Value Each Gram A professional weighing products manufacturer and supplier

THERMAL PRINTER P902

User Manual

v.201811

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Brief Introduction

P(OS)902 printer is a new type line thermal printer, which features in fast speed print, low print noise, high reliability, perfect print quality and ribbon needless, avoiding the vexation of regular maintenance.

P(OS)902 printer: small in outline dimension, simple operation, and extensive application, especially suitable for commercial cash register, PC POS, bank POS and all kinds of receipts print.

Warning

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

Chapter 1 Feature and Performance

1.1 Print Performance

- Print method: direct thermal
- Print paper width: 79.5±0.5mm
- Print density: 8 dots/mm, 576 dots/line
- Print speed: max 300mm／sec.
- Reliability

(1)Print head life: 100km

Using condition:

* Print 12 × 24 ASCII characters, print 50 lines each time, intermittent print repeatedly

* Use specified thermal paper

（2）Cutter life: 1000,000 cuts. Using condition: less than 30 cuts/minute

● Valid print width: 72mm

1.2 Print Paper

• Thermal paper roll model:TF50KS－E（Japan paper co.ltd）

AF50KS-E(JUJO THERMAL)

•Thermal paper roll:Paper Type－－Thermal Paper 79.5xΦ80mm (max)

Inner Diameter－－－13mm（min.）

Thickness －－－ 0.06mm～0.08mm

1.3 Print Font

• ANK Character Set：

12×24 dots，1.5（W）×3.00（H）mm

9 ×17dots，1.125（W）×2.125（H）mm

•GB2312-80(Chinese):

24×24 dots，3.00（W）×3.00（H）mm

1.4 Interface

•RS－232C Serial Interface:

DB-9 socket (female), supports XON/XOFF and DTR/DSR protocols.

Baud rate: 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200bps adjustable.

Data structure: 1start bit + (7 or 8) data bits + 1 stop bit.

Parity checking: no parity or odd, even parity optional.

•Ethernet Interface:

Standard Ethernet interface.

•USB Interface::

Standard USB interface

•Cash Drawer Control:

DC24V，1A，6-pin RJ-11 socket.

1.5 Print Control Commands

•Character print commands: support double-width, double height print of ANK characters, user-defined characters and Chinese characters, the character line spacing is adjustable.

•Graphics print commands: support the print of bit-map graphics and

download bit-map graphics with different density。

●GS bar code print commands: support UPC-A， UPC-E， EAN-13，EAN-8，CODE39，ITF，CODEBAR，CODE93，CODE128,PDF417,QR bar code print.

1.6 Power Supply

●DC24V±10％，2A，A-1009-3P power socket.

1.7 Operation Environment

●Operation temperature: 5～50℃; Relative humidity: 10～80％

● Storage temperature: -20～60℃; Relative humidity: 10～90℃

1.8 Outline Dimension&Weight

● Outline Dimension: 197（L）mm×145（W）mm×147（H）mm

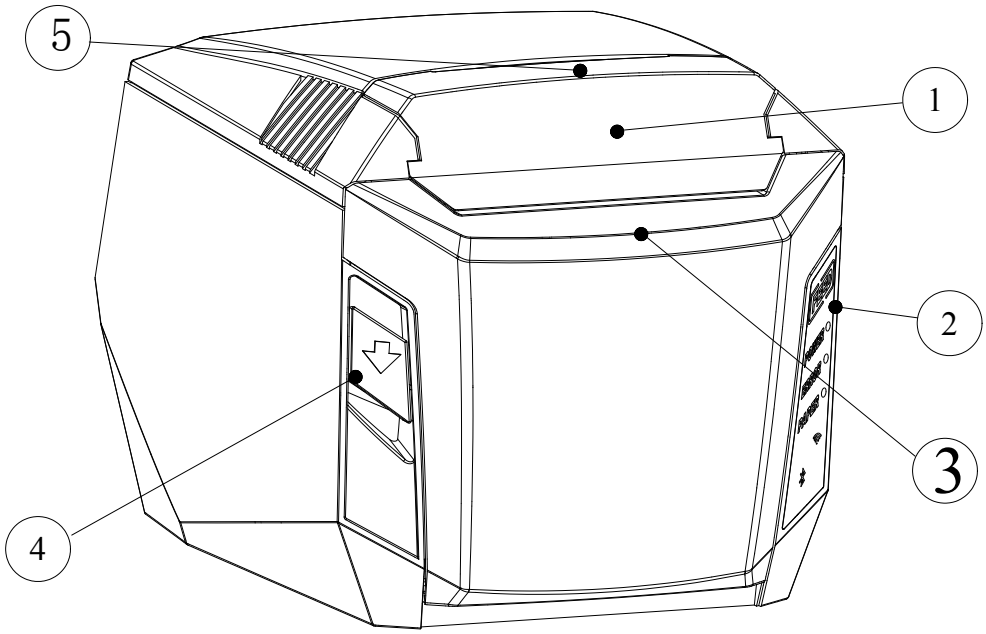
● Weight: 1417g (not including paper roll)

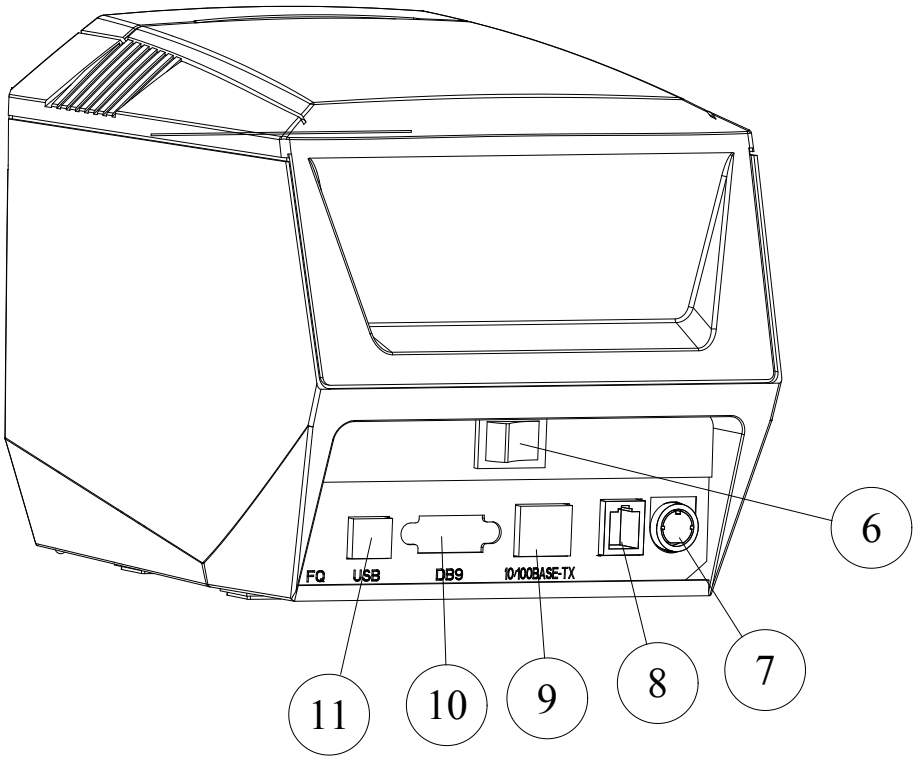
1.9 Model classification

Model	Interface
SP-POS902M	Three Multi Interfaces (RS-232C DB-9 socket Serial+ USB+Ethernet Interfaces)

Chapter 2 Operation instruction

2.1 Printer Appearance





1. Cutter cover 2. Operation panel 3. Paper Case Cover 4. Door-open button 5. Upper cover 6. Power Switch 7. Power socket 8. Ethernet interface socket 9. Cash drawer interface socket 10. Serial interface socket 11. USB Interface

2.2 Paper Installation

2.2.1 Paper Loading

POS902 adopts 79.5mm width thermal paper roll.

Steps of Loading Thermal Paper Are as below:

Hold down the upper cover button on the left side, open the movable upper cover, draw a certain length of the paper roll, put the paper end on the print head, close the upper cover and press it downwards lightly.

Caution!

1.Pay attention to the direction of loading paper,make the printing surface face to the print head.

2.Please don't feed or draw the paper forwards or backwards with hands.

3.Keep clean of the print head, avoid to influence the printing quality.

2.2.2 Solution to Paper Jam

If cutter jam, turn off the power, and turn on again, the cutter will be back to original position. If paper jam, push the paper cutter cover as figure 2-2 shows, remove it, then open the paper case cover, and take out the paper. If the cutter can not be back to the original position after restart the printer, open the cover of it, and turn the white plastic gear by the direction suggestive on the cutter with a slender tool as figure 2-3 shows, to make the cutter be back to the original position.

If cutter jam, but hope no loss of data in printer, can't turn off the power. It has to get the cutter back to the original position by the above mentioned method by hand. Then open the paper storage cover and take out the paper, close the paper storage cover. The printer will

recover automatically from Cutting Error.

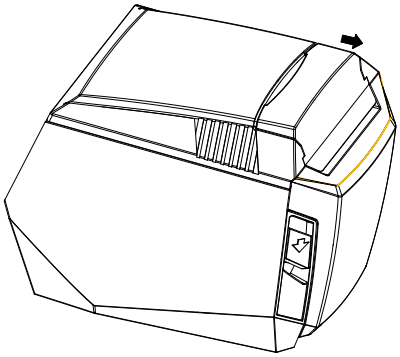


Figure 2-2

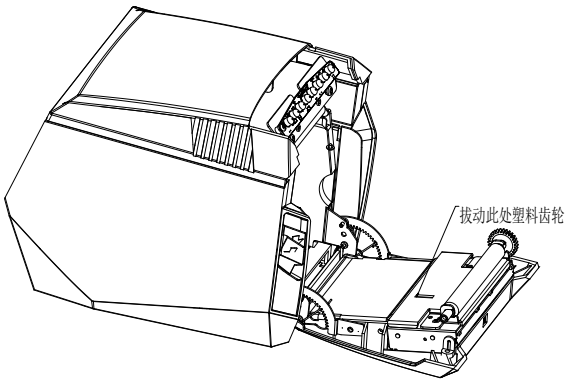


Figure 2-3

2.3 Interface

2.3.1 Serial Interface

The serial interface of SP-POS902 printer is compatible with RS-232C, supports DTR/DSR and XON/XOFF handshaking protocols, uses DB9 socket (female) and DB9 socket (female) . The pin order of the serial ports are as Fig.2-5 show:

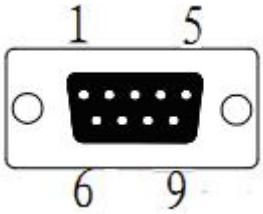


Fig.2-5 Pin Order of Serial Port, DB9 socket (female)

The pin assignment of serial interface are shown in Fig. 2-6 and Fig. 2-7 :

1	NC	——	——	
2	RXD	Output	Host	Printer receives data from host
3	TXD	Input	Printer	Printer transmits control code X-ON/X-OFF and data to host
4	DSR	Input	Printer	Signal “MARK” means the host is busy and can not receive data.Signal “SPACE” means the host is ready to receive data.
5	GND	——	——	Signal Ground
6	DTR	Output	Host	Signal “MARK” means the host is busy and can not receive data.Signal “SPACE” means the host is ready to receive data.

7	CTS	Output	Printer	The same as DSR.
8	RTS	Input	Host	The same as DTR
9	NC	——	——	

Fig. 2-7 The pin assignment of serial interface, DB9 socket (female)

Note: (1)“Source” denotes the source that signal come from;

(2)Logical signal level is EIA.

The baud rate and data structure in serial interface mode is 9600bps, 8-bit data bits, no parity bit and 1 stop bit.

The serial interface of SP-POS902 can be connected to standard RS-232C interface. When it is connected to IBM PC or its compatible machine, connection can accord to Fig.2-8.

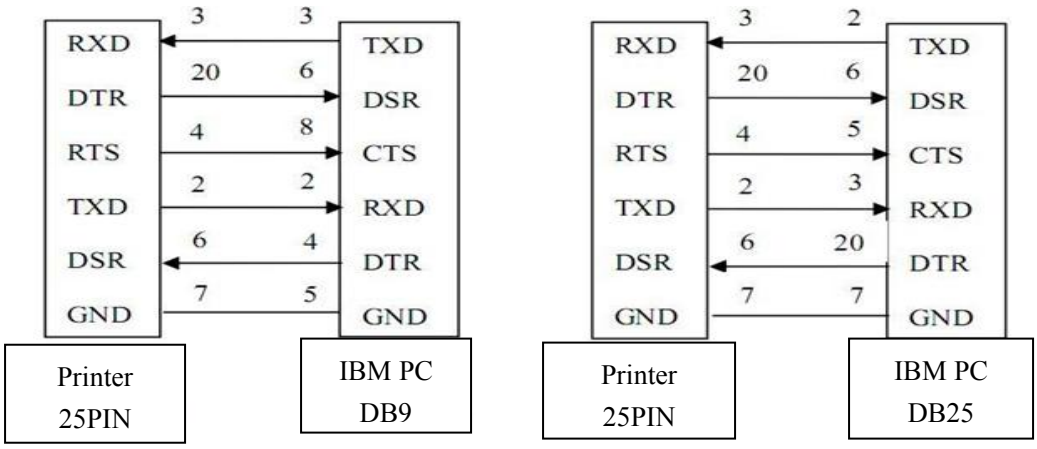


Fig.2-8 Connection between SP-POS902 and IBM PC Serial Interface Sketch Map

2.3.3 Cash Drawer Interface

The cash drawer interface of POS902 adopts RJ-11 6-pin socket, as Fig.2-11 shows:

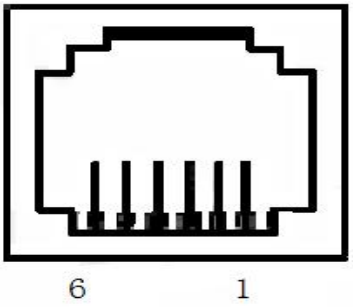


Fig.2-11 Cash Drawer Interface

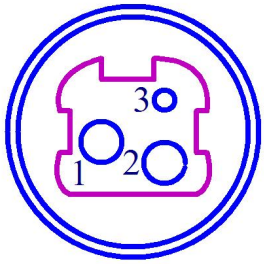
The pin assignment is as below:

Pin No.	Signal	Direction
1	Chassis Ground	——
2	Cash drawer driver signal 1	Out
3	Cash drawer on/off status signal	In

4	+24VDC	——
5	Cash drawer driver signal 2	Out
6	Signal ground	——

2.3.4 Power Connection

POS902 uses the external power supply adopter as 24V±10％、2A, power socket is A-1009-3P model, as Fig. 2-12 shows:



Pin No.	Signal
1	+24VDC
2	Ground
3	NC

Fig. 2-12 The pin assignment

2.4 Indicator, buzzer and button

There is one touch button, one inner buzzer and a series of indicators on POS902 printer. The indicators are one touch button indicator, one power indicator, one error indicator, one paper out indicator, one Bluetooth indicator, one WIFI indicator and a series of paper non-pickup

indicator.

【FEED】is paper feed button, which is a touch button. The function of this button can be set on/off by print command. When the function of this button is on, touch【FEED】button to feed paper; release【FEED】button to stop feeding button. When the feed button is touched, the touch button indicator will be lighting.

The buzzer can indicate the error and cutter status. Through parameters setting, the buzzer can be set into error alarm, paper-cut indicating or both above. The types of error status are same as ERROR indicator.

The blue touch button light is the touch button indicator, it is lighting when being touched or it is off.

The green POWER light is the power indicator. POWER indicator lighting means the printer is power on.

The red paper out light is paper out indicator, indicator lighting means out of paper .

Blue WIFI light is WIFI status indicator, it lights persistently while there is a WIFI interface, and it flashes when connected.

Blue Bluetooth light is Bluetooth status indicator, it lights persistently while there is a Bluetooth interface, and it flashes when connected.

Red Paper non-pickup indicators (8pcs), if the paper is not taken after

printing, they will keep flashing until being taken.

The red ERROR light is error status indicator. It is off when the printer works normally; while it flashes or persistently lights when the printer has abnormal alarm.

If ERROR indicator flashes or persistently lights and the buzzer sounds, it means the printer has error.

According to different flashing types, the different errors of printer are indicated:

1. An-recoverable error: the times of indicator flashing and buzzer sound indicate the error type, then indicator persistent light.

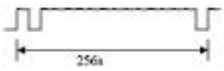
2. Recoverable error: the times of indicator flashing and buzzer sound indicate the error type, then indicator is persistently off.

3. Automatically recoverable error: the indicator flashes and the buzzer sounds continuously.

4. Paper out: the indicator lights and the buzzer sounds persistently.

The details are as below,

a. Unrecoverable error, the indicator flashes several times, then persistently lights. Then cycle. The times of flashing means the error type.

Error type	Description	Types of ERROR flashing
Unrecoverable error	LED flashes once : Memory read - write errors	
	LED flash twice: Over-voltage	
	LED flashes three times: the voltage is lack	
	LED flashes four times : CPU Execution error (wrong address)	
	LED flashes five times : UIB error	
	LED flashes eight times : temperature detection of circuit is wrong	

b. Recoverable error: the indicator continuously flashes and persistent off for a period.

Error type	Prescription	Type of flash
Recoverable error	LED flashes once .the place of cutter is wrong	

c. Automatic recoverable error: the indicator flashes continuously.

Error type	Description	Type of flash
Automatic recoverable error	LED continues flashing :the temperature of printing head is over high and the cover is wrong	

2.5 Turn on the printer

When the printer is off and paper case cover is closed, press the POWER button to turn on the printer. The status indicator and Paper Out indicator flashes twice alternatively, then indicator off. The printer enters into the normal working mode.

2.6 Self-test

The self-test will check the condition of printer, if the printer prints out the self-test receipt correctly, it means the printer works normally except interface with host. Otherwise it needs to repair.

The self-test will print out: Manufacturer name, printer model, software version, interface type, default value of printer parameters, 96 ANK characters in ASCII code, content of default code page (if language is set English) or name of Chinese character library (if the language is set Chinese), barcode type.

Way of self-test: turn on the POWER button, wait until both the WIFI indicator and Bluetooth indicator light, then hold down【FEED】button in 1.5 seconds, printer will print out self-test receipt. The content is as below picture 2-13:

```
***    Self-Test    ***

BFVersion:     Ver 1.00-1.04
Version:       M-068 0.02

Manufacturer:  SPRT
Model:         POS902

Interface:     RS232,USB,Ethernet
 Serial Parameter:
 Baud Rate:    9600
 Data bit:     8 bit
 Parity:       None
 Handshaking:  RTS/CTS

 Ethernet Parameter:
 Server port:
  Print:       9100
  Http:        80
 Network Setting:
  MAC Address: ae-94-33-7d-83-1b
  IP Address:  192.168.1.114
  SubneMask:  255.255.255.0
  Gateway:     192.168.1.1

 Language:      English
 PrintFont:     12*24
 PrintWidth:    72mm
 PrintDensity:  Medium
 PrintSpeed:    300mm/S
 AutoCut:       Yes
 BuzzerEnable:  OFF
 BlackMark:     OFF
 TakePaper:     ON
 PaperSensor:   Medium
 TakePaperSensor:Medium
PrintDirection:Normal
Command System:ESC/POS
CodePage:      CP437
Encode Mode:   ANSI
ExtRAMCapacity:128K bytes
Product Information:25-512-7

 !"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNO
PQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
ÇüéâäàåçêëèïîìÄÅÉæÆôöòûùÿÖÜ¢£¥₧ƒáíóúñÑªº¿⌐¬½¼¡«»
░▒▓│┤╡╢╖╕╣║╗╝╜╛┐└┴┬├─┼╞╟╚╔╩╦╠═╬╧╨╤╥╙╘╒╓╫╪┘┌▄▌▐▀
αßΓπΣσµτΦΘΩδ∞φε∩≡±≥≤⌠⌡÷≈°∙·√ⁿ²■

Barcode Type:
1D: UPCA,UPCE,EAN13,EAN8,CODE39
    ITF25,CODABAR,CODE93,CODE128
2D: PDF417,QR CODE,DATA Matrix


          ***   Completed   ***
```

2.7 Hexadecimal Printing

Turn on the printer according to the steps below, it will enter the mode of Hexadecimal Printing

1.Open the cover;

2.Turn on the POWERT button, wait until both the WIFI indicator and Bluetooth indicator light, then hold down【FEED】button in 1.5 seconds.

3.After the ERROR indicator and PAPER indicator flashing twice alternatively,close the cover, the printer will print out 3 lines as below:

Hexadecimal Dump

To terminate hexadecimal dump,

Press FEED button three times.

This means the printer has entered hexadecimal printing mode, and under this mode, all of the input will be printed out as hexadecimal number, feed one line with single-click of “FEED” button, after 3 times, it will print out “*** Completed ***”,and exit hexadecimal printing mode.

2.8 Printer parameter Settings

This function is for the setup of parameters.

Steps for setting parameters:

1. When printer power is off, open paper case cover firstly,.
2. Turn on the POWERT button, wait until both the WIFI indicator and Bluetooth indicator light, then hold down【FEED】button in 1.5 seconds.
3. After ERROR indicator and PAPER indicator flashing alternatively, press 【FEED】 button twice, then close paper case cover. Printer enters into parameter setting mode and print out the first set parameter and its default value. The details method of setting parameter can refer to Appendix A.

Steps for exiting of parameter setup: open paper case cover and press the【FEED】 button; then close paper case cover and release the 【FEED】 button. The printer will save the setup of parameters, exit setting mode and enter the normal working mode.

The data will not be saved if turn off the printer directly.

2.9 Enter the program upgrade mode

1. When printer power is off， open paper case cover.
2. turn on the POWERT button, wait until both the WIFI indicator and Bluetooth indicator light, then hold down【FEED】button in 1.5 seconds.

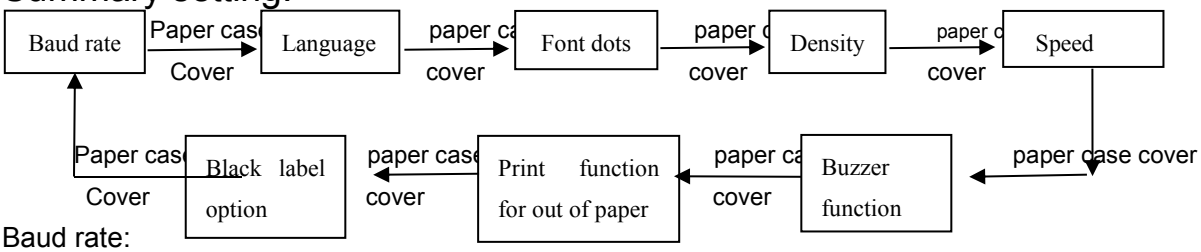
3. After the ERROR indicator and PAPER indicator flash alternatively, release【FEED】 button. Then press 【FEED】 button five times,and close the paper case cover, printer enters into the program upgrading mode. At this time, the indicator flashes once each second.

Appendix A: Parameter setting

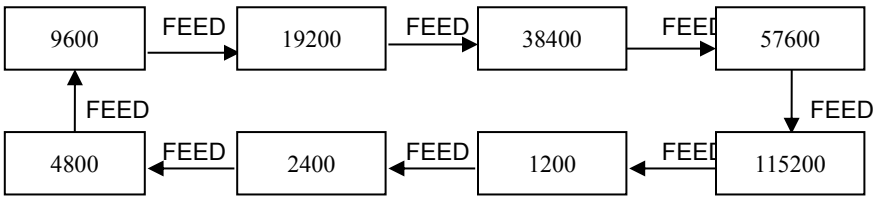
This appendix is the method to set default parameters of printer by buttons.

Setup instruction: use the button of【paper case cover】 to choose the setting items, change the item by press the button【paper case cover】, and print out the current value. Use the button of 【FEED】to set the parameter, the parameter will be changed by press the 【FEED】 button.

Summary setting:

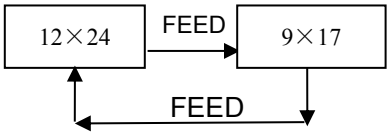


Baud rate:

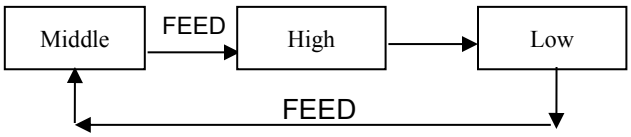


Language:

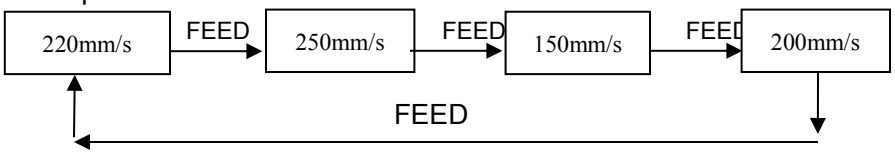
Font dots:



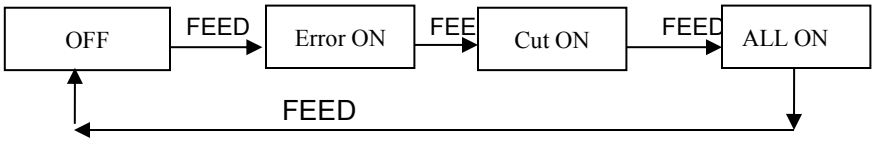
Print Density：



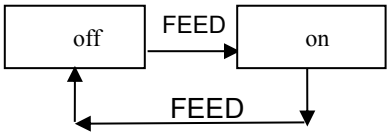
Print speed:



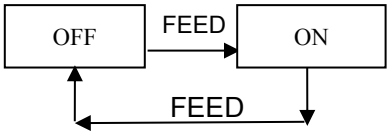
Buzzer:



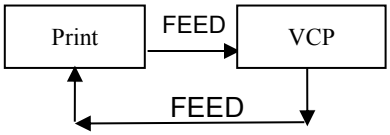
Black label mode:



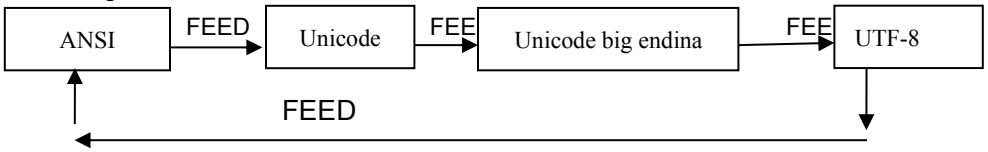
Paper non-pickup alarm:



USB type:



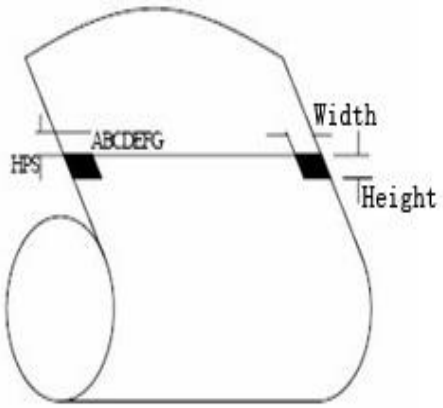
Encoding method:



Appendix B: Description of Pre-printed Black Mark

If users use pre-print black mark to locate the receipt, please be sure to abide by the following black mark pre-print regulation when print the black mark paper, otherwise, it will cause that the printer can not identify the black mark.

The black mark pre-print regulations are as below:



Printing Position: As the picture above, the black mark should be printed on the right or left edge of the printed side of paper.

Width range: width≥7mm

Height range: 4mm≤height≤6mm

Reflectivity of infrared ray: <10% (infrared ray reflectivity of other parts of the black mark paper is>65%)

HPS: it is the distance between edges of black mark and loading position.

4.5mm≤Hps≤6.5mm

Manufacture has right to amend the content of the instruction without prior announcement!

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Weighing system & solution

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v.201811

User Manual

P902

HiWEIGH Weighing system & solution

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