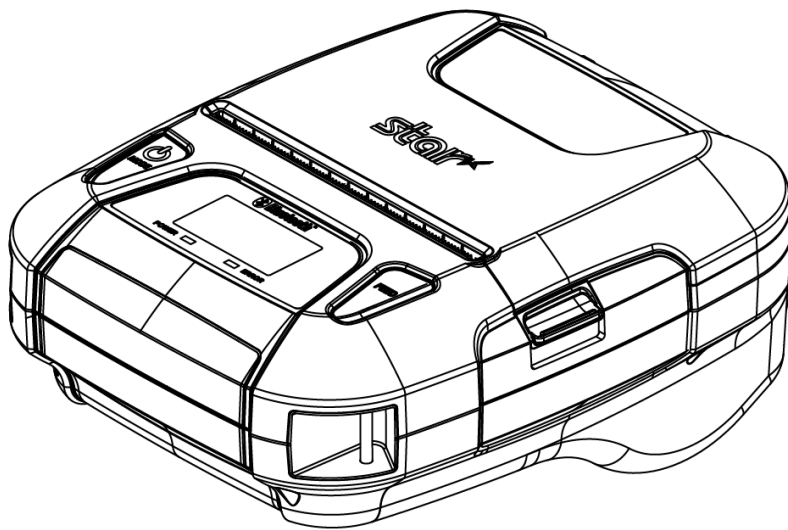


Portable Thermal Printer SM-L304& SM-L300 SERIES User Manual



<USA model>

**Federal Communications Commission
Radio Frequency Interference Statement**

This device complies with Part 15 of the FCC Rules and Industry Canada licence-exempt RSS standard(s).

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.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes :

(1) l'appareil ne doit pas produire de brouillage, et

(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

FCC WARNING

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

For compliance with the Federal Noise Interference Standard, this equipment requires a shielded cable. For RF interference suppression, if a ferrite core is provided with this device, affix it to the interface cable.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAN ICES-3 (B) / NMB-3 (B)

This equipment complies with FCC/IC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines in Supplement C to OET65 and RSS-102 of the IC radio frequency (RF) Exposure rules. This equipment has very low levels of RF energy that it is deemed to comply without maximum permissive exposure evaluation (MPE). But it is desirable that it should be installed and operated keeping the radiator at least 20cm or more away from person's body (excluding extremities: hands, wrists, feet and ankles).

Cet équipement est conforme aux limites d'exposition aux rayonnements énoncées pour un environnement non contrôlé et respecte les règles des radioélectriques (RF) de la FCC lignes directrices d'exposition dans le Supplément C à OET65 et d'exposition aux fréquences radioélectriques (RF) CNR-102 de l'IC. Cet

équipement émet une énergie RF très faible qui est considérée conforme sans évaluation de l'exposition maximale autorisée. Cependant, cet équipement doit être installé et utilisé en gardant une distance de 20 cm ou plus entre le dispositif rayonnant et le corps (à l'exception des extrémités : mains, poignets, pieds et chevilles)

The above statement applies only to equipments marketed in U.S.A.

<Europe model>

English:	Hereby, STAR MICRONICS CO.,LTD. declares that this Wireless Device is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU.
Deutsch: [German]	Hiermit erklärt STAR MICRONICS CO.,LTD., dass sich das Gerät Wireless Device in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 2014/53/EU befidet.
Svenska: [Swedish]	Härmed intygar STAR MICRONICS CO.,LTD. att denna Wireless Device står i överensstämmelse med de väsentliga egenskapskravoch övriga relevanta bestämmelser som framgår av direktiv 2014/53/EU.
Español: [Spanish]	Por medio de la presente STAR MICRONICS CO.,LTD. declara que el Wireless Device cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 2014/53/UE.
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Italiano: [Italian]	Con la presente STAR MICRONICS CO.,LTD. dichiara che questo Wireless Device è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 2014/53/UE.
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Caution Symbol



This symbol is placed near the thermal head to indicate that it may be hot.
Never touch the thermal head immediately after the printer has been used. Let the thermal head cool for a few minutes before touching it.



This symbol is placed near the thermal head to indicate that it is easily damaged.
Observe the precautions for handling electrostatic sensitive devices.

Safety Precautions

Please be sure to read

To use this product in safety, please follow the precautions given below.

WARNING

- ✓ If you notice smoke, a strange smell, or a strange sound, turn off the power immediately, and remove the USB cable and/or battery pack. Then contact the dealer.
 - ✓ If any foreign material (metal scraps, water, or other fluid) enters the printer, immediately turn off the printer and remove the USB cable and/or battery pack. Then, contact your dealer for advice. Continued use of the printer could result in a fire.
 - ✓ Never attempt to repair the printer yourself. Also do not disassemble or modify the product. Doing so could lead to injury, fire, or electric shock.
 - ✓ Do not touch the tear bar.
 - . There is a tear bar inside the paper outlet slot. Neither put your hand in the paper outlet slot while printing is in progress, or put your hand into the outlet even when printing is not in progress.
 - . The printer cover can be opened when replacing the paper. However, since the tear bar is on the inside of the printer cover, be careful not to place your face or hands too close to the tear bar.
 - ✓ During and immediately after printing, the area around the thermal head is very hot. Do not touch it, as you could be burned.
 - ✓ If any battery fluid gets on your skin or clothing, immediately wash the affected area with fresh water. Otherwise, skin damage may result.
 - ✓ The battery pack may be hot immediately after the product has been used.
-

■ Using the Printer

- ✓ Some semiconductors can be damaged by static electricity. Be sure to turn off the printer when inserting or removing the battery pack.
- ✓ Do not drop the printer or hit it against a hard object.
- ✓ Do not open the printer cover while the printer is printing.
- ✓ Before you open the printer cover, make sure that printing data is not being sent to the printer.
- ✓ Do not unplug or plug in a USB cable while the printer is printing or during communication.
- ✓ Do not touch a USB connector while the printer is printing.
- ✓ Turn off the printer when you are not using it.
- ✓ When the printer is used in a low temperature environment, the battery's performance will be diminished, and the amount of time that you can use the printer for may be reduced.
- ✓ Do not pull out paper while the printer cover is closed.
- ✓ The heating element and the driver IC of the thermal head are easily damaged. Do not touch them with metal objects, sandpaper, etc.
- ✓ Printing quality may suffer if the thermal head heating element becomes soiled by being touched with your hands. Do not touch the thermal head heating element.
- ✓ There is a risk of damage to the driver IC of the thermal head from static electricity.
Never directly touch the IC.
- ✓ Do not operate the printer if there is moisture on the front surface of the head from condensation, etc.

■ Thermal Paper Handling

- ✓ Only use thermal paper with the designated specifications. The printing quality and working life of the thermal head cannot be guaranteed if any paper other than that recommended is used. In particular, if ion concentration of [Na⁺, K⁺, Cl⁻] is high, it may drastically reduce the working life of the thermal head. Please exercise caution.
- ✓ Store the thermal paper in a cool, dry, dark location.
- ✓ Do not rub the thermal paper with a hard object.
- ✓ Do not leave the thermal paper in contact with plastic film, an eraser, or adhesive tape for a long period of time.
- ✓ Do not stack the thermal paper on fresh diazo copies or wet-type copies.
- ✓ Do not use chemical glue on the thermal paper.
- ✓ Do not use thermal paper that has been stored for a long period.

■ Operating Environment for the Printer

Before actually unpacking the printer, you should take a few minutes to think about where you plan to use it. Remember the following points when doing this.

- ✓ Do not use the printer in an environment in which it will be subject to strong shaking while it is printing.
- ✓ Be careful to ensure that the printer is not exposed to direct sunlight.

The appropriate environment for using the printer is described below.

Temperature: 0°C to 50°C

Humidity: 20% RH to 85% RH (Must be no condensation)

- ✓ Do not place the printer near a copying machine or other device that produces a strong electromagnetic field.
- ✓ Keep the printer sufficiently removed from heaters and other sources of heat.
- ✓ Use the printer in a clean, low-humidity environment that is free from dust.
- ✓ Avoid using the printer in high-humidity rooms.

■ Printer Maintenance

Please perform the following maintenance every 6 months.

- ✓ Thermal head

Dip a cotton swab in an alcohol solvent (ethanol, methanol, or isopropyl alcohol), and clean the heating area of the head.

- ✓ Platen

While turning the platen, use a soft dry cloth to lightly rub the entire surface of the platen and remove any foreign objects.

- ✓ Paper storage unit and the surrounding area

Remove any dirt, dust, pieces of paper, etc., from the paper storage unit.

- ✓ Card reader

Regularly blow air onto the card reader to remove any dust from the card slot.

■ Maintenance for using Linerless Label Paper

Please perform the following maintenance every 100 meters. The maintenance is also required if you find the glue is stuck when a paper roll is ended.

Remove any dirt, dust, pieces of paper, etc.

■ Using a Magnetic Card

- ✓ Do not bring magnets near the card, and do not store the card near a device that produces a magnetic field (such as a mobile phone, speaker, or TV). If you do so, the data on the card may be deleted.
- ✓ Do not leave the card in a high-temperature environment (such as the dashboard of a car). Otherwise, the card may bend.
- ✓ Do not touch the card with dirty or wet hands. Also, do not attach adhesive tape or glue to the card. Failing to follow the above precautions could cause the card to stop working properly.

Table of Contents

1. Product Overview.....	12
1.1 Printer & Accessories.....	13
1.2 Appearance and Components.....	14
2. Setup.....	16
2.1 Battery Pack.....	16
2.1.1 Inserting into the Printer.....	16
2.1.2 Charging the Battery.....	17
2.2 Bluetooth.....	20
2.2.1 Pairing.....	20
2.3 Loading Paper.....	21
2.3.1 De-curl Setting.....	21
2.3.2 Paper Guide Adjustment.....	23
2.3.3 Loading paper to the printer.....	24
2.4 Belt Clip.....	26
2.4.1 Attaching to the Printer.....	26
2.4.2 Using the Belt Clip.....	26
3. Control Panel & Buzzer.....	27
3.1 Button.....	27
3.2 LED & LCD Display / Error.....	28
3.2.1 LED & LCD Display.....	28
3.2.2 LED & LCD Display for Error.....	31
3.3 Self Test.....	34
3.3.1 Self Test Procedure.....	34
3.3.2 Printing the Bluetooth Device Name and MAC Address.....	34
3.4 Memory Switch Settings (Using Buttons On the Printer).....	35
3.5 Hex Dump Mode.....	41
3.6 Instruction for Power Management.....	42
3.6.1 Standby Time.....	42
3.6.2 Auto-Off Time.....	42
3.6.3 Smart Power Option.....	42
4. Magnetic Card Reader (For MSR model only).....	44
5. Paper.....	46
5.1 Paper Specification.....	46
5.2 Recommended Paper.....	49
5.3 Printing Range.....	49
5.3.1 Receipt (thermal) Paper.....	50

5.3.2 Label Paper.....	50
5.4 Specification of Black Mark	51
5.4.1 Receipt Paper	51
5.4.2 Label Paper.....	52
5.5 Specifications of LABEL GAP	52
6. General Specification	53
7. Detailed Specification	56
8. Memory Switch Specifications	58
9. How to Display the Model Name.....	73
10. Interface.....	74
10.1 USB	74
10.2 Bluetooth.....	75
11. Specifications of Accessories.....	76
11.1 Battery Pack	76
11.2 Belt Clip.....	76
11.3 USB Cable	76
11.4 Ferrite Core.....	77
12. Troubleshooting Procedure.....	78
12.1 Troubleshooting Guide	79
12.1.1 Power Supply Failure	79
12.1.2 Printing Failure	80
12.1.3 Sensor Failure	81
12.1.4 Paper Feed Failure	82
13. Fitting Regulation.....	83
13.1 Printer.....	83
13.2 Battery Pack.....	83
14. Release History.....	84

This manual supports the following firmware version.

Firmware Version	Ver.1.0
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Refer to the appropriate manual which supports the firmware version of you printer.

The firmware version can be confirmed by the self-test.(Refer to 3.3 Self-test)

1. Product Overview

This printer is perfect for mobile banking systems, retail, POS (point of sale) terminals and other forms of mobile computing.

The characteristics of this printer are listed below:

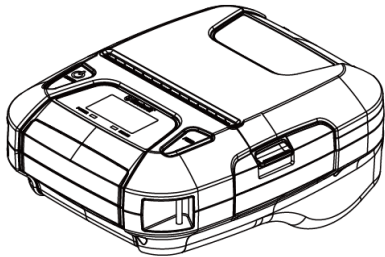
- Support Adhesive Label Paper and Linerless Label paper
 - Support to switch the de-curl function when receipt is used.
 - Adjustable range of Roll Paper Width : 40 to 80mm
 - Very silent printing direct thermal printing method
 - Print maximum speed 65mm/s (Paper feed maximum speed 65mm/s)
 - Support Bluetooth Ver3.0/4.0[BLE] Dual Mode
 - Support Secure Magnetic Stripe Reader <Model with Card Reader>
 - *AES or 3DES encryption
 - *DUKPT Key Management
 - Support Graphic LCD(128x64 dots) with Blue Backlight
 - Belt Clip as a standard accessory
 - Support text, barcode and graphic printing
 - Drop-in design that makes it easy to load paper
 - This printer is supported with the printer cover open sensor, paper end sensor, black mark sensor, transmissive sensor(gap sensor), thermal head thermister and printer internal thermister.
-

1.1 Printer & Accessories

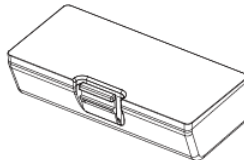
The printer is packaged with the following accessories.

If any of these accessories is broken or missing, please contact the dealer that you bought the product.

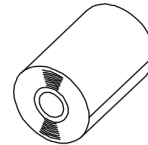
■ Standard Accessories



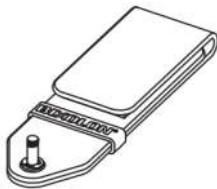
Printer



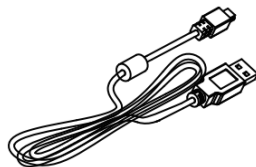
Battery Pack



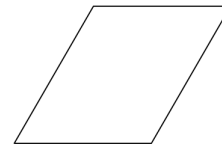
Sample Roll Paper



Belt Clip



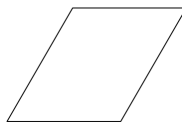
USB Cable



Safety Instruction Sheet

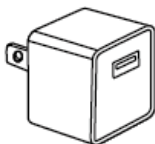


Ferrite Core



Ferrite Core Instruction Sheet

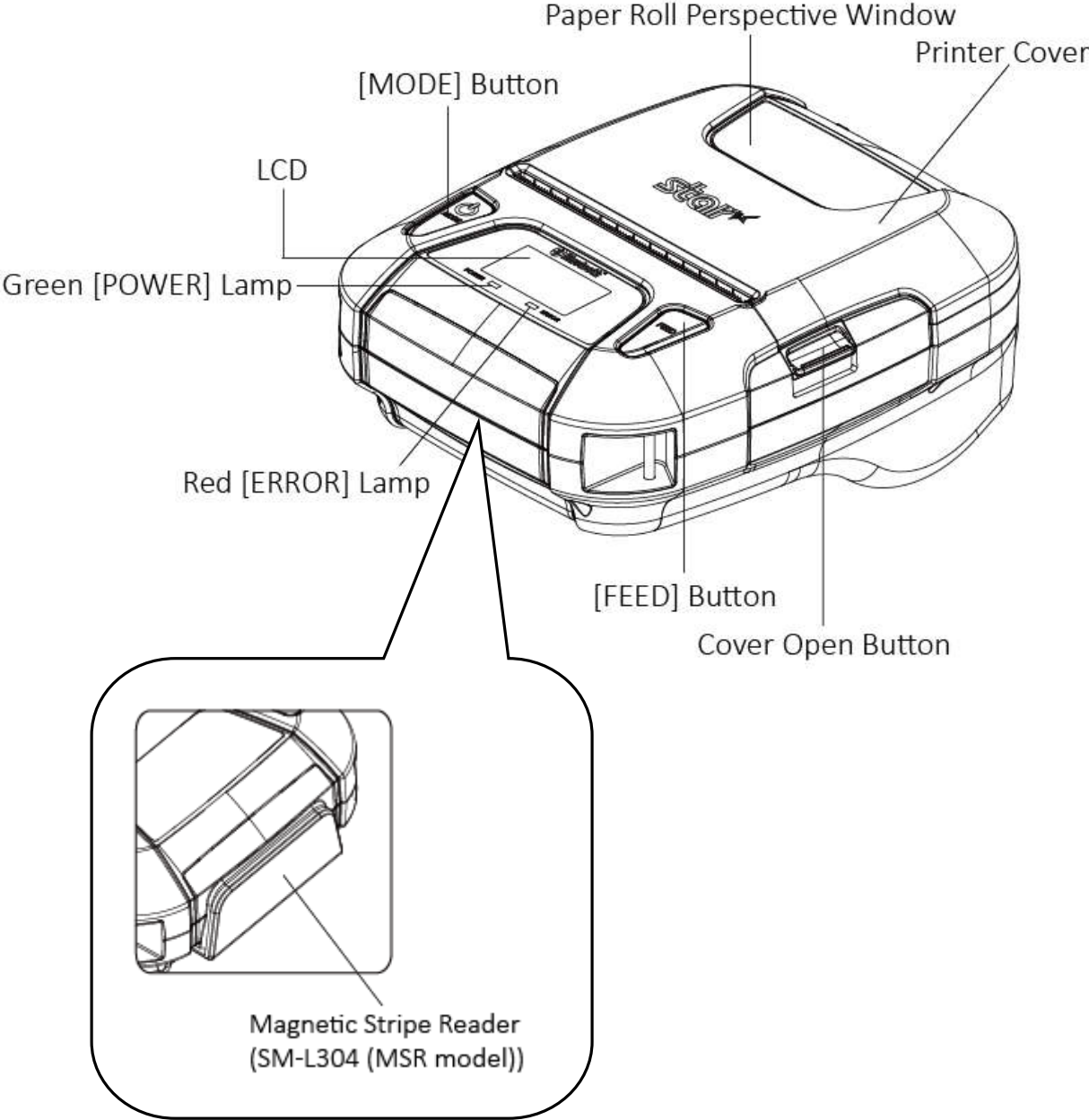
■ Optional Accessories



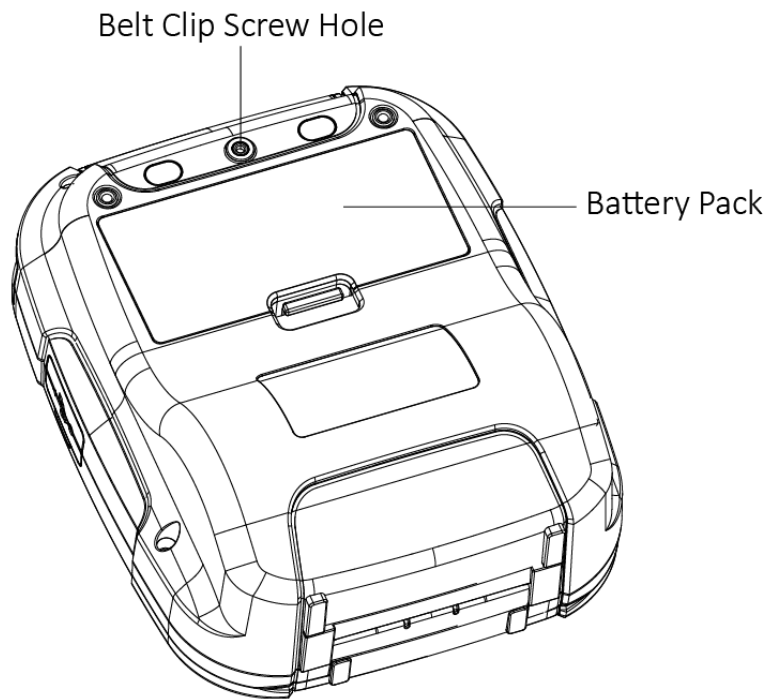
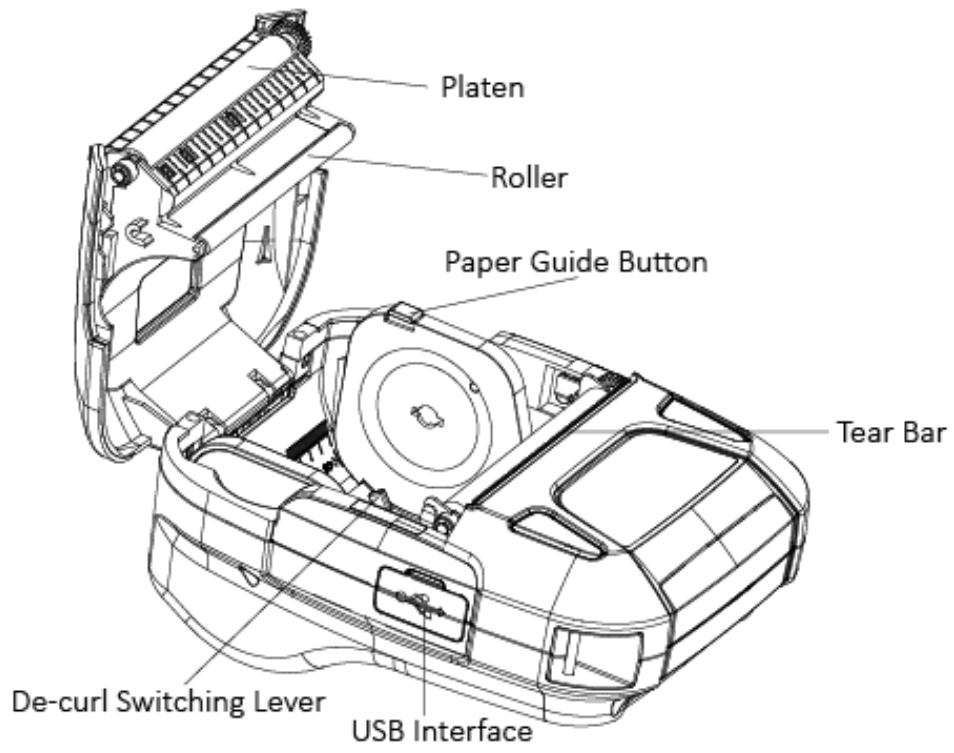
AC adapter

Note: The AC adapter vary by local or region.

1.2 Appearance and Components



NOTE: Only SM-L304 MSR model has the Magnetic Stripe Reader.

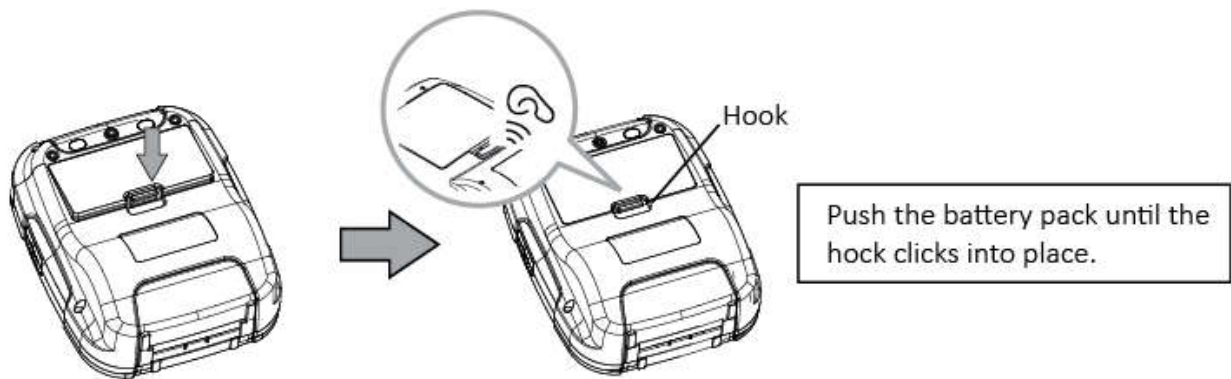


2. Setup

2.1 Battery Pack

2.1.1 Inserting into the Printer

1. Make sure that the printer has been turned off before you insert or remove the battery pack.
2. Insert the battery pack into the back of the printer as in the figure shown below, following the direction of the arrow.

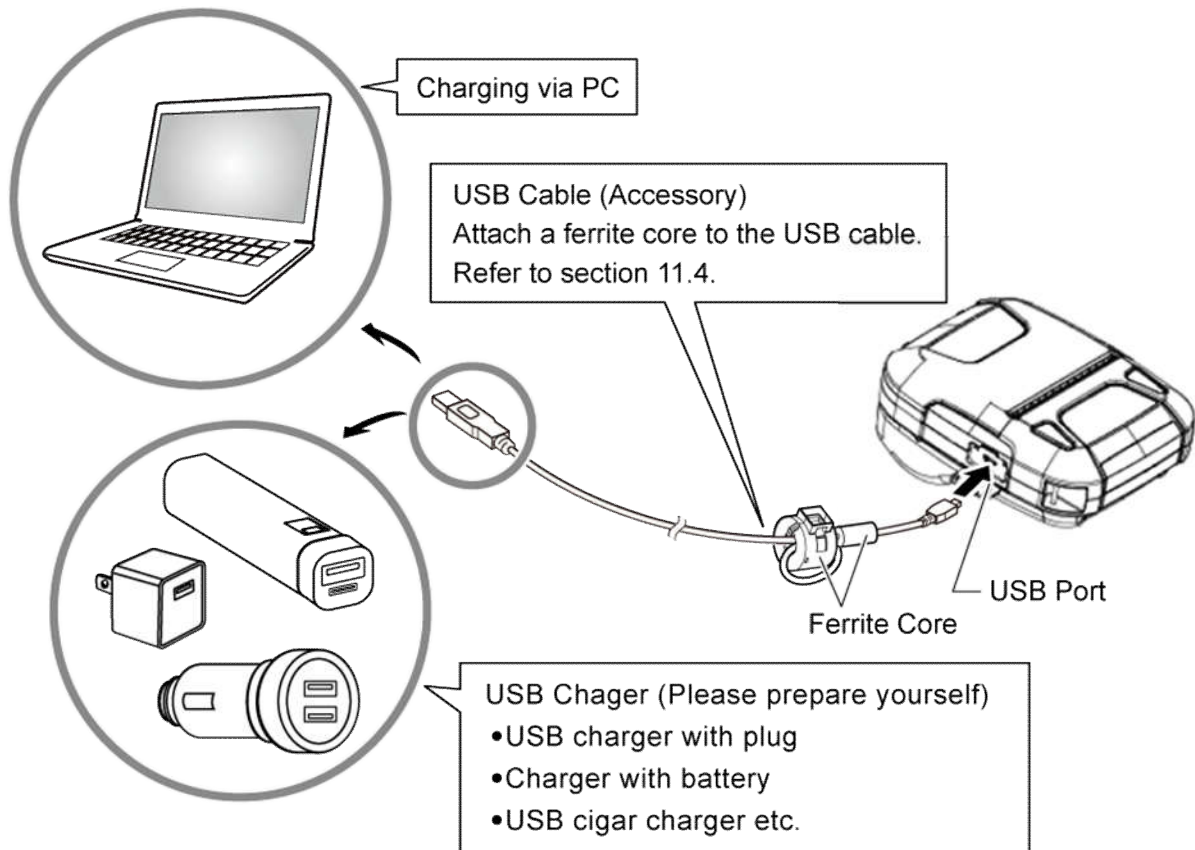


3. To remove the battery back, pull back the hook, and use the opposite procedure from the one you used to insert the battery pack.

2.1.2 Charging the Battery

Insert the battery pack into the printer to charge it.

Plug in socket with USB charging.



When battery pack runs out of power, the battery icon will flash. It powers off automatically when continues printing. If you want to go on, please charge it.

Battery charging:

- ◆ POWER lamp will always flash in green color and goes off when fully charged.
- ◆ Charging the printer when it is on, even if battery icon on the LCD shows fully charged, turn off the printer and let the battery charge until the POWER lamp goes off for fully charge.

NOTE: However, a low-grade car charger may cause a trouble due to a sudden change of voltage. Use the charger that satisfies the USB standard.



Notes about the Battery Pack

► **General Battery Characteristics**

- The battery is a consumable and its performance over time gradually decreases.
- While not in use of printer, the battery will slowly discharge itself.
- Prepare a battery pack that has been charged relatively recently (1 to 2 days earlier).
- To ensure that the battery lasts for a long time, we recommend that you turn off the printer whenever possible.
- When used at low temperatures, battery performance will temporarily decline. Be sure to have a fully-charged spare battery standing by if the printer will operate in a cold environment.

► **Charging the Battery Pack**

- The battery pack can be charged at ambient temperatures between 0°C and 40°C.
- The time required to charge the battery pack varies depending on the residual amount of battery, electrical current and the ambient temperature. Normally, it takes 5 to 6 hours to charge the battery pack.
- It will take longer to charge the battery from the PC than by the USB charger.
- It will take longer to charge the battery pack if you print while charging the battery pack.
- Do not remove the battery pack while it is being charged.
- Fully charge the battery prior to using the printer.
- There is no need to completely discharge or use up a rechargeable Lithium-ion battery before recharge it.
- It is normal for the battery pack to be hot after it has finished charging or been used.
- Do not recharge a battery pack that has just been fully charged.

► **Battery Pack Life**

- The battery can be charged approximately 300 times in the normal temperature range without losing performance. If an extreme decline in the running time of the battery is noticed, the battery is reaching the end of its usable life. It is recommended to replace the old battery with a new one.

► **Notes about Using the Battery Pack**

- Only use a designated battery pack.
 - Only use the designated battery charging method.
 - You cannot use a USB cable other than the designated USB cable.
 - Do not throw the battery into a fire, place it near a flame or heating device, or leave it in a hot environment (under direct sunlight, in a car, etc.).
 - Do not use a battery pack that has been dropped or subjected to a shock in some other way.
 - Do not disassemble or modify the battery pack.
-

- Do not short the terminals of the battery pack or get it wet.
- Do not place the battery pack in a bag with a small metal object (such as a key).
- If any battery fluid gets on your skin or clothing, immediately wash the affected area with fresh water. Otherwise, skin damage may result.

► **Notes about Storing the Battery Pack**

- The characteristics of the battery pack may degrade if you store it in a full-charged state for a long period of time. If you do not intend to use the battery pack for a while, store it in approx. 50%-charged state.
- If you do not intend to use the battery pack for a long time, be sure to remove it from the printer.
- Keep the battery out of the reach of children. In addition, be careful that children do not remove the battery.
- Store the battery pack in a cool place.
 - * We recommend that you store the battery pack in a dry area with an ambient temperature of 15 to 25 °C.
 - * Avoid storing the battery in locations with high or extremely low temperatures.

► **Battery Disposal and Recycling**

A battery pack is used to power this device. Since the disposal process of batteries varies from country to country, refer to the appropriate measures mandating the disposal method of the country in which this device is used.

To prevent unrecoverable damage to the battery, keep in your mind the following guidelines.

- If the battery pack is not in use for a long time, please remove it after charging up to 50%.

During storage, please charge the battery pack up to 50% every 3 months.

- When power is low, battery should be charged in time.

- If the printer automatically power down because of low power, be sure to charge the battery in 15 days.

< **For U.S.A. and Canada** >

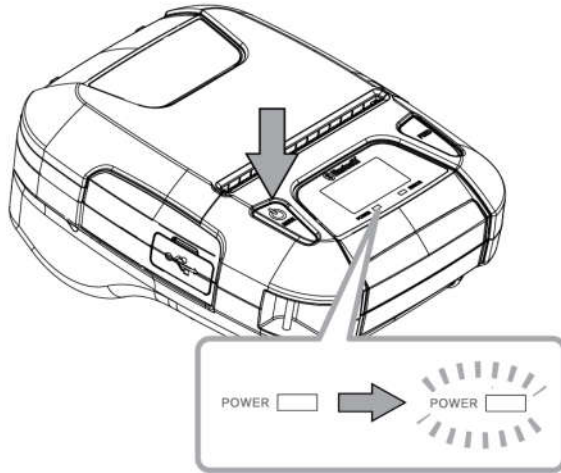


Lithium-Ion batteries are recyclable. You can help preserve our environment by returning your used rechargeable batteries to the collection and recycling location nearest you. For more information regarding recycling of rechargeable batteries, call toll free 1-800-822-8837, or visit <http://www.rbc.org/>

2.2 Bluetooth

2.2.1 Pairing

1. Press and hold MODE button for approx. 2 seconds, and printer is turned on.
Then, it is ready to pair with another Bluetooth device.



2. Select the device name and enter the PIN code as shown below.

PIN: 1234 (default)

Device name: "STAR L300-XXXXX"(default)

(XXXXX is the last digits of the Product Serial Number. The device name displayed during pairing varies depending on the product. It can be checked from the [BD Name] that is printed when printer self-printing is performed (power is turned ON while depressing the FEED button).

Notes:

1.SM-L300 has two Bluetooth modes:

a) One is Bluetooth Ver3.0 with PIN for Android or Windows system. PIN and Device name can be changed through Star Utility. To obtain this utility, please contact with your dealer.

b) Another is Bluetooth 4.0(BLE) without PIN for iOS system.

2.SM-L300 changes the Bluetooth mode automatically by host system.

3.Pairing sets one by one in order, otherwise it can't figure out which one succeeds in pairing.

The Bluetooth[®] word mark and logos are owned by the Bluetooth SIG, Inc. and any use of such marks by Star is under license.(Design and specifications subject to change without notice.)

You can test the connectivity with a host device by using Star IO SDK Application which is available on Apple Store and Google play.

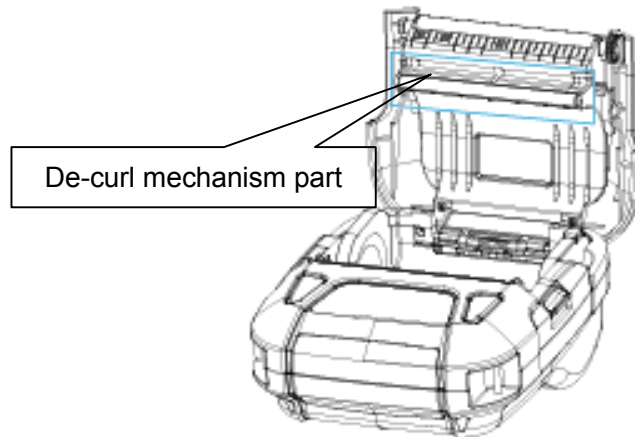
2.3 Loading Paper

2.3.1 De-curl Setting

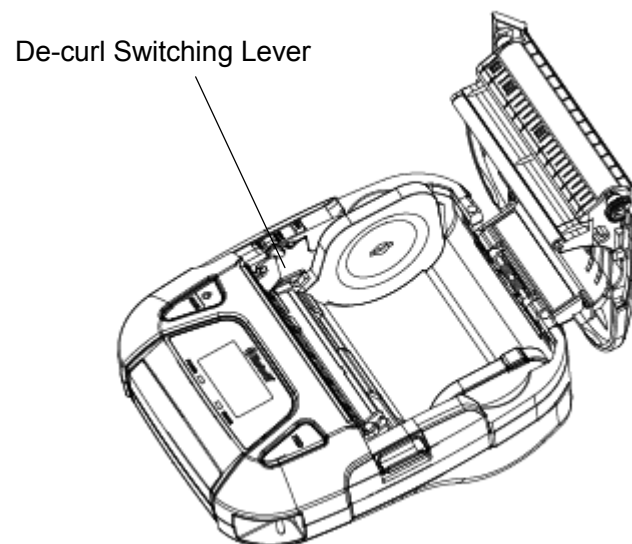
This function is to make the receipts straight. It can set ON or OFF by de-curl switching lever.

(*Default: OFF)

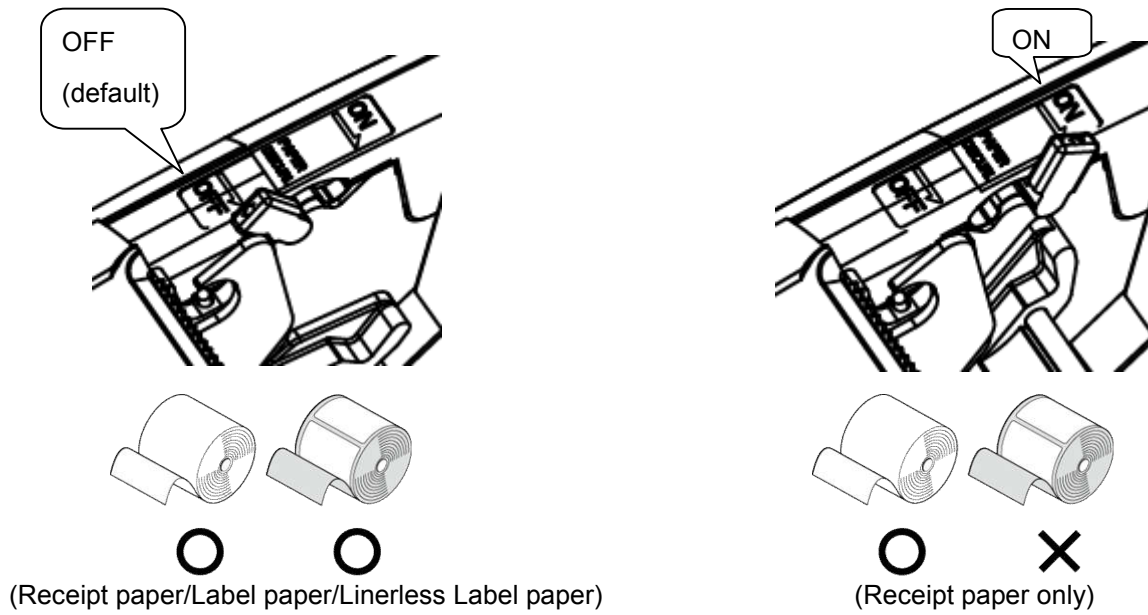
Notes: Be careful not to forcibly pull or push the de-curl mechanism part. The de-curl mechanism part may become damaged if strong force is applied.



1. Press the cover open button to open the printer cover.



2. The de-curl switching lever is set to OFF by default, and you need to be set to ON if you would like to use this function.

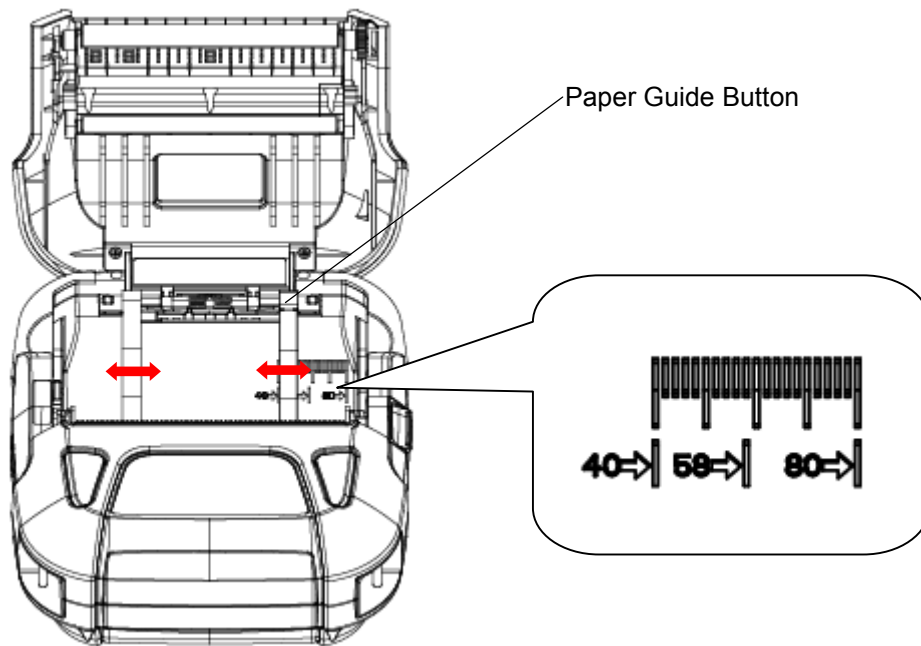


3. Set the de-curl switching lever to OFF when label paper or linerless label paper is used.

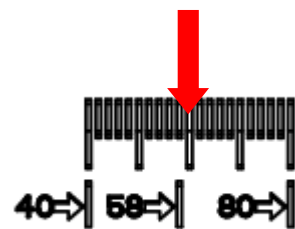
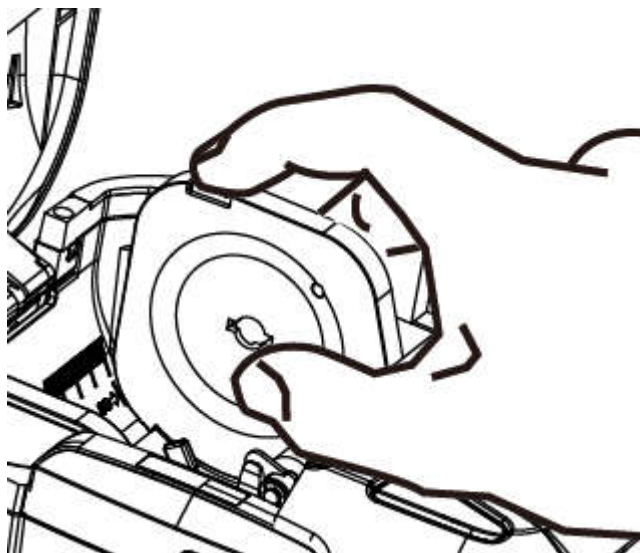
Note: *If the paper thickness of the receipt is out of specification, it may cause a paper feed failure. In that case, please set the de-curl switching lever to OFF.*

2.3.2 Paper Guide Adjustment

Press and hold the paper guide button, push the paper guide so that it can be moved to adjusted and fixed the paper roll.



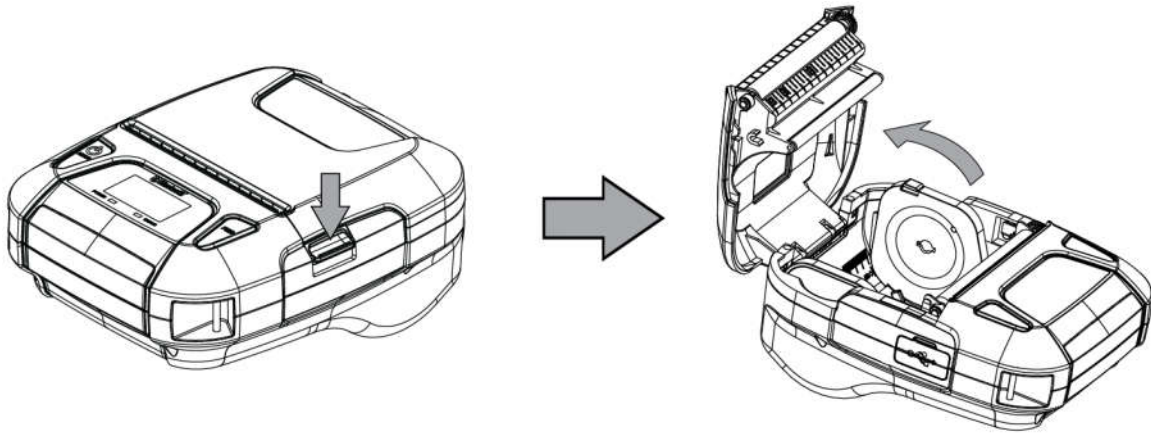
***Example:** When using a width 58mm roll paper, press and hold the paper guide button, push the paper guide to the position of 58 so that it can be adjusted and fixed the width 58mm roll paper.



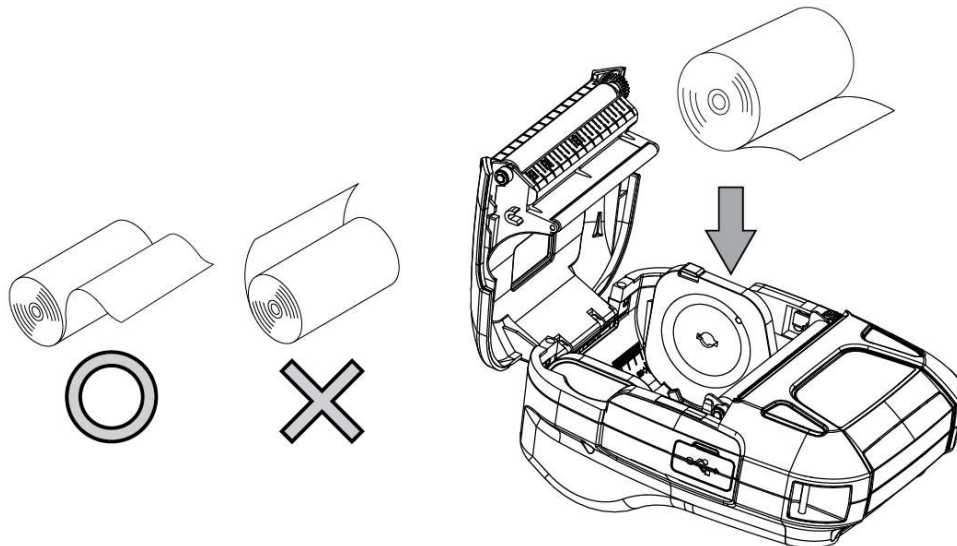
2.3.3 Loading paper to the printer

Refer to Section 5 “Paper”, to select roll paper that conforms to the specifications.

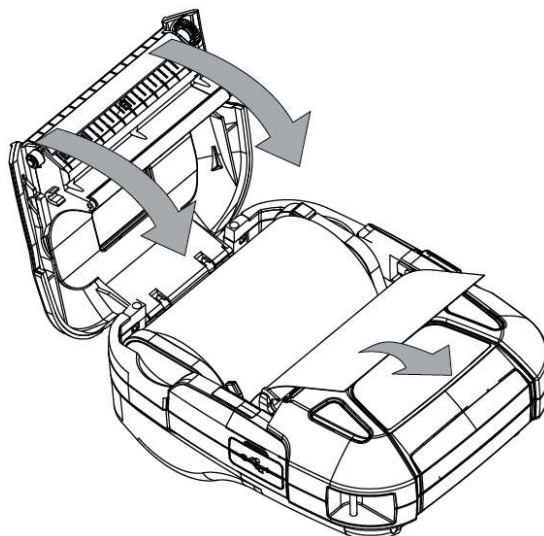
1. Press the cover open button to open the printer cover.



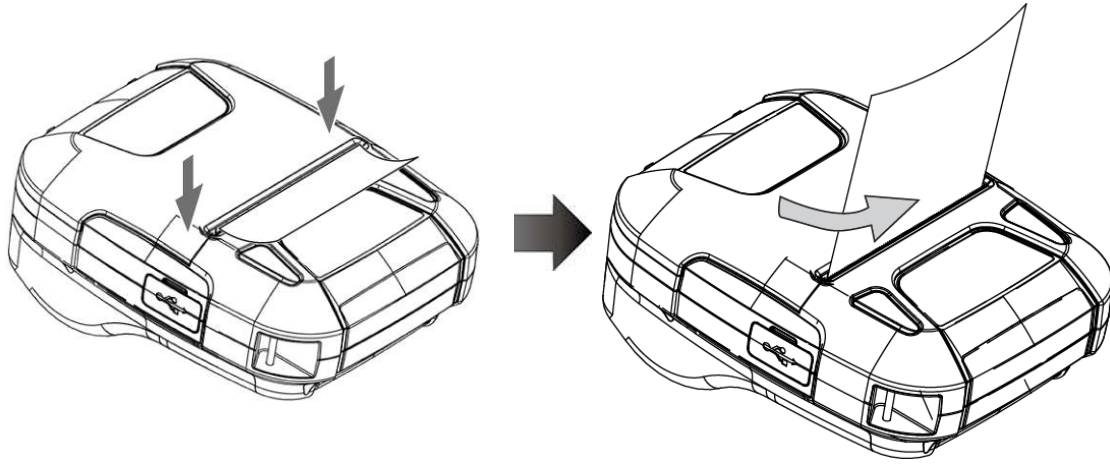
2. Load the roll paper in the orientation shown in the figure below.



3. Pull the end of the roll straight toward you. Then press down on both sides of the printer cover to close it firmly. When you close the printer cover, make sure that it is closed on both sides.



4. Use the tear bar to cut the extra paper.
-



CAUTION

When ERROR lamp is flashing, please make sure the cover is closed correctly. If it's not, open the cover and close it correctly.

When the paper is jammed, be sure to open the printer cover before removing the jammed paper.

Do not under any circumstances try to pull out the jammed paper forcefully while the printer cover is closed, doing so may damage parts of the printer.

Caution Symbol



This symbol is placed near the thermal head to indicate that it may be hot. Never touch the thermal head immediately after the printer has been used. Also, even when the thermal head is not hot, do not touch it, because static electricity can damage the devices inside the thermal head.

WARNING

1) Do not touch the tear bar.

• There is a tear bar inside the paper outlet slot. You could neither put your hand in the paper

outlet slot while printing is in progress nor put your hand into the outlet even when printing is not in progress.

• The paper cover can be opened when replacing the paper. However, since the tear bar is on the inside of the paper cover, be careful not to place your face or hands too close to the tear bar.

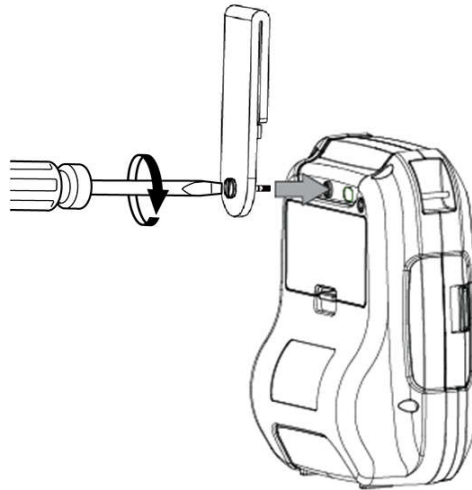
2) During and immediately after printing, the area around the thermal head is very hot. Do not touch it, as you could be burned.

2.4 Belt Clip

2.4.1 Attaching to the Printer

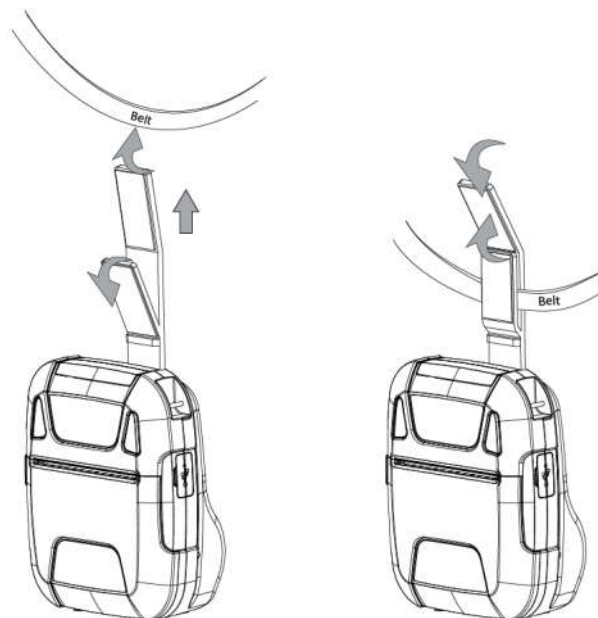
Follow the procedure below to attach the belt clip to the printer.

1. Make sure that you are attaching the belt clip in the right orientation, then turn the screw that comes with the belt clip into the designated screw hole to attach the belt clip to the printer.
Use a straight slot screw driver to firmly screw in the screw hole.



2.4.2 Using the Belt Clip

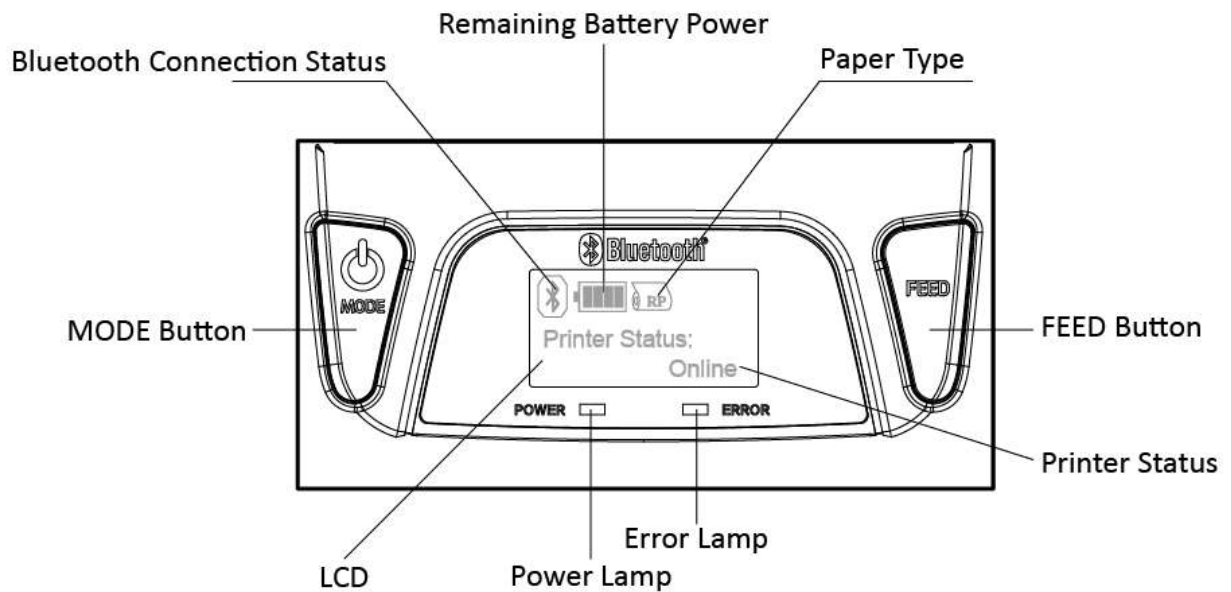
When the printer is attached to your belt, you can use it like the picture below.



Note: Be careful not to drop when use a belt clip. Velcro be securely fixed.

Hold the printer firmly with your hand when you swipe a magnetic stripe card or cut paper. If it is not held firmly, you may fail to read card data or cannot cut paper smoothly with the tear bar.

3. Control Panel & Buzzer



3.1 Button

1) MODE Button:

Pressing and holding the MODE button for 2 seconds or more will turn the power on or off.

2) FEED Button :

When the printer is on, paper can be fed manually by pressing and holding the FEED button for more than one second.

- ◆ Pressing and holding MODE & FEED buttons for 5 seconds will put the printer into Memory Switch Setting mode. The MODE button can now be used to change Printer MODE status visible on the LCD screen for fast configuration .

(Please refer to 3.4 Memory Switch Settings for details about mode conversion.)

3.2 LED & LCD Display / Error

3.2.1 LED & LCD Display

Table1-1

Status		Action		Lamp		LCD LCD back Light, [Discription]	Buzzer
				Power (Green)	Error (Red)		
Printer Initialization(Power On)				ON	OFF	Backlight ON [Printer Status:Online]	Beep (A->B->C)
Power OFF	USB Cable is not connected			OFF	OFF	Backlight OFF	Beep (D->E->F)
	USB Cable is connected	Battery Full		OFF	OFF	Backlight OFF	
		Battery Empty		Flashing	OFF	Backlight OFF	
	On-Line (Idle)	Bluetooth (COM)	Bluetooth connected		ON	OFF	Backlight ON Maintain the original state Bluetooth Icon ON
Bluetooth disconnected			ON	OFF	Backlight ON maintain the original state Bluetooth Icon OFF	Nothing	
Stand-by		1sec Flashing	OFF	Backlight OFF	Nothing		
Return from Stand-by		ON	OFF	Backlight ON maintain the original state	Nothing		
USB	USB Cable is connected	Normal	Battery Full	ON	OFF	Backlight ON maintain the original state Battery Icon Battery Full Icon	Nothing
			Battery is not Full	600ms Flashing	OFF	Backlight ON maintain the original state Battery Icon Charge Icon	Beep (G)
		Stand-by		1sec Flashing	OFF	Backlight OFF	Nothing
		Return from Stand-by		ON	OFF	Backlight ON maintain the original state	Nothing
		Taking off cable	Normal	Battery Full	ON	OFF	Backlight ON maintain the original state Battery Icon Battery Full Icon

Table1-2

Status			Action		Lamp		LCD LCD back Light, [Discription]	Buzzer
					Power (Green)	Error (Red)		
On-Line (Idle)	USB	Taking off cable	Battery is not Full	600ms Flashing =>ON	OFF	Backlight ON maintain the original state Battery Icon Charge Icon	Beep (G->G->G)	
				Stand-by	1sec Flashing	OFF	Backlight OFF	Nothing
			Return from Stand-by	ON	OFF	Backlight ON maintain the original state	Nothing	
	MSR Mode		Waiting for swiping	ON	OFF	Backlight ON []	Nothing	
			Stand-by	ON	OFF	Backlight ON maintain the original state	Nothing	
			Succeeded decoding	ON	OFF	Backlight ON maintain the original state	Beep (G)	
			Failed decoding	ON	OFF	Backlight ON maintain the original state	Beep (G->G->G)	
	Receiving Data		Printing Data (Including busy state)	ON	OFF	Backlight ON [Printing...]	Nothing	
			Other	ON	OFF	Backlight ON maintain the original state	Nothing	
	Menu Operation Mode			Enter Menu Operation Mode	ON	OFF	Backlight ON [Enter Menu Mode]	Beep (G-G)
While Menu Operation Mode				Backlight ON maintain the original state			When push the button Beep(G)	
Get out Menu Operation Mode				Backlight ON maintain the original state			Nothing	
	Self Test	Printing	Before printing	ON	OFF	Backlight ON [Press Feed To Print]	Nothing	
			While printing			Backlight ON [Printing...]	Nothing	
			After printing			Backlight ON Self test menu	Nothing	
		MSR	Reading MSR	Online	ON	OFF	Backlight ON [Please Swipe Card]	Nothing
				Error	ON	Flashi ng	Backlight ON [Printer not ready...]	Nothing
				Succeeded decoding	ON	OFF	Backlight ON [Please Swipe Card]	Beep (G)
				Failed decoding	ON	OFF	Backlight ON [Please Swipe Card]	Beep (G-G)

Table1-3

Status			Action	Lamp		LCD LCD back Light, [Discription]	Buzzer
				Power (Green)	Error (Red)		
MSR	Injecting key	Online	ON	OFF	Backlight ON [Please Inject Key...]	Nothing	
		Succeeded key injection			Backlight ON [Key Injection:Success]	Beep (G)	
		Failed key injection			Backlight ON [Key Injection:Error]	Beep (G-G)	
	Hex Dump Mode		ON	OFF	Backlight ON [Hex Dump Mode]	Nothing	
Self Test Printing at the button operation		While printing	ON	OFF	Backlight ON [Printing...]	Nothing	
		After printing			Backlight ON maintain the original state	Nothing	
Writing Firmware		Enter Writing Mode	ON	OFF	Backlight OFF	Nothing	
		While Writing			Backlight OFF	Nothing	
		Finish Writing			Backlight OFF (Power is also OFF)	Nothing	

Notes:

a) Bluetooth Status icon, Battery status icon and Roll paper Status Icon are always displayed on LCD when Blacklight is ON.

b) Buzzer sound frequency or pattern

A : 530Hz/192msec

E : 667Hz/96msec

B : 670Hz/192msec



F : 537Hz/96msec

C : 800Hz/192msec







G : 800Hz/96msec

D : 800Hz/96msec





➤ **Bluetooth Status Icon:**

Icon	Bluetooth Status
	No Bluetooth connection
	Bluetooth connection

➤ **Battery Status Icon:**

Icon	Battery Status and Voltage
	Empty 7.2~7.4V The remaining battery power is extremely low *Less than 7.2V Please turn off the printer
	1 bar 7.4~7.5V The remaining battery power is low. Please charge the battery pack
	2 bars 7.5~7.6V
	3 bars 7.6~7.9V
	4 bars 7.9~8.4V There is sufficient remaining battery power
	Charging

➤ **Roll Paper Status Icon:**

Icon	Roll Paper Status
	With receipt paper
	Without paper
	Thermal paper with BM backside
	Label paper with gap

3.2.2 LED & LCD Display for Error

Status		Action		Lamp		LCD LCD back Light, [Discription]	Buzzer
				Power (Green)	Error (Red)		
Error	Recoverable Error *Buffer is cleared.	No paper error	Happened	ON	Flashing	Backlight ON [Printer Status:Out of Paper] Roll paper Icon without paper	Beep (G->G)
			Recovered	ON	OFF	Backlight ON [Printer Status:Online] Roll paper Icon maintain the original state	Beep (G)
		Cover open error	Happened	ON	Flashing	Backlight ON [Printer Status:Cover Open]	Beep (G->G)
			Recovered	ON	Depend on paper Flashing or OFF	Backlight ON maintain the original state	Beep (G)
		Black Mark Sensor error		ON	Flashing	Backlight ON [Printer Status: Black Mark Error]	Beep (G->G)
		Gap Sensor error (Transmissive Sensor error)		ON	Flashing	Backlight ON [Printer Status: Gap Sensor Error]	Beep (G->G)
Auto Recoverable Error	Heat Protection of Thermal Printer Head	Happened	ON	Flashing	Backlight ON [TPH Thermistor detecting]	Nothing	
		Recovered	ON	OFF	Backlight ON [TPH Thermistor detecting]	Nothing	
Unrecoverable Error	MSR error		ON	Flashing	Backlight ON [Printer Status:MSR Error]	Beep (G->G->G)	
	Black Mark Sensor Adjustment error		ON	Flashing	Backlight ON [Printer Status:BM Adjust Error]	Beep (G->G->G)	
	Gap Sensor Adjustment error (Transmissive Sensor Adjustment error)		ON	Flashing	Backlight ON [Printer Status:Gap Adjust Error]	Beep (G->G->G)	
	Thermal Head Thermister error		ON	Flashing	Backlight ON [Printer Status:ThermalHead[Error]	Beep (G->G->G)	
	Printer Internal Thermister error		ON	Flashing	Backlight ON [Printer Status:Priter Error]	Beep (G->G->G)	

Notes:

a) Bluetooth Status icon, Battery status icon and Roll paper Status Icon are always displayed on LCD when Backlight is ON.

b) Buzzer sound frequency or pattern

A : 530Hz/192msec

E : 667Hz/96msec

B : 670Hz/192msec

F : 537Hz/96msec

C : 800Hz/192msec

G : 800Hz/96msec

D : 800Hz/96msec

3.3 Self Test

You can use self test to check the printer's settings.

Before you start the self test, make sure that roll paper has been properly loaded into the printer.

3.3.1 Self Test Procedure

- 1) Turn on the power while holding down FEED button.
- 2) The printer will print the current printer status, including the firmware version, communication mode, print settings and QR code that links to the users Manual Download site.
- 3) The self test will finish automatically. The printer will be ready to receive data after the self test finishes.

3.3.2 Printing the Bluetooth Device Name and MAC Address

- 1) Follow the procedure in section 3.3.1 to perform a self test.
- 2) Before the self test finishes, press and hold FEED and MODE at the same time.
- 3) The printer will print the Bluetooth device name and MAC address.

SM-L300
[Ver 1.0 2016/08/05]
S/N: XXXXXXXX
Battery Voltage: 8.06 V

Self-test Information

DENSITY = MID(MID SPEED)
STANDY = 60 s
SMART POWER OPTION = Disable
AUTO OFF = No use
PAPER = Receipt

Get Users manual

User's Manual Address

www.starmicronics.com/support

BD name:
STAR L300-00001

Bluetooth Device Name and MAC Address

BD addr:
8C-DE-52-99-2F-CA

--Memory Switch--
FEDCBA9876543210 HEX.
<0> 0000000000000000 0010
<1> 0000000000000000 0000
<3> 0000000000000000 0000
<7> 0000000000000000 0000
 0000000000000000 0000

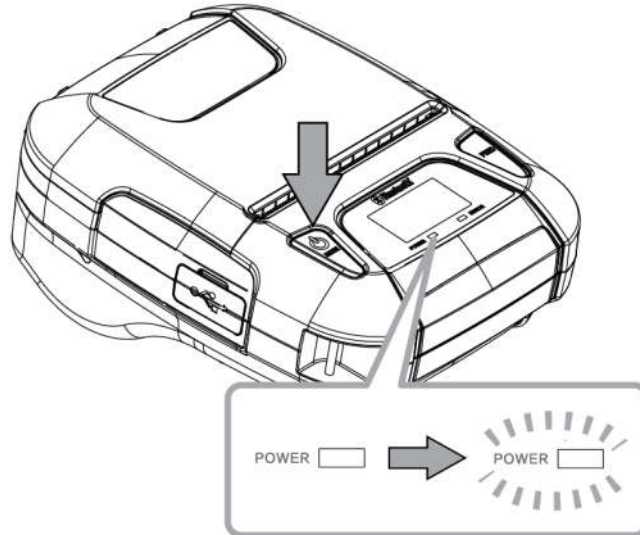
--Memory Switch Detail--
<0>F = Emulation: Star PRNT
<0>5 = Shift-JIS: Valid
<0>4 = Character Mode: Japan
<1>4 = Zero Style: Normal Zero
<3>5 = Kanji Pitch: 26 dot
<3>4 = ANK Pitch: 12 dot
<3>0 = Feed Pitch: 4mm
<7>C = ASB: Invalid
F = Data Time Out: Valid

Memory switch setting Information

3.4 Memory Switch Settings (Using Buttons On the Printer)

Change the memory switch by following operations.

1. Press and hold MODE button for approx. 2 seconds, and printer is turned on.



2. To put the printer into Memory Switch Setting mode, press and hold both the MODE & FEED buttons for 5 seconds. After printer displays “Enter Menu Mode”, you can configure the settings, release the buttons after you surely confirm the screen display “Enter Menu Mode”, to get a printer into the setting mode.
3. To switch the Menu and option parameter , or return to the previous menu, press MODE button.
4. To move the cursor(“_”), entry the printer mode, or confirm the new setting, press FEED button.

CAUTION

Before changing the memory switch settings, make sure that the communication with a host device is disconnected.

When the printer is under the Bluetooth communication with a host device, it cannot enter the Memory Switch Setting mode.

Example

When you want to change the settings of the printer mode as shown below,

Item	Factory Setting	Configuration Example
1 Density	0(Medium)	1(Low)
2 Standby Time	0060(Sec)	0080(Sec)
3 Auto Off Time	0(Invalid)	1000(Min)
4 Smart Power	0(Disable)	0(Disable)
5 Paper Type	0(Receipt)	2(BM(2inch))
6 Factory Reset	0(N)	0(N)
7 Password	0000	2222

▶ Press and hold the MODE & FEED buttons for 5 seconds.

→ You will see present “Enter Menu Mode” in the LCD.

▶ Press the MODE button once to switch the menu item.

Display: 1 Self Test →2 System Setting

▶ Press the FEED button once to get into the System Setting menu.

→ You will see present “Input Password 0000” in the LCD.

→ Press FEED button to move cursor(“_”), press MODE button to switch the number (0~9).

Password: 0000(default)

→ Press and hold the FEED button for 2 seconds to get into the menu.

Display: **1 Density**

2 Standby Time

3 Auto Off Time

4 Smart Power

5 Paper Type

6 Factory Reset

7 Password

8 Previous Menu

▶ Press MODE button to switch the menu item, then press the FEED button once to enter the menu.

→ Press the FEED button once to get into the Density menu.

Display: *Density:*

0-Medium

1-Low

2-High

3-Special

0

→ Press the MODE button once to input the number 1, then press and hold FEED button to confirm the new setting and return to the previous menu.

(The density has set to Low)

0(Medium) → 1(Low)

▶ Press the MODE button once to switch the menu item--Standby Time.

→ Press the FEED button once to get into the menu.

Display: *Standby Time:*

[0010-9999(Sec)]

0060

→ Press the FEED button twice to move cursor (“-”), then press the MODE button twice to input the number: 8, finally press and hold FEED button to confirm the new setting and return to the previous menu.

(The standby time has set to 80 seconds)

0060(Sec) → 0080(Sec)

When set the parameter to 0000, the standby time becomes invalid.
If set the parameter to 0001~ 0009, a buzzer beeps, so do not set it.

▶ Press the MODE button twice to switch the menu item--Auto Off Time.

→ Press the FEED button once to get into the menu.

Display: *Auto Off Time:*

[0000-9999(Min)]

0000

→ Press the MODE button once to input the number on : 1, then press and hold FEED button to confirm the new setting and return to previous menu.

(The auto off time has set to 1000 minutes)

0000(Min) → 1000(Min)

When set the parameter to 0000, the auto off time becomes invalid.

▶ Press the MODE button 3 times to switch the menu item--Smart Power.

→ Press the FEED button once to get into the menu.

Display: *Smart Power*

0-Disable

1-Enable 0

→ Press the MODE button once to input the number on : 1, then press and hold FEED button to confirm the new setting and return to previous menu.

▶ Press the MODE button 4 times to switch the menu item--Paper Type.

→ Press the FEED button once to get into the menu.

Display: *0-Receipt*

1-BM(3inch)

2-BM(2inch)

3-BM(Center)

4-Label 0

→ Press the MODE button twice to input the number:2, then press and hold FEED button to confirm the new setting and return to the previous menu.

(The paper type has set to BM(2inch))

0(Receipt) →2(BM(2inch))

▶ Press the MODE button 5 times to switch the menu item--Factory Reset.

→ Press the FEED button once to get into the menu.

Display: *0-N*

1-Y

0

→ When the setting does not need to be reset, press and hold FEED button to return to the previous menu.

▶ Press the MODE button 6 times to switch the menu item--Password.

→ Press the FEED button once to get into the menu.

Display: *Input New*

Password:

0000

→ Press the MODE button twice to input the number: 2, then press FEED button once to move cursor (“-”), press the MODE button twice to input the number: 2, repeat the above steps to input the number “2222”, finally press and hold FEED button to confirm the new setting and return to the previous menu.

(The Password has set to 2222)

0000→2222

▶ Press the MODE button 7 times to switch the menu item--Previous Menu.

→ Press the FEED button once to return to the previous menu.

Display: *1 Self Test*

2 System Setting

3 Exit Menu

▶ Press the FEED button once to enter the menu item--Self Test.

Display: *1 Print*

2 MSR

3 MSR Key Injection

4 Hex Dump Mode

5 Previous Menu

→ Press the FEED button once, you will see present “Press Feed To Print” in the LCD, press FEED button, the new settings will be printed.

* “2 MSR” and “3 MSR Key Injection” are function of MSR model only.

If the settings were not configured correctly, follow the above procedure to configure the settings again.

Memory Switch Setting Table

First-level menu		Second-level menu	Third-level menu	Fourth-level menu	Default
1 Self Test		1 Print	Press Feed To Print	--	--
		2 MSR	MSR SELF TEST	Please Swipe Card	--
		3 MSR Key Injection*1	MSR Key Injection	Please Inject Key	-
		4 Hex Dump Mode*1	Hex Dump Mode	--	--
		5 Previous Menu	--	--	--
2 System Setting	Input Password: 0000	1 Density	0-Medium 1-Low 2-High 3-Special	--	Medium
		2 Standby Time	Standby Time: [0010-9999(Sec)]	--	60 Seconds
		3 Auto Off Time	Auto Off Time: [0001-9999(Min)]	--	0000
		4 Smart Power	Smart Power 0-Disable 1-Enable	--	0
		5 Paper Type	0-Receipt 1-BM(3inch) 2-BM(2inch) 3-BM(Center) 4-Label	--	Receipt
		6 Factory Reset	0-N 1-Y	--	N
		7 Password	Input New Password: 0000	--	0000
		8 Previous Menu	--	--	--
3 Exit Menu			--	--	--

*1) "2 MSR" and "3 MSR Key Injection" are function of MSR model only.

3.5 Hex Dump Mode

All data sent from a host device is printed by hexadecimal codes.

This mode can be used to check if a program to be sent to the printer is coded correctly.

Example

▶ Press and hold the MODE & FEED buttons for 5 seconds.

→ You will see present “Enter Menu Mode” in the LCD.

▶ Press the FEED button once to enter the menu item--Self Test.

Display: *1 Print*
2 MSR
3 MSR Key Injection
4 Hex Dump Mode
5 Previous Menu

▶ Press the MODE button 3 times to switch the menu item--Hex Dump Mode.

→ Press the FEED button once, you will see present “Hex Dump Mode” in the LCD.

* “2 MSR” and “3 MSR Key Injection” are function of MSR model only.

Notes: It will be limitations such as it cannot return the status.

3.6 Instruction for Power Management

The printer in the Standby(Sleep) Mode will recover to the Print Ready Mode when receiving print data or button operations.

Press the FEED button or the MODE button and confirm that the Power lamp (Green LED) is turned on. When the Power lamp is not turned on, it is possible that the printer is turned off by the Power OFF mode. In this case, turn the printer on manually.

3.6.1 Standby Time

Display on LCD is disappeared when a setting time has passed.(0010-9999 sec)

3.6.2 Auto-Off Time

The power is turn off when a setting time has passed.(0001-9999 min)

3.6.3 Smart Power Option

The smart power option is a function to turn on the printer when it is supplied the power. When the printer is turned off, upon being powered, it will automatically turn on.

Please press and hold the MODE button to turn off the printer when it is supplied the power.

<If AUTO OFF is enabled>

If the smart power option is enabled and printer is turned on and powered, AUTO OFF function will be disabled.

In this case, AUTO OFF function will be enabled after power is

interrupted. For instance, if AUTO OFF is set to 10 minutes and,

The smart power option enabled, printer turned on and powered, then printer will NOT be turned off after 10 minutes.

The smart power option enabled, printer turned on and NOT powered, then printer will be turned off after 10 minutes.

Event Status		Event1	Event2	Event3	Event4
		Powered	Powered Interrupted	Auto Power OFF Time out	Charging completed
Condition 1	Turned OFF No charging	Turn ON (Auto) Start charging	N/A	N/A	N/A
Condition 2	Turned OFF Charging	N/A	Turn OFF No charging	N/A	Turn OFF Charging
Condition 3	Turned ON No charging	Turn ON (Auto) Start charging	N/A	Turn OFF No charging	N/A
Condition 4	Turned ON Charging	N/A	Turn ON No charging	Turn ON Charging	Turn ON Charging

4. Magnetic Card Reader (For MSR model only)

Please keep the following points in mind when reading a card.

- Swipe the card with its magnetic stripe side towards the printer.
- Hold the card in the center and swipe it straight at a steady speed in the directions of arrows.
You can swipe the card in either direction to read the data.
Be sure to hold the printer firmly with your hand while swiping.

➤ *Pay attention to the hand you hold the printer, your finger should not touch the cover of the MSR slot, if not, the card cannot be read properly. (See correct example on Figure 4-2)*

If you hold the corner of the card, it is difficult to swipe it straight so that you may fail to read the card data. So hold the card in the center when you swipe the card.

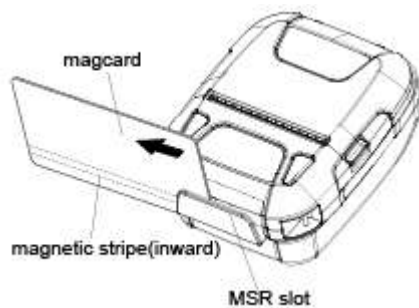


Figure 4-1

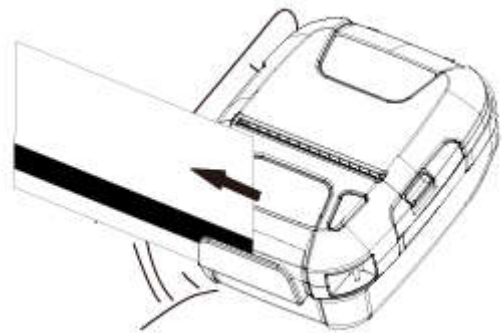


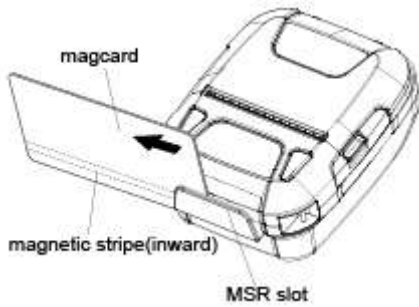
Figure 4-2

- A buzzer will sound once when a card is successfully read, and you will see present “MSR read success” in the LCD.
- When the printer fails to read the card, the buzzer will sound three times and you will see present “MSR read failure” in the LCD. Please check the orientation of the card, and slide it through the reader slot again.

Note:

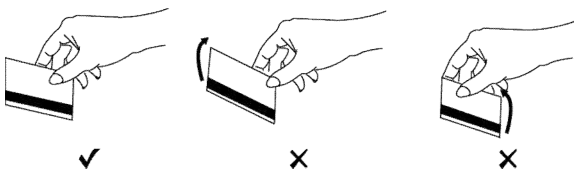
- 1. Swiping JIS card is also under MSR mode.**
- 2. JIS card operation is same as MSR card operation.**

■ Correct example:



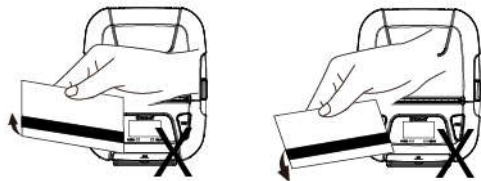
Make sure the magnetic stripe is towards to the magnetic head. Hold the card in the center as illustrated below and swipe it straight at a steady speed in the direction of arrows.

Incorrect example: To grasp a magnetic card

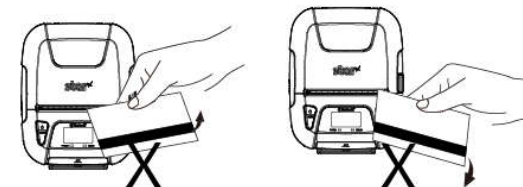


If you grasp the front/rear part of a card and move it through the MSR slot, the front /rear part is loose and a read error occurs.

To move a magnetic card



If you insert a card tilted upward/downward into the MSR slot, the card does not move horizontally and a read error occurs.



If you extract a card at the end of the MSR slot by lifting up or lowering down, the card is not maintained and a read error occurs.

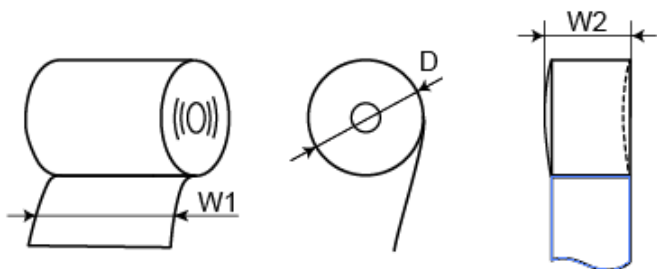


If you insert a card into the middle part of the MSR card, the card is not read correctly and read error occurs, or if you move the card back or forth by force after inserting into the MSR slot, the card is not read correctly and a read error occurs.

5. Paper

5.1 Paper Specification

➤ Receipt thermal Paper



Paper Width(W1)	39.5±0.5mm to 79.5±0.5mm (2mm pitch)
Paper Thickness	53µm to 85µm
Roll Paper Diameter	12±1mm≤Ø≤18±1mm
Recording side	Outside of roll
Maximum Roll Diameter (D)	Ø57 mm
Curling dimension (W2)	40+0.5-1 to 80+0.5-1 mm
Axial	Inner diameter Ø12±1 mm Outer diameter Ø18±1 mm

NOTES: Do not use roll paper whose end is glued to its core, because the printer will be unable to properly detect the end of the paper. Also, we recommend that you use roll paper that has a roll end mark at its end.

(1)Operating

- a) Temperature : 0 to 50 degrees
- b) Humidity: 20 to 85 % RH (Must be no condensation)

*1 The combination of 50 degrees and 85% RH (No condensation) is considered the worst value regarding high temperature and humidity. A higher humidity level higher than 80% combined with a higher temperature can cause a problem if over a prolonged period of time (more than 4 hours).

(2)Transport / Storage

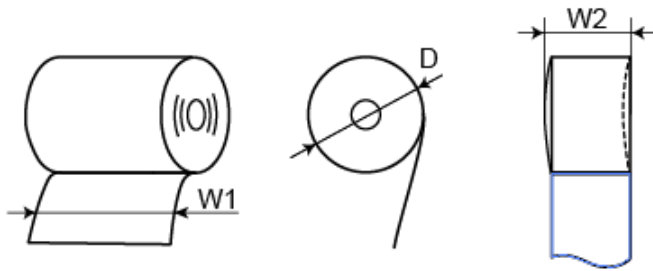
- a) Temperature : -20 to 70 degrees
- b) Humidity : 5 to 95 % RH (No condensation)

*1 This is a recommended storage range for temperature and humidity.

However, the storage condition could be the same as the operating condition provided the recommended humidity level is not exceeded over a prolonged period of time (more than 4 hours).

If the storage condition does exceed the 4 hour period at the higher temperature/humidity condition, we would recommend the rolls be in operating ambient conditions for two hours to acclimate to the normal operating range.

➤ **Label Paper**



Paper Width	39.5±0.5mm to 79.5±0.5mm (2mm pitch)	
Paper Thickness	Max. 150µm	
Roll Paper Diameter	25.4±1mm ≤ Ø ≤ 30±1mm	
Maximum Roll Diameter (D)	Ø57 mm	
Curling dimension (W2)	40+0.5-1 to 80+0.5-1 mm	
Axial	Inner diameter	Min Ø25.4±1
	Outer diameter	Min Ø30±1

(1) Operating

- a) Temperature : 0 to 50 degrees
- b) Humidity : 20 to 85 % RH (Must be no condensation)

*1 The combination of 50 degrees and 85% RH (No condensation) is considered the worst value regarding high temperature and humidity. A higher humidity level higher than 80% combined with a higher temperature can cause a problem if over a prolonged period of time (more than 4 hours).

(2) Transport / Storage

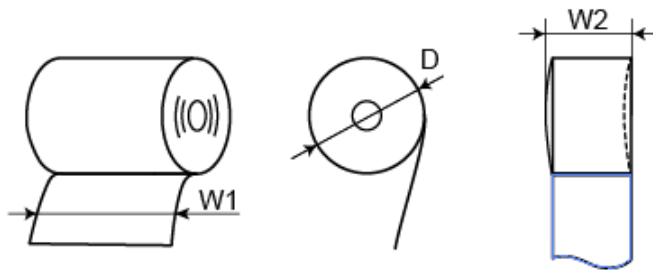
- a) Temperature : -20 to 70 degrees
- b) Humidity : 5 to 95 % RH (No condensation)

*1 This is a recommended storage range for temperature and humidity.

However, the storage condition could be the same as the operating condition provided the recommended humidity level is not exceeded over a prolonged period of time (more than 4 hours).

If the storage condition does exceed the 4 hour period at the higher temperature/humidity condition, we would recommend the rolls be in operating ambient conditions for two hours to acclimate to the normal operating range.

➤ **Linerless Label Paper**



Paper Width	39.5±0.5mm to 79.5±0.5mm (2mm pitch)	
Paper Thickness	86µm	
Roll Paper Diameter	12.7±1mm ≤ Ø ≤ 18±1mm	
Maximum Roll Diameter (D)	Ø57 mm	
Curling dimension (W2)	40+0.5-1 to 80+0.5-1 mm	
Axial	Inner diameter	Min Ø12.7±1
	Outer diameter	Min Ø18±1

(1) Operating

- a) Temperature : 0 to 45 degrees
- b) Humidity : 20 to 80 % RH (Must be no condensation)

*1 The combination of 45 degrees and 80% RH (No condensation) is considered the worst value regarding high temperature and humidity. A higher humidity level higher than 80% combined with a higher temperature can cause a problem if over a prolonged period of time (more than 4 hours).

(2) Transport / Storage

- a) Temperature : 0 to 30 degrees
- b) Humidity : 45 to 65 % RH (No condensation)

*1 This is a recommended storage range for temperature and humidity.

However, the storage condition could be the same as the operating condition provided the recommended humidity level is not exceeded over a prolonged period of time (more than 4 hours).

If the storage condition does exceed the 4 hour period at the higher temperature/humidity condition, we would recommend the rolls be in operating ambient conditions for two hours to acclimate to the normal operating range.

5.2 Recommended Paper

➤ Receipt Paper

Manufacturer	Product Name	Recommended density
Mitsubishi Paper Mills Limited	P220AG	MID
Appvion, Inc	Alpha 400-2.1	MID
Oji Paper Co., Ltd.	FD200	MID
Oji Paper Co., Ltd.	PD450	MID
Oji Paper Co., Ltd.	PD160R-63	MID

➤ Label Paper

Manufacturer	Product Name	Recommended density
RICHO	150PSMW	High
UPM	DT80W	High

➤ Linerless Label Paper

Manufacturer	Product Name	Recommended density
MAXStick	MAXStick PLUSD	High



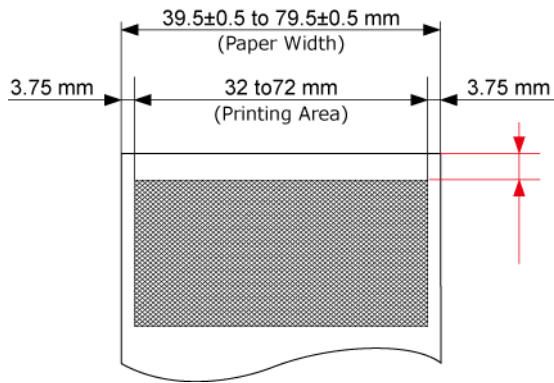
CAUTION:

Please use the recommended thermal paper or same quality paper, otherwise it will influence the printing quality and decrease the thermal print head life.

Please use at a room temperature if you want to set the print density to “Special”. Some types of the paper are not suitable for use in low-temperature environment.

5.3 Printing Range

5.3.1 Receipt (thermal) Paper



Notes: *The above is a view of the factory. Otherwise, please adjust by customers. For details about how to customize printing region settings, see section 8 “Memory Switch Specifications”.*

5.3.2 Label Paper

CAUTION

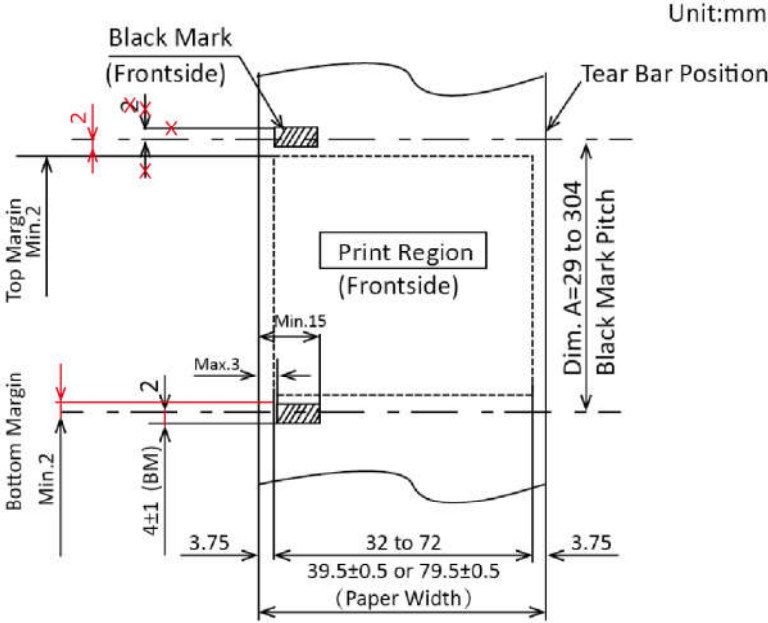
- 1) Do not use roll paper whose end is glued to its core, because the printer will be unable to properly detect the end of the paper. Also, we recommend that you use roll paper that has a roll end mark at its end.**
- 2) Chemicals and oil may cause the roll paper to change color or cause the printed characters to become lighter.**
- 3) Please be aware that the roll paper can be affected by heat, humidity, and direct sunlight.**
- 4) The roll paper may change color if you scratch it with your fingernail, a hard piece of metal, etc.**
- 5) Please use Star recommended Label Paper. A Label Paper or roll paper whose end has been glued by tape or adhesive to the core may result in the printer being unable to properly detect the end of the paper or may cause damage to the mechanism, voiding the warranty.**

5.4 Specification of Black Mark

SM-L300 supports black mark on both sides of the paper and the specification of black mark is illustrated by the following image.

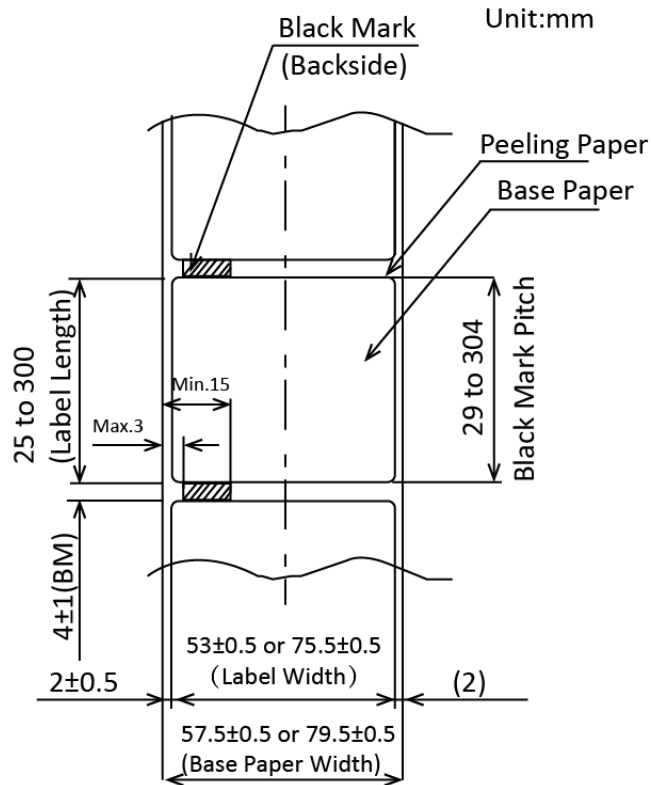
Black Mark Density : Black mark of Minimum 0.8 PCS.

5.4.1 Receipt Paper



Note: There is a possibility of Black Mark malfunction. Please contact the dealer when you would like to preprint paper.

5.4.2 Label Paper

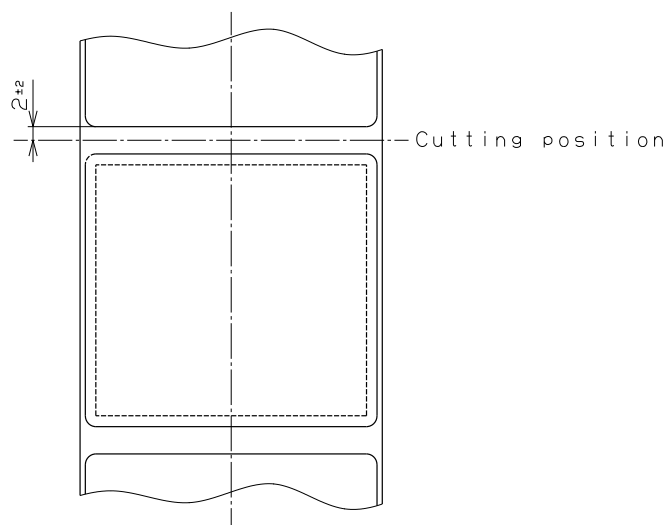


Notes :

1. It should be set by the memory switch with the panel operation
2. The left side of black mark sensor is also supported in case of the special paper.

5.5 Specifications of LABEL GAP

Label Gap Variability



6. General Specification

Table 6-1 General Specification

(1/2)

Item		Specifications	
Printing	Printing Method	Direct line thermal printing	
	Resolution	203dpi (8dots/mm)	
	Printing Speed	Max.65mm/s	
	Valid Printing Width	Max.72mm	
Interface	Bluetooth Specification	Communication	Bluetooth Ver 3.0/4.0 [BLE] Dual Mode
		Frequency Range	2.4GHz ISM-band
		Data Transmission Rate	115200bps adjustable
		Data Bit	8 data bit fixed
		Parity Bit	No parity fixed
		Stop Bit	1 stop bit fixed
		SSP	Compatible
	USB	Micro-USB	
Power Saving	Stand-by	YES	
Character Set	Font	Alphanumeric: 9x17, 9x24, 12x24 dots Kanji: 24x24 dots	
Barcode Symbolologies	1D	UPC-A, UPC-E, JAN/EAN8, JAN/EAN13, CODE39, ITF, CODE128, CODE93, CODABAR(NW-7), GS1-128, GS1 Omnidirectional, GS1 Truncated, GS1 Limited, GS1 Expanded	
	2D	QR code(Support 15mm), PDF417, GS1 Stacked, GS1 Stacked Omnidirectional, GS1 Expanded Stacked, GS1 Composite Symbols	
Graphics		Support bitmap printing with different density and user defined bitmap printing (Max. 512K for total)	
Detection	Sensors	Cover open sensor, Paper end sensor, Black mark sensor, Transmissive sensor(Label Gap sensor), Thermal head thermister, Printer internal thermister	
LED	Power Lamp	Green	
	Error Lamp	Red	
Drop resistance		1.2m	

Table 6-1 General Specification (Continued)

(2/2)

Item		Parameter
Charging	USB charge Output DC 5V $\overline{\text{---}}$ 1.0A, time required for full charge: 5 to 6h	
Power Supply	Battery	2000mA 7.4V rechargeable battery pack
	Battery Operating Time	TBD
LCD		128 x 64 dots with Blue Backlight
MSR (Single Head) MSR model only	Format	ISO 7810, ISO 7811, ISO7812 1st, 2nd and 3rd Track/ JISII Track Reading
	Security	AES or 3DES encryption. DUKPT Key Management
Environmental Requirements *1	Operating Condition	0°C to 50°C, 20% to 85%RH (no condensation)
	Storage Condition	0°C to 30°C, 45% to 65%RH (no condensation)
Physical Characteristics	Dimension	SM-L300:119.1(W) x 146.4(H) x 69.0(D) mm SM-L304:119.1(W) x 150.8(H) x 69.0(D) mm
	Weight	SM-L300:540g (including battery pack) SM-L304:552g (including battery pack)
Reliability	TPH	50km(not more than 12.5% printing density)/100 million pulses (Linerless = 10 km)
Software	Emulation	StarPRNT mode

*1) Please refer to 5.1 for the linerless label paper.

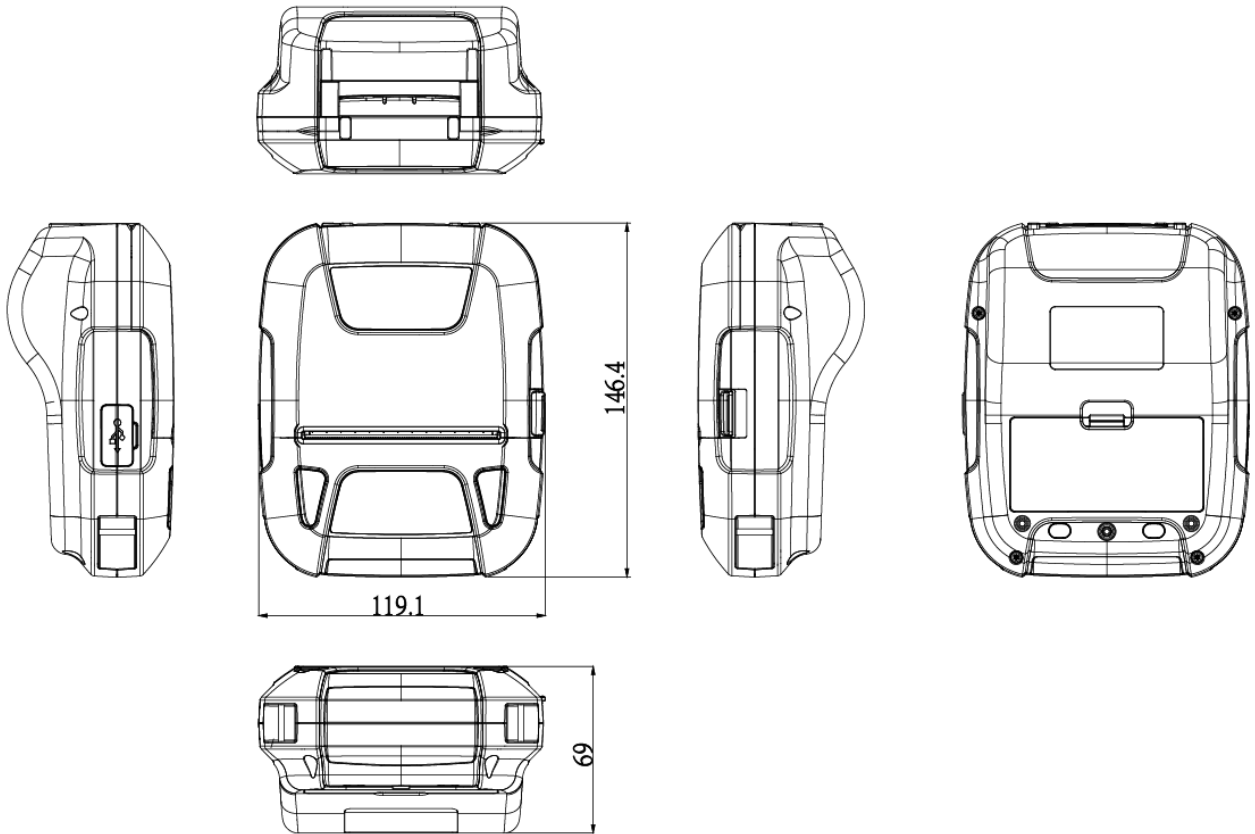
Notes:

- 1. The periodic maintenance is required for use of linerless label paper.**
- 2. The barcode print quality largely depends on the color characteristics of the thermal paper, the environment (such as temperature and humidity) of the printer location, the print density, and print speed settings.**
- 3. When you read the printed barcodes using a scanner or other type of device, it is strongly recommended that you evaluate the data scanning quality beforehand.**

■ Dimensions

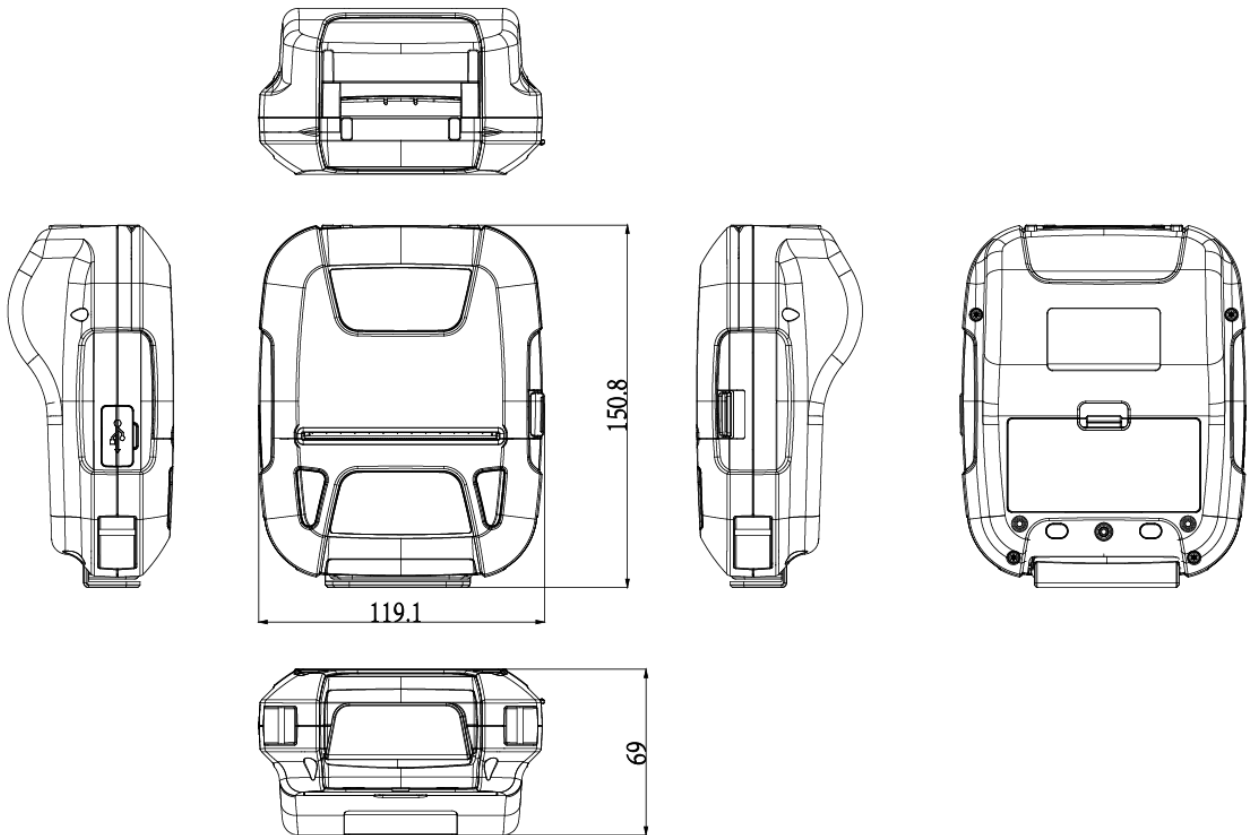
➤ SM-L300

- External Dimension: 119.1mm (W) x 146.4mm(H) x 69.0mm (D)
- Weight : 540g (including battery pack)
- Body Color : Black



➤ SM-L304

- External Dimension: 119.1mm(W) x 150.8mm(H) x 69.0mm(D)
- Weight : 552g (including battery pack)
- Body Color : Black



7. Detailed Specification

Item	Specification
Hardware Specification	MCU: 32bits RISC, FLASH : 256K bytes, RAM: 48K bytes
Clock frequency of MCP	72MHz

Refer to “10.2 Bluetooth” for the detail specifications of Bluetooth.

8. Memory Switch Specifications

The MSW settings are loaded when the power is turned on or when the printer is reset. If these settings are changed, they are made valid only after the printer is turned on or reset.

Flash memory has a limit life for writing data. Do not apply this command for every single receipt.

The following describes memory switch specifications.

MSW0

bit	Function	OFF/"0"	ON/"1"	Note
F				
E				
D				
C				
B				
A				
9				
8				
7				
6				
5	SHIFT-JIS mode	Enable	Disable	
4	Destination	SBCS(1byte)	DBCS(2byte)	
3				
2				
1				
0				

MSW1

bit	Function	OFF/"0"	ON/"1"	Note
F				
E				
D	Top Search	(Refer to below)		*2
C	Top Search	(Refer to below)		*2
B				
A				
9				
8				
7				
6				
5				
4	Zero style	Normal	Slashed	
3	International Character	(Refer to below)		*1
2	International Character	(Refer to below)		*1
1	International Character	(Refer to below)		*1
0	International Character	(Refer to below)		*1

*1) International Character

n	MSW1-3	MSW1-2	MSW1-1	MSW1-0	International Character
"0"	0	0	0	0	USA
"1"	0	0	0	1	France
"2"	0	0	1	0	Germany
"3"	0	0	1	1	UK
"4"	0	1	0	0	Denmark 1
"5"	0	1	0	1	Sweden
"6"	0	1	1	0	Italy
"7"	0	1	1	1	Spain 1
"8"	1	0	0	0	Japan
"9"	1	0	0	1	Norway
"A"	1	0	1	0	Denmark 2
"B"	1	0	1	1	Spain 2
"C"	1	1	0	0	Latin America
"D"	1	1	0	1	Korea
"E"	1	1	1	0	Ireland
"F"	1	1	1	1	Legal

The international character setting for DBCS (Japan) is fixed at n = 8 (Japan).

The international character setting for DBCS (Korea) is fixed at n = 13 (Korea).

*2) Top Search (in Black Mark mode and Label mode)

N	MSW1-D	MSW1-C	Top Search	
			Power On	Cover Close
"0"	0	0	Not execute	Detect Black Mark
"1"	0	1	Detect Black Mark	Detect Black Mark
"2"	-	-	-	-
"3"	1	1	Detect Black Mark	Detect Black Mark

MSW2

bit	Function	OFF/"0"	ON/"1"	Note
F				
E				
D				
C				
B				
A				
9				
8				
7				
6				
5				
4				
3				
2	Print Density	(Refer to below)		*1
1	Print Density	(Refer to below)		*1
0	Print Density	(Refer to below)		*1

*1) Print Density

n	MSW2-2	MSW2-1	MSW2-0	Print Density
"0"	0	0	0	Medium Density
"1"	0	0	1	Low Density
"2"	0	1	0	High Density
"3"	0	1	1	Special Density

MSW3

bit	Function	OFF/“0”	ON/“1”	Note
F	Code Page	(Refer to below)		*2
E	Code Page	(Refer to below)		*2
D	Code Page	(Refer to below)		*2
C	Code Page	(Refer to below)		*2
B	Code Page	(Refer to below)		*2
A	Code Page	(Refer to below)		*2
9	Code Page	(Refer to below)		*2
8	Code Page	(Refer to below)		*2
7				
6				
5	Kanji Character Spacing	(Refer to below)		*1
4	ANK Character Spacing	(Refer to below)		*1
3				
2				
1				
0	Line Spacing	4mm	3mm	

*1 Character Spacing

< SBCS >

MSW3-4	Character	Character Size (Font + Right Space)
0	ANK	12(12+0)dot
1	ANK	15(12+3)dot

< Japanese Kanji and DBCS >

MSW3-5	Character	Character Size (Left Space + Font + Right Space)
0	Full Size Kanji	26(1+24+1)dot
	Half Size Kanji	13(0+12+1)dot
1	Full Size Kanji	30(3+24+3)dot
	Half Size Kanji	15(1+12+2)dot

MSW3-4	Character	Character Size (Font + Right Space)
0	ANK	12(12+0)dot
1	ANK	15(12+3)dot

< Hangle or Chinese or Taiwan BIG5 and DBCS >

MSW3-5	Character	Character Size (Left Space + Font + Right Space)
0	Kanji	26(1+24+1)dot
1	Kanji	30(3+24+3)dot

MSW3-4	Character	Character Size (Font + Right Space)

0	ANK	13(12+1)dot
1	ANK	15(12+3)dot

*2) Code Page

n	MSW3-F	MSW3-E	MSW3-D	MSW3-C	MSW3-B	MSW3-A	MSW3-9	MSW3-8	Character Table
"00	0	0	0	0	0	0	0	0	Normal*
"01	0	0	0	0	0	0	0	1	CodePage437 (USA,Std. Europe)
"02	0	0	0	0	0	0	1	0	Katakana
"03	0	0	0	0	0	0	1	1	CodePage437 (USA,Std. Europe)
"04	0	0	0	0	0	1	0	0	Codepage 858 (Multilingual)
"05	0	0	0	0	0	1	0	1	Codepage 852 (Latin-2)
"06	0	0	0	0	0	1	1	0	Codepage 860 (Portuguese)
"07	0	0	0	0	0	1	1	1	Codepage 861 (Icelandic)
"08	0	0	0	0	1	0	0	0	Codepage 863 (Canadian French)
"09	0	0	0	0	1	0	0	1	Codepage 865 (Nordic)
"0A	0	0	0	0	1	0	1	0	Codepage 866 (Cyrillic Russian)
"0B	0	0	0	0	1	0	1	1	Codepage 855 (Cyrillic Bulgarian)
"0C	0	0	0	0	1	1	0	0	Codepage 857 (Turkey)
"0D	0	0	0	0	1	1	0	1	Codepage 862 (Israel (Hebrew))
"0E	0	0	0	0	1	1	1	0	Codepage 864 (Arabic)
"0F	0	0	0	0	1	1	1	1	Codepage 737 (Greek)
"10	0	0	0	1	0	0	0	0	Codepage 851 (Greek)
"11"	0	0	0	1	0	0	0	1	Codepage 869 (Greek)
"12	0	0	0	1	0	0	1	0	Codepage 928 (Greek)
"13	0	0	0	1	0	0	1	1	Codepage 772 (Lithuanian)
"14	0	0	0	1	0	1	0	0	Codepage 774 (Lithuanian)
"15	0	0	0	1	0	1	0	1	Codepage 874 (Thai)
"20	0	0	1	0	0	0	0	0	Codepage 1252 (Windows Latin-1)
"21	0	0	1	0	0	0	0	1	Codepage 1250 (Windows Latin-2)
"22	0	0	1	0	0	0	1	0	Codepage 1251 (Windows Cyrillic)
"40	0	1	0	0	0	0	0	0	Codepage 3840 (IBM-Russian)
"41	0	1	0	0	0	0	0	1	Codepage 3841 (Gost)
"42	0	1	0	0	0	0	1	0	Codepage 3843 (Polish)
"43	0	1	0	0	0	0	1	1	Codepage 3844 (CS2)
"44	0	1	0	0	0	1	0	0	Codepage 3845 (Hungarian)
"45	0	1	0	0	0	1	0	1	Codepage 3846 (Turkish)
"46	0	1	0	0	0	1	1	0	Codepage 3847 (Brazil-ABNT)
"47	0	1	0	0	0	1	1	1	Codepage 3848 (Brazil-ABICOMP)
"48	0	1	0	0	1	0	0	0	Codepage 1001 (Arabic)
"49	0	1	0	0	1	0	0	1	Codepage 2001 (Lithuanian-KBL)
"4A	0	1	0	0	1	0	1	0	Codepage 3001 (Estonian-1)
"4B	0	1	0	0	1	0	1	1	Codepage 3002 (Estonian-2)
"4C	0	1	0	0	1	1	0	0	Codepage 3011 (Latvian-1)
"4D	0	1	0	0	1	1	0	1	Codepage 3012 (Latvian-2)
"4E	0	1	0	0	1	1	1	0	Codepage 3021 (Bulgarian)

"4F	0	1	0	0	1	1	1	1	Codepage 3041 (Maltese)
"60	0	1	1	0	0	0	0	0	Thai Character Code 42 (Thai)
"61	0	1	1	0	0	0	0	1	Thai Character Code 11 (Thai)
"62	0	1	1	0	0	0	1	0	Thai Character Code 13 (Thai)
"63	0	1	1	0	0	0	1	1	Thai Character Code 14 (Thai)
"64	0	1	1	0	0	1	0	0	Thai Character Code 16 (Thai)
"65	0	1	1	0	0	1	0	1	Thai Character Code 17 (Thai)
"66	0	1	1	0	0	1	1	0	Thai Character Code 18 (Thai)
"FF	1	1	1	1	1	1	1	1	User Setting (Blank Code Page)

This function is valid when SBCS is selected.

MSW4

bit	Function	OFF/"0"	ON/"1"	Note
F				

E				
D				
C				
B				
A				
9				
8				
7				
6	Printing Region	(Refer to below)		*1
5	Printing Region	(Refer to below)		*1
4	Printing Region	(Refer to below)		*1
3	Printing Region	(Refer to below)		*1
2	Printing Region	(Refer to below)		*1
1	Printing Region	(Refer to below)		*1
0	Printing Region	(Refer to below)		*1

*1)Printing Region

n	MSW4-6	MSW4-5	MSW4-4	MSW4-3	MSW4-2	MSW4-1	MSW4-0	Printing Region
"00"	0	0	0	0	0	0	0	72mm (576dot)
"01"	0	0	0	0	0	0	1	
"02"	0	0	0	0	0	1	0	
"03"	0	0	0	0	0	1	1	50.8m (406dot)
"04"	0	0	0	0	1	0	0	
"05"	0	0	0	0	1	0	1	
:								
"1D"	0	0	1	1	1	0	1	
"1E"	0	0	1	1	1	1	0	30mm
"1F"	0	0	1	1	1	1	1	30+1mm
"20"	0	1	0	0	0	0	0	32mm
:								
"46"	1	0	0	0	1	1	0	70mm
"47"	1	0	0	0	1	1	1	70+1mm
"48"	1	0	0	1	0	0	0	72mm
"49"	1	0	0	1	0	0	1	
:								
"7F"	1	1	1	1	1	1	1	

If the value of "n" is odd, "+1" will be set.

If any invalid value is set, "72mm" will be specified.

MSW7

bit	Function	OFF/"0"	ON/"1"	Note
F				
E				
D				
C	ASB function	(Refer to below)		*1
B				
A				
9				
8	NSB function	(Refer to below)		*1
7				
6				
5				
4				
3				
2				
1				
0				

*1)ASB/NSB function

n	I/F	"0"	"1"
MSW7-C	Bluetooth	Disable	Enable
	USB	Enable	Disable
MSW7-8	Bluetooth	(USB only)	(USB only)
	USB	Enable	Disable

MSW9

bit	Function	OFF/"0"	ON/"1"	Note
F	Correction direction for printing start position	Forward	Reverse	*1
E	Correction for printing start position	(Refer to below)		*1
D	Correction for printing start position	(Refer to below)		*1
C	Correction for printing start position	(Refer to below)		*1
B	Correction for printing start position	(Refer to below)		*1
A	Correction for printing start position	(Refer to below)		*1
9	Correction for printing start position	(Refer to below)		*1
8	Correction for printing start position	(Refer to below)		*1
7	Correction for printing start position	(Refer to below)		*1
6	Correction for printing start position	(Refer to below)		*1
5	Correction for printing start position	(Refer to below)		*1
4	Correction for printing start position	(Refer to below)		*1
3				
2				
1				
0				

*1) Correction for printing start position

Function to correct the BM detection position

Correction detection (MSW9-F)	Correction value(MSW9-E~MSW9-4)	Correction range
Forward	Correction value for BM printing start position $\times 0.5\text{mm}$	0mm~1023.5mm
Reverse	Correction value for BM printing start position $\times 0.5\text{mm}$ (The Maximum correction value is 10mm even if it is set more)	0mm~8mm

"0" is 64 dots on the current spec.

The direction Forward / Reverse can be specified by this MSW from the position of "0".

MSWB

bit	Function	OFF/"0"	ON/"1"	Note
F	Data timeout	Enable	Disable	*1
E				
D				
C				
B				
A				
9				
8				
7				
6				
5	<ESC><RS>a n Command Function	Status transmission conditions	Status transmission	
4				
3				
2				
1				
0				

*1) Data timeout

This function is valid only when using Bluetooth I/F.

MSWC

bit	Function	OFF/"0"	ON/"1"	Note
F				
E				
D				
C				
B				
A				
9				
8				
7				
6				
5				
4				
3				
2				
1	USB Serial Number	Disable	Enable	*1
0				

*1) USB Serial Number

This function is valid only when using USB I/F.



MSWR

bit	Function	OFF/"0"	ON/"1"	Note
F				
E				
D				
C				
B				
A				
9				
8				
7				
6				
5				
4				
3				
2	Paper Type	(Refer to below)		*1
1	Paper Type	(Refer to below)		*1
0	Paper Type	(Refer to below)		*1

*1) Paper Type

n	MSWR-1	MSWR-0	Paper Type
"0"	0	0	Receipt
"1"	0	0	Black Mark (3inch)
"2"	0	1	Black Mark (2inch)
"3"	0	1	Black Mark (Center)
"4"	1	0	Label
"5"	1	0	(Reserved)
"6"	1	1	(Reserved)
"7"	1	1	(Reserved)

MSWS

bit	Function	OFF/"0"	ON/"1"	Note
F				*1
E				*1
D	Power Down	(Refer to below)		*1
C	Power Down	(Refer to below)		*1
B	Power Down	(Refer to below)		*1
A	Power Down	(Refer to below)		*1
9	Power Down	(Refer to below)		*1
8	Power Down	(Refer to below)		*1
7	Power Down	(Refer to below)		*1
6	Power Down	(Refer to below)		*1
5	Power Down	(Refer to below)		*1
4	Power Down	(Refer to below)		*1
3	Power Down	(Refer to below)		*1
2	Power Down	(Refer to below)		*1
1	Power Down	(Refer to below)		*1
0	Power Down	(Refer to below)		*1

*1) Power Down

MSWS													Power Down	
D	C	B	A	9	8	7	6	5	4	3	2	1		0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	No use
0	0	0	0	0	0	0	0	0	0	0	0	0	1	1 Minute Power Off
0	0	0	0	0	0	0	0	0	0	0	0	1		2 Minute Power Off
0	0	0	0	0	0	0	0	0	0	0	0	1	1	3 Minute Power Off
0	0	0	0	0	0	0	0	0	0	0	1	0	0	4 Minute Power Off
0	0	0	0	0	0	0	0	0	0	0	1	0	1	5 Minute Power Off
0	0	0	0	0	0	0	0	0	0	0	1	1	0	6 Minute Power Off
0	0	0	0	0	0	0	0	0	0	0	1	1	1	7 Minute Power Off
0	0	0	0	0	0	0	0	0	0	1	0	0	0	8 Minute Power Off
.
.
.
.
1	0	0	1	1	1	0	0	0	0	1	1	1	1	9999 Minute Power Off

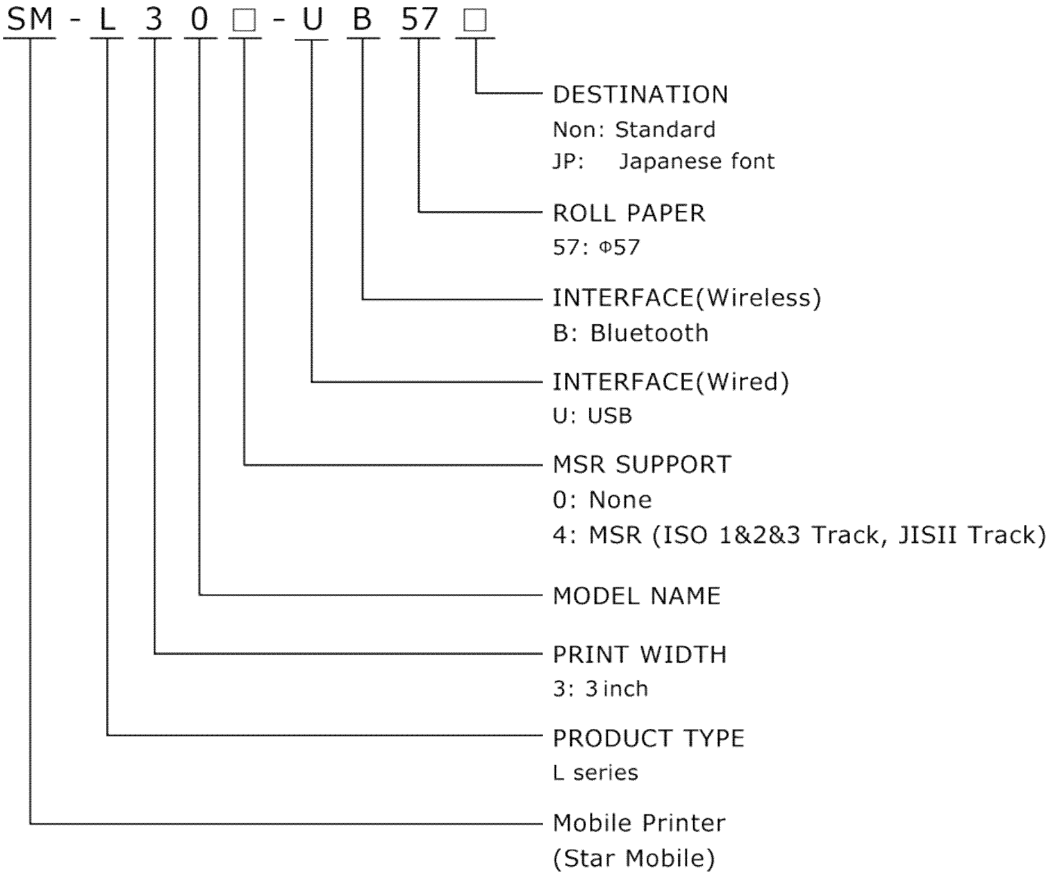
MSWT

bit	Function	OFF/"0"	ON/"1"	Note
F	Sleep Mode	(Refer to below)		*1
E	Sleep Mode	(Refer to below)		*1
D	Sleep Mode	(Refer to below)		*1
C	Sleep Mode	(Refer to below)		*1
B	Sleep Mode	(Refer to below)		*1
A	Sleep Mode	(Refer to below)		*1
9	Sleep Mode	(Refer to below)		*1
8	Sleep Mode	(Refer to below)		*1
7	Sleep Mode	(Refer to below)		*1
6	Sleep Mode	(Refer to below)		*1
5	Sleep Mode	(Refer to below)		*1
4	Sleep Mode	(Refer to below)		*1
3	Sleep Mode	(Refer to below)		*1
2	Sleep Mode	(Refer to below)		*1
1	Sleep Mode	(Refer to below)		*1
0	Sleep Mode	(Refer to below)		*1

*1) Sleep Mode

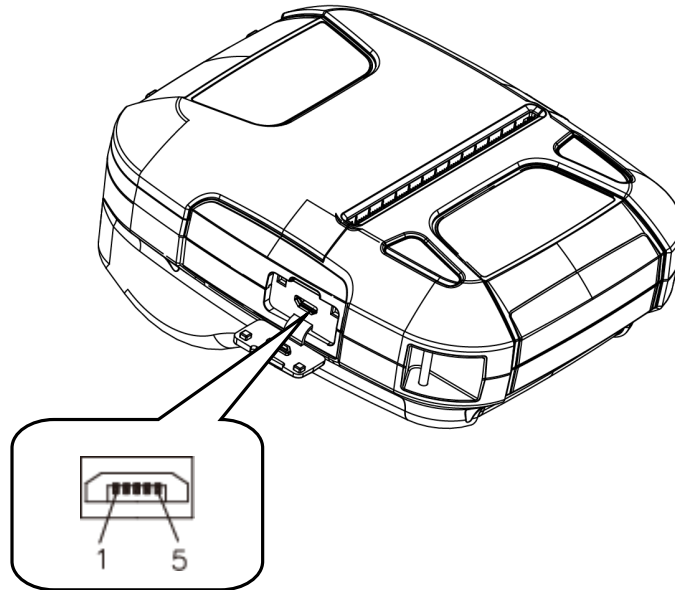
MSWT														Sleep Mode
D	C	B	A	9	8	7	6	5	4	3	2	1	0	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	No use
0	0	0	0	0	0	0	0	0	0	0	0	0	1	1 Second Sleep
0	0	0	0	0	0	0	0	0	0	0	0	1		2 Second Sleep
0	0	0	0	0	0	0	0	0	0	0	0	1	1	3 Second Sleep
0	0	0	0	0	0	0	0	0	0	0	1	0	0	4 Second Sleep
0	0	0	0	0	0	0	0	0	0	0	1	0	1	5 Second Sleep
0	0	0	0	0	0	0	0	0	0	0	1	1	0	6 Second Sleep
0	0	0	0	0	0	0	0	0	0	0	1	1	1	7 Second Sleep
0	0	0	0	0	0	0	0	0	0	1	0	0	0	8 Second Sleep
.
.
.
.
1	0	0	1	1	1	0	0	0	0	1	1	1	1	9999 Second Sleep

9. How to Display the Model Name



10. Interface

10.1 USB



SM-L300 printer has a USB interface for Battery charging and is connected by means of 5pin micro USB socket. In the following table, the signals present on the micro USB socket are listed.

Pin Number	SIGNAL
1	VBUS
2	D-
3	D+
4	NC
5	GND

■ USB Cable

Use the USB cable provided with the printer. (Refer to “11.3 USB Cable”.)

10.2 Bluetooth

Category	Specification
Bluetooth Spec.	Bluetooth Ver 3.0/4.0 [BLE] Dual Mode) Class2 (10m)
Frequency Range	2.4GHz ISM band
Data Transmission Rate	115200bps adjustable
Data Bit	8 data bit fixed
Parity Bit	No parity fixed
Stop Bit	1 stop bit fixed
SSP	Compatible

PIN code: 1234 as default for Android/Windows. (Bluetooth Ver.3.0)

Device Name: STAR L300-XXXXX

Device Name: STAR L304-XXXXX MSR model

(XXXXX is the last 5 digits of the Product Serial Number)

11. Specifications of Accessories

11.1 Battery Pack

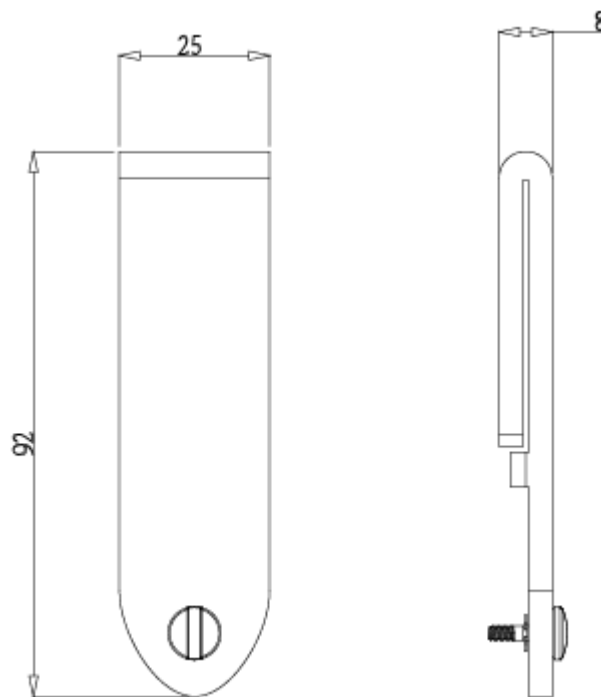
7.4V, 2000mAh

Rechargeable Lithium-ion Polymer Battery Pack

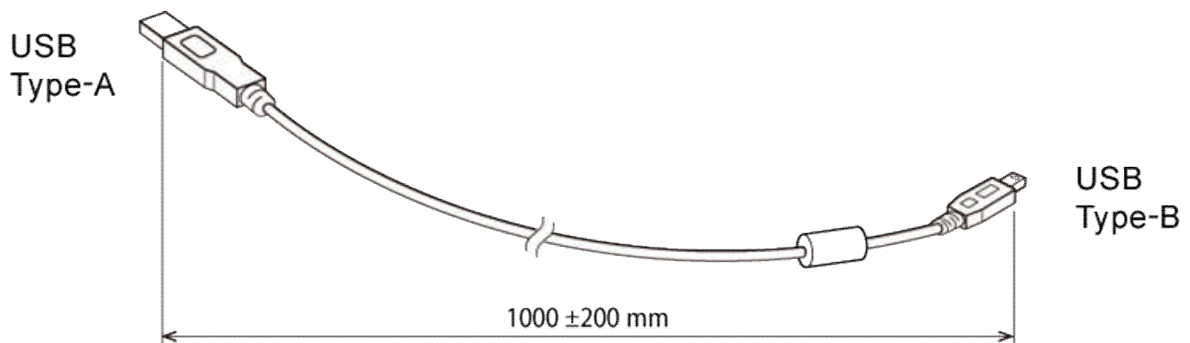
Safety Approvals: PSE

Weight: 90g

11.2 Belt Clip



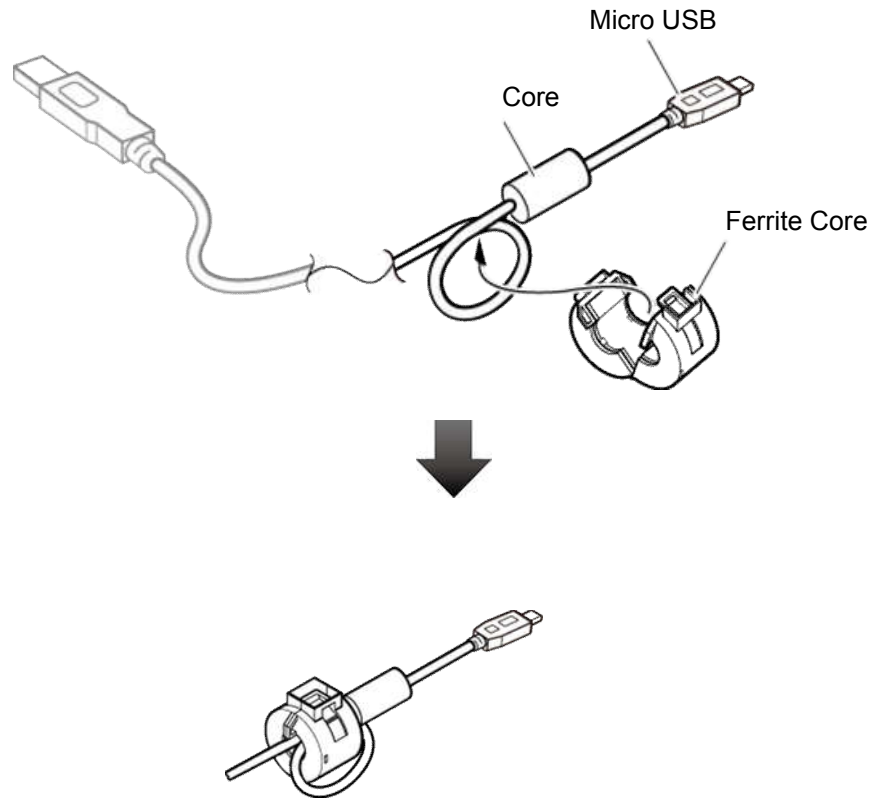
11.3 USB Cable



11.4 Ferrite Core

To reduce unnecessary radio wave radiation, attach a ferrite core to the USB cable included with the printer.

Make a loop with the USB cable close to the core at the Micro USB end and attach a ferrite core as shown in the drawing below.



12. Troubleshooting Procedure

When a trouble occurs, confirm its phenomenon, locate a defective part in accordance with "12.1 Troubleshooting Guide", and troubleshoot as described below.

Phenomenon:

Find a trouble phenomenon in this column. If there are multiple phenomena, take all the corresponding items into consideration. This allows you to specify a hidden defective part.

Cause:

Lists as many possible causes as possible. Guess a trouble cause out of them and take its check method to specify the trouble cause.

Check Method:

Describes a check method to specify a trouble cause.

Remedy:

Troubleshoot by taking a remedy described in this column.

By troubleshooting in accordance with the above-mentioned procedure, you can troubleshoot efficiently with fewer misjudgments.



12.1 Troubleshooting Guide

12.1.1 Power Supply Failure

Phenomenon	Cause	Check Method	Remedy
No Power (Power lamp not illuminated)	The battery is not connected		Connect the specified battery
	The battery is discharged	Battery level $\leq 7.2V$	Charge the battery
Printer cannot be charged	The battery is not installed.		Install the battery
	The USB cable is not connected to the printer, PC (USB port) or the USB charger firmly.		Connect the USB cable
	Fault in PC (USB port), the USB charger or the USB cable.	Connect it to other device	Connect to other device, replace the USB charger or the USB cable
	The PC is in sleep mode		Exit the sleep mode

12.1.2 Printing Failure

Phenomenon	Cause	Check Method	Remedy
No printing	The roll paper is loaded upside down		Install the roll paper properly
	Faulty Main Logic Board Unit		Replace the Main Logic Board Unit
	Faulty connection of the thermal head connector	Check connection of the thermal head connector	Connect the thermal head cable to connector properly
	Faulty thermal head		Replace the Mechanism Unit
Partly not printed or faint printout or uneven printout	Faulty connection of the thermal head connector	Check connection of the thermal head connector	Connect the thermal head cable to connector properly
	Printer cover one side close		Close printer cover correctly
	Faulty thermal head		Replace the Mechanism Unit
	Level of battery voltage is low	Check the battery lamp on the LCD	Charge the battery
	Foreign substance is adhered to the thermal head	Check whether any foreign substance are adhered to the thermal head	Dip a cotton swab or soft cloth in ethyl alcohol and wipe the foreign substance with them
	Non-recommended paper is used	Check whether the paper being used meets the specification	Replace it with the specified paper
	Faulty mounting of the platen	Check mounting condition of the platen	Mount the platen properly
	Connection issue of BT or USB	Check a mark on the printer	Ensure the USB or the Bluetooth communication is normal
	Use of roll paper that has the printing surface inside	Check the printing surface of roll paper	Change the clean paper
	Incorrect print area setting	Check MSW4 by self-test	Setting MSW4, select the appropriate print area
	Incorrect print density setting	Check the recommended value on 3.4 Memory Switch Setting Table	Select the appropriate print density

12.1.3 Sensor Failure

Phenomenon	Cause	Check Method	Remedy
Does not detect presence of paper	Faulty paper sensor	Check whether the ERROR lamp flickers when paper is out	Replace the Mechanism Unit
	Foreign substance is attached the paper sensor	Check whether any foreign substance are adhered to the paper sensor	Remove the foreign substance
	Faulty connection of the paper sensor connector	Check connection of the paper sensor connector	Connect the paper sensor cable to connector correctly
Does not detect presence of cover open.	Rubber roll is not in place	Open the cover, pressure sensor manual	Change the rubber roll or corresponding structure holder
	Related circuit problem of sensor or covered	Change sensor and detecting whether there is still	Judgment the sensor or circuit problem, then change sensor or repair motherboard

12.1.4 Paper Feed Failure

Phenomenon	Cause	Check Method	Remedy
Paper is not fed or fed irregularly	The printer cover is not closed properly		Close the printer cover properly
	Faulty connection of the motor connector	Check connection of the motor connector	Connect the motor cable to connector correctly
	Defective motor		Replace the Mechanism Unit
	Battery voltage drop	Check the battery display of the LCD	Charge the battery
	Faulty Main Logic Board Unit		Replace the Main Logic Board Unit
	Faulty mounting of the platen	Check mounting condition of the platen	Mount the platen properly
	Paper jam, or pieces of paper left in the printer	Check whether or not the paper is jamming or torn and caught in the paper path	Eliminate unnecessary paper in the paper path and set paper properly
	Foreign substance in the gear		Eliminate the foreign substance
	Broken gear		If the gear is broken, replace the Mechanism Unit
	Malfunction of de-curl mechanism		Please contact a dealer for repair
Label paper / linerless label paper is not fed	Label paper is fed with a piece of label peeled off		Place the paper label to target at the current
	De-curl switching lever ON		Check the De-curl switching lever and set it OFF.
	When linerless label is used, grew is stuck on the platen and the print head		Clean it

13. Fitting Regulation

13.1 Printer

Radio Wave Method	TELEC R&TTE FCC ICES	
Applicable Standard and Regulations	CE VCCI Class B	

13.2 Battery Pack

Electrical Appliances and Material Safety Act	PSE
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14. Release History

Rev.No.	Date (Month/Year)	Contents
Rev.1.0	Oct.2016	New Release

