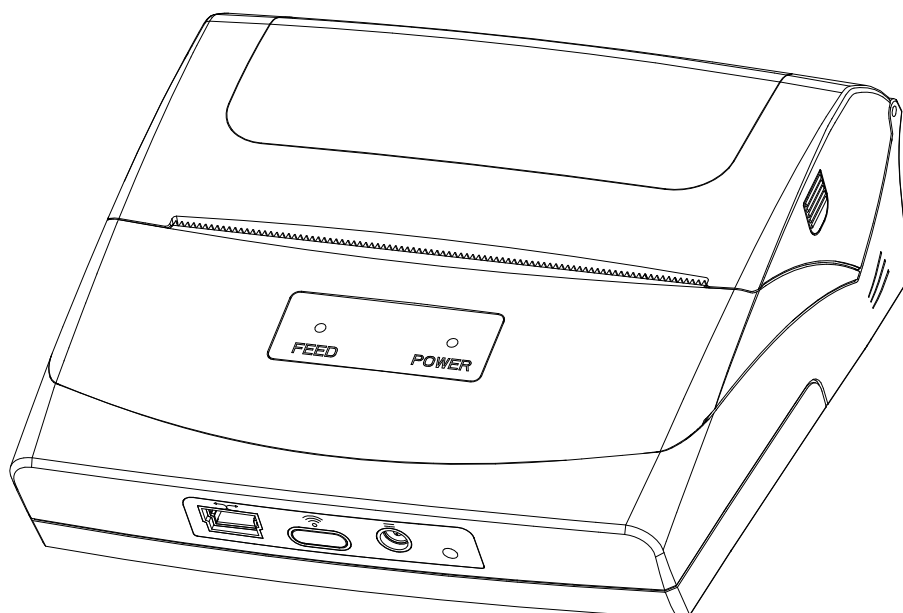

MPS3

User Manual



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1.0 Version

Warnings :



This must be complied with in order to avoid any damage to the human body and to the equipment.



This is showing the important information and tips for the printer operating.

CONTENTS

Precautions.....	1
1. Safety Precautions.....	1
2. Operation Precautions.....	1
3. Storage Precautions.....	2
4. Battery Safety Precautions.....	2
Chapter 1 Appearance and accessories.....	4
1.1 Appearance.....	4
1.2 Accessories.....	5
Chapter 2 Specification.....	6
2.1 Printing specifications.....	6
2.2 Physical specifications.....	6
2.3 Environment specifications.....	6
2.4 Other specifications.....	6
Chapter 3 Method of application.....	8
3.1 The preparation before using.....	8
3.1.1 Install battery.....	8
3.1.2 Install printer paper.....	9
3.2 Basic Function.....	9
3.2.1 Printer on.....	9
3.2.2 Printer off.....	9
3.2.3 Self-test.....	10
3.2.4 Paper loading.....	10
3.2.5 Battery Charging.....	10
3.3. Communication Interfaces.....	10
3.3.1 Serial Interfaces.....	10
3.3.2 Infrared ray: IR interface.....	10
3.3.3 RAW-IR.....	11
3.4 LED indicator and Buzzer definition.....	12
3.6 Software Tools of MPS3.....	12
3.7 The installation of printer driver.....	12
Chapter 4 Other information.....	14
4.1 Printer technical manual.....	14
4.2 Preprinted black mark specification.....	14

Precautions

1. Safety Precautions

- 1) Be sure to use the specified battery and power source provided by our company. Connection to an improper power source may cause fire, explosion or damage to the printer.
- 2) Don't put the battery into the fire or water, don't disassemble or modify the battery, don't be short circuit, otherwise may result in injury or fire even explosion.
- 3) If the printer would not be used for a long time, be sure to take off the battery, otherwise the battery may leak liquid which is corrosive, if improper operation causes battery leak, and the liquid is spattered on the skin or clothes, please wash it with water, if spattered in the eyes, please rinse them with water thoroughly and see a doctor.
- 4) Please do not open the paper case cover when it is printing or just when printing is over, do not touch the print head with hand or body, overheat may cause scald.

2. Operation Precautions

- 1) Water or other liquid should not spill into the printer, also the printer should not be appeared in the rain, or else may cause printer damage.
- 2) Please do not open the paper case cover when it is printing, otherwise the printer may work improperly.
- 3) If print with serial interface, should not unplug the interface cable in the course of printing, or else some printing data may be lost.
- 4) When print in IR or IrDA mode, be sure the Ir window of the host equipment face rightly the IR window of the printer, the distance should be within the range of 50cm, and the angle should be within the range of 30° .
- 5) Too high (40℃) or too low (0℃) temperature and too high (85%) or too low (20%) relative humidity both effect the print quality.
- 6) The print paper in poor quality or stored for too long time also may reduce the print quality even damage the printer.
- 7) In the black mark detecting mode, the printer requires that the preprinted black mark is accordant with the black mark specifications (details please refer to 4.2), otherwise the black mark can not be detected correctly.
- 8) Be sure to use up the power of the battery before charge it, as it can ensure the using life of the battery.

3. Storage Precautions

- 1) The printer should be placed in such an environment that the temperature is between -20°C and 70°C, and the relative humidity is between 5% and 95%.
- 2) If the printer will be stored for a long time, please be sure to take out the battery, otherwise may damage the battery and printer.
- 3) Normal thermal paper can't be kept too long, if you need to keep the receipt for a long period, please choose long term effective thermal paper.
- 4) The print paper should be keep away from high temperature environment and point-blank sunshine.

4. Battery Safety Precautions

Be sure to read carefully the user manual before using the product. Ignore the following instructions may cause battery overheating, fire, explosion, damage and / or performance, and reduce product life.

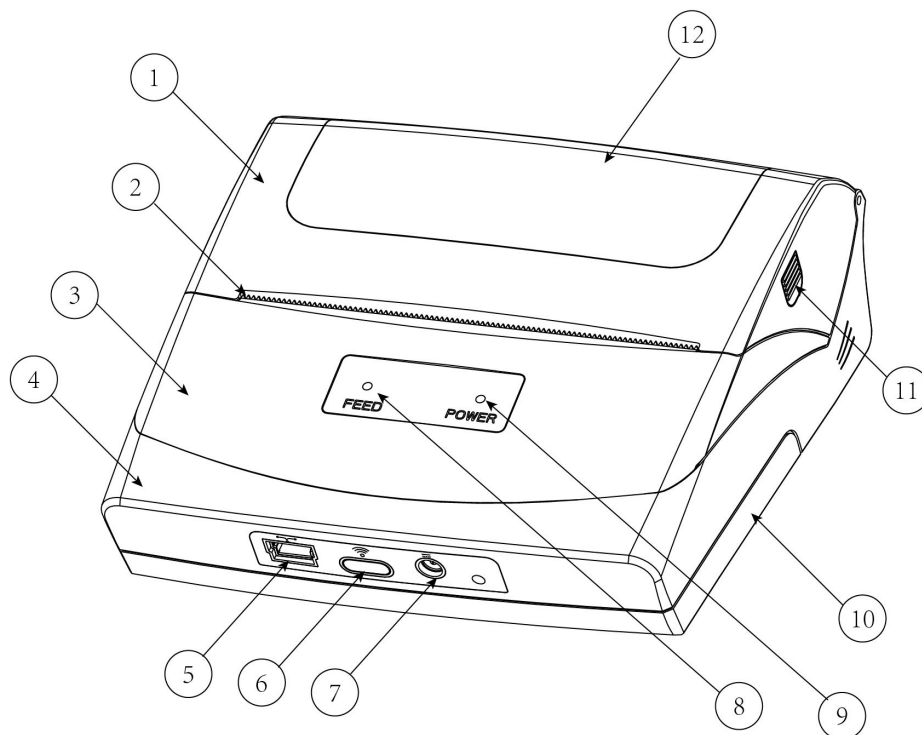
- 1) Do not allow water, sea water from entering or leaking into the battery inside. If the batteries internal safety device burn, when charging it, it may produce any abnormal current and / or voltage, and cause any abnormal chemical reaction, then may cause the battery overheating, fire and / or explosion.
- 2) Do not use or place the battery nearby the stove or other high temperature places. Excessive heat maybe damage the resin shell and / or the insulation materials, thereby cause short-circuit inside the battery, then the battery may be caused overheating, burning and / or explosion.
- 3) When charging, use a specified charger. Other conditions (high temperature, high pressure / high current, using the modified battery charger, etc.) excluded here may result in over-charging the battery and abnormal current and / or voltage, cause abnormal chemical reaction, and may cause the battery overheat, light and / or explosion.
- 4) Battery clearly marks with positive and negative. When connect the battery with the charger and / or printer, be sure to verify the correct battery orientation. Reverse insertion will cause the reverse charging and may cause abnormal chemical reaction, and then may cause the battery overheat, ignite, and / or explosion.
- 5) Do not make the battery contact with the power outlet and / or car cigarette lighter socket. This may cause high pressure and excessive current, and lead to the battery overheat, burning and / or explosion.
- 6) Do not heat the battery or put the battery into fire. This may melt insulation material and / or damage safety devices or safety equipment, then ignite electrolytic solution, and cause the battery overheat, burning and / or explosion.
- 7) Do not use the battery with contrary (+) and (-) Location. In the charging process, this will cause the reverse charging and may cause abnormal chemical reaction. During use, may appear unpredictable current exception, and cause the battery overheat,

ignite, and / or explosion.

- 8) Do not make the battery (+) and (-) contact with any metal. Also, do not carry along or store batteries with metal objects, such as necklaces, hair clips and so on. Battery internal short circuit may cause excessive current, and lead to the battery overheat, ignite, and / or explosion and the adjacent metal objects (necklaces, hairpins, etc.) may be overheating.
- 9) Do not throw or heavy attack the battery. If internal safety device of the batteries burn, the battery charging may cause any abnormal current and / or voltage, and abnormal chemical reaction, and lead to the battery overheat, ignite, and / or explosion.

Chapter 1 Appearance and accessories

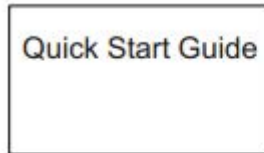
1.1 Appearance



1. Paper cover
2. Paper mouth
3. Top cover
4. Body
5. MINI USB interface
6. Infrared ray (IR) interface
7. Charging interface
8. Feed button and indicator
9. Power button and indicator
10. Li-ion battery cover
11. Cover open button
12. Transparent paper window

1.2 Accessories

Standard Accessories :



Quick Start Guide



Power Adapter



Battery



Packing Tray



Label Roll



USB Cable



Printer MPS3



CD



Leather Case

Chapter 2 Specification

2.1 Printing specifications

- Printing method: Line thermal
- Paper width: 80mm
- Paper thickness: 60 ~ 70 μ m
- Valid printing width: 72 mm
- Resolution: 8 dot/mm (203 dpi)
- Dot /line: 576 dots
- Printing speed: 70 mm/s
- Printing content: GB18030 character set, ASCII characters, user defined characters, bar codes CODE39, EAN13, EAN8, CODABAR, CODE93, ITF25.

2.2 Physical specifications

- Outer dimension: 100 x 99 x 40mm
- Weight: 230g(excluding paper roll)
- Paper Diameter: $\leq$ 30mm
- Interface: IrDA, RS232 serial

2.3 Environment specifications

- Operation temperature: 0°C ~ 40°C
- Operation humidity: 20% ~ 85%
- Storage temperature : -20°C ~ 70°C
- Storage humidity: 5% ~ 95%

2.4 Other specifications

- Paper loading method: drop-in easy loading
- Black mark detection: available (details please see 4.2 preprinting black mark specification).
- Paper out detection: when paper is out, the Mode indicator blinks.
- Print commands: ESC/POS compatible command set.
- Power supply: 800mAh rechargeable polymer lithium battery.
- Low power alarm: when the battery is low, the power indicator blinks and the buzzer rings 2 times to inform the user to charge printer.

- Battery full charge time: 2 to 4 hours.
- Battery duration: under 12.5% print density, at least 100 to 200 meters, under 25% print density, at least 80 to 100 meters, the standby time is over 15 days.

Chapter 3 Method of application

3.1 The preparation before using

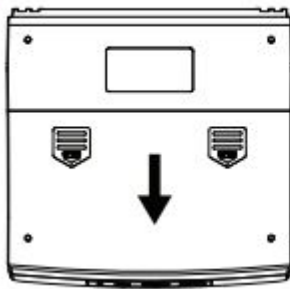
3.1.1 Install battery

The MPS3 is supplied by battery, please install battery before using the printer.

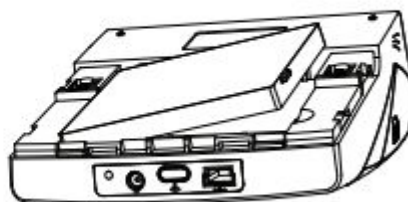
As in the following figures:

- 1、 Keeping printer inversion and open the battery cover.
- 2、 Install the battery into battery cover, please pay attention direction of anode and cathode.
- 3、 Close the battery cover.

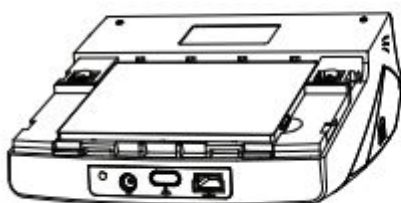
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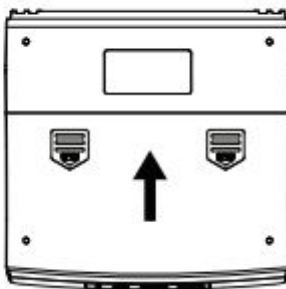
2



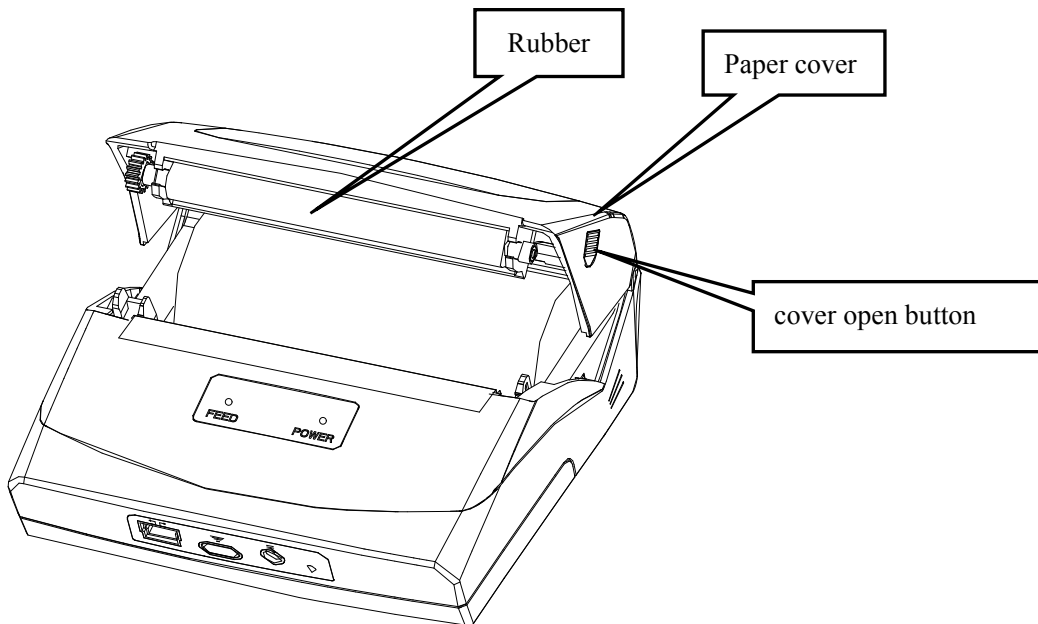
3



4



3.1.2 Install printer paper



The details methods of install paper:

- 1、 Use fingers to squeeze the cover opening button towards center.
- 2、 Load the paper roll, and please note correct direction of paper placement.
- 3、 Pull the paper roll out of chassis, and close the top cover.

3.2 Basic Function

3.2.1 Printer on

The printer is powered on by pressing the power button; the power indicator is on with red color whenever the printer is on.

Notice: when the batter is almost exhausted, the power indicator blinks with blue color, in this case, you must charge the battery by using the adaptor. The method of charging the battery, please refer to 3.2.5.

3.2.2 Printer off

The printer is off after hold down the power button for 2 seconds. All the indicators are off whenever the printer is off.

3.2.3 Self-test

When user get the printer, you can have a self test on it to find the current setting and state. The method of self-test: Make sure it is power off then press paper feeding button **FEED**, it will print out demo paper if you press button switch, the demo paper including the current state of printer, printer setting and example of print.

3.2.4 Paper loading

When standby, push FEED button, start feeding 250mm paper. If there is the black mark (the detecting mark) recognized by printer on roll paper, printer will stop printing when meeting black mark. If feeding paper length is 0mm, feeding will not be effected by black marks.

3.2.5 Battery Charging

When li-ion battery runs out of power, blue LED indicator flash slowly and buzzer will give out warning. It will power off automatically when continues printing. If you want to go on, please charge it.

Charging method: Plug in socket (220V, 50Hz) with power adapter.

Power-off charging: LED light will always indicate blue color and go off when fully charged

Power-on charging: LED light will keep blinking in blue color, and always indicate blue color when fully charged

When charging, printing is available.

Notes:

- ◆ You can only use original or a dedicated battery and charger for this printer or else will damage the product, Such as battery leakage or even explosion.

3.3. Communication Interfaces

3.3.1 Serial Interfaces

This model of printer uses DB-9 serial interface cable (one end is connected to printer, the other end is connected to MINI DIN interface)

3.3.2 Infrared ray: IR interface

IR is the wireless communication interface with low power loss, sophisticated technology and easy using, is widely applicable to portable devices, such as notebook, mobile cell, palm computer, wincc computer etc.

On hardware, MPS3 meets the regulations of IrDA1.1 physical layer.

When MPS3 communicates with main devices, whose hardware also meets the regulation of IrDA 1.1 physical layer, make the IR interfaces (from both MPS3 and main device) right towards to each other (angle shall not be more than 30°), no obstacles between them, the distance shall be less than 0.5M.

MPS3 communicates with main device according to Vir protocol or IrCOMM protocol (IrDA). When MPS3 communicates with main device, IR transceiver just change the serial interface signal into IR signal or change light signal into serial interface signal according to the certain code. Under this situation, this IR interface is called RAW-IR. When you use RAW-IR, it is not compatible with IrDA for there is no software using IrDA protocol during receiving and sending data.

VIR is much safer and more reliable IR communication way, for there is the VIR protocol on the base of RAW-IR.

Compared with VIR protocol, IrCOMM, which is IR communication made by international IR Communication on the base of RAW IR hardware protocol, has the wide application. On the base of RAW-IR hardware, IrDA transfers data more stably and reliably and much easier.

IrCOMM is the subset of IrDA. Wireless communication protocol developed by IrDA, All portable devices supporting IrDA (such as wince, pocket pc, palm, IR cell phones etc.) all support IrCOMM. If main device (driving printer) use the operation (such as winge, palmOS) supporting IrDA , for user, IrCOMM interface is the virtual serial port. If the main device has no IrDA protocol and want to realize IrCOMM data transmission, the user has to compose IrDA protocol. Please turn to supplier for more info and to make sure whether main device support IrCOMM or not. RAW-IR interface, VIR interface and IrCOMM interface in MPS3 have the same hardware source, so they can't work at the same time. The original mode of MPS3 is IrCOMM. If you want to change IR interface mode, please refer to MPTTools modification setting. Details in **【3.6 Software Tools of MPS3】**

Detailed IrDA protocol, please refer to IrDA official website: <http://www.irda.org/>

3.3.3 RAW-IR

User can learn RAW-IR interface password from main device manual and its supplier. RAW-IR interface is a little different from standard RS232 serial interface and RAW-IR interface has wireless connection and is valid for serial TXD signal and RXD signal. Other operation on other RS232 pin of Main device has no effect to RAW-IR.

Wake printer up by RAW-IR interface.

The baud rate of mobile thermal printerMPS3 is: 9600bps, 19200bps, 38400bps, 57600bps, 115200bps. Original baud rate of MPS3 is 9600bps. If user wants to change baud rate, please refer to MPTTools modification setting.

Note: Before using, make sure whether RAW-IR of your main device can work under this baud rate. Otherwise please change baud rates.

When main device is on, set RAW-IR interface as follow:

Byte length: 8 phase

Stop bit: 1 phase

Even-odd check: No

Flow control: No

Compared with other general IR, RAW-IR has the anti-disturbance ability while do not close to other IR sources, for printer can not shield these disturbances that other IR devices (such as notebook, cellphone with IR) send out infrared ray to find other IR devices.

3.4 LED indicator and Buzzer definition

There are one buzzer and two LED indicators to indicate the printer status. LED indicators indicate current status and buzzer indicates the changes of status.

LED indicator (blue)	LED indicator (red)	Status
Flash quickly	Dark	Power-on Charging
Flash slowly	Dark	Out of power
Continuously bright	Dark	Power-on charging end or Power-off Charging
Dark	Bright continuously	Working
Flash slowly	Flash slowly	Paper end
Dark	Flash slowly	Standby

Buzzer	Status
beep	Power on or Open cover or Insert and Draw USB cable
beep~beep	Power off

3.5 Software Tools of MPS3

There is software which called MPTTools.

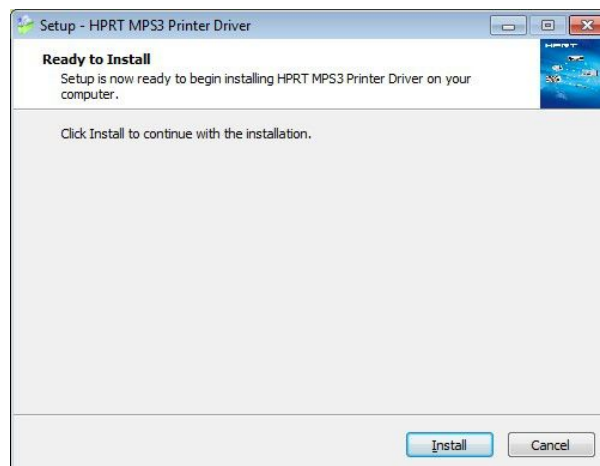
MPTTools is a software to set the printer parameters, it used to set the baud rate of serial port, Infrared mode, RAW-IR and VIR.The instructions pls. refer to MPTTools Guide .

3.6 The installation of printer driver

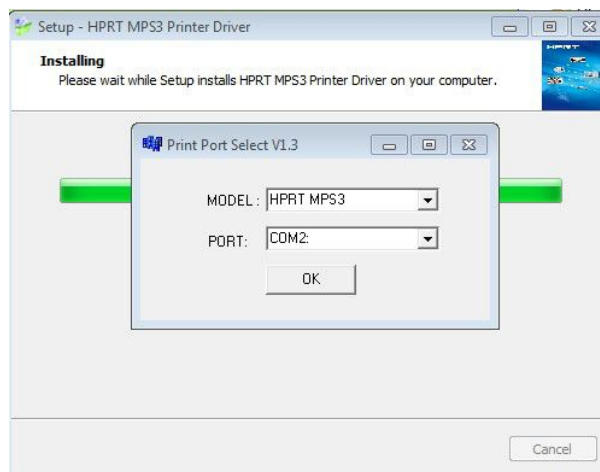
1、Double click “HPRTMPSPrinterDriver-v-1.0.0.2.exe”, choose “English” and click “OK”.



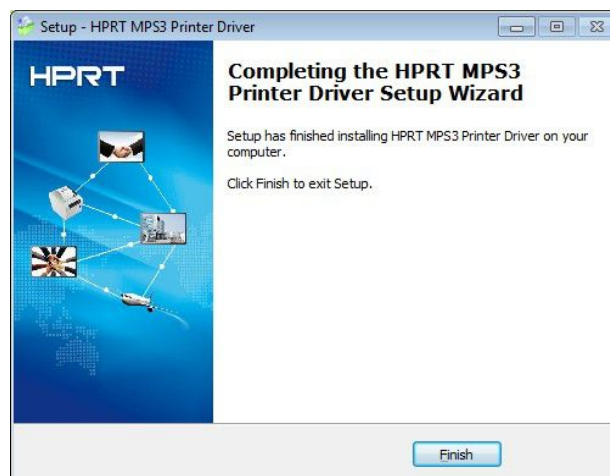
2、Click “Install”.



3、Choose the model and the port you need and click “OK” to next step.



4、Click “Finish” . A successful installation



Chapter 4 Other information

4.1 Printer technical manual

Pls. refer to MPS3 technical manual.

4.2 Preprinted black mark specification

If user wants to locate receipt by detecting preprinted black mark, shall accord to the following specification for the black mark. Otherwise it may cause printer can't recognize the black mark.

Printing position: black mark shall preprint at the left side of receipt.

Width rang: $\geq 7\text{mm}$

Height: $4\text{mm} \leq \text{height} \leq 6\text{mm}$

Reflection rate to IR: $< 10\%$ (reflection rate to the black mark on paper $> 65\%$)

Hps: Hps indicates the distance from down edge of detecting mark from beginning line.

$0\text{mm} \leq \text{Hps} \leq 1\text{mm}$