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RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTION



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.

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1. Safety Caution

For higher reliability and safety, consider the following precautionary measures. Read and follow the instructions carefully before running of the product.

Indication



Prohibition



Must follow



Do not disassemble



Unplug the power from the



Grounding to prevent electric



Do not handle the product with wet hands



WARNING

Failure to follow these instructions could result in fire, electric shock. or 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 pressed by heavy object. (Potential risk of electric shock or fire)





Do not overload the power plug into one

(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, or other injuries, or property damage





Do not pull out the power plug to turn off the product.

(Turn off the power at installation, transportation, wiring and inspection.)





Do not disassemble, repair or modify the

(Potential risk unit malfunction, electric shock or fire. When the product needs to be repaired, please contact in place where you ordered.inspection.)



CAUTION

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





Do not install the product in uneven or inclined surface.

(You may get hurt and it can be broken when it falls)





Keep product away from the water and other material.

(Potential risk of discoloration or electric shock)





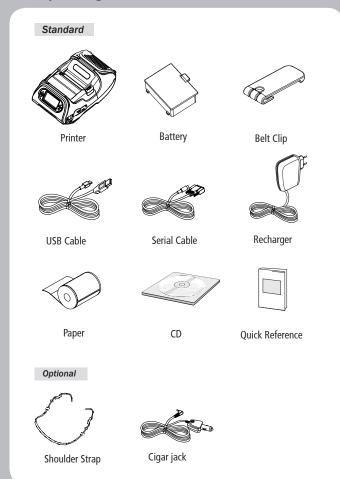
If the product that needs to be repaired, please contact in place where you ordered. (Potential risk of fire or unit malfunction)



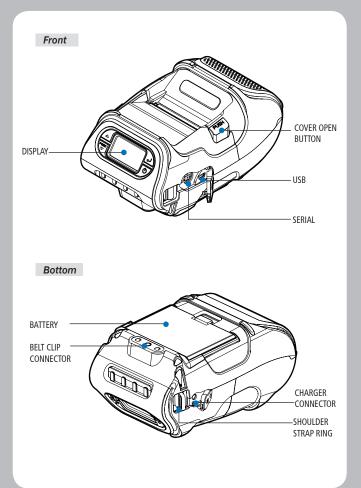


Please do not give excessive shock. (Potential risk of fire or unit malfunction)

2. Unpacking

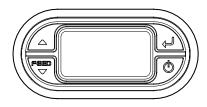


3. Product overview



4. Setting Up the Product

4-1. Display

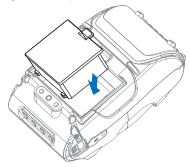


Button	Name	function	
FEED	Paper Feed/ Down button	Advances the supply. Clears error message. Moves down through menu options. 1. Refer to "4-9" for Diagnostic Test information. 2. Refer to the service manual regarding Hexadecimal Dumping.	
	Enter button	Selects the highlighted menu option.	
\triangle	Up button	Moves up through menu options.	
O	Power button	Turns the printer on and off. Press to turn power on. Press for three seconds to turn power off. Wakes the printer from sleep mode.	

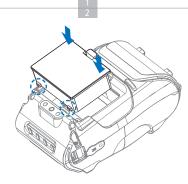
√ NOTE

- The battery status icon in LCD indicates amount of power remaining.
 Actual run-time remaining depends on factors such as the contents of output, distance to computer, etc.
- 2. When the battery level is very low, high density printing can result in the printer switching off during printing resulting in possible loss of data.

4-2. Installing the Battery



Remove the battery. Insert the battery as shown.



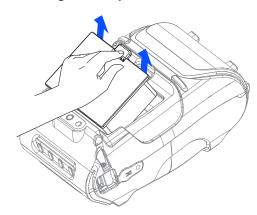
Replace the battery.

√ NOTE

You must fully charge the battery when you receive the printer.

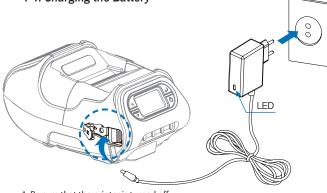
Batteries can be charged in the printer or in an optional external cradle

4-3. Removing the Battery



Remove the battery. Lift out the battery.

4-4. Charging the Battery



- 1. Be sure that the printer is turned off
- 2. After open the DC JACK cover, insert DC JACK into the printer.
- 3. Plug the power code to electrical outlet.

4-4-1 The status of lamp in charging

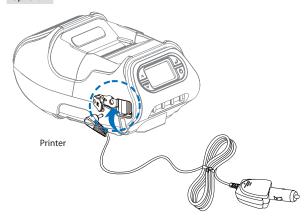
Status charging		charging complete	
Charging Lamp	Red	Green	

√ NOTE

If there is trouble while charging the battery, the charge indicator LED blinks green. Try unplugging and reconnecting charger, charging should resume. Charging is complete when the LED changes to solid green.

4-5 Usage of Cigar Jack Charger

Optional



Connect the vehicle charger to the printer.

Input	12 ~ 24V
Output	8.4V 0.8 ~ 1.2A

√ NOTE

Connect the vehicle charger to the printer.

4-6. Belt clip Usage



Insert screw into belt clip.



Tighten the screw with driver as shown.

V NOTE

The belt clip is included with the printer but is not required to be used or installed!

4-7. Roll Paper installation



Open the Paper cover by pressing the Open button and set the width of paper guide by turning the knob with finger.



Put the stock in so it unrolls from the bottom. Remove the stock core when it is empty. Pull a short length of stock out of the printer.



Close the cover.



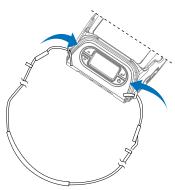
Close the paper with both hands and run the paper line up by pressing feed button.

√ NOTE

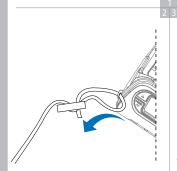
If the users close the cover with one hand, it would not be closed completely.
Please use both hands to close.

4-8. Shoulder Strap Installation

Optional



Insert the strap into the hook of the printer.



Place the end of the strap into the hook of shoulder strap.

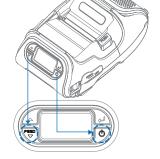


After pulling out the end of the strap tightly, put it into the clip to be fastened.

4-9. Diagnostic Test

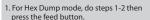


Turn off the printer.



Press and hold the feed button and power button.

▼ NOTE



- 2. After printing ASCII pattern, the diagnostic test is complete.
- 3. If the feed button is not pressed to go to Hex Dump mode, the printer exits diagnostics after three seconds.



The information label prints.

The sample of self test printout



Upon initial installation or for troubleshooting, you can run the diagnostic test to get information about:

Firmware version, emulation, codepage, sensor settings, interface settings, etc.

If no issues are found with diagnostic test, examine other devices and software.

The diagnostic test is working independent of devices and software.

Do not overheat the motor

To prevent the motor from overheating, stop the printer for at least 30 seconds after continuously printing 1.5 meters.

5. Peripherals Connection

This product can communicate with other devices via Bluetooth & Wi-Fi(802.11b/g) communication and cable.



5-1. Bluetooth Connection Optional

- 1. Printer can be connected to the PDA and PC which can do wireless communication.
- 2. By using Bluetooth function supported in PC, printer can be connected.



Refer to the System Administrator Guide for more information.

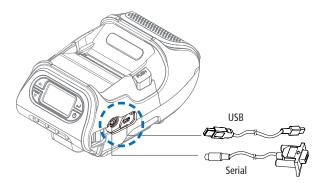
5-2. Wi-Fi(802.11b/g) Connection Optional

- The Printer can be connected to devices equipped with Wi-Fi(802.11b/g) communication capacity (PDAs, PCs, etc.)
- 2. Use the Wi-Fi(802.11b/g) connection function supported by the device to connect to the printer.

▼ NOTE

Refer to the Wi-Fi(802.11b/g) Manual for more details on connection.

5-3. Interface Cable Connection



1. Connect the USB or Serial cable to the cable connector on the printer.

√ NOTE

Use only the cables offered by the printer manufacturer.

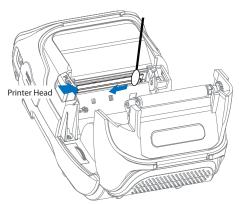
2. Connect the interface cable into the USB or Serial port of the device (PDA, PC, etc.)

6. Printer cleaning

If the interior of the printer is dusty, printing quality can be lowered. In this case, follow the instructions below to clean the printer.

6-1. Printer Head Cleaning

- Use an applicator swab moistened with an isopropyl alcohol to clean the printer head and remove any dust.
- 2. Once cleaning is complete, allow the printer to dry then install the stock and close the cover.

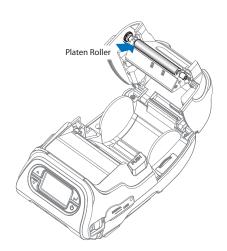


✓ NOTE

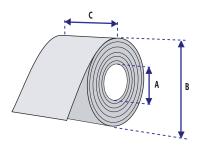
- 1. Make sure to turn the printer power off prior to cleaning.
- 2. The printer head can become very hot during printing; allow the printer approximately 10 minutes to cool before cleaning.
- $3.\,\mbox{Do}$ not touch the printer head, it can be damaged by static electricity.
- 4. Take care not to allow the printer head to become scratched and /or damaged in any way.

6-2. Platen Roller Cleaning

- 1.Clean the platen roller with a clean soft cloth moistened with isopropyl alcohol or a cleaning pen.
- 2. Turn the platen roller with your finger to clean the entire surface.



7. Roll media specification



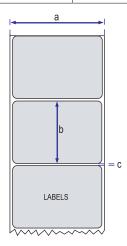
Core	
Diameter(A)	12.5mm +/-0.5mm
Roll	
Max.diameter(B)	Max. Ф56mm
Max.media width(C)	58±0.5mm
Min.media width(C)	12.7±0.5mm
Max.media thickness	0.16mm
Min.media thickness	0.06mm



Protect the media against 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 delicate printhead.

8. Label specification

< a> Media width (inch, liner)		
Maximum	54±0.5mm	
Minimum	8.7±0.5mm	
< b> Label length		
Minimum	12.7~300mm	
< c> Label gap height		
Maximum	8.3mm	
Minimum	1.8mm	
Liner		
Opacity	50~75%	



9. Printer Specification

9-1. Specification

Printing Method		Direct Thermal	
Printing Speed		100mm/sec	
Resolution		203 DPI X 203 DPI	
Character		ALPHA NUMERIC Character, Extension Character	
Character	ESC/POS	FontA(12x24), FontB(9x17), Asian Font(KOR, JPN,CHN_GB2312,CHN_BIG5)	
	CPCL	Font0/1/2/4/5/6/7, 24x24 Asian Font(KOR, JPN,CHN_GB2312,CHN_BIG5), Resident TTF, Downloadable TTF	
	ZPL	FontA~H, FontGS,Resident TTF(Font0), Download- able TTF	
	EPL	Font1 ~ 8	
Barcode	ESC/POS	1D: EAN-8, EAN-13, Code39, ITF, UPC-A, UPC-E, Codabar, Code93, Code128 2D: QR, PDF417	
	CPCL	1D: LUPC-A(+2,+5), UPC-E(+2, +5), EAN13(+2,+5), EAN8(+2,+5), Code39 etc. (CPCL) 2D: QR, PDF417, MicroPDF417, Maxicode, Datamatrix, Aztec, TLC39, RSS14	
	ZPL	1D : Code11, ITF, Code39, Planet, EAN-8, UPC-E, Code93, Code128 etc. (ZPLII) 2D: QR, PDF417, MicroPDF417, Maxicode, Datamatrix, Aztec, TLC39, RSS14	
	EPL	1D : Code39, Code93, Code128, Codabar, EAN-(+2,+5), EAN13(+2,+5), ITF etc. (EPLII) 2D : QR, PDF417, Maxicode, Datamatrix, Aztec, RSS14	
Emulation		ESC/POS, ZPL, CPCL Command compatible	
Driver		Window CE 4.2&5.0, Window Mobile 5.0	
Sensor		Black-Mark Upper/Lower, Gap, Cover open, Media-Width Detect	

Paper	Paper type	Thermal Paper
	Width	12.7~58mm
	Thickness	0.06 ~ 0.16mm
	External Diameter	Max. <i>Ф</i> 56mm
	Internal Diameter	12.5mm±0.5mm
Reliability	TPH	50km
	Battery	Continuous Printing 54min Standby for 11hours Printing length: 249.8M
Communications	Standard	Serial(RS-232C), USB
	Optional	Bluetooth Class2 or Wi-Fi(802.11b/g)
Battery Charger	Input	AC100~240V, 50/60Hz
	Output	8.4V , 800~1200mA
Battery	Battery type	Li-ion
	Output	7.4V, 2600mAh/19.24Wh
	Charging time	3.7 Hrs Charging
Size	WxDxH(mm)	104 x 85 x 158
	WxDxH"	4.1 X 3.34 X 6.22
Weight		570g
Environmental seal	ling	IP42
Temperature	Operation	5~50℃
	Storage	-20~60°C
Humidity	Operation	35 ~ 80%
	Storage	10 ~ 90%

8. CPCL Command Compatibility

▼ NOTE

Compatible	Compatible with only commanders provided by the manufacturer.	Partially Compatible	Not Compatible
0	•	Δ	x

Printer Commands	Compatibility
PRINT	0
FORM	0
JOURNAL	0
UNITS	0
USING COMMENTS	0
TEXT	Compatibility
TEXT	0
FONT-GROUP(FG)	0
TEXT CONCATENATION	0
MULTILINE(ML)	0
COUNT	0
SETMAG	0
SCALABLE TEXT	Compatibility
SCALE-TEXT	0
SCALABLE CONCATENATION	0
LINEAR BARCODES	Compatibility
BARCODE	0
BARCODE-TEXT	0
COUNT	0
Two-Dimensional Bar Codes	Compatibility
PDF417 (PORTABLE DATA FILE)	0
MICROPDF-417	•
MAXICODE	0
QRCODE	0
	

DATAMATRIX	•
GS1(RSS-14)	0
AZTEC	0
GRAPHICS	Compatibility
BOX	Compatibility
LINE	0
INVERSE-LINE	0
PATTERN	0
GRAPHICS	0
PCX	0
Advanced Commands	Compatibility
CONTRAST	O
TONE	0
JUSTIFICATION	0
PAGE-WIDTH	0
PACE	0
NO-PACE	0
WAIT	0
SPEED	0
SETSP	0
ON-FEED	0
PREFEED	0
POSTFEED	0
COUNTRY/CODE PAGE	0
FORMAT FILES	0
BEEP	0
Line Print Mode	Compatibility
SETLP	0
SETLF	0
Moving With X and Y Coordinates	0
LMARGIN	0

SETBOLD	0
SETSP	0
Special ASCII Characters	0
SETFF	0
SET-TOF	0
SETLP-TIMEOUT	0
ADVANCED UTILITIES	Compatibility
VERSION	0
CHECKSUM	0
DEL	0
DIR	0
DEFINE-FILE	0
TYPE	0
BAUD	0
COUNTRY / CODE-PAGE	0
TIMEOUT	0
BEED	0
ON-LOW-BATTERY	0
LT	0
SET-TIME	0
GET-TIME	0
SET-DATE	0
GET-DATE	0
PRINTING A TIME STAMP	0
PRINTING A DATE STAMP	0
PAPER-JAM	0
PRINTER ESCAPE	Compatibility
SET AND READ CODE	Δ
STATUS / INFROMATION	0
USER LABEL COUNT	0
POWER OFF	0

9. ESC/POS Command Compatibility

Command	Function	Compatibility
HT	Horizontal tab	0
LF	Print and line feed	0
CR	Print and carriage return	0
FF	Print end position label to start printing	0
CAN	Cancel print data in page mode	0
DLE EOT	Real-time status transmission	0
DLE ENQ	Real-time request to printer	0
ESC FF	Print data in page mode	0
ESC SP	Set character right-side spacing	0
ESC!	Set print mode	0
ESC \$	Set absolute print position	0
ESC %	Select/cancel user-defined character set	0
ESC &	Define user-defined characters	0
ESC *	Set bit image mode	0
ESC -	Turn underline mode on/off	0
ESC 2	Set 1/6 inch line spacing	0
ESC 3	Set line spacing using minimum units	0
ESC ?	Cancel user-defined characters	0
ESC @	Initialize printer	0
ESC D	Set horizontal tab positions	0
ESC E	Select emphasized mode	0
ESC G	Select double-strike mode	0
ESC J	Print end feed paper using minimum units	0
ESC L	Select page mode	0
ESC M	Select character font	0
ESC R	Select international character set	0
ESC S	Select standard mode	0
ESC T	Select print direction in page mode	0
ESC V	Set/cancel 90cw rotated character	0
ESC W	Set printing area in page mode	0

Command	Function	Compatibility
ESC\	Set relative position	0
ESC a	Align position	0
ESC d	Print and feed paper n lines	0
ESC t	Select character code table	0
ESC {	Set/cancel upside-down character printing	0
FS p	Print NV bit image	0
FS q	Define NV bit image	0
GS!	Select character size	0
GS \$	Set absolute vertical print position in page mode	0
GS *	Define downloaded bit image	0
GS /	Print down-loaded bit image	0
GS B	Turn white/black reverse printing mode on/off	0
GS H	Select printing position of HRI characters	0
GS I	Transmit printer ID	0
GS L	Set left margin	0
GS W	Set printing area width	0
GS\	Set relative vertical print position in page mode	0
GS a	Enable/disable Automatic Status Back(ASB)	0
GS f	Select font for HRI characters	0
GS h	Set bar code height	0
GS k	Print bar code	0
GS r	Transmit status	0
GS v 0	Print raster bit image	0
GS w	Set bar code width	0
GS S C	Set Serial Baudrate	0
DLE EOT n	Selects card read mode / Cancel card read mode	0
GS S P	Power Save Mode	0

10. ZPL Command Compatibility

ABB O O O O O	Command	Compatibility
ABI O AB2 O AB3 O AB4 O AB5 O AB5 O AB6 O AB7 O AB8 O AB9 O ABA O ABB O ABB O ABB O ABC O ABD O ABE O ABF O ABI O ABI O ABI O ABM O ABM O ABP O ABR O ABR O ABR O ABS O	^A	0
AB2 O AB3 O AB4 O AB5 O AB6 O AB6 O AB7 O AB8 O AB9 O ABA O ABB O ABB O ABC O ABD O ABE O ABE O ABI O ABI O ABI O ABI O ABI O ABM O ABM O ABP O ABR O ABR O ABR O ABS O	^B0	0
ABB3 O ABB4 O ABB5 O ABB6 O ABB7 O ABB8 O ABB9 O ABB0 O ABB0 O ABC O ABD O ABE O ABI O	^B1	0
^BB4	^B2	0
ABS O ABB O O O O	^B3	0
AB6 O AB7 O AB8 O AB9 O AB9 O ABA O ABB O ABB O ABC O ABC O ABC O ABC O ABF O ABI O ABI O ABK O ABM O ABO O ABP O ABQ O ABR O ABS O ABS O	^B4	0
ABF O ABB O ABB9 O ABBA O ABBB O ABB O ABC O ABD O ABD O ABE O ABF O ABI O ABI O ABK O ABM O ABO O ABP O ABQ O ABR O ABS O ABI O	^B5	0
ABB O ABB9 O ABBA O ABBB O ABBB O ABC O ABD O ABD O ABE O ABF O ABI O ABI O ABK O ABM O ABM O ABP O ABQ O ABR O ABS O ABS O	^B6	0
ABB9 O ABBA O ABBB O ABBC O ABD O ABD O ABE O ABF O ABI O ABJ O ABK O ABK O ABM O ABO O ABP O ABQ O ABR O ABS O ABT O	^B7	0
ABBA O ABBB O ABC O ABC O ABD O ABE O ABF O ABI O ABJ O ABK O ABK O ABM O ABM O ABO O ABP O ABQ O ABR O ABS O ABT O	^B8	0
ABB O ABC O ABC O ABD O ABE O ABF O ABI O ABJ O ABK O ABL O ABM O ABO O ABP O ABQ O ABR O ABS O ABT O	^B9	0
ABC O ABD O ABD O ABE O ABF O ABI O ABJ O ABK O ABL O ABM O ABO O ABP O ABQ O ABR O ABS O ABT O	^BA	0
ABD O ABE O ABF O ABI O ABJ O ABK O ABK O ABL O ABM O ABM O ABO O ABP O ABQ O ABR O ABS O ABT O	^BB	0
ABE O ABF O ABI O ABJ O ABK O ABK O ABL O ABM O ABO O ABP O ABQ O ABR O ABS O ABT O	^BC	0
ABF O ABI O ABJ O ABK O ABK O ABL O ABM O ABM O ABO O ABP O ABQ O ABR O ABS O ABT O	^BD	0
ABI O ABJ O ABK O ABL O ABM O ABO O ABP O ABQ O ABR O ABS O ABT O	^BE	0
ABJ O ABK O ABL O ABM O ABO O ABP O ABQ O ABR O ABS O ABT O	^BF	0
ABK O ABL O ABM O ABO O ABP O ABQ O ABR O ABS O ABT O	^BI	0
ABL O ABM O ABO O ABP O ABQ O ABR O ABS O ABT O	^BJ	0
^BBM O ^BBO O ^BBP O ^BQ O ^BR O ^BS O ^BT O	^BK	0
^BBO O O ^ABP O O O O O O O O O O O O O O O O O O O	^BL	0
^BBP O ^BBQ O ^BBR O ^BS O ^BT O	^BM	0
^BQ O O O O O O O O O O O O O O O O O O O	^B0	0
^BR	^BP	0
^BS O	^BQ	0
^BT 0	^BR	0
	^BS	0
^BU O	^BT	0
	^BU	0

Command	Compatibility
^BX	0
^BY	0
^BZ	0
^CC ~CC	0
^CD	0
^CF	0
^CI	0
^CT ~CT	0
~DF	0
~DG	0
^FB	0
^FC	0
^FD	0
^FH	0
^FN	0
^FO	0
^FP	0
^FR	0
^FS	0
^FT	0
^FV	0
^FW	0
^FX	0
^GB	0
^GC	0
^GD	0
^GE	0
^GF	0
^GS	0

Command	Compatibility
^ID	0
^IL	0
^IM	0
^IS	0
~JR	0
^JS	0
~JS	0
^KL	0
^LH	0
^LL	0
^LR	0
^LS	0
^LT	0
^MC	0
^MD	0
^MN	0
^PM	0
^PO	0
^PQ	0
^PR	0
~PR	0
^PW	0
^SC	0
^SD	0
^SF	0
^SL	0
^SN	0
^\$0	0
^ST	0

Command	Compatibility
~TA	0
^XA	0
^XF	0
^XG	0
^XZ	0
^ZZ	0

PATENT

