

OSCAR

POS58

Line Thermal Printer



User's Manual

(VER1.03)

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Introduction

POS58 printer is a new type line thermal printer, it features in fast speed print, low print noise, high reliability, perfect print quality and ribbon needless avoiding the vexation of regular maintenance.

POS58 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.

Chapter 1 Characteristic and Specification

1.1 Printing specification

- Printing method: direct thermal
- Printing paper width: $57.5 \pm 0.5\text{mm}$
- Printing density: 8 dots/mm, 384 dots/line
- Printing speed: approx. 75mm/s (valid content of each line isn't over 25%)
- Reliability:
 - Printing head life: 100km
 - MCBF: 5 million lines
 - Using condition:
 - * Print 12×24 ASCII characters, print 50 lines each time, intermittent print repeatedly
 - * Each dot-line printing at the same time should not exceed 25%, each character-line and one dot vertically printing repeatedly should not exceed 11 times
 - * Use specified thermal paper
- Valid printing width: 48mm

1.2 Printing Paper

- Thermal paper model: TF50KS—E (Japan paper co.ltd)
AF50KS-E(JUJO THERMAL)
- Thermal paper: Width — — — — — $57.5 \pm 0.5\text{mm}$
Outer Diameter — — — 80mm (max.)
Inner Diameter — — — 13mm (min.)
Thickness — — — — — 0.06-0.08mm

1.3 Printing Font

- ANK Character set:
 12×24 dots, 1.5 (W) $\times$ 3.00 (H) mm;
- GB2312-80(Chinese):
 24×24 dots, 3.00 (W) $\times$ 3.00 (H) mm.

1.4 Interface

- RS232 interface:
DB25 socket (female), supports XON/XOFF and RTS/CTS protocol
Baud rate: 1200-115200bps adjustable.
Data structure: one start bit + 7 or 8 data bits + one stop bit
- Parallel interface:
DB25 socket (male), 8-bit parallel interface, supports BUSY/ACK handshaking protocol, TTL.

- USB interface:
Standard B type USB interface.
- Bluetooth interface:
Support Bluetooth2.0/Bluetooth4.0 (Single mode BLE)
- Cash drawer control
DC12V, 1A, 6-pin RJ-11 socket.

1.5 Printing Control Command

- Character print command: supports double width and double height printing of ANK characters, user-defined characters and Chinese characters, the character line spacing is adjustable.
- Graphics print command: supports the printing of bit map graphics with different density
- GS bar code print command: supports UPC-A、UPC-E、EAN-13、EAN-8、CODE39、ITF25、CODABAR、CODE93、CODE128 bar code print.

1.6 Power Supply

- DC12V $\pm$ 10%，2A(one core), 2A

1.7 Operation Environment

- Operation environment temperature: 0~50℃
Relative humidity: 10~80%
- Storage temperature: -20~60℃
Relative humidity: 10~90%

1.8 Outline Dimension

- 138 (W) ×200×(L)×120(H) mm

Chapter 2 Installation and Operation

2.1 Printer Appearance





2.2 Paper Installation

POS58 adopts 57.5±0.5mm width thermal paper.

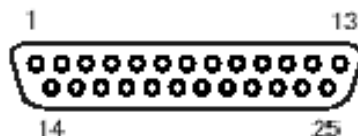
The steps of thermal paper installation are as the following:

1. When there is no paper in the print head, pls don't press **【FEED】** button to avoid affecting the life of printing head. Opening open button to open the case cover and change paper.
2. After paper case cover is closed, pls do not draw the paper forwards or backwards with hands.

2.3 Interface Connection

2.3.1 Parallel Interface Connection

The Parallel interface of POS58 printer is compatible with CENTRONICS, supports BUSY and /ACK handshaking protocol, it uses DB25 socket (male), the pin order of parallel port is as below shows:



Pin Order of Parallel Port

The pin assignment of parallel interface is shown as below:

Pin No.	Signal	Direction	Description
1	/STB	In	Strobe pulse to latch data, reading occurs at raising edge.

2	DATA1	In	These signals represent the 1 st bit to 8 th bit of the parallel interface data, each signal is at HIGHT level when data is logic 1, and LOW when data is logic 0.
3	DATA2	In	
4	DATA3	In	
5	DATA4	In	
6	DATA5	In	
7	DATA6	In	
8	DATA7	In	
9	DATA8	In	
10	/ACK	Out	Answer pulse, LOW level signal indicates that data have already been received and the printer gets ready to receive the next data.
11	BUSY	Out	HIGH level signal indicates that the printer is BUSY and can not receive data.
12	PE	Out	HIGH level signal indicates that paper is end.
13	SEL	Out	Pulling up to HIGH level signal by a resistor indicates the printer is online.
15	/ERR	Out	Pulling up to HIGH level signal by a resistor indicates there is no error.
14,16,17,19	NC	---	No connection
18、 20-25	GND	---	Grounding logical 0 level

Note: (1)“In” denotes inputting to the printer, “Out” denotes outputting from the printer.

(2) Signal level is TTL standard.

Fig. Pin Assignment of Parallel Interface

2.3.2 RS232 Interface Connection

The RS232 interface of POS58 printer is compatible with RS232C standard,

supports RTS/CTS and XON/XOFF handshaking protocol, it uses DB25 socket (female), the pin order of the RS232 port is as below:

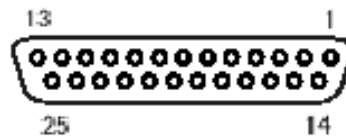


Fig. Pin Order of the Serial Port

The pin assignment of RS232 interface is shown as below:

Pin No.	Signal	Source	Description
2	RXD	Host	Printer receives data from host
3	TXD	Printer	Printer transmits control code X-ON/X-OFF and data to host
5	RTS	Printer	Signal "MARK" indicates that the printer is "BUSY" and unable to receive data; "SPACE" indicates that the printer is "READY" for receiving data.
6	DSR	printer	When this signal is "SPACE", it means the printer "online".
7	GND	—	Signal Ground
8	DCD	printer	Same with signal "CTS"

Fig. Pin Assignment of Serial Interface

Note: ① "Source" denotes the source that signal comes from;
 ② Logical signal level is EIA.

The baud rate and data structure in RS232 interface mode are set to 9600bps, 8 data bits, no parity bit and 1 stop bit.

The serial interface of POS58 can be connected with standard RS-232C interface. When connected to IBM PC or compatible machine, connection can accord to the below.

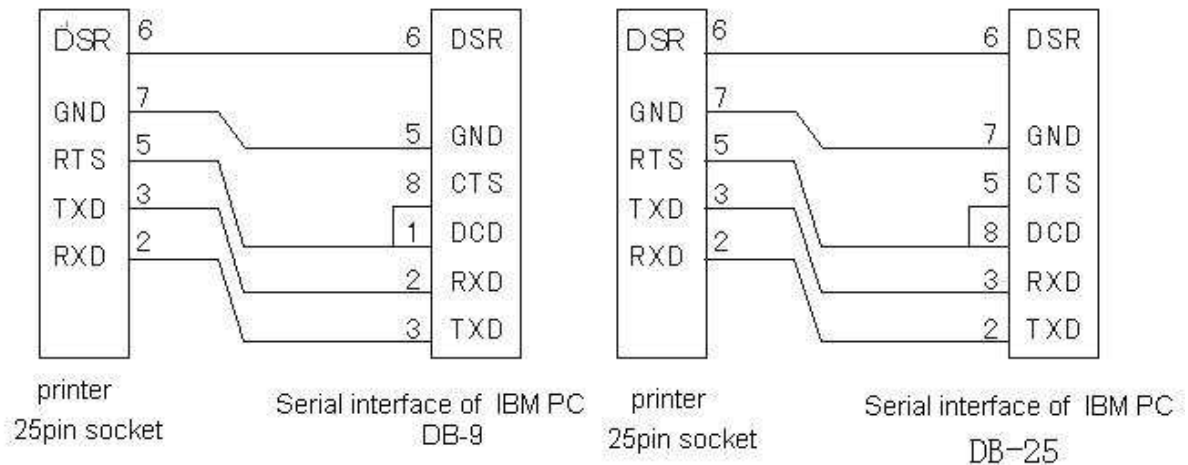


Fig. Connection between POS58S and IBM PC Serial Interface

2.3.3 USB Interface

Standard B type USB interface

2.3.4 Bluetooth Interface

The handheld terminal, notebook or other terminals with Bluetooth can drive the printer through Bluetooth interface. POS58 printer can support Bluetooth2.0/Bluetooth4.0 (Single mode BLE) principles. Power rate is CLASS2, Valid distance is 10m. Device name is POS58IV, initial password is "1234". Device name and password can also be set and changed by "Setting Tool".

Before printing, POS58 printer needs to pair with the host firstly. The pairing process is as below,

1. Turn on the printer
2. The host searches the Bluetooth devices
3. If several Bluetooth devices are found, pls choose POS58IV printer.
4. Input password "1234".
5. Complete pairing.

During pairing, the printer must be on.

Note: If the device name is not changed, during pairing, pls do not turn on several printers at the same time. Otherwise, it will be difficult to identify the one printer paired.

2.3.5 Cash Drawer Interface

The cash drawer interface of POS58 is RJ-11, 6pin socket, as below,



The pin assignment of the cash drawer interface is as follows:

Pin No.	Signal	Direction
1	Chassis Ground	---
2	Cash drawer driver signal	Out
3	Cash drawer on/off status signal	In
4	+12V DC	Out
5	N.C	---
6	Cash drawer on/off status signal ground	---

2.3.6 Power Connection

POS58 uses external power supply as 12VDC $\pm$ 10%, 2A, one core model, as below:



2.4 Buttons and Indicators

2.4.1 Power switch

Control on/off status of power.  is off status. Press “-” is on status.

2.4.2 Feed Button

【FEED】 is paper feed button. Print command can enable or disable 【FEED】 status to be on or off. Under enable status, hold down 【FEED】, start paper feeding, release the button paper feeding stops.

2.4.3 Opening Upper Cover Button

Hold down opening upper cover button to open the case cover.

2.4.4 Power indicator light (green)

If the power is on, the power indicator light will be on.

2.4.5 Status Indicator light and Buzzer

During normal working, red STATUS light is off. If the working status is

abnormal, the red indicator light will flicker to alarm error. Setting Buzzer can also alarm the abnormal working status.

Light status	Buzzer status	Printer Working status
Off	Off	Normal
Flicker 1 time and stay 1s off	Alarm 1 time and stay 1s	Paper out and waiting for loading paper
Flicker 2 times and stay 1s off	Alarm 2 times and stay 1s off	Print head is overheated and just waiting for back to normal temperature.
Flicker 3 times and stay 1s off	Alarm 3 times and stay 1s	Thermal print head damaged, needs to repair.

2.5 Self-test

The self-test can check the condition of printer. In the self-test, software version, interface type, characters, etc will be printed. If the printer prints out the self-test receipt correctly, it means the printer works normally except the interface with host. Otherwise it needs to repair.

Method of self-test: Holding down 【FEED】 button and turn on the power, the red indicator light will flicker at 1 time/s, within 3 times then release the button, self-test begins automatically. If the self-test receipt can be printed correctly, it means except the interface, the other parts of printer are all well.

2.6 Hexadecimal Dump

Holding down 【FEED】 button and turn on the power, the red indicator light will flicker at 1 time/s, after 3 times then release the button, the red light will go on flicker 3 times, then the printer will print out 3 lines information as bellow:

Hexadecimal Dump
To terminate hexadecimal dump,
Press FEED button three times.

Under this mode, all the input will print out as Hexadecimal data. Put the 【FEED】 button will feed one line each time. 3 times together will print out as bellow:

*** Completed ***

Then quit the Hexadecimal Dump print mode.

2.7 Upgrade Mode

Holding down 【FEED】 button and turn on the power, the red indicator light will flicker at 1 time/s, after 3 times then release the button. The printer enters into Mode Choosing Status. Then press LF button 5 times and the

time distance between two times must be within 3s. The indicator will flicker at 1s on and 1s off status. At this time, the printer enters into Upgrade Mode.

Chapter 3 Printing Driver Installation

Printing driver for POS58 can be downloaded from the company of our website. After downloading, the name of driver software is DRV211. During installing driver software, choose printer model "58 thermal series". About other operation, pls refer to the detailed installation manual.

Appendix 1 Performance Index

- Print method: Direct thermal
- Print width: $57.5 \pm 0.5\text{mm}$
- Valid print width: 48mm
- Print density: 8 dots/mm, 384 dots/line
- Print speed: approx.75mm/sec (The valid printed content of each line doesn't exceed 25%)
- Reliability:
 - Print head life: 100km
 - Using condition:
 - * Print 12 × 24 ASCII characters, print 50 lines each time, intermittent print repeatedly
 - * Each dot-line printing at the same time should not exceed 25%, each character line and one dot vertical printing repeatedly should not exceed 11 times
 - * Use specified thermal paper
- Thermal paper roll model: TF50KS—E (Japan paper co.ltd)
AF50KS-E(JUJO THERMAL)
- Thermal paper roll: Width——— $57.5\pm0.5\text{mm}$
 - Outer Diameter ——— 80mm (max.)
 - Inner Diameter——— 13mm (min.)
 - Thickness ——— 53~60g / m²
- Print Font: IBM Character set II (ANK):
 - 12×24 dots, 1.5 (W) ×3.00 (H) mm;
 - GB GB2312-80(Chinese):
 - 24×24 dots, 3.00 (W) ×3.00 (H) mm.

- RS232 interface:
 - DB25 socket (female), supports XON/XOFF and RTS/CTS protocol.
 - Baud rate: 1200~115200bps optional.
 - Data structure: 1 start bit + 8 data bits + 1 stop bit. Parity optional.
- Parallel interface:
 - DB25 socket (male) or 36pins, 8-bit parallel interface, BUSY/ACK handshaking protocol, TTL signal level.
- Cash drawer control
 - DC12V $\pm$ 10%, 1A, 6-pin RJ-11 socket.
- Power Supply
 - DC12V $\pm$ 10%, 2A, A-1009-3P socket
- Operation Environment
 - Operation temperature: 5~50°C
 - Relative humidity: 10~80%
 - Storage temperature: -20~60°C
 - Relative humidity: 10~90%

Warning

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