



LABEL PRINTER
MODEL : LK-B20 II

4" LABEL PRINTER USER'S MANUAL

sewoo

Aroot Co., Ltd.

28-6, Gajangsaneopdong-ro, Osan-si, Gyeonggi-do, 18103, Republic of Korea
TEL +82-31-8077-5000 / FAX +82-31-624-5310 / <http://www.miniprinter.com>

Table of Contents

**This device complies with part 15 of the FCC Rules.
Operation is subject to the following two conditions.**

- 1) This device may not cause harmful interference, and
- 2) This device must accept any interference received, including interference that may cause undesired operation.

Tim Kloeker

19700 S Vermont Ave Ste 200 Torrance, CA 90502 | USA
NA_Sales@miniprinter.com

Victor Almazan

Paseo de la Reforma No. 265 Piso 2.Oficina SBC. Col.
Cuauhtémoc, C.P. 06500 Ciudad de Mexico | Mexico
LA_Sales@miniprinter.com



Caution

**Risk of explosion if battery is replaced by an incorrectly type.
Dispose of used battery according to the local disposal instructions.**



**Disposal of Old Electrical&Electronic Equipment(Applicable in
the European Union and other European countries with separate
collection systems)**

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronics equipment. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

Safety Precautions	2
1. Unpacking	4
2. Inspecting The Printer	5
3. Attaching Power Supply	7
4. Interface Cable Connection	8
5. Loading the Paper	9
6. Loading Ribbon	11
7. Setting Up the Sensor	13
8. Self Test	14
9. Sensor Calibration	15
10. Cutter Cleaning (option)	16
11. Peripherals Connection (option)	18
11-1. Wi-Fi Connection	
11-2. Bluetooth Connection	
12. Interface	19
13. Media Roll Size	21
14. Labels	22
15. Tags and Strip with Slots	23
16. Tags and Strip with Black Marks	24
17. Plain Continuous Stock	25
18. Specifications	26
19. Command List	28
20. Utilities	31
21. S/W	32

Safety Precautions

For better safety and reliability, adhere to the following precautionary measures.
Read and follow the instructions carefully before operation of the product.

Indication



Prohibition



Must follow



Do not disassemble



Unplug the power from the outlet



Grounding to prevent electric shock



Do not handle the product with wet hands



WARNING

Failure to follow these instructions could result in fire, electric shock, other injuries, or property damage.



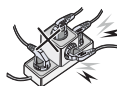
Do not pull or touch the power plug with wet hands.

Potential risk of electric shock or fire



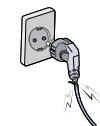
Do not bend the wire and do not allow the wire to be pinched or crushed by heavy objects.

Potential risk of electric shock or fire



Do not overload an electrical outlet.

Potential risk of electric shock or fire



If a power plug is broken or a plug is cut or worn, do not use it.

Potential risk of electric shock or fire



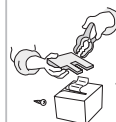
WARNING

Failure to follow these instructions could result in fire, electric shock, other injuries, or property damage.



Do not unplug the power cable to turn off the product.

Turn off the power using the power button



Do not disassemble, repair or modify the product.

Potential risk of malfunction, electric shock, or fire. When the product needs to be repaired, please contact your reseller



CAUTION

Failure to follow these instructions could result in fire, electric shock, other injuries, or property damage.



Do not install the product on an unstable or inclined surface.

May cause damage or injury



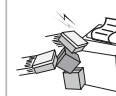
If the product needs to be repaired, please contact your reseller.

Potential risk of fire or unit malfunction



Keep product away from the water and other material.

Potential risk of fire or unit malfunction



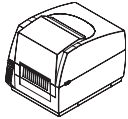
Avoid excessive shock or drops.

Potential risk of fire or property damage

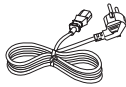


1. Unpacking

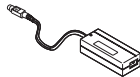
Standard



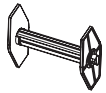
Printer



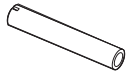
Power Cord



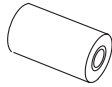
Power Supply



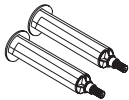
Paper Spindle



Ribbon Core



Ribbon



Ribbon Spindle (2EA)



Label

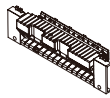


Manual

Optional



Auto Cutter

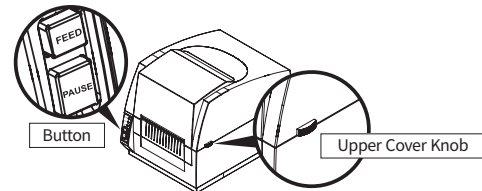
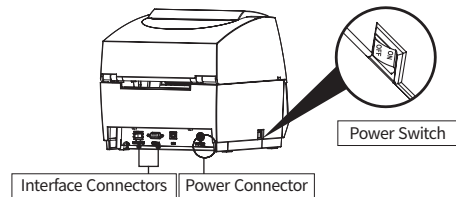
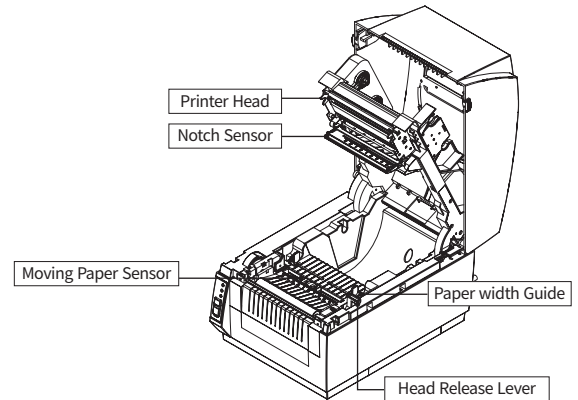


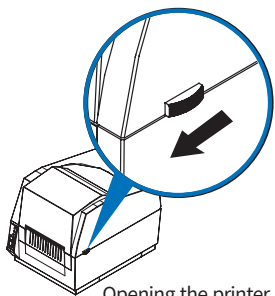
Peeler



External Paper Supply

2. Inspecting The Printer



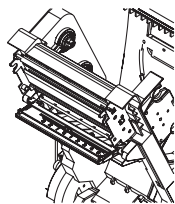


Opening the printer

Open the upper cover by pushing the knob in the direction of the arrow.



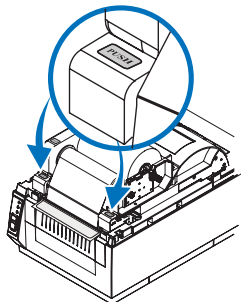
CAUTION
Make sure to be careful of the HOT head.



Place the paper roll as shown. Make sure the paper is placed in the right direction.

1
2
3
4

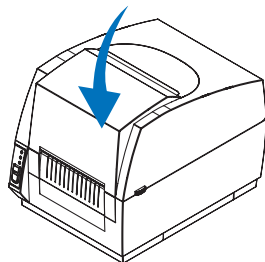
Closing the paper upper guide



Make sure you hear the closing sound of the paper upper guide.

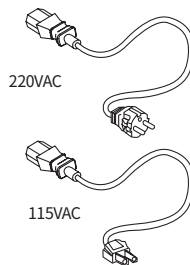


Closing the upper cover

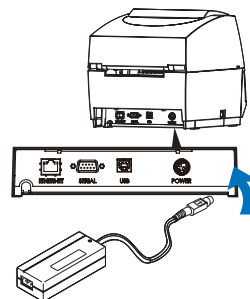


Close the upper cover and make sure you hear the closing sound of the upper cover.

3. Attaching Power Supply

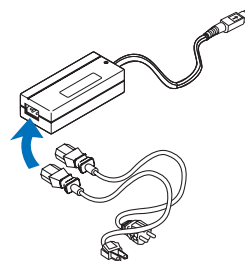


Check the specification of the AC power cord if it is correct with your power system.

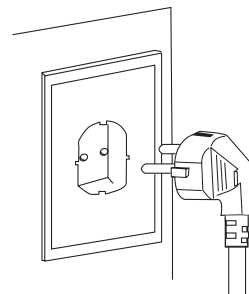


Turn off the power of the printer and connect the power supply to the printer.

1
2
3
4



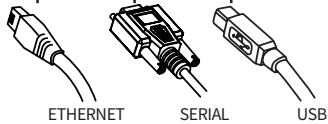
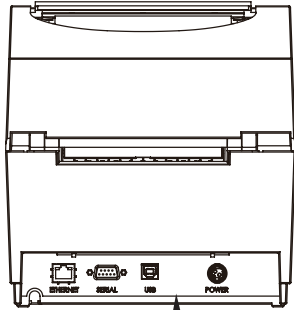
Connect the AC power cord to the power supply.



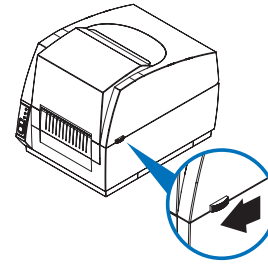
Insert a plug into the outlet.

4. Interface Cable Connection

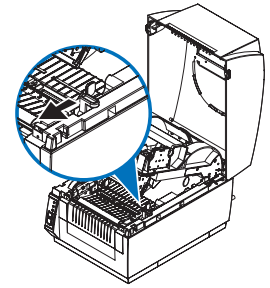
Printer



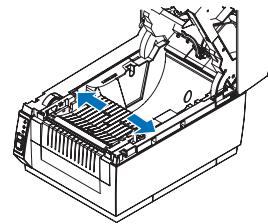
5. Loading the Paper



Turn off the printer and open the upper cover by pushing it in the direction of the arrow.

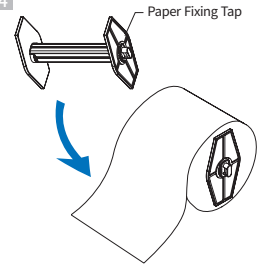


Rise up the paper upper guide by pulling the head release lever.

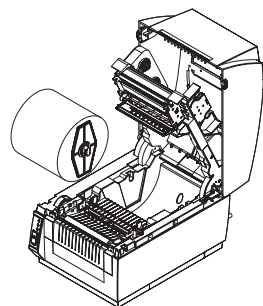


Open the paper width guide by pushing it to the right & left sides.

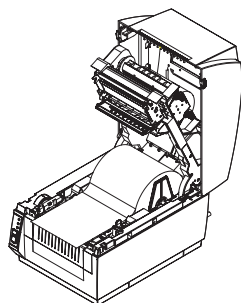
1 2
3 4



Pull out one of the adjustable width tabs. Insert a paper roll replace the tab and center.

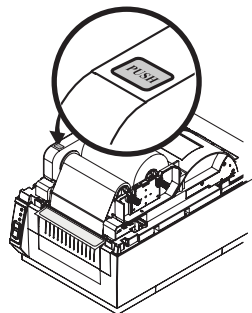


Insert paper roll into the printer.

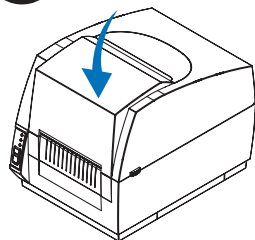


Adjust the paper width guide to meet the paper width.

1 2
3 4

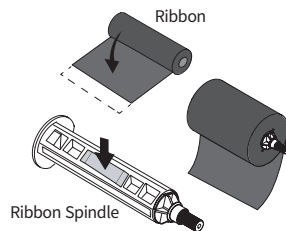


Push the head stopper release lever in the direction of the arrow until the paper upper guide comes down.

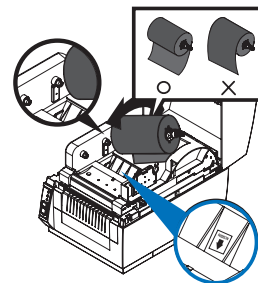


Close the upper cover and make sure you hear the closing sound of the upper cover.

6. Loading Ribbon

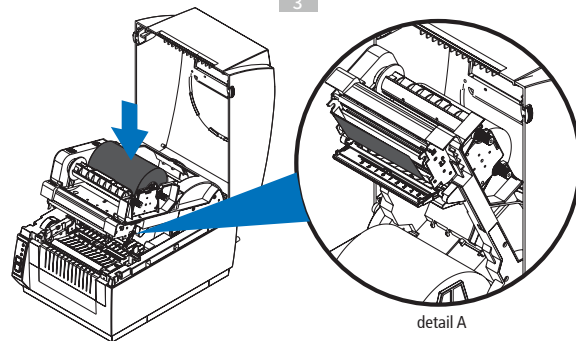


Remove the vinyl covering on the ribbon. Depress the indicated button on the ribbon spindle while inserting the ribbon roll.



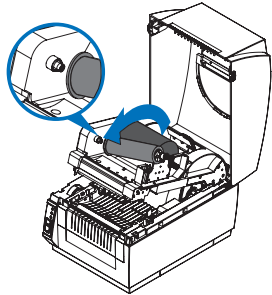
Insert one side of the ribbon spindle.

1 2
3

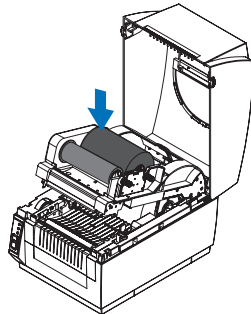


Push the other side of the ribbon spindle down to secure it.
Pull out the ribbon edge through ribbon mechanism as shown in the picture.

7. Setting Up The Sensors

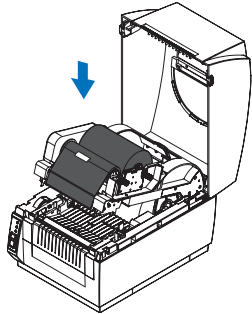


Insert one side of the ribbon spindle.

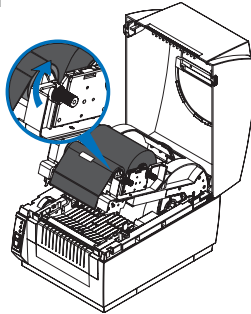


Push the other side of the ribbon spindle down to secure it.

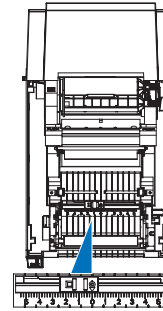
1 2
3 4



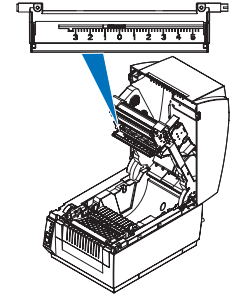
Attach the ribbon to the core with tape as shown.



Turn the adjustment knob in the arrow direction to tighten the ribbon.



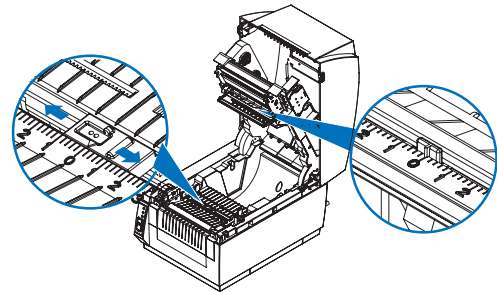
Set Black Mark Sensor right to the size of roll paper.



Locate notch sensor on the same number point- as the black mark sensor is indicating on.

1 2
3

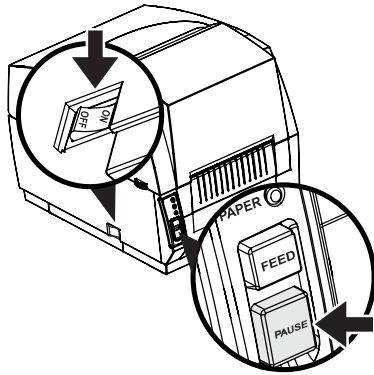
****0 is the initialization number for sensor of the product.****



Black Mark Sensor and Notch sensor must always point to the same number.

8. Self-Test Printing / Configuration Printout

8-1. Self-Test printing when printer power is off

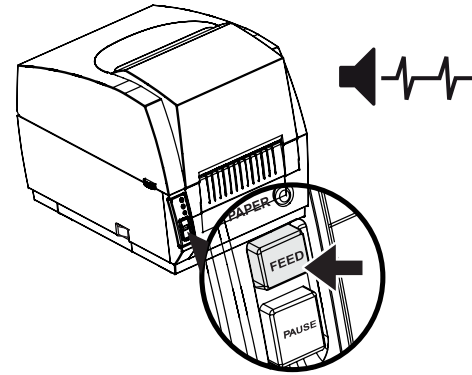


- 1 While pressing the “FEED” button, power on the printer and then release the “FEED” button at the start of printing.
- 2 After the printout is completed, printer returns to the READY mode.

NOTE

– Power Switch meaning — ON ○ OFF

8-2. Self-Test printing when printer power is on



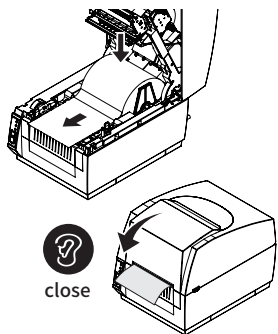
- 1 Press the “FEED” button until after the sound of two beeps. Then release the “FEED” button
- 2 After the printout is completed, printer returns to the READY mode.

NOTE

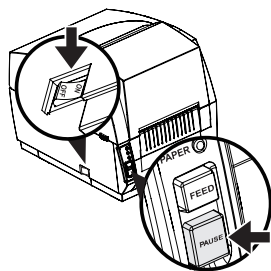
– If the “FEED” button is released after only one beep, the printer goes into the Media Calibration function (see section 9)

9. Media Calibration

9-1. Media Calibration when printer power is off

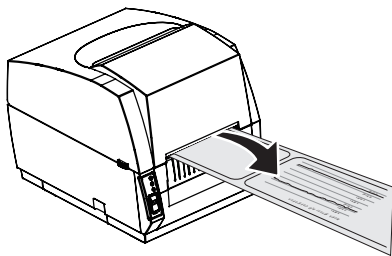


With power off mode, insert the paper roll and close the printer cover.



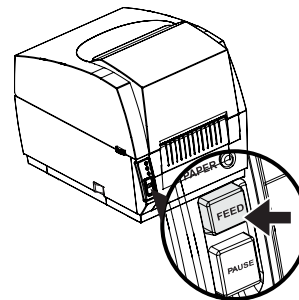
While pressing "PAUSE" button, power roll on the printer.

1 2
3



The media will move forward, calibrating the sensor and printing the graph for the media that is loaded. This information will be automatically saved to ensure accurate top of form alignment. Once the graph is printed, cycle the power to get back into READY mode.

9-2. Media Calibration when printer power is on

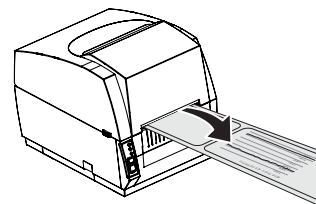


Press the "FEED" button and release immediately after the first beep.

NOTE

- At the sound of the second beep, the printer goes into the Self Test function and prints out the printer's configuration.

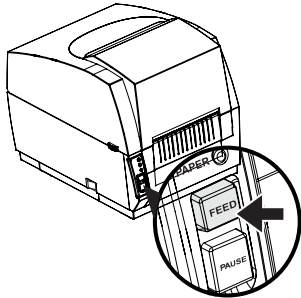
1 2



The media will move forward, calibrating the sensor and printing the graph for the media that is loaded. This information will be automatically saved to ensure accurate top of form alignment. Once the graph is printed, cycle the power to get back into READY mode.

10. Offline Printer Reset Function

- The LK-B230 can be reset without being connected to a computer.



- 1 With the printer powered on, pressing the “FEED” button will produce a beep sound every 1 second. Hold the “FEED” button and release at the third beep to enter the printer reset function. The printer will then print a menu and will then enter into the offline reset mode
- 2 Review the menu (as shown below) and press down the “FEED” button the number of beeps corresponds to the item to be executed in the menu, and then release the “FEED” button.

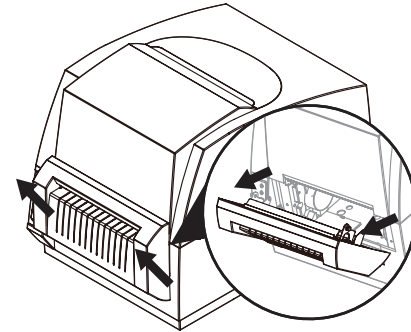
Setting Menu

- 01 Ethernet setting initialization
- 02 02 Printer Factory Reset
- 03 03 Enter printer offline reset mode

NOTE

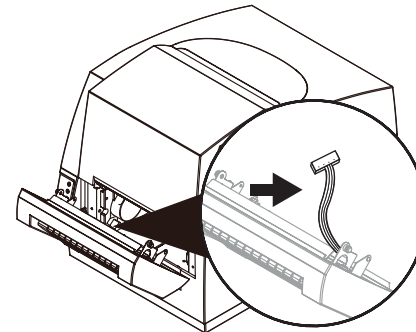
- Printing or feeding while in the offline setting menu will cause the printer to exit this menu option.
- This function is supported from firmware version V3.00 and higher.

11. Cutter Cleaning (option)

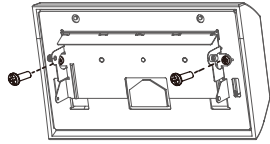


Lift the cutter diagonally and separate it from the printer.

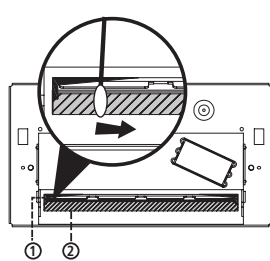
1
2



Separate the socket connected inside from the printer.



Pull out 2 screws on the back of the cutter with a screwdriver and demount the plate.



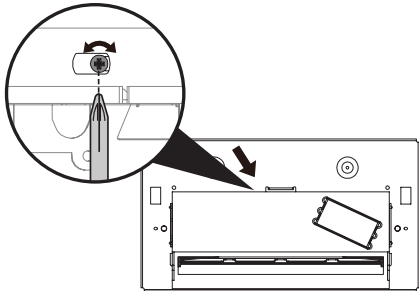
Clean the fixed blade and cutting edge by wiping a cotton bud with a cleansing lotion or alcohol.

After cleansing, assemble it in reverse order.

3
4

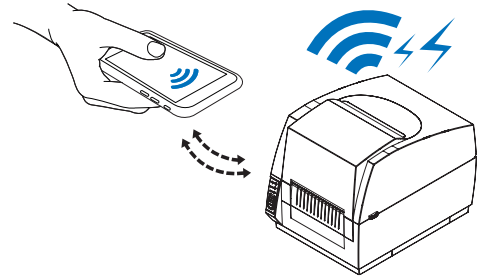


CAUTION
Make sure to be careful of the HOT head.



12. Peripherals Connection (option)

This product can communicate with other devices via Wi-Fi & Bluetooth communication and cable.



12-1. Wi-Fi Connection

- 1 The Printer can be connected to devices equipped with Wi-Fi communication capacity (PDAs, PCs, etc.)
- 2 Use the Wi-Fi connection function supported by the device to connect to the printer.

NOTE

- Refer to the Wi-Fi Configuration Tool and manual from the homepage.

12-2. Bluetooth Connection

- 1 The Printer can be connected to devices equipped with Bluetooth communication capacity (PDAs, PCs, etc.)
- 2 Use the Bluetooth connection function supported by the device to connect to the printer.

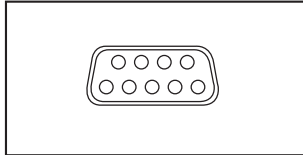
NOTE

- Refer to the Bluetooth Configuration Tool and manual from the homepage.

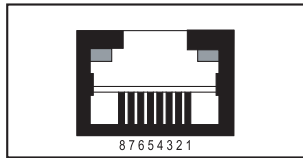
13. Interface

Interface Connectors

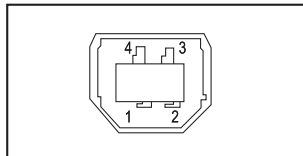
Standard



9 Pin Serial



Ethernet



USB

9Pin Serial Interface

Pin	Signal	I/O	Description
3	RXD	Input	Printer receive data line RS-232C level
2	TXD	Output	Printer transmit data line RS-232C level
6, 8	DTR	Output	Printer handshake to host line RS-232C level
5	GND	-	System Ground
4	DSR	Input	Data Send Ready
1, 7, 9	NC	-	-

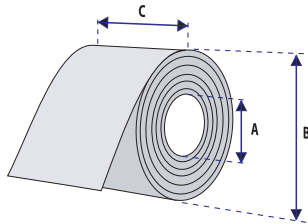
USB Interface

Pin	Signal	I/O	Description
1	+5V	-	+5V
2	DATA-	-	Printer transmit data line
3	DATA+	-	Printer transmit data line
4	GND	-	System Ground

Ethernet Interface

Pin	Signal	I/O
1	Data Out +	Output Data +
2	Data Out -	Output Data -
3	GND	Ground
4	Data IN +	Input Data +
5	Data IN -	Input Data -
6	N.C	-
7	N.C	-
8	N.C	-

14. Media Roll Size



Core		
Diameter(A)	25.4 or 38.1 mm	(1.0 or 1.5 inches)
Max. width	118 mm	(4.65inches)
Roll		
Max.diameter(B)	125 mm	(5 inches)
Max.media width(C)	116 mm	(4.57 inches)
Min.media width(C)	38.1 mm	(1.5 inches)
Max.media thickness	0.15 mm	(0.006 inches)
Min.mdeia thickness	0.06 mm	(0.003 inches)

All types of media should normally be wound with the printable side facing outwards and unroll from the top of the roll.

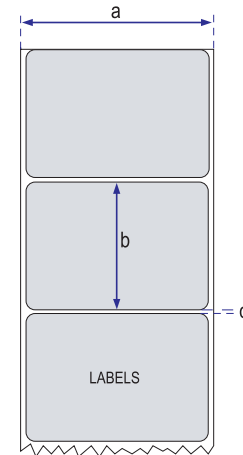
However tags and continuous strip can optionally be wound with the printable side facing inwards and unroll from the bottom of the roll as long as they are not used for cut-off operation.



Protect the printhead from sand, grit, and other hard particles during printing and storage. Keep the cover closed.
Even very small foreign particles may cause severe harm to the printhead.

15. Labels

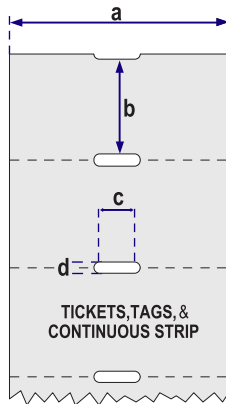
<- a -> Media width (inch, liner)		
Maximum	116.0 mm	(4.57 inches)
Minimum	38.1 mm	(1.5 inches)
<- b -> Label length		
Minimum	10 mm	(0.39 inches)
<- c -> Label gap height		
Maximum	10 mm	(0.39 inches)
Minimum	2 mm	(0.08 inches)
Liner		
Opacity	75%	



16. Tags and Strip with Slots

<- a -> Media width (inch, liner)		
Maximum	116.0 mm	(4.57 inches)
Minimum	38.1 mm	(1.5 inches)
<- b -> Label length		
Minimum	10 mm	(0.39 inches)
<- c -> Label gap height		
Minimum	14 mm	(0.55 inches)
Liner		
Maximum	10 mm	(0.39 inches)
Minimum	2 mm	(0.08 inches)

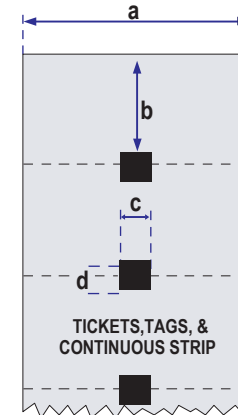
※ The label gap sensor is offset 4.5 mm(0.177 inches) to the right of the center for the media path.



17. Tags and Strip with Black Marks

<- a -> Tag or strip width		
Maximum	116.0 mm	(4.57 inches)
Minimum	38.1 mm	(1.5 inches)
<- b -> Tag length		
Minimum	10 mm	(0.39 inches)
<- c -> Black mark width		
Minimum	14 mm	(0.55 inches)
<- d -> Black mark height		
Maximum	10 mm	(0.39 inches)
Minimum	3 mm	(0.12 inches)

※ The black mark sensor is offset 10 mm (0.394 inches) to the right of the center of the media path. Max. reflectance 5% at 940 nanometer. Carbon black.



18. Plain Continuous Stock

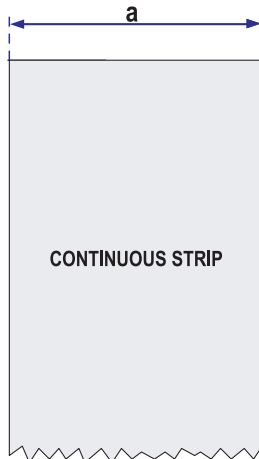
The printer can use continuous stock without any detection slots or black marks.

The printer must be set for continuous stock by the Q command.

The length of each copy is decided by the size of the print image and any additional media feed is decided by the Q command.

Continuous stock cannot be used in the Test (Dump) Mode.

<- a -> Tag or strip width		
Maximum	116.0 mm	(4.57 inches)
Minimum	38.1 mm	(1.5 inches)



19. Specifications

Print method		Thermal Transfer and Direct Thermal
Print speed (Max.)	B20 II	152mm/sec
	B230 II	102mm/sec
Print width (Max.)		104mm (4 inch)
Print length (Max.)		1,000mm
Resolution	B20 II	203dpi (8 dots/mm)
	B230 II	300dpi (12 dots/mm)
Paper width (Min.~Max.)		Min. 18 ~ Max. 118mm
Paper roll size (Min.~Max.)	Internal	Ø 25.4mm ~ Ø 127mm
	External	Ø 38.1mm ~ Ø 200mm
Paper thickness		0.06 ~ 0.20mm
Paper type		Label, Tag, Continuous, Fanfold
Paper sensor		Label Gap, Notch, Black Mark
Ribbon width (outside diameter)		Min. 33 ~ Max. 110mm
Ribbon length		360M, Ø 67mm
Interface	Standard	USB + Serial(RS-232C) + Ethernet
	Option	Wi-Fi, Bluetooth, RFID
System	CPU	Cortex-M4(ARM 32bit Core)
	Memory	Flash 1MB(in CPU), SDRAM 16MB, Serial Flash 8MB, EEPROM 2KB
Serial baud rate (Max.)		115,200bps
Auto cutter (Option)	Life	0.06~0.15mm: 500,000cuts / 0.15~0.18mm: 300,000cuts
	Type	Guillotine
Programming language		ZPL II, EPL II Command compatible
Barcode	1D	Code39, Code128 with subsets A/B/C, Code93, Codabar, Interleaved 2 of 5, UPC-A and UPC-E with 2 or 5 digit extensions, EAN-8 and EAN-13 with 2 or 5 digit extensions, Postnet, Plessey(MSI-1), German Post Code, MSI-3, UCC/EAN-128, Logmars, Code49

20. Command List

ZPL Command List

No.	Command	Description
1	^A	Scalable/Bitmapped Font
2	^B1	Code 11 BarCode
3	^B2	Interleaved 2 of 5 BarCode
4	^B3	Code 39 BarCode
5	^B4	Code 49 BarCode
6	^B5	Planet Code BarCode
7	^B7	PDF417 BarCode
8	^B8	EAN-8 BarCode
9	^B9	UPC-E BarCode
10	^BA	Code 93 BarCode
11	^BC	Code 128 BarCode(Subsets A, B, and C)
12	^BD	UPS MaxiCode BarCode
13	^BE	EAN-13 BarCode
14	^BF	Micro-PDF417 BarCode
15	^BI	Industrial 2 of 5 BarCode
16	^BJ	Standard 2 of 5 BarCode
17	^BK	ANSI Codabar BarCode
18	^BL	LOGMARS BarCode
19	^BM	MSI BarCode
20	^BP	Plessey BarCode
21	^BQ	QR Code BarCode
22	^BS	UPC/EAN Extensions
23	^BU	UPC-A BarCode
24	^BX	Data Matrix BarCode
25	^BY	BarCode Field Default
26	^BZ	POSTNET BarCode
27	^CC	~CC Change Carets
28	^CD	~CD Change Delimiter
29	^CF	Change Alphanumeric Default Font
30	^CI	Change International Font/Encoding
31	^CT	~CT Change Tilde
32	^DF	Download Format

Barcode	2D	MaxiCode, PDF 417, Data Matrix, QR Code, MicroPDF417, AZTEC
Font specification	EPLII	8x12,10x16,12x20,14x24, 32x48 (5 Bitmap Font) : English, 24x24(KSC5601) : Korean
	ZPLII	5x9,7x11,10x18,15x28,13x26,40x60, 13x21 (7 Bitmap Font), 1 smooth scalable font
Driver	Windows Printer Driver XP, 2000, 2003, 2008, Vista, 7(32 & 64bit), 10	
Power	AC100-240V, 24VDC, 2.5A	
Option	Peeler, Auto Cutter, External Paper Supply	
Weight	3.6 kg	
Size (W x D x H)	215 x 287 x 231mm	

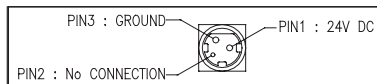
Certification

- 1 CE EMCD (CE-EMCD Class A)
- 2 KC
- 3 CB

Electrical Characteristics

- 1 Input Voltage DC 24V \pm 10%
- 2 Current Consumption
 - Operating: Approx. 2.5 A (at ASC // printing)
 - Peak : Approx. 10 A (at print duty 100%, For 10 seconds or less)
 - Stand-by : Approx. 0.15 A

- 3 Power Connector



No.	Command	Description
33	~DG	Download Graphics
34	^FB	Field Block
35	^FC	Field Clock(for Real-Time Clock)
36	^FD	Field Data
37	^FH	Field Hexadecimal Indicator
38	^FN	Field Number
39	^FO	Field Origin
40	^FP	Field Parameter
41	^FR	Field Reverse Print
42	^FS	Field Separator
43	^FT	Field Typeset
44	^FV	Field Variable
45	^FW	Field Orientation
46	^FX	Comment
47	^GB	Graphic Box
48	^GC	Graphic Circle
49	^GD	Graphic Diagonal Line
50	^GE	Graphic Ellipse
51	^GF	Graphic Field
52	^GS	Graphic Symbol
53	^ID	Object Delete
54	^IL	Image Load
55	^IM	Image Move
56	^IS	Image Save
57	^LH	Label Home
58	^LL	Label Length
59	^LR	Label Reverse Print
60	^LS	Label Shift
61	^LT	Label Top
62	^MC	Map Clear
63	^MD	Media Darkness
64	^MM	Print Mode

No.	Command	Description
65	^MN	Media Tracking
66	^MT	Media Type
67	^PM	Printing Mirror Image of Label
68	^PO	Print Orientation
69	^PQ	Print Quantity
70	^PR	Print Rate
71	^PW	Print Width
72	^SC	Set Serial Communications
73	~SD	Set Darkness
74	^SN	Serialization Data
75	^ST	Set Date and Time(for Real-Time Clock)
76	^XA	Start Format
77	^XF	Recall Format
78	^XG	Recall Graphic
79	^XZ	End Format

RFID Command

No.	Command	Description
80	^HL or ~HL	Return RFID Data Log to Host
81	^RF	Read or Write RFID Format
82	^RI	Get RFID Tag ID
83	^RR	Specify RFID Retries for a Block
84	^RS	Set Up RFID Parameters
85	^WT	Write(Encode) Tag

21. Utilities

The following utilities and concerned manual can be found on the QR or homepage.

No.	Name	Description
1	SEWOO Label Printer Configuration Tool	SEWOO Label Printer Configuration Tool. This program provides the following functions. <ul style="list-style-type: none">- Set Ethernet and RS232- Set beep sound for each error- Set detailed sensor calibration conditions- Set the print density, speed, tear-off amount after printing, and operation at booting & cover close action- Download the printer firmware- Download the resident font
2	SEWOO Label Printer Wi-Fi	This program provides detailed Wi-Fi setting functions.
3	SEWOO Label Printer Bluetooth Configuration Tool	This program provides detailed Bluetooth setting functions.
4	Font Downloader (ZPL supported)	This program provides a function to download the device system font to the printer.
5	LabelCooker	This program is for label form design and designed label printing.
6	ImageConverter (ZPL supported)	This program provides a function to download images or logos.

22. S/W

We provides SDK, Driver, etc. as follows to respond to various S/W usage environments.

You can download this S/W from the homepage.

No	Name	Description
1	Windows Driver	This is an install program used to print a label printer in Windows OS. After installing the Windows Driver, you can use a program like Label Cooker.
2	Mac Driver (EPL supported)	This is the Cups Driver used to print a label printer in the Mac OS environment.
3	Windows SDK	This is library for communication and data output with label printer in Windows OS. A method that can be used after installing Windows Driver (Windows GDI & Spool SDK) and a method to use without driver installation (Windows Direct SDK) are provided.
4	Android SDK	This is library for communication and data output with label printers in Android OS.
5	iOS SDK	This is library for communication and data output with label printers in iOS.



QR Page