer is writing data to the flash or USB memory. The USB memory is being initialized.	
	Amber	Amber	Paper jam. The media is out when the print data sent to the printer. Paper end.	
	Red	Red	H/W Error	<ul style="list-style-type: none"> The printhead is broken. Communication error (RS-232C). Cutter error (with optional cutter). The RTC battery is low. (If the printer has a built-in RTC)
	Red	Red	Command Error	<ul style="list-style-type: none"> An EEPROM for backup cannot be read or written properly. A command has been fetched from an odd address. Word data has been accessed from a place other than the boundary of the word data. Long word data has been accessed from a place other than the boundary of the long word data. Command error.

Blinking pattern	LED 2	LED 1	Description
	Red	Red	Top Cover Open
			The print module is opened when the printer is turned on. Cover (Thermal Head) open error during printing.
	Red	Red	USB R/W Error
			Flash ROM on the CPU board error or USB memory error.
			An erase error has occurred when formatting the USB memory. Unable to save files due to insufficient USB memory.

1.4.2 System mode

The system mode consists of status light color combinations. It contains a list of commands for you to select and run.

To enter the system mode and run the command, do the following:

1. Turn off the printer.
2. Press and hold the **FEED** button, and turn on the printer.
3. Both status lights glow solid amber for a few seconds. Next, they turn to green shortly, and then turn to other colors.
4. When status lights show the color combination you need, release the **FEED** button immediately.
5. Press the **FEED** button to run the command.

The following table is the command list of the system mode.

LED 2	LED 1	Command
Red	Green	Transmissive Sensor Calibration
Red	Red	Resetting Your Printer
Amber	Red	Reserved
Green	Red	Disable Checking RTC Battery Charge
Red	Amber	Reserved
Green	Amber	Self Test

2 Get started

This chapter describes how to set up your printer.



Caution Do not use your printer in areas exposed to splashing water or any other liquid.

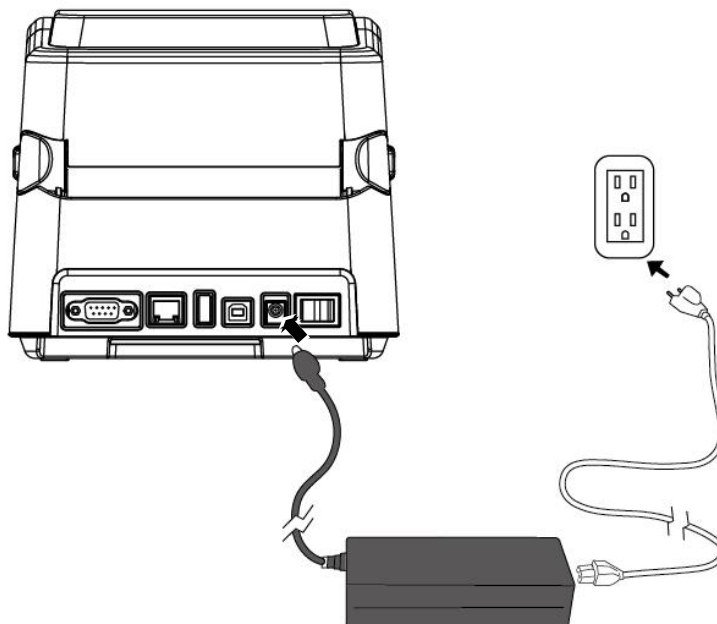


Caution Do not drop your printer, or place it in an area subject to humidity, vibration or shock.

2.1 Attach the power cord

1. Make sure the power switch is set to the **OFF** position.
2. Insert the power supply's connector into the printer power jack.
3. Insert the AC power cord into the power supply.
4. Plug the other end of the AC power cord into the wall socket.

Important Use only power supplies listed in the user instructions.



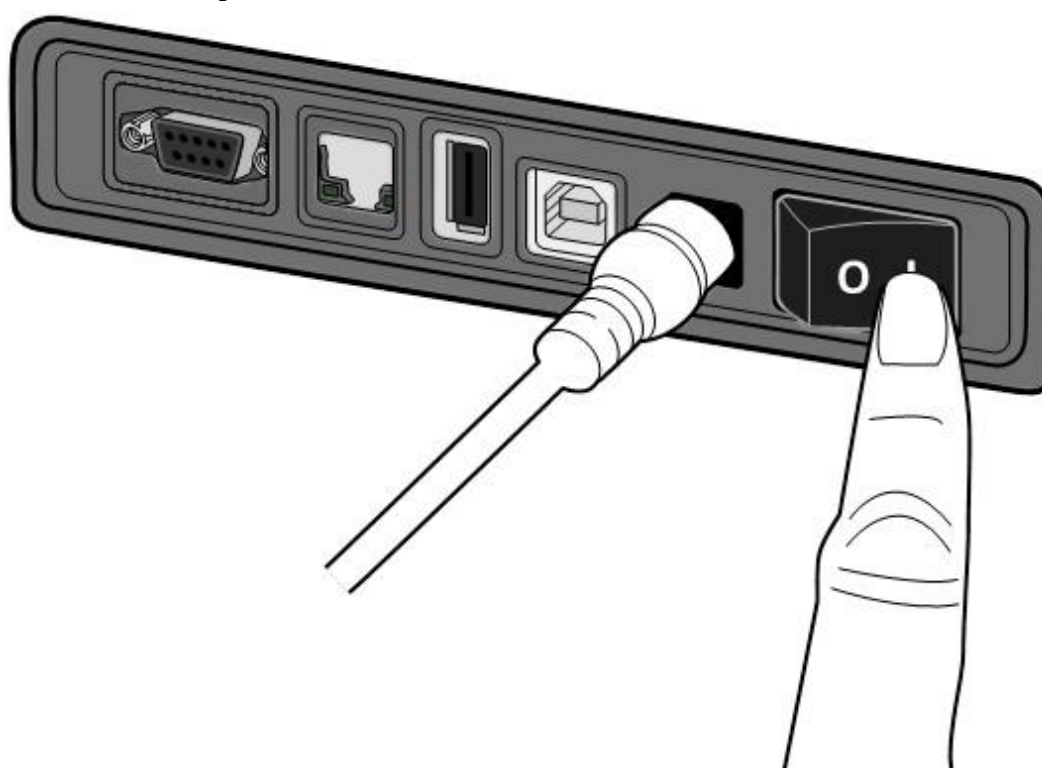
Warning Do not plug the AC power cord with wet hands, or operate the printer and the power supply in an area where they may get wet. Serious injury may result from these actions!

2.2 Turn on/off your printer

When your printer is connected to a host (a computer), it is good to turn on the printer before turning on the host, and turn off the host before turning off the printer.

2.2.1 Turn on your printer

1. To turn on your printer, turn on the **Power Switch** as below. The “I” is the **ON** position.



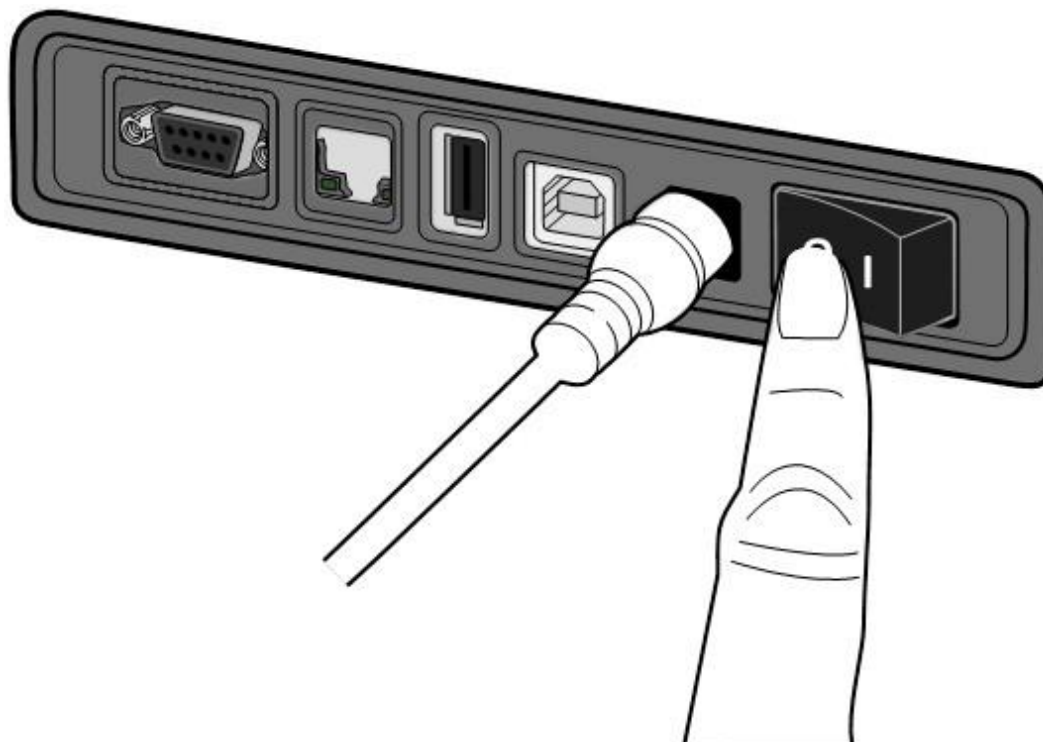
2. Both status lights glow solid amber for a few seconds, and then LED 2 goes out, while LED 1 turns to solid green.



Note If you connect the printer to the internet or insert a USB drive before turning on the printer, it will take longer for the printer to enter the online mode (LED 1 glows solid green) after you turn it on.

2.2.2 Turn off your printer

1. Make sure LED 2 is off and LED 1 is solid green before turning off the printer.
2. To turn off your printer, turn off the **Power Switch** as below. The “O” is the **OFF** position.



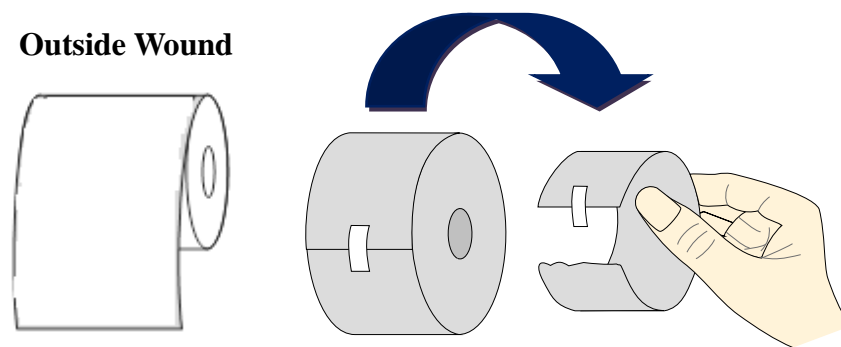
Caution Do not turn off your printer during data transmission.

2.3 Load media

There are various types and sizes for the media roll. Load the applicable media to satisfy your need.

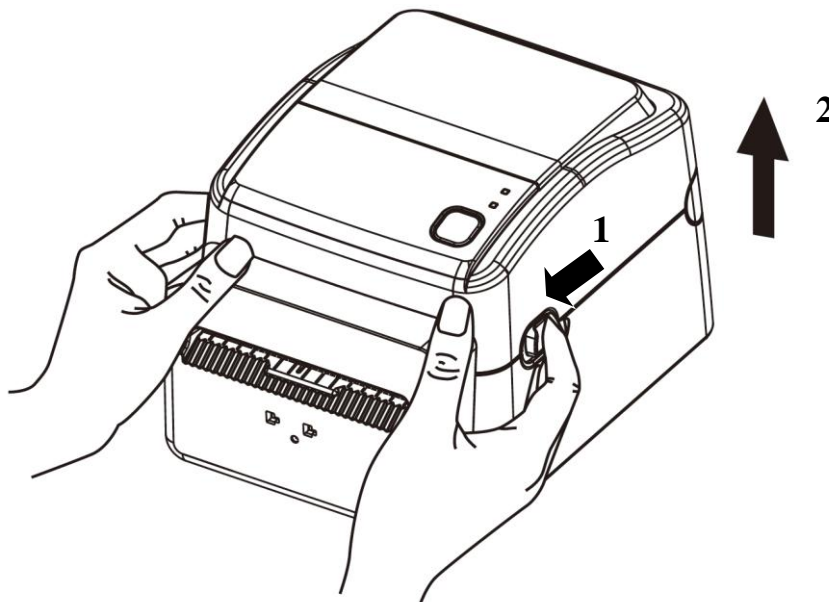
2.3.1 Prepare media

Load the outside wound media roll into the printer. In case the media roll is dirty during shipping, handling or storage, remove the outside length of the media. It helps avoid dragging adhesive and dirty media between the printhead and platen roller.

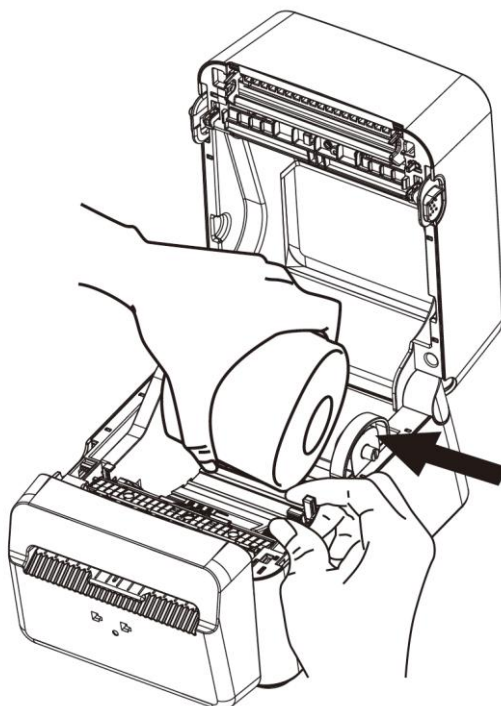


2.3.2 Place a media roll

1. Open the top cover of the printer.

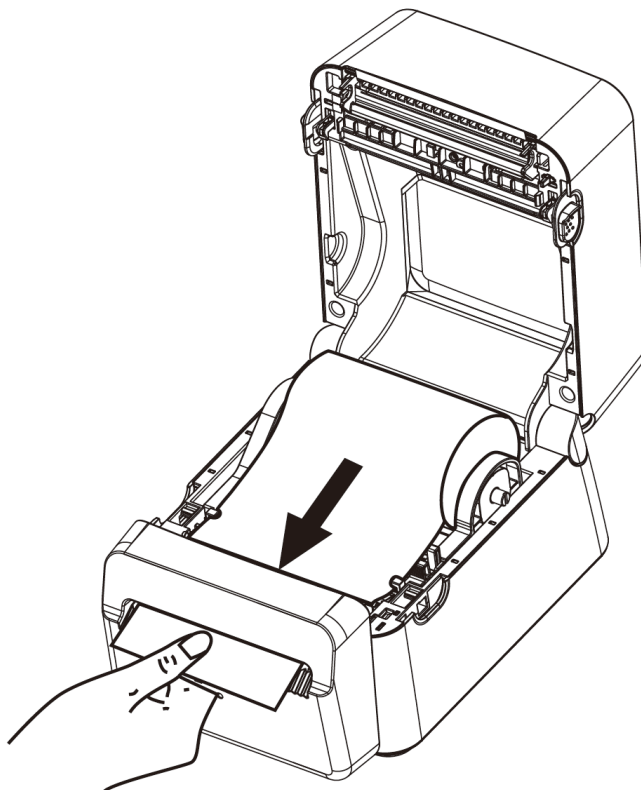


2. Place the 1.5" media roll between the holders. Make sure the print side is up, and the media roll is clamped tightly by the holders.

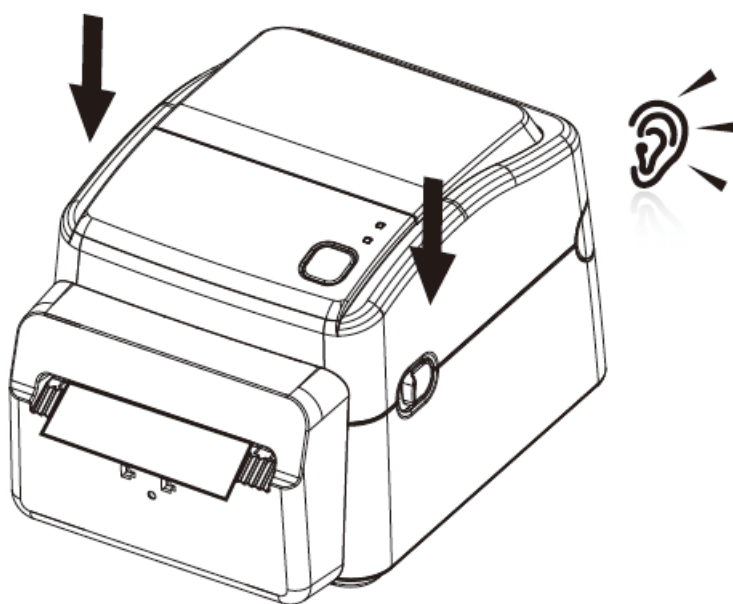


3. Pull the media until it reaches out of the printer. Thread the media under the media guides.

Caution Do not ship or carry the printer while it holds a label roll.

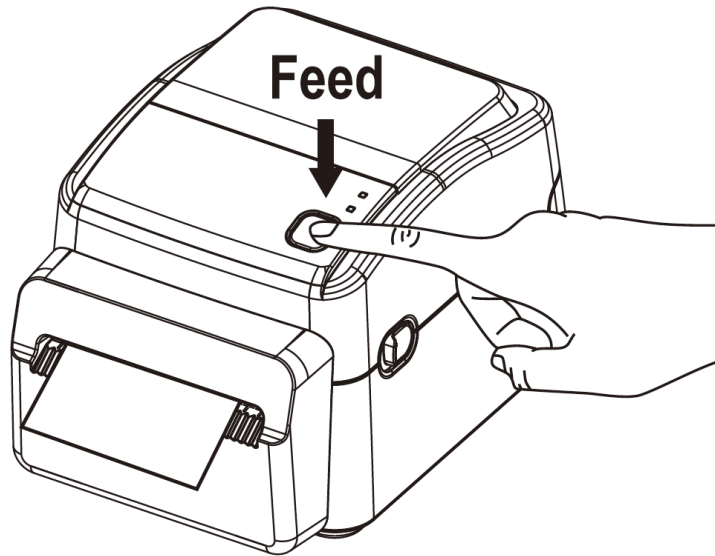


4. Close the top cover.



2.3.3 Test media feed

Turn on the printer, and press the **FEED** button to feed a label.

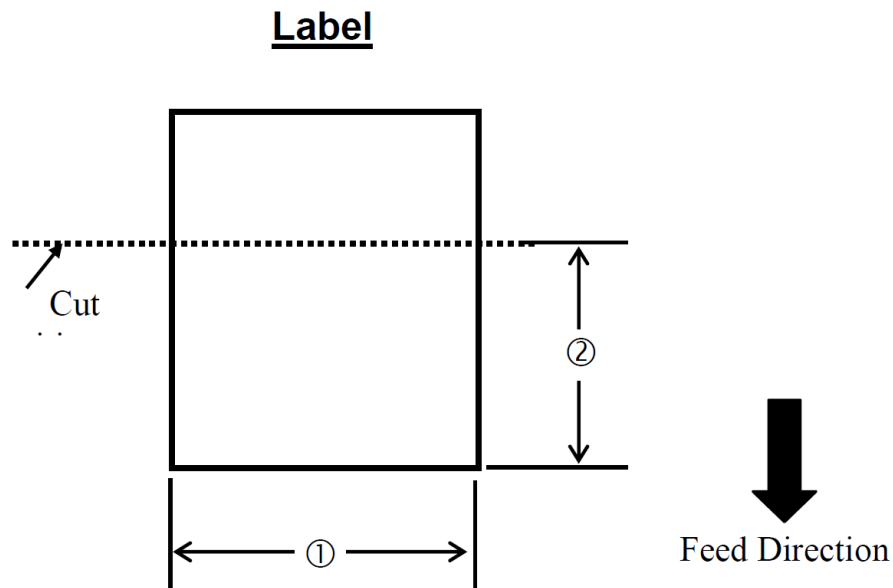


After the label is fed or printed, the printer's cutter automatically cuts the paper. Take out the cut paper before the printer makes the next label paper print. If you do not use the printer for a long period of time, remove the paper roll to avoid paper jam from the sticking feature of the paper.

2.4 Media types / Linerless label

The D4-280plus is a printer exclusively for linerless paper roll. Before loading the media in the printer, please make sure that you use the media in correct size and shape. Refer to the information on the size and shape of the media that can be used on this printer, as shown below.

The table below shows the size and shape of the media that can be used on this printer.



Item	Cut Mode
Label width	25.4mm to 118mm
Cut length	25.4mm to 152.4mm (1.0" to 6")
Thickness	0.06mm to 0.19mm (0.0024" to 0.0075")
Max. outer roll diameter	Ø 127mm (5")
Roll direction	Outside wound
Inner core diameter	38.1mm (1.5"), 40mm also available

NOTES:

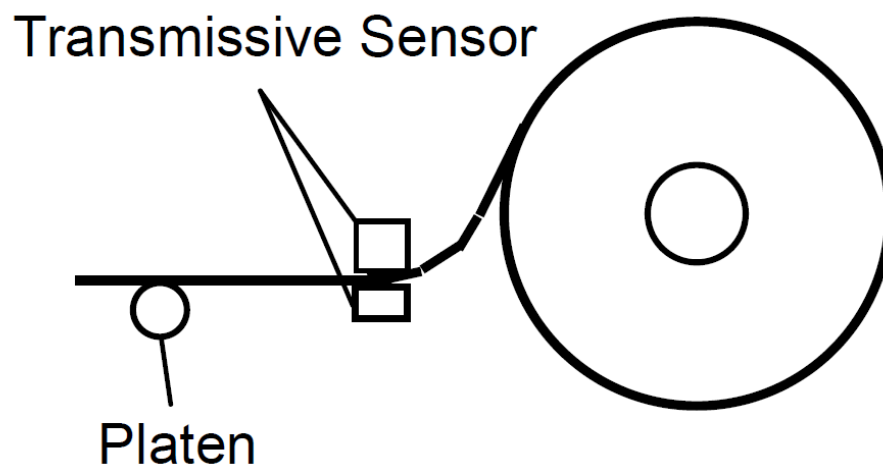
Near the end of the label, label jam may occur because the label around the paper core will curl sharply.

2.5 Media sensing

D4-280plus printers offer transmissive sensor. It is used for detecting specific media type.

2.5.1 Paper-end sensor (transmissive sensor)

The transmissive sensor is fixed and placed near the center of the printhead.



Make sure that the print side faces up. Cut the leading edge of the media straight with scissors.

3 Printer operation

This chapter provides information about printer operation.

3.1 Self test

The printer can run a self test to print a configuration label, which helps you understand current settings of the printer.

1. Turn off the printer.
2. Press and hold the **FEED** button, and turn on the printer.
3. Both status lights glow solid amber for a few seconds. Next, they turn to green shortly, and then turn to other colors. When LED 2 turns to green and LED 1 turns to amber, release the **FEED** button.
4. Press the **FEED** button to print a configuration label.
5. Press the **FEED** button again to make the printer go back to the normal mode. Alternatively, power off the printer and then power it on to make the printer go back to the normal mode.

Your configuration label should look like this:



1. Version Information (*D4-280plus-V01.00 20200622*)

The firmware version and its build date.

2. Standard RAM

Display SDRAM size.

3. Available RAM

RAM is able to be used.

4. Flash Type

The flash memory type and size.

5. Available Flash

Flash is able to be used.

6. No of DL soft fonts (FLASH)

The number of fonts is downloaded in Flash.

7. No of DL soft fonts (RAM)

The number of fonts is downloaded in RAM.

8. No of DL soft fonts (HOST)

The number of fonts is downloaded in USB HOST.

9. H. Position Adjust

Move the print position horizontally.

10. Sensor Type (*SEE-THRU-2 SENSOR*)

Two see-thru sensors

11. Max Label Height

The max label length you can print at a time. For 200 dpi models, it is 100 inches; for 300 dpi models, it is 50 inches.

12. Print Width

Display the print width in dots.

13. Speed

Printing speed unit is inch per second (ips).

14. Darkness

Display the current darkness.

15. Print Method

It is direct thermal printing.

16. Print Length

Display total print length.

17. Cut Count

It counts the times the cutter cuts.

18. RS232 Protocol

It lists RS-232C settings in the following order: baud rate, data length, parity check, stop bit and flow control.

19. Code page

The character set table.

20. Media

The media type in use.

21. Cutter/Peeler Offset

Move the cutting line or the peeling position forward or backward. The value in the angle brackets is the offset unit.

22. IP Address

Display printer current IP address in. The default value is “192.168.1.1”.

23. Subnet Mask

Display printer subnet mask. The default value is “255.255.255.0.”

24. Gateway

Display printer gateway. The default value is “0.0.0.0.”

25. MAC Address

The unique address assigned to the printer that connects to the internet.

26. DHCP

When DHCP is enabled, it assigns a dynamic IP address to the printer automatically.

27. DHCP Client ID

It is an arbitrary value sent to the DHCP server to reserve an IP address for the printer.

28. DHCP Host Name

It is the name of a DHCP client. The host name allows up to 32 alphanumeric characters.

29. SNMP

When it is enabled, the host gets or sets parameters registered as SNMP entities.

30. Socket Communication

When it is enabled, the host communicates with the printer via the socket.

31. Socket Port

Display printer port number.

32. IPv6 Mode

It determines how you get the IPv6 address of your printer. There are three modes: MANUAL, DHCPv6 or AUTO.

33. IPv6 Type

It is the IPv6 address type of your printer. There are four types: NONE, NORMAL, EUI and ANY.

34. IPv6 Address

Display printer current IPv6 address.

35. Link Local

The IPv6 address that used in a network segment. It is allocated automatically.

36. Product SN

Display printer serial number.

37. USB SN

Display printer USB host serial number.

38. CG Enabled

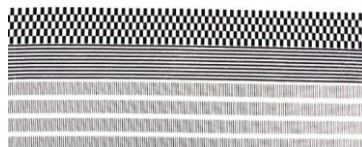
Printer is able to use True Type font.

41-49. Font Image



You can use them as the reference to check your label font.

50-55. TPH Test Pattern



You can use them to check broken pins on the printhead.

3.2 Reset your printer

By resetting your printer, you can return your printer to the state it was in when you receive it. This can help you solve some problems caused by settings changed during the printing.

Do the following to reset your printer:

1. Turn off the printer.
2. Press and hold the **FEED** button, and turn on the printer.
3. Both status lights glow solid amber for a few seconds. Next, they turn to green shortly, and then turn to other colors. When both lights turn to red, release the **FEED** button immediately.
4. Press and hold the **FEED** button for 3 seconds and release it. Both status lights blink red three times, and turn to solid amber for a few seconds. After the printer is reset, LED 2 goes out while LED 1 turns to solid green.



Important In step 4, if you do not hold the **FEED** button long enough, LED 2 will blink amber three times while LED 1 goes out. It means the printer is not reset.

3.3 Communications

3.3.1 Interfaces and Requirements

This printer comes with USB type A and type B interfaces, a nine-pin Electronics Industries Association (EIA) RS-232 serial data interface and an Ethernet module.

■ USB Interface Requirements

The Universal Serial Bus (USB) interface is compatible with your existing PC hardware. The USB's "plug and play" design makes installation easy. Multiple printers can share a single USB port/hub. The different usage of type A and B as below.

USB type A	USB Flash drive, USB keyboard or USB Scanner.
USB type B	PC to set printer.

■ Serial (RS-232) Port

The required cable must have a nine-pin "D" type male connector on one end, which is plugged into serial port located on the back of the printer. The other end of the cable connects to a serial port on the host computer. For technical and pin-out information, please refer to [RS-232C](#) in this manual.

■ Ethernet Module Status Indicators

The indicators with two different colors help users understand status of Ethernet:

LED Status	Description
Both Off	No Ethernet link detected.
Blinking	The printer waits for printer ready. It will take about few seconds to be ready.
Green	Speed LED On: 100 Mbps link Off: 10 Mbps link
Amber	Link/Activity LED On: link up Off: link down Blinking: activity

3.4 Driver installation

The bundled printer driver can be applied to all applications under Windows Vista/ Windows 7/ Windows 8/ Windows 10, supporting 32-bit/ 64-bit operation systems. With this driver you can operate any popular Windows software applications including Argox Bartender UL label editing software or MS Word, etc., to print to this printer.

We strongly recommend that you use the Seagull Driver Wizard instead of the Microsoft Windows Add Printer Wizard when installing and updating your Drivers by Seagull.

(Even though the "Add Printer Wizard" is from Microsoft, it too easily performs a number of tasks incorrectly when updating existing drivers. It also badly handles the situation where a printer driver is already in use by a Windows application.)

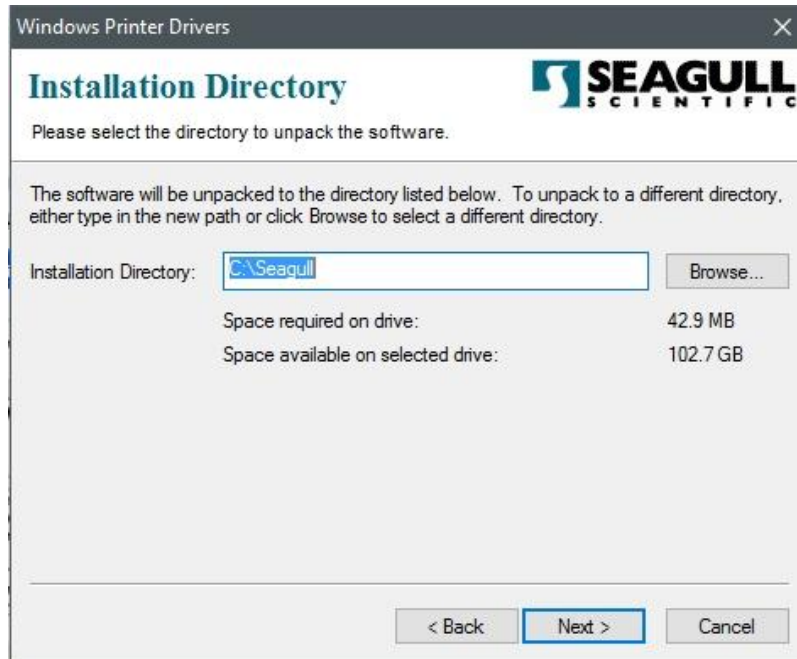
Drivers can be downloaded from Argox website

3.4.1 Installing a Plug and Play printer driver (for USB only)

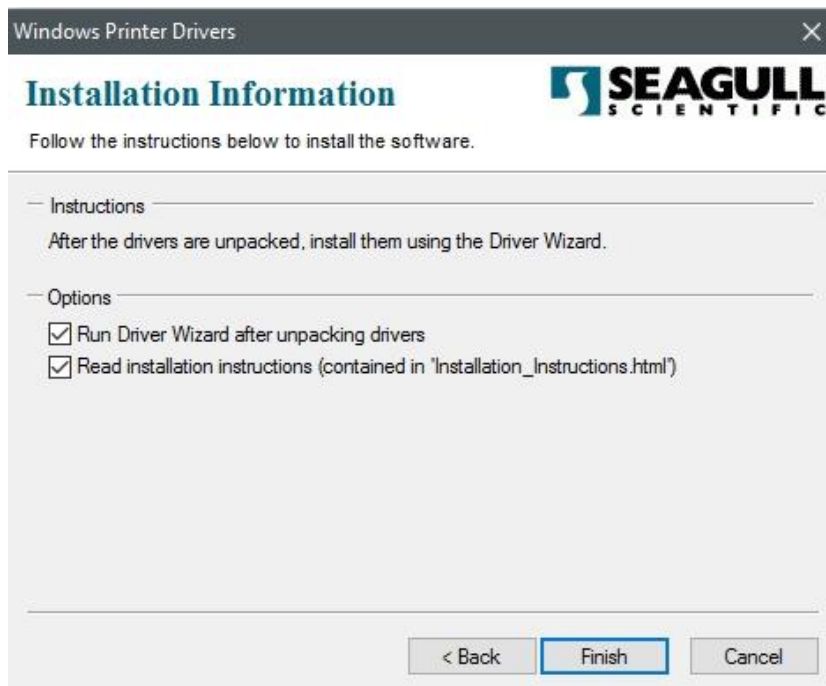
1. Turn off the printer. Plug the power cable into the power socket on the wall, and then connect the other end of the cable to printer's power socket. Connect the USB cable to the USB port on the printer and on the PC.
2. Turn on the printer. If the printer supports Plug-and-Play and you have successfully connected it using a USB cable, then the Windows Add Hardware Wizard will automatically detect the printer and display a dialog that allows you to install a driver. Click Cancel and do not install the driver using this wizard.
3. Run the driver from Argox website. On the prompt, Windows Printer Driver, select "I accept..." and click "Next".



- Assign the directory to keep Seagull driver, (for example: C:\Seagull) and click "Next".



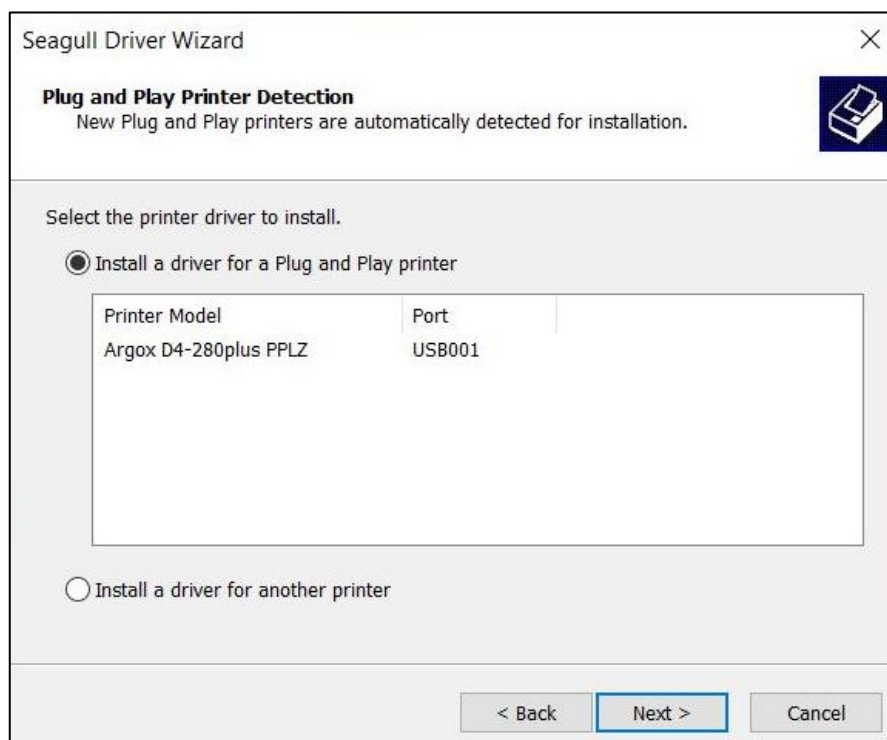
- Click "Finish".



6. Select Install printer drivers and Click "Next"



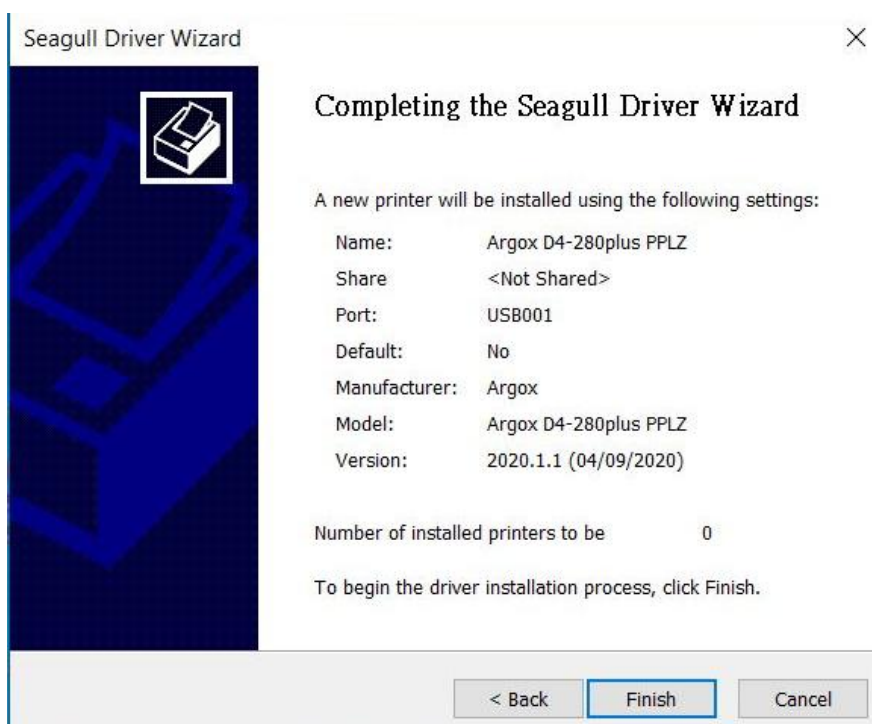
7. On the Seagull Driver Wizard prompt, select the first radio button to “Install a driver for a Plug and Play printer” Then click “Next.”



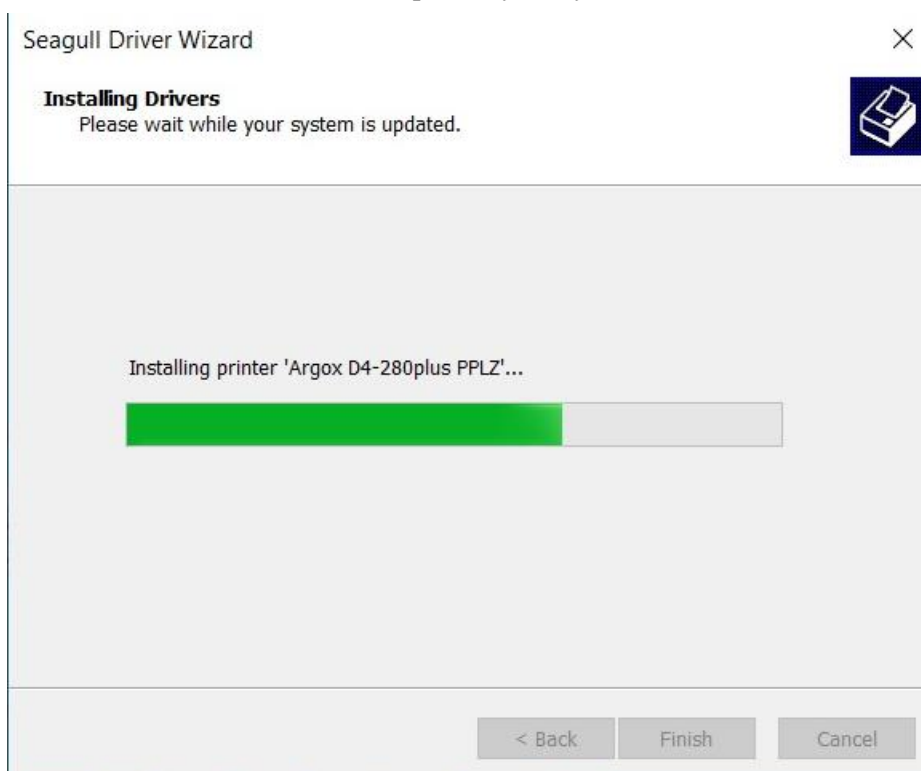
8. Enter Printer name (i.e. Argox D4-280plus PPLZ) and select "do not share this printer", and click "Next"



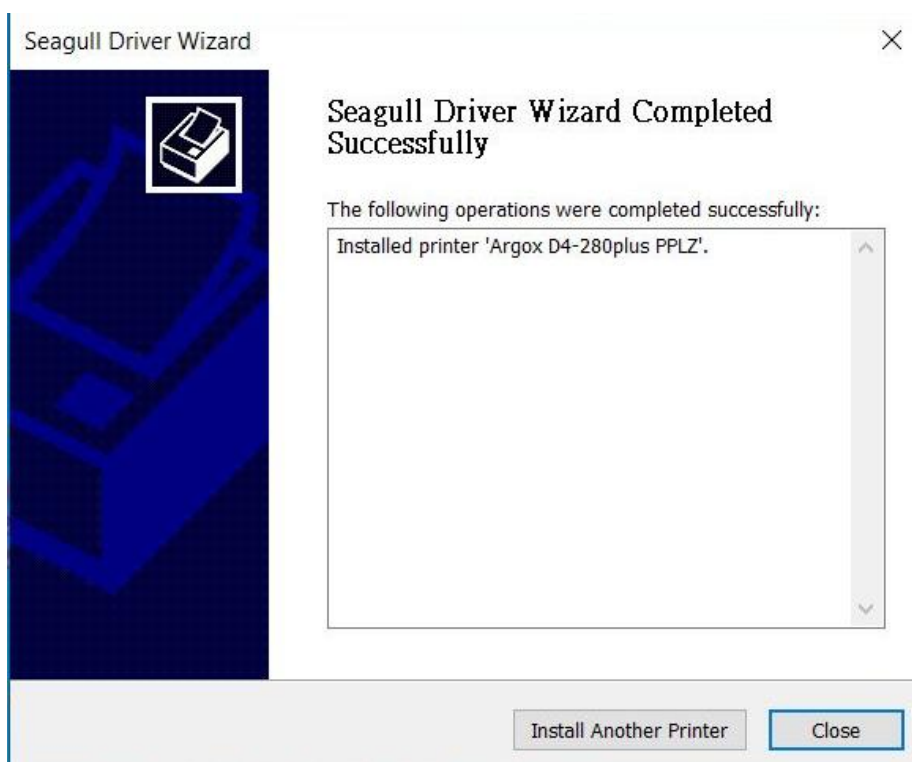
9. Check all the data on the showing screen, if it is correct, click "Finish".



10. After the related files have been copied to your system, click "Finish".



11. After driver installation is complete, click "Close". The driver should now be installed.

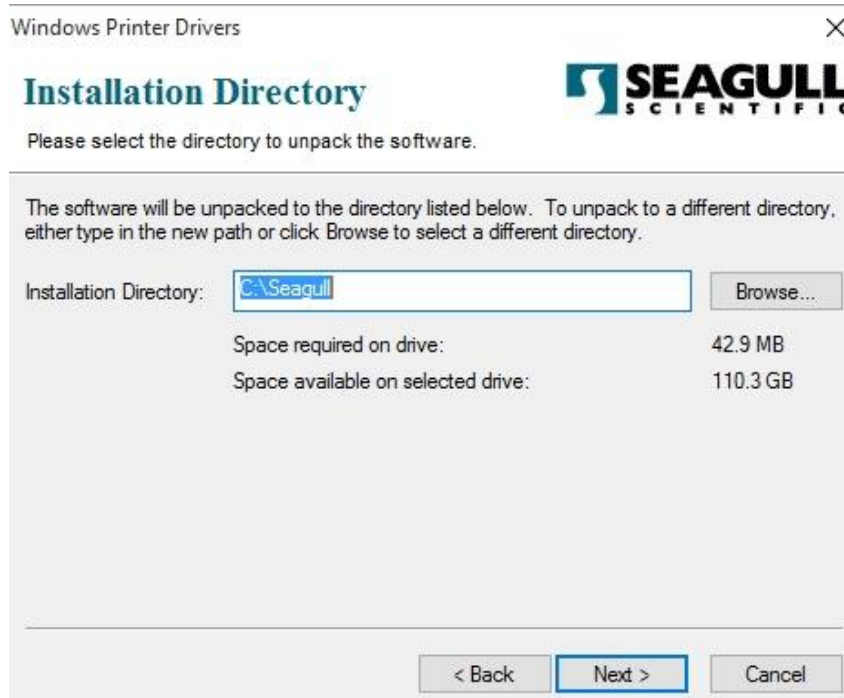


3.4.2 Installing a Printer Driver (for other interfaces except USB)

1. Turn off the printer. Plug the power cable into the power socket on the wall, and then connect the other end of the cable to printer's power socket. Connect the Parallel cable, Serial cable, or Ethernet cable to the proper port on the printer and on your computer for installing a printer driver for other interfaces except USB.
2. Run the driver from Argox website. On the prompt, Windows Printer Driver, select "I accept..." and click "Next".



3. Assign the directory to keep Seagull driver, (for example: C:\Seagull) and click "Next".



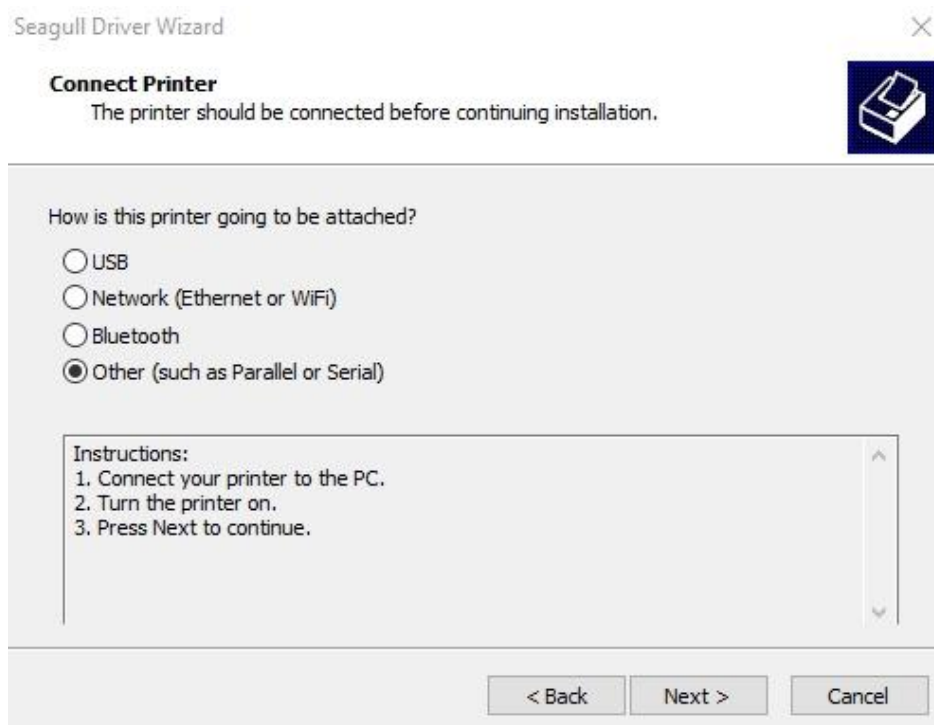
4. Click "Finish".



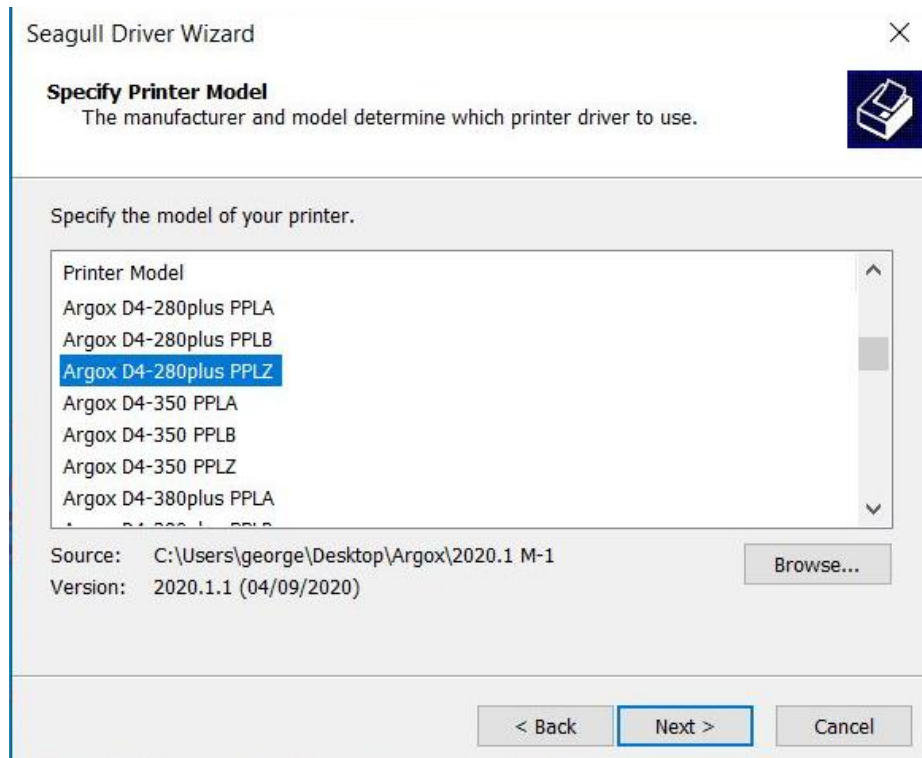
5. Select Install printer drivers and Click "Next"



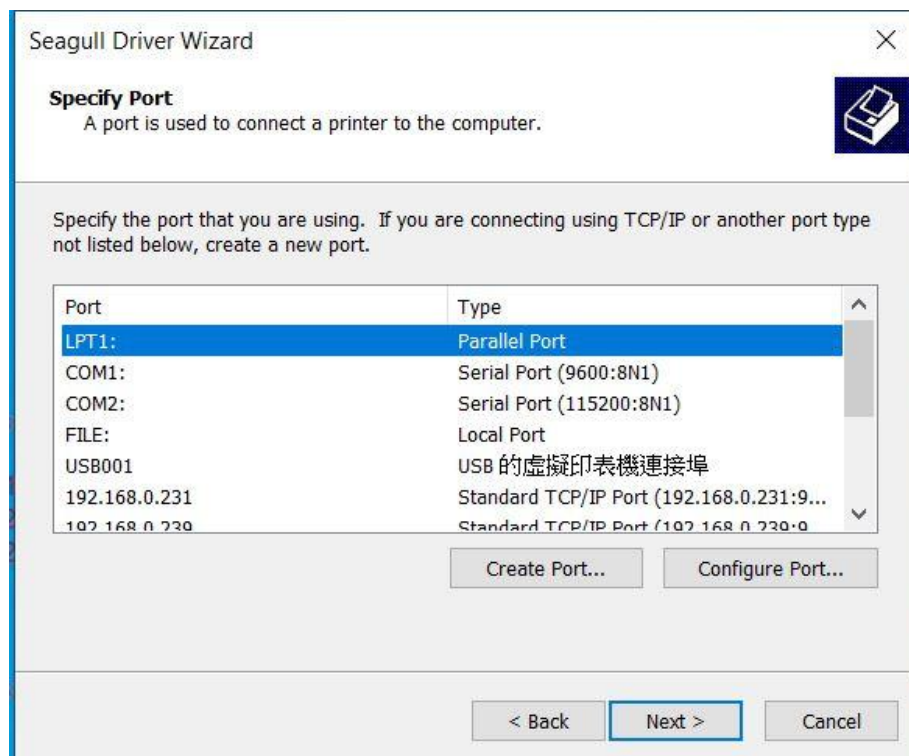
6. Make sure printer is connected to PC, select "Other" and click "Next":



7. Select model & emulation - the following examples are based on model D4-280plus PPLZ:



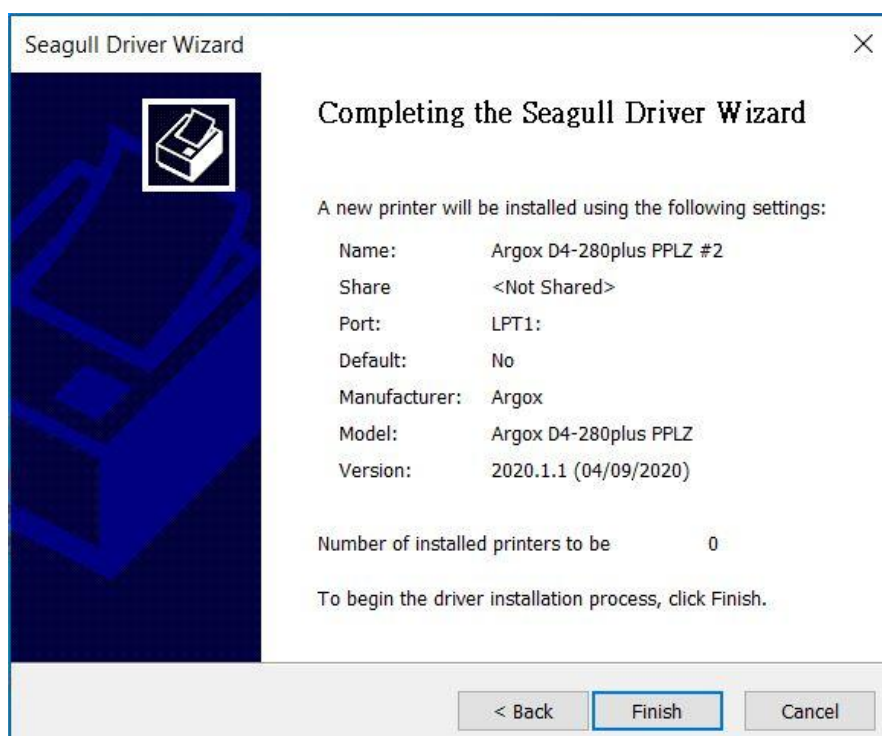
8. Select the port of the printer and click "Next".



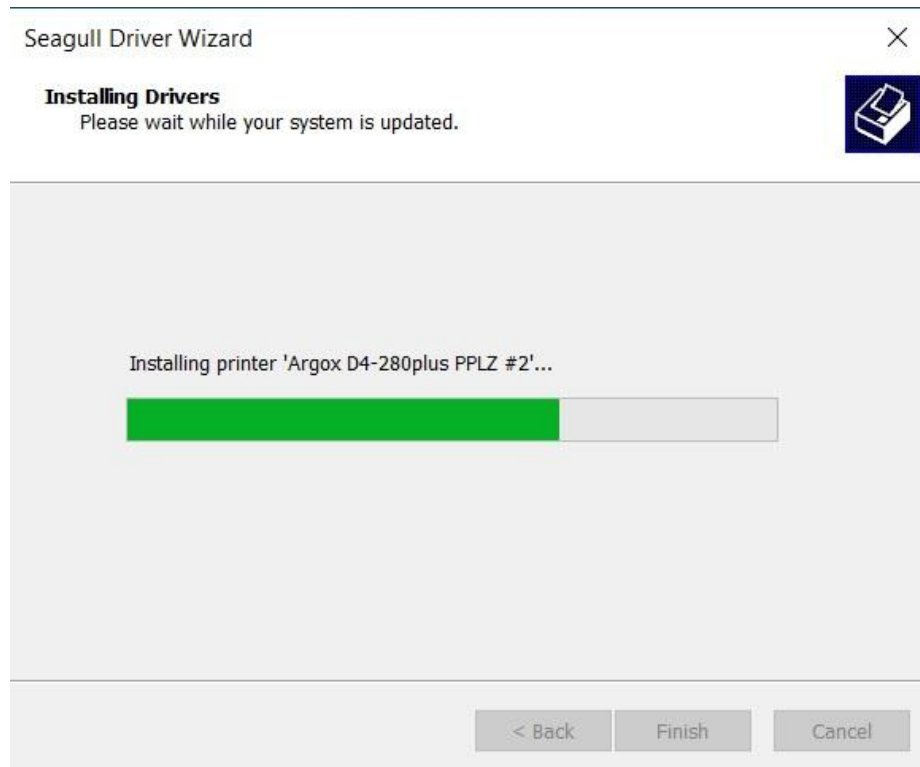
9. Enter Printer name (i.e. Argox D4-280plus PPLZ) and select "do not share this printer", and click "Next".



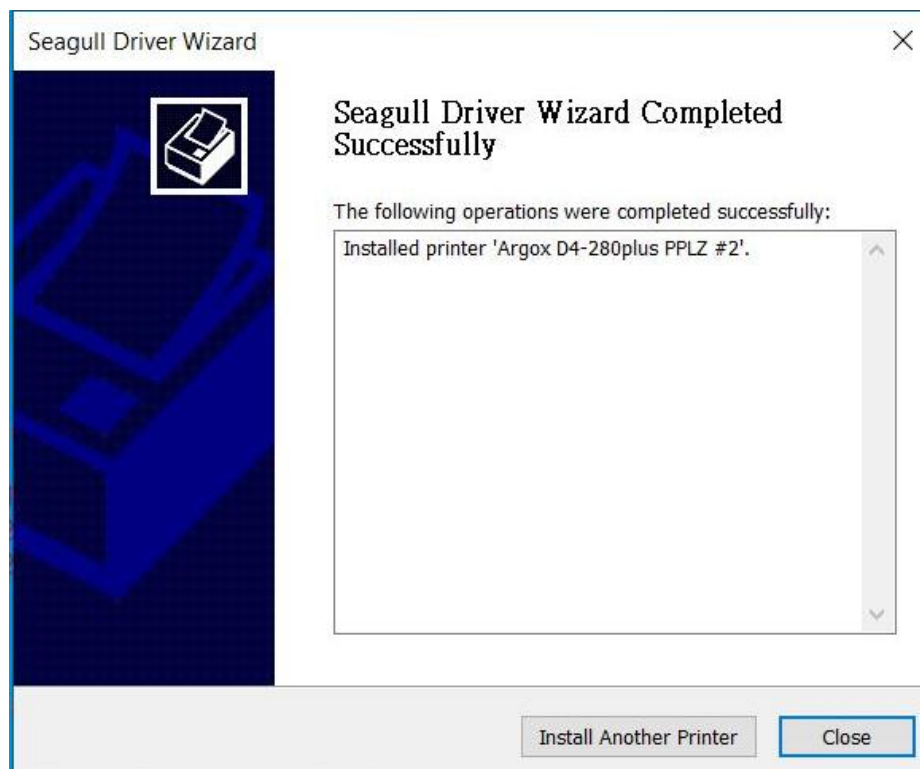
10. Check all the data on the showing screen, if it is correct, click "Finish".



11. After the related files have been copied to your system, click "Finish".



12. After driver installation is complete, click "Close". The driver should now be installed.



4 Maintenance

This chapter describes routine cleaning procedure.

4.1 Cleaning

To maintain print quality and extend the life of the printer, you need to service the printer regularly. It is strongly recommended that the printer be serviced each time a new paper roll is replaced and at the end of the day.

Caution



Always turn off the printer before cleaning. Do not allow any hard objects to touch the print head or platen, as this may cause damage to them. Do not use any volatile solvents including thinner and benzene, as this may cause discoloration of the cover, print failure, or breakdown of the printer. Do not touch the print head element with bare hands, as the print head element may be easily damaged.

4.1.1 Printhead

It is essential to keep printhead clean if you want the best print quality. We strongly recommend that you clean the printhead when you load a new media roll. If the printer is operated in critical environment, or the print quality declines, you need to clean the printhead more frequently.

Keep in mind these things before you clean:

- Keep the water away in case of corrosion on heating elements.
- If you just finish printing, wait until the printhead cools down.
- Do not touch the printhead with bare hands or hard objects.

Cleaning steps:

1. Prepare a thermal head cleaner.
2. Gently clean the printhead in one direction. That is, clean it only from left to right or vice versa.



Important Printhead warranty becomes void if printhead's serial number is removed, altered, defected, or made illegible, under every circumstance.

4.1.2 Media housing

Use a soft cloth to clean the dust, dirt or debris built up on the **Media Roll Holders**, **Media Guides** and media path.

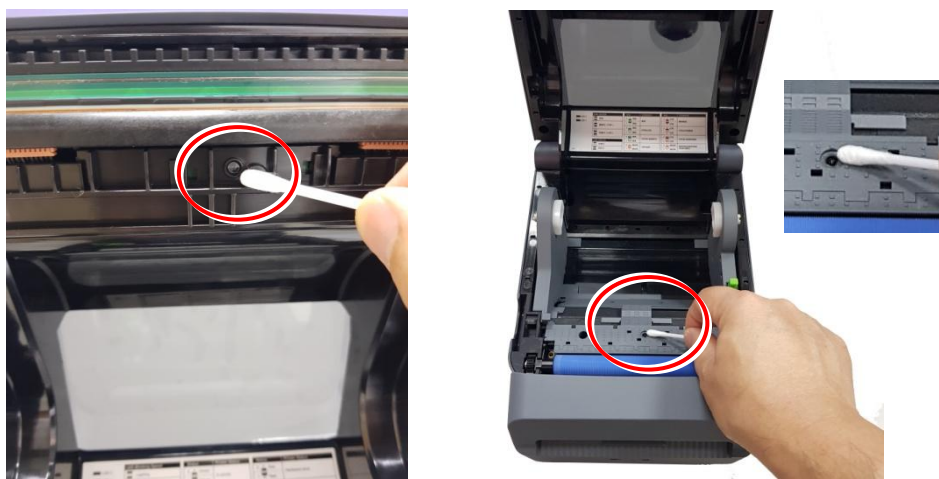
1. Moisten a soft cloth with ethyl alcohol.
2. Wipe the **Media Roll Holders** to clean dust.
3. Wipe the **Media Guides** to clean dust and dirt.
4. Wipe the media path to clean paper debris.



4.1.3 Sensor

Media sensors may not be able to detect the media correctly if it becomes dirty.

1. Moisten a soft cloth or a cotton swab with absolute ethyl alcohol.
2. Gently brush sensors to remove the dust away.
3. Use a dry cloth to clean the residue.



4.1.4 Platen roller

The platen roller is also important for print quality. Dirty platen roller may damage the printhead. Clean the platen roller right away if the adhesive, dirt or dust accumulates on it.

1. Moisten a soft cloth with absolute ethyl alcohol.
2. Gently wipe the platen roller to remove the dust and adhesive.



4.1.5 Cutter

Clean the cutter every one label roll or at the end of day.

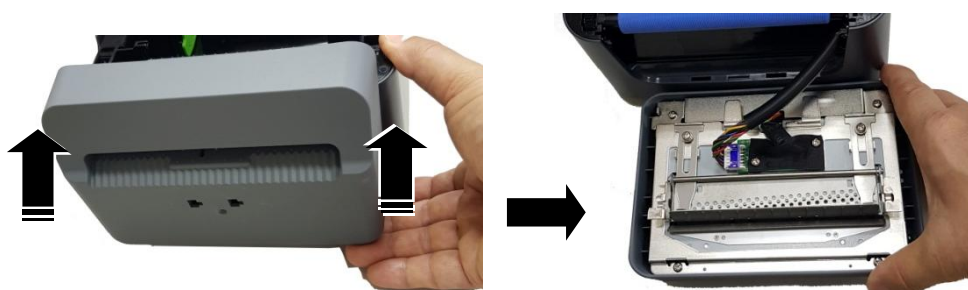
1. Turn the power off.
2. Wipe Cutter Outlet and Cutter Tray with a soft cloth moistened with absolute ethyl alcohol.



3. Detach the Cutter Tray from the Cutter Block.



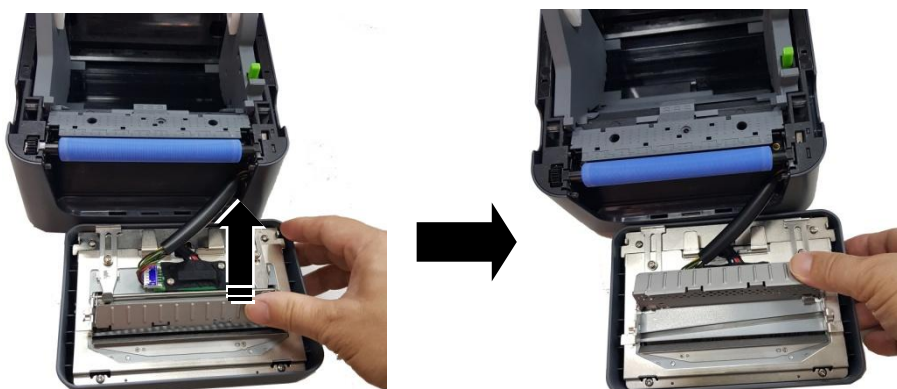
4. Then remove the Cutter Block from the printer by lifting it.



5. Slide two levers as indicated by the arrows.



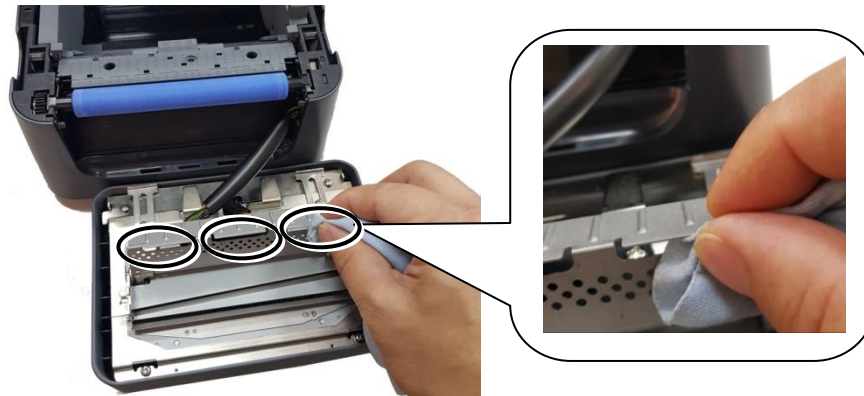
6. Open the Paper Guide for cleaning.



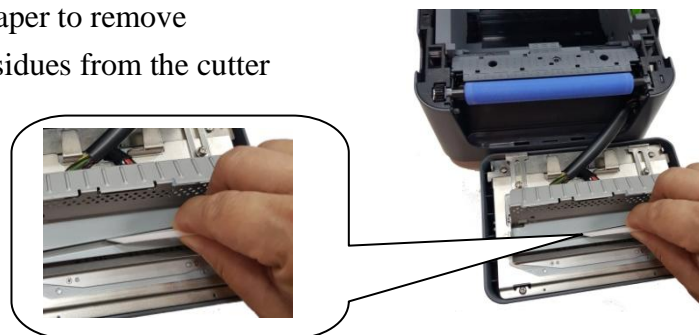
7. Wipe up and down the Paper Guide with a soft cloth moistened with absolute ethyl alcohol.



8. Wipe the residue away from the 3 protruding portions of the Paper Guide with a soft cloth moistened with absolute ethyl alcohol.



9. Use the Scraper to remove adhesive residues from the cutter blade.

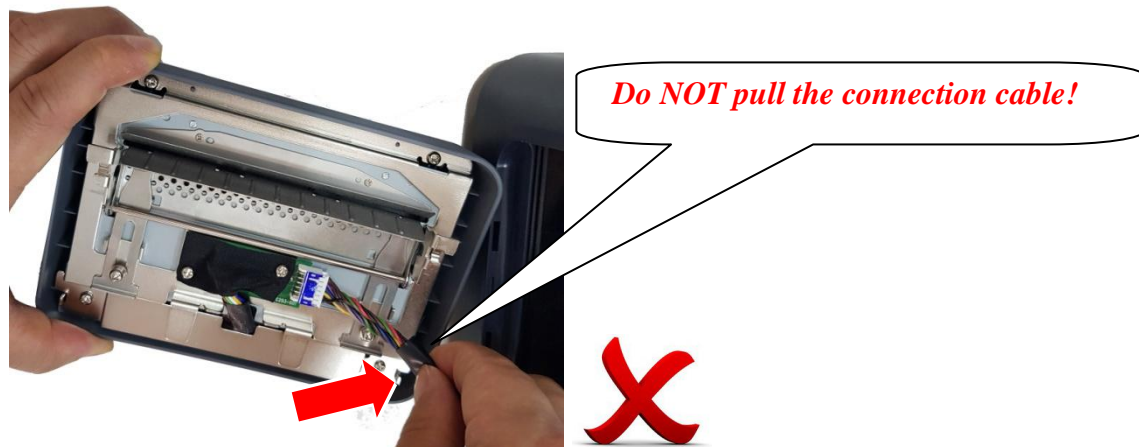
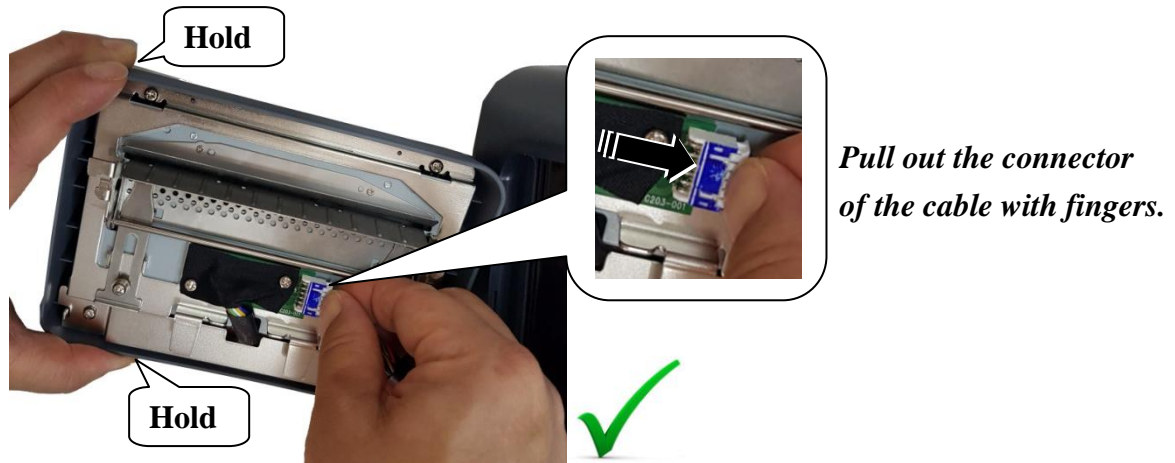


10. Use the Cleaner Pen to clean the blade surface.

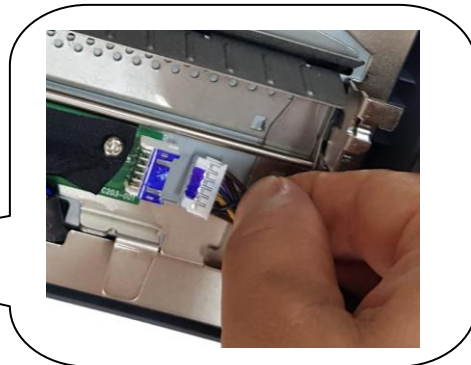
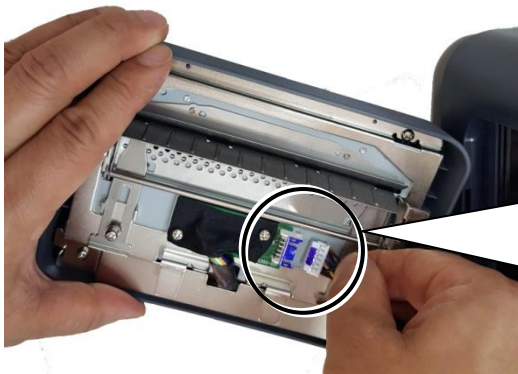
Warning:
As the cutter blade is sharp, care should be taken not to injure yourself while cleaning.




Note: To make it easier to clean the cutter module, you can remove the cutter module from the printer. To remove the cutter module, just pull the connector of connection cable of the printer out of the socket on the circuit board of the cutter module.




After finishing the cleaning work, remember to connect the cable of the printer back to the socket on the circuit board of the cutter module.



 ***Before connection, determine that the blue portions of the connector and socket are on the same side.***



 ***It is wrong that the blue portions of the connector and socket are on the opposite side.***

5 Troubleshooting

This chapter provides the information about printer problems and solutions.

5.1 Printer issues

The printer won't turn on

- Did you attach the AC power cord?
- Make sure the power supply's connector is inserted into the printer power jack.
- Check the power connection from the wall socket to the printer. Test the power cord and the socket with other electrical devices.
- Disconnect the printer from the wall socket, and connect it again.

The printer turns itself off

- Turn on the printer again.
- Make sure the power supply's connector and the power cord are properly plugged.
- Make sure the power supply and the power cord are not damaged.
- Use the applicable power supply.
- If the printer keeps turning itself off, check the socket and make sure it has enough power for the printer.

The printer does not feed the media out

- The media is not loaded correctly. See Section 2.3, "Loading Media" to reload the media.
- If there is a paper jam, clear it.

5.2 Media issues

The media is out

- Load a new media roll.

The paper is jammed

- Open the printer and clear the jammed paper.
- Make sure the paper is held properly by the **Media Guides**.

The printing position is not correct

- Did you use the correct media type for printing?
- The media is not loaded correctly. See Section 2.3, “Loading Media” to reload the media.
- The media sensor needs to be calibrated. See Section 3.1, “Media Sensor Calibration” to calibrate the sensor.
- The media sensor is dirty. Clean the media sensor.

Nothing is printed

- The media is not loaded correctly. See Section 2.3, “Loading Media” to reload the media.
- The print data might not be sent successfully. Make sure the interface is set correctly in the printer driver, and send the print data again.

The print quality is poor

- The printhead is dirty. Clean the printhead.
- The platen roller is dirty. Clean the platen roller.
- Adjust the print darkness, or lower the print speed.
- The media is incompatible for the printer. Use ARGOX-approved media roll instead.

5.3 Other issues

There are broken lines in the printed label

- The printhead is dirty. Clean the printhead.

An error occurred when writing data to the USB memory

- Did you insert the USB drive?
- Make sure the USB drive is plugged tightly into the port.
- The USB drive might be broken. Replace it with another one.

The printer is unable to save files due to insufficient USB memory

- Delete the files on your USB drive to free some space, or replace your USB drive with an empty one.

The printhead temperature is extremely high

- The printhead temperature is controlled by the printer. If it is extremely high, the printer will stop printing automatically, until the printhead is cool down. After that, the printer will resume printing automatically, if there is any unfinished print job.

The printhead is broken

- Contact your local dealer for assistance.

6 Specifications

This chapter provides specifications for the printer. Specifications are subject to change without notice.

6.1 Printer

Model	D4-280plus
Print method	Direct Thermal
Resolution	203 dpi (8 dots/mm)
Media Alignment	Centered
Operation Mode	Cutter mode
Sensor	Paper-End Sensor (Transmissive Sensor), Head Open Sensor, and Taken-off Sensor
Print Speed	2, 3, 4, 5, 6 inches/sec (50.8, 76.2, 101.6, 127, 152.4 mm/sec)
Print Darkness	Darkness level – PPLZ: SD 0 ~ 30 Default – PPLZ: SD 16
Printable Area	Length: 152.4mm / Width: 25.4mm ~ 118mm (+1.0mm/-1.5mm)
Print Ratio	Average print ratio within 15 % or less (whole print layout area) Full width with 1 mm pitch is required
Interface	USB (Type A and Type B), RS-232C, Ethernet
Optional Interface	Wireless LAN, Bluetooth 2.1
Programming Language	PPLA+PPLB+PPLZ
On-Board Memory	Standard Memory (Flash ROM): 16 MB User Memory: 8 MB Standard Memory (SDRAM): 32 MB
External Memory	USB: Max 16 GB
Panel	2 LED, 1 Button
LED	1 st LED: Red and Green (Various Combinations: Amber) 2 nd LED: Red and Green (Various Combinations: Amber)
Agency Listing	CE / FCC

6.2 Media

Properties	Description
Media Size	Length: 25.4mm ~ 152.4mm Width: 25.4mm ~ 118mm Thickness: 0.09mm +/-10µ m Max Roll Diameter Size: 127 mm (5 inches) on a 38.1mm (1.5") ID core, 40mm ID core also available

6.3 Fonts, Barcodes, and Graphics

Specification

The specifications of fonts, bar codes and graphics depends on the printer emulation. The emulations PPLA, PPLB, and PPLZ are printer programming languages, through which the host can communicate with your printer.

Printer Programming Language PPLA

Programming Language	PPLA
Internal fonts	9 fonts with different point size 6 fonts with ASD smooth font. Courier font with different symbol sets.
Symbol sets (Code pages)	Courier font symbol set: Roman-8, ECMA-94, PC, PC-A, PC-B, Legal, and PC437 (Greek), Russian.
Soft fonts	Downloadable soft fonts by Print Tool
Font size	1x1 to 24x24 times
Character rotation	0, 90, 180, 270 degree, 4 direction rotation
Graphics	PCX, BMP, IMG, GDI and HEX format files
1D Barcodes	Code 39, UPC-A, UPC-E, Code 128 subset A/B/C, EAN-13, EAN-8, HBIC, Codabar, Plessey, UPC2, UPC5, Code 93, Postnet, UCC/EAN-128,, UCC/EAN-128 K-MART, UCC/EAN-128 Random weight, Telepen, FIM, Interleaved 2 of 5 (Standard/with modulo 10 checksum / with human readable check digit/ with modulo 10 checksum & shipping bearer bars), GS1 Data bar (RSS)
2D Barcodes	MaxiCode, PDF417, Data Matrix (ECC 200 only), QR code, Composite Codes, Aztec

Printer Programming Language PPLB

Programming Language	PPLB
Internal fonts	5 fonts with different point size
Symbol sets (Code pages)	8 bits code page : 437, 850, 852, 860, 863, 865, 857, 861, 862, 855, 866, 737, 851, 869, 1252, 1250, 1251, 1253, 1254, 1255 7 bits code page: USA, BRITISH, GERMAN, FRENCH, DANISH, ITALIAN, SPANISH, SWEDISH and SWISS
Soft fonts	Downloadable soft fonts by Print Tool
Font size	1x1 to 24x24 times
Character rotation	0, 90, 180, 270 degree, 4 direction rotation
Graphics	PCX , Binary Raster, BMP and GDI
1D Barcodes	Code 39, UPC-A, UPC-E, Matrix 2 of 5, UPC-Interleaved 2 of 5, Code 39 with check sum digit, Code 93, EAN-13, EAN-8 (Standard, 2 /5digit add-on), Codabar, Postnet, Code128 subset A/B/C, Code 128 UCC (shipping container code), Code 128 auto, UCC/EAN code 128 (GS1-128), Interleave 2 of 5, Interleaved 2 of 5 with check sum, Interleaved 2 of 5 with human readable check digit, German Postcode, Matrix 2 of 5, UPC Interleaved 2 of 5, EAN-13 2/5 digit add-on, UPCA 2/5 digit add-on, UPCE 2/5 digit add-on, GS1 Data bar (RSS)
2D Barcodes	MaxiCode, PDF417, Data Matrix (ECC 200 only), QR code, Composite Codes, Aztec

Printer Programming Language PPLZ

Programming Language	PPLZ
Internal fonts	8 (A~H) fonts with different point size. 8 AGFA fonts: 7 (P~V) fonts with fixed different point size (not scalable). 1 (0) font with scaling point size.
Symbol sets (Code pages)	USA1, USA2, UK, HOLLAND, DENMARK/NORWAY, SWEDEN/FINLAND, GERMAN, FRANCE1, FRANCE2, ITALY, SPAIN, MISC, JAPAN, IBM850, Multibyte Asian Encodings, UTF-8, UTF-16 Big-Endian, UTF-16 Little-Endian, Code page 1250, 1251, ,1252, 1253, 1254
Soft fonts	Downloadable soft fonts by Print Tool
Font size	1x1 to 10x10
Character rotation	0, 90, 180, 270 degree, 4 direction rotation
Graphics	GRF, Hex and GDI
1D Barcodes	Code39, UPC-A, UPC-E, Postnet, Code128 subset A/B/C, Interleave 2 of 5, Interleaved 2 of 5 with check sum, Interleaved 2 of 5 with human readable check digit, Code 93, Code 39 with check sum digit, MSI,EAN-8, Codabar, Code 11, EAN-13, Plessey, GS1 Data bar (RSS), Industrial 2 of 5, Standard 2 of 5, Logmars
2D Barcodes	MaxiCode, PDF417, Data Matrix (ECC 200 only), QR code, Composite Codes, Aztec

6.4 Wireless LAN (Option)

Properties		Wireless LAN I/F		
Hardware	Protocol	IEEE 802.11 b/g/n		
	Enabled Device	WIRELESS PRINTER		
	Operating Temperature	-20°C ~ +85°C		
	Destination	USA	Europe	
	Frequency (Center Channel)	2412 ~ 2462 MHz	2412 ~ 2472 MHz	
	Channel	1 ~ 11 ch	1 ~ 13 ch	
	Spacing	5 MHz		
	Transmission Speed/ Modulation	IEEE 802.11b	Transmission Method	Conforming to IEEE 802.11b DSSS method
			Channel	Depending on the country
			Data Transmission Speed/Modulation	11/5.5 Mbps: CCK 2 Mbps: DQPSK 1 Mbps: DBPSK
		IEEE 802.11g	Transmission Method	Conforming to IEEE 802.11g OFDM method DSSS method
			Channel	Depending on the country
			Data Transmission Speed/Modulation	54/48 Mbps: 64 QAM 36/24 Mbps: 16 QAM 18/12 Mbps: QPSK 9/6 Mbps: BPSK
		IEEE 802.11n	Transmission Method	Conforming to IEEE802.11n OFDM method
Channel			(US)1-11ch (JP/DE)1-13ch	
Data Transmission Speed/Modulation			20MHz : 6.5M / 7.2M / 13M / 14.4M / 19.5M / 21.7M / 26M /28.9M / 39M / 43.3M / 52M / 57.8M / 58.5M / 65M / 72.2M(Auto-sensing)	

Properties		Wireless LAN I/F
Antenna	External antenna	
Aerial power	802.11b	Max +15 dBm
	802.11g	Max +17 dBm
	802.11n	Max +17 dBm
Software	Connection mode	Infrastructure, Adhoc
	Default IP Address	192.168.1.1
	Default Subnet Mask	255.255.0.0
	Default ESSID	WIRELESS PRINTER
	Security	IEEE 802.11i
	Cryptography	WEP 128 bit, TKIP (WPA), AES (WPA2)
	Authorization	Open Key (for WEP), PSK
	Protocol (*)	TCP/IP, Socket, DHCP
Wireless LAN Parameter Setting and Status Monitor	Parameter Setting: Command (PC Setting Tool)	

6.5 Bluetooth (Optional)

Properties	Bluetooth I/F
Standard	Bluetooth 2.1
Enable Device	BT PRINTER
Operating Temperature	41°F (5°C) ~ 104°F (40°C)
Storage Temperature	-4°F (-20°C) ~ 140°F (60°C)
Operating Humidity	25 ~ 85 % Non-condensing R.H
Storage Humidity	10 ~ 90 % Non-condensing R.H
Connection Form	Only one-to-one connection is supported.
Support Profile	Serial Port Profile (SPP) PIN code is supported.
Class of Radio Transmission	CLASS 2
Transmission Method	Bi-directional (Half-duplex)
Flow Control	Credit based flow control
Operating Mode	Slave Mode
Transmission Distance	10 m without obstacles *2 (360 degrees)
SR Mode in Page/Inquiry Scanning	R1 Scan Interval 1.28 sec. Scan Window 22.5 msec.
RF Frequency Range	2402 ~ 2480 MHz
Nominal Output Power	+4 dBm (2.51 mW) MAX
Communications	Support BT 2.1 on Android connectivity

6.6 Ethernet

Properties	Description
Port	RJ-45
Speed	10Base-T/100Base-T (Auto Detecting)
Protocol	ARP, IP, ICMP, UDP, TCP, HTTP, DHCP, Socket, LPR, IPv4, SNMPv2
Mode	TCP Server/Client, UDP Client
Technology	HP Auto-MDIX, Auto-Negotiation

6.7 Electrical and operating environment

Properties	Range
Power Supply	Voltage: AC 100 V ~ 240 V \pm 10 % (full range) Frequency: 50 Hz - 60 Hz \pm 5 %
Power Consumption	60W
Temperature	Operating: 5 °C ~ 35 °C Storage: -20 °C ~ 60 °C
Humidity	Operating: 35 %RH ~ 75 %RH (non-condensing) Storage: 10 %RH ~ 90 %RH (non-condensing)

6.8 Physical dimension

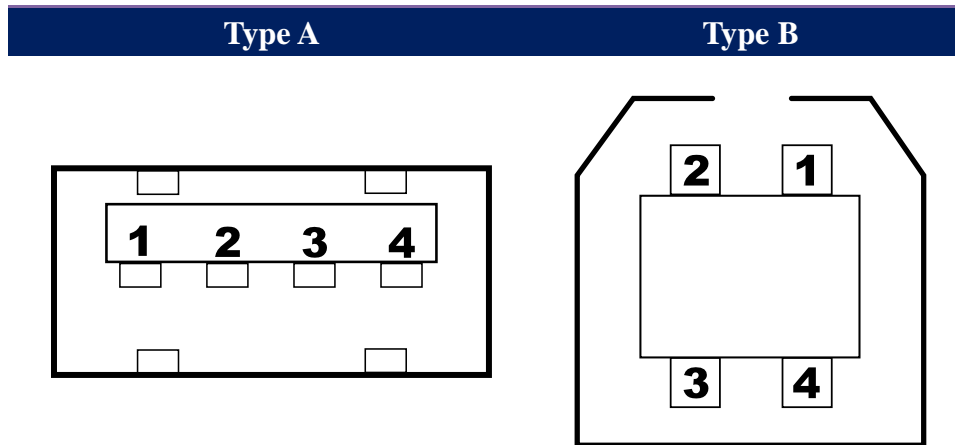
Dimension	Size and Weight
Size	W 183.92 \pm 0.5mm x D 271.16 \pm 0.5mm x H 166.7 \pm 0.5mm
Weight	Approx. 2.29kg \pm 3%

6.9 Interfaces

This section provides information about IO port specifications for the printer.

6.9.1 USB

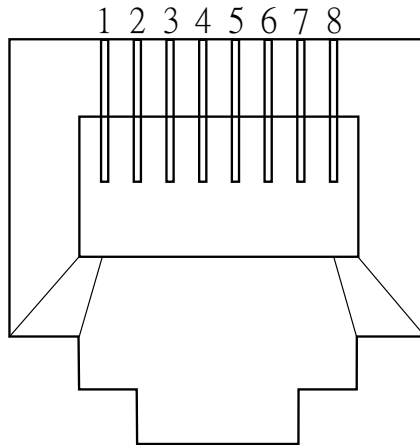
There are two common USB connectors. Typically, type A is found on hosts and hubs; type B is found on devices and hubs. The figure below shows their pinouts.



Pin	Signal	Description
1	VBUS	+5V
2	D-	Differential data signaling pair -
3	D+	Differential data signaling pair +
4	Ground	Ground

6.9.2 Ethernet

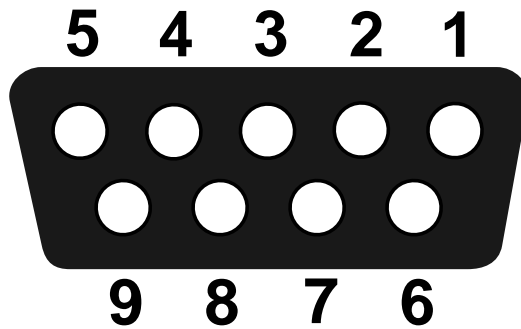
The Ethernet uses RJ-45 cable, which is 8P8C (8-Position 8-Contact). The figure below shows its pinout.



Pin	Signal
1	Transmit+
2	Transmit-
3	Receive+
4	Reserved
5	Reserved
6	Receive-
7	Reserved
8	Reserved

6.9.3 RS-232C

The RS-232C on the printer is DB9 female. It transmits data bit by bit in asynchronous start-stop mode. The figure below shows its pinout.



Pin	Signal	Description
1	NA	No Function
2	TxD	Transmit
3	RxD	Receive
4	NA	No Function
5	GND	Ground
6	NA	No Function
7	CTS	Clear to Send
8	RTS	Request to Send
9	NC	No Connection

Host (DB9)			Printer (DB9)		
Signal	Description	Pin	Pin	Description	Signal
CD	Carrier Detect	1	1	No Function	NC
RxD	Receive	2	2	Transmit	RxD
TxD	Transmit	3	3	Receive	TxD
DTR	Data Terminal Ready	4	4	No Function	NC
GND	Ground	5	5	Ground	GND
DSR	Data Set Ready	6	6	No Function	NC
RTS	Request to Send	7	7	Clear to Send	RTS
CTS	Clear to Send	8	8	Request to Send	CTS
CI		9	9	No Function	NC