oxhoo

Desktop POS Printer
TP85
User Manual

REVISION RECORDS

REV.	DATE	DESCRIPTION	Drawn	Checked	Approved
1.0	2016.11.14	1.First edition	Wu Zhenrong	Yang Kaiqu	Lin Yang
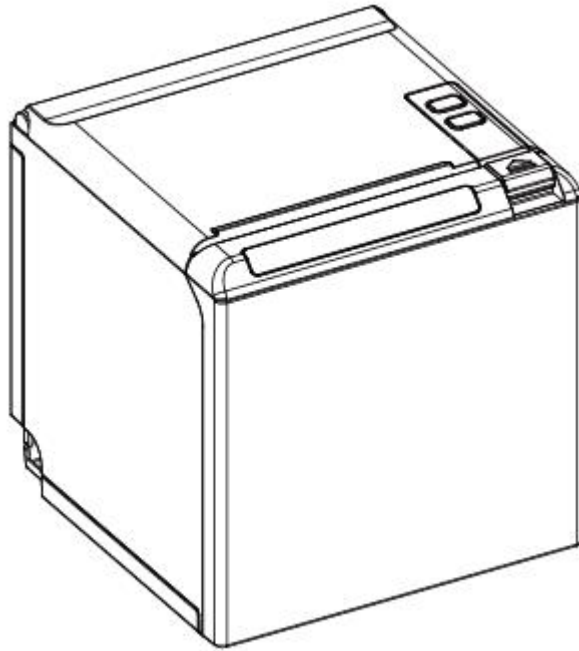
Content

Important Safety Instructions

1. Safety Warning

Warnings: The print head will become very hot during printing; avoid contact with the print head after printing has finished.

Warnings: Do not touch the printer head and connector in case static damage the printer head.

2. Instructions

Carefully read the installation and operating instructions provided with the printer before starting up your printer.

1) Place the printer on a flat and stable surface.
2) Leave enough space around printer for operation and maintenance.
3) Do not place the printer on or near a heat source.
4) Do not use the printer near water. Never spill liquid into the printer.
5) Do not expose the printer to high temperatures, direct sunlight or dust.
6) Protect the printer from shock, impact and vibration.
7) Be certain the power source is within the voltage rating and frequency listed for the printer.
8) Switch off the printer power supply when won't use it for a long time.
9) Do not place the power cord where it can be stepped on. If the power cord becomes damaged or frayed, replace it immediately.
10) To ensure the print quality and reliability, you are suggested to use the recommended paper or the same quality paper.
11) Please switch off the power supply when connect/disconnect all the ports or it will cause damage to the printer control circuit.
12) Never carry out maintenance or repair work yourself. Always contact a qualified service technician.
13) Keep this User Manual in a place which is easily accessible at all times.

1 OVERVIEW

1.1 Introductions

TP85 is a thermal receipt printer, featured by high print quality, high print speed, high stability, etc. It can be used in commercial POS system, food industry and occasions which need real-time field print receipts.

TP85 can connect with other equipment through serial, USB and Ethernet interfaces. And the printer drivers are available for the WINDOWS XP/WINDOWS 7/WINDOWS 8/WINDOWS 10/Linux operating system.

1.2 The Main Features

1) Low noise
2) High print speed
3) Easy paper loading
4) Support page mode printing
5) Compatible with various width paper
6) Cash drawer interface
7) Communication interfaces optional

2 GETTING STARTED

2.1 Packing List

After receiving your printer, please check for possible shipping damage:
1. Inspect the outside of both the box and the printer for possible damage.
2. Check whether you have received the following accessories together with the printer, if there is any items missing, please contact your local dealer.

Printer   USB Cable   Power Cord
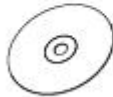
Serial Cable   Power Adapter   Roll Paper

CD   Quick Start Guide

Note:
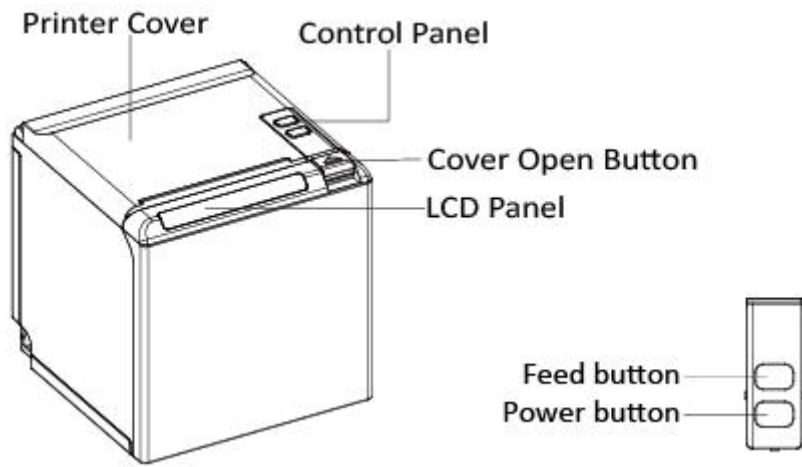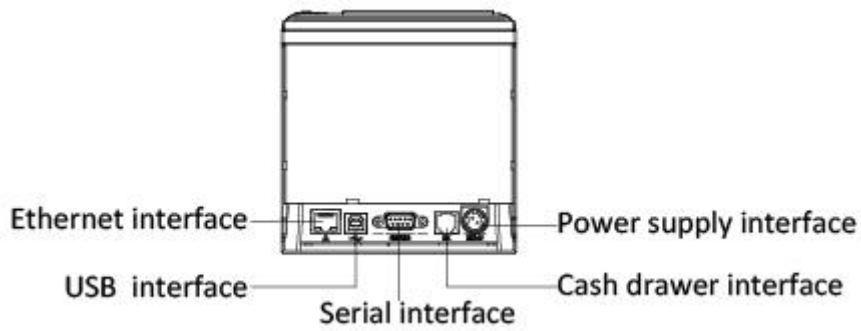1) ***The Power adapter and power cord vary by local and region.***
2) ***The packing materials are actually dependent on the order.***

2.2 Appearance and Components

■ **Front**

Printer Cover   Control Panel
Cover Open Button
LCD Panel

Feed button
Power button

■ **Rear**

Ethernet interface   Power supply interface
USB interface   Cash drawer interface
Serial interface

■ **Inside**

3 SPECIFICATION

3.1 Printer Specification

Table3-1 General Specification

(1/2)

Item		Parameter
Printing Parameter	Printing Method	Direct thermal line printing
	Resolution	203dpi，8dots/mm
	Printing Width	72mm
	Print Speed	250mm/s
	Interface	USB, Serial, Ethernet, Cash drawer
	Print density	Adjustable from level 1 to level 4
Page Mode		Support
Memory	RAM	4Mbyte
	Flash	4Mbyte
Fonts	Chinese	GBK 24×24
	Alphanumeric	ASCⅡ9×17,12×24.
	User-defined	Support
	Code page	Optional international character sets: PC437(std.Europe), Katakana, PC850(Multilingual), PC860(Portuguese), PC863(Canadian), PC865(Nordic), PC857(Turkish), PC737(Greek), ISO08859-7(Greek), WPC1252, PC866(Cyrillic #2), PC852(Latin 2), PC858(Euro), KU42(Thai), TIS11(Thai), TIS18(Thai), PC720(Arabic), WPC775(Baltic Rim), PC855(Cyrillic), PC862(Hebrew), PC864(Arabic), ISO8859-2(Latin2), ISO8859-15(Latin9), WPC1250(Latin 2), WPC1251(Cyrillic), WPC1253(Greek), WPC1254(Turkish), WPC1255(Hebrew), WPC1256(Arabic), WPC1257(Baltic Rim), WPC1258(Vietnamese), MIK(Cyrillic), PC755(Latin 2), Iran, Iran II, Latvian, ISO-8859-1(WestEur), ISO-8859-3(Latin 3), ISO-8859-4(Baltic), ISO-8859-5(Cyrillic), ISO-8859-6(Arabic), ISO-8859-8(Hebrew), ISO-8859-9(Turkish), PC856, PC3848(ABICOMP), MONGOLIAN, VISCII
Barcode	1D	UPC-A, UPC-E, EAN8, EAN13, CODE39, ITF, CODEBAR, CODE128
	2D	PDF417, QR code, (DataMatrix, Maxicode and Aztec) for optional
Graphics		Support varied density bitmap as and download bitmap printing Max size of each bitmap is 40K, the total size of bitmap is 256k.
Detection	Sensors	Paper out detection, Cover open detection
LED Indicator	Power LED	Blue LED
	Paper LED	Orange LED
	Error LED	Red LED

Table3-1 General Specification(Continued)

(2/2)

Item		Parameter
Power Supply	Input	AC100V-240V
	Output	24V $=\!=\!=$ 2.5A
Paper	Paper type	Specified Thermal Paper
	Paper width	58^{+0}_{-1} mm/ 80^{+0}_{-1} mm
	Paper thickness	0.056 ～ 0.13mm
	Roll paper diameter	Max. OD φ83mm
	Paper load	Easy-loading structure of forward open cover or upward open cover
	Paper cut	Partial cut or full cut
Physical Spec.	Operating condition	0℃ ～ 50℃ ，20% ～ 85%RH
	Storage condition	-20℃ ～ 70℃ ，5% ～ 95%RH
	Dimensions	137.3(L)*132(W)*130.5(H)mm
	Weight	1.33kg
Command		ESC/POS
Software	Driver	Windows2000/XP/Vista/Win7/Win8/Win10/POSReady/Linux CUPS/OPOS/ JavaPOS
	SDK	WinCE, Win Mobile, Android, iOS

3.2 Printing Media Specification

3.2.1 Continuous Thermal Paper Specification

Paper Type   : Specified Thermal Paper

Paper Width   : 58^{+0}_{-1} mm/ 80^{+0}_{-1} mm

Paper Outer Diameter : Max. 83 mm

Paper Thickness   : 0.056 $\sim$ 0.13m

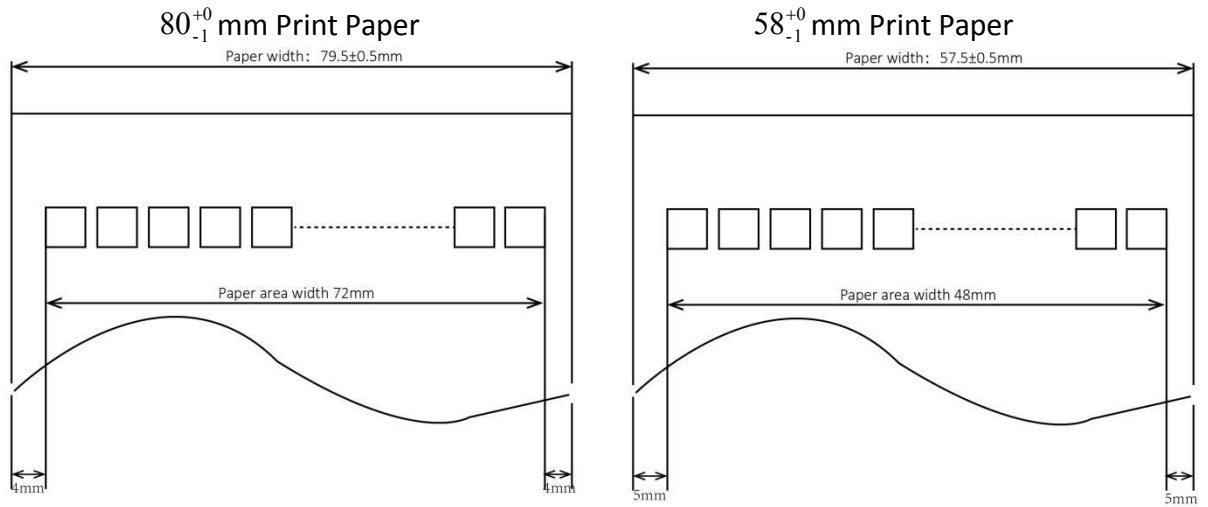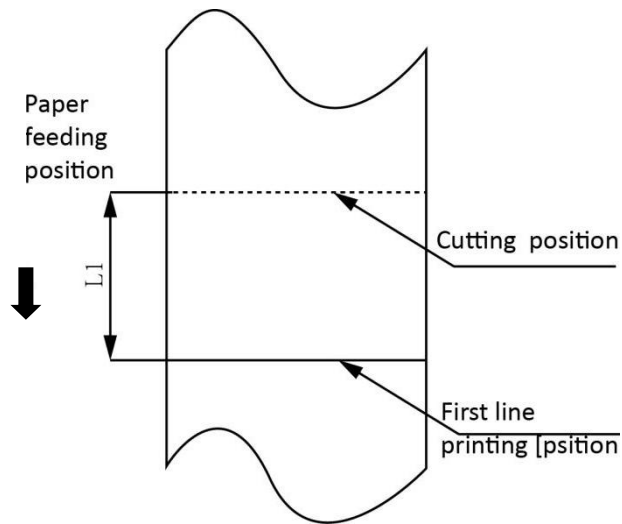| Paper Type	Manufacturer
FD210,PD150R,PD160R	OJI Paper CO.,LTD.

3.2.2 Notices

⚠ **Notes:**

➢ Please use the recommended thermal paper or same quality paper, otherwise it will influence the printing quality and decrease the thermal printer head life;

➢ Don't stick the paper on the roll paper mandril;

➢ If the thermal paper is polluted by chemical or oil, the thermal paper heat sensibility decreases, which will influence the printing quality;

➢ Don't use finger nail or hard articles to touch the surface of thermal paper, otherwise it will cause color fading;

➢ When the environment temperature is higher than 70°C, the thermal paper color will fade, so pay attention to the influence of temperature, humidity and sunlight.

3.3 Printing and Cutting Position
3.3.1 Printing position

80^{+0}_{-1} mm Print Paper 58^{+0}_{-1} mm Print Paper

Paper width：79.5±0.5mm   Paper width：57.5±0.5mm

Paper area width 72mm   Paper area width 48mm

4mm   4mm   5mm   5mm

3.3.2 Cutting Position

Paper feeding position

L1

Cutting position

First line printing [psition

Type	Paper Cutting Position(L1)
TP85	11.6mm

# 4 INSTALLATION AND USAGE

4.1 Media Loading

4.1.1 Paper Confirmation

    1) When using 80mm(width) roll paper, take down the paper guide of both sides.

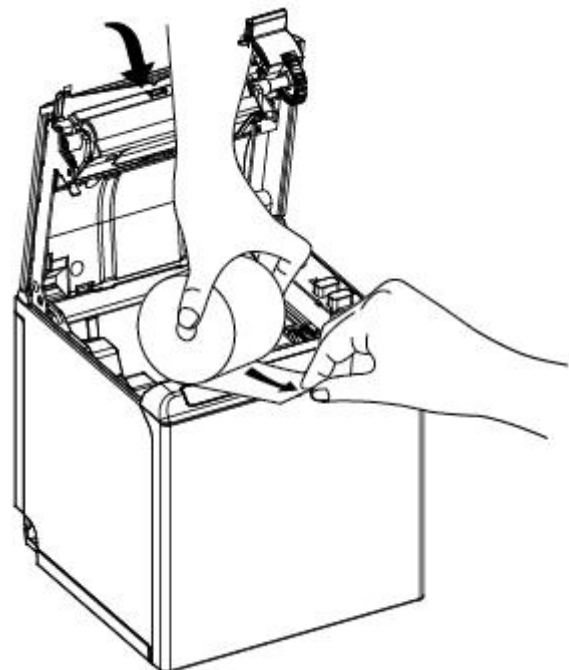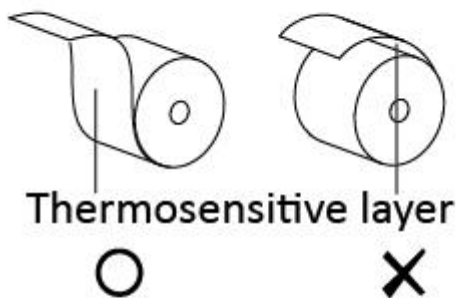   2) When using 58mm(width) roll paper, insert the paper guide to each side.

Note: Roll paper should be placed in the middle.

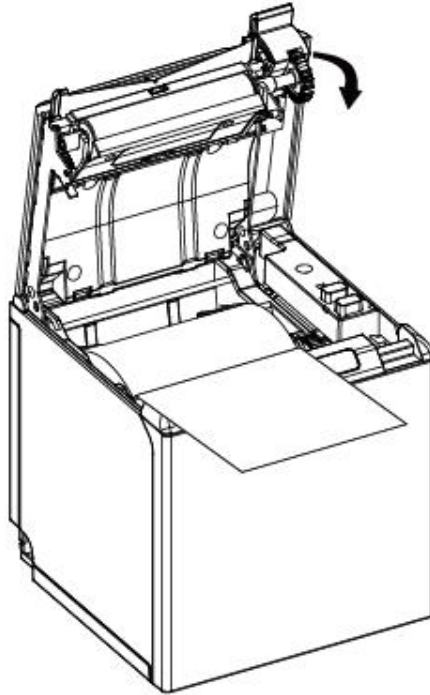### 4.1.2 Paper Installation (Upward Paper-out Direction)

1. Pull the cover open button to open the printer cover.
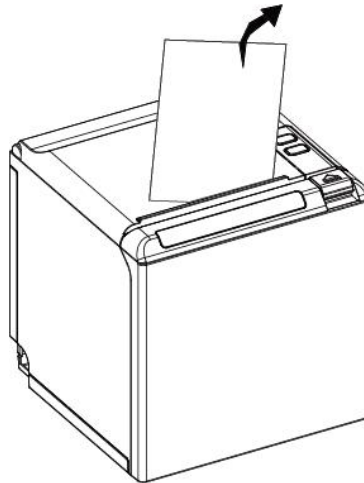2. Remove the used roll paper core, if any.

3. In the correct direction of the roll paper, insert the paper.

Thermosensitive layer

O   X
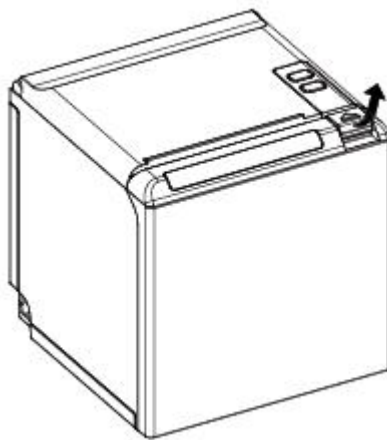
4. Pull out some roll paper, and close the printer cover.

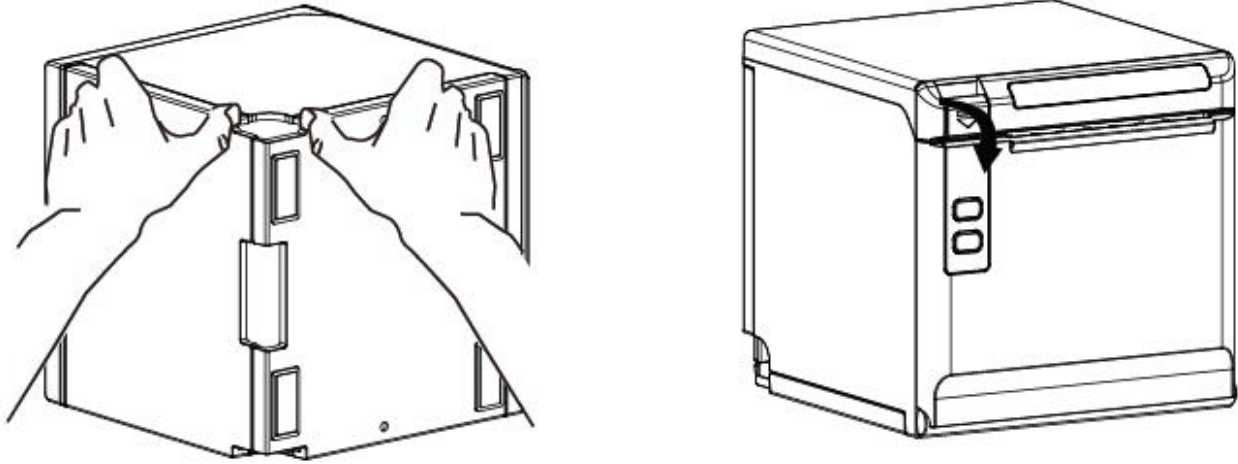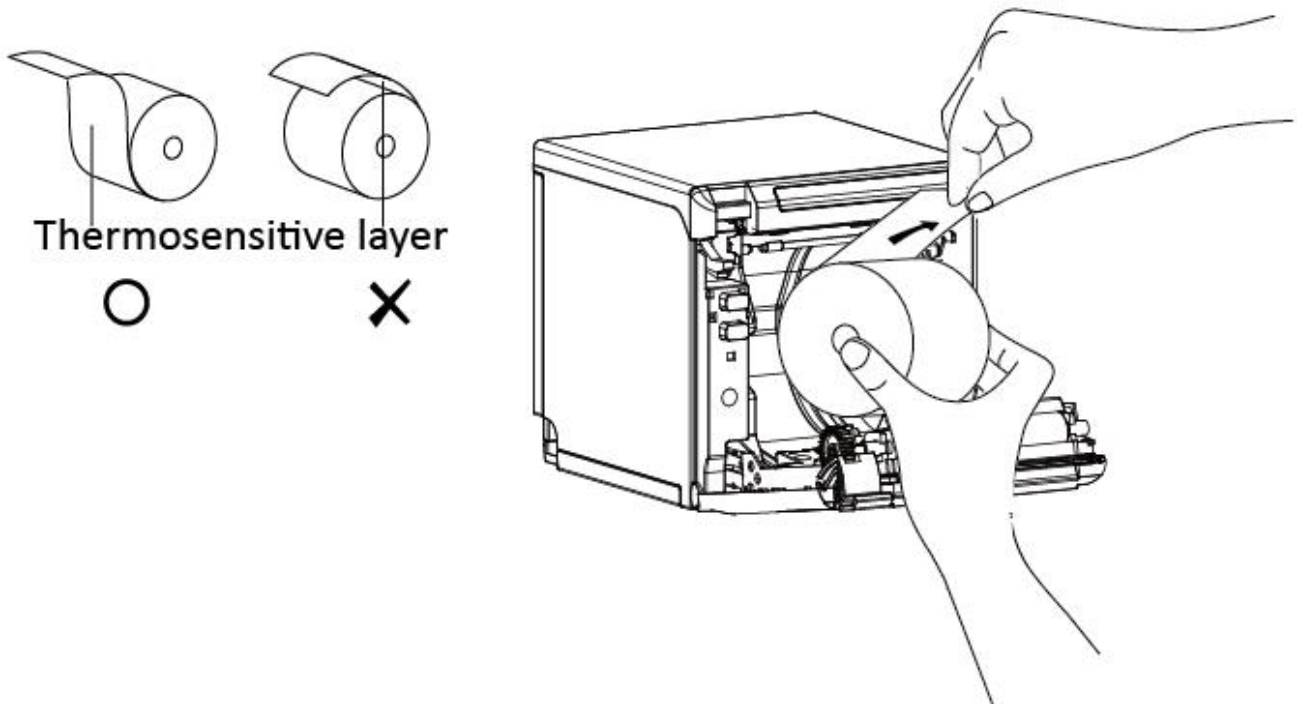5. Tear the extra paper in the direction of printer.

4.1.2 Paper Installation (Forward Paper-out Direction)

1. Remove the bottom cover and rear cover, after removing, the location of these two covers can be swapped and re-installed, as below showed. Remove the used roll paper core, if any.

2.In the correct direction of the roll paper,insert the paper.

Thermosensitive layer

O   ✗

3. Pull out some roll paper, and close the printer cover.
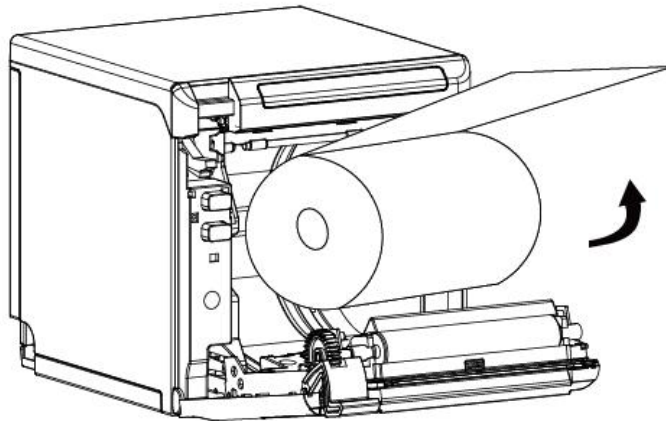
4. Tear the extra paper in the direction of printer.
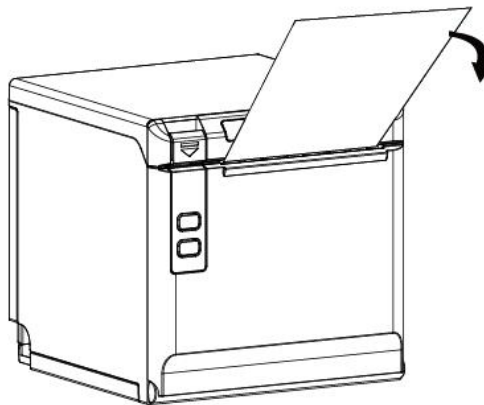
⚠ Notes：
► According to the paper size to adjust the paper guide;
► Make sure the paper inside is at tight status, or it will issue paper or other obstacle.

4.2 LED Indication and Beeper

Function specification of indicated light and beeper.

Name	Status	Specification
POWER LED (Blue)	ON	The printer work well
	OFF	The printer does not work
ERROR LED (Red)	Flashing	The printer in an error state
	OFF	The printer in an normal state
PAPER LED (Orange)	ON	The printer in paper end state
	OFF	The printer in an normal state

| Description	POWER LED	ERROR LED	PAPER LED	Beeper
Open the cover of printer	ON	ON	ON	"Beep, Beep—, Beep"
Full of paper	ON	OFF	OFF	Silent
No paper	ON	ON	ON	"Beep Beep Beep".
Cutter jam	ON	Flash	OFF	"Beep—，Beep—"

⚠ **Notes:**

The printer use a thermistor to detect the temperature of the print head. If the temperature of print head is more than 65° C, printer will send a warning. If the temperature of print head is more than 80° C, printer will stop working until the temperature is less then 60° C.

4.3 Power Connection

1) Put the cable plug of power adapter facing up at flat side, insert the rear of the printer power connector;
2) Turn the power adapter input power;
3) Pay attention about disconnecting or connect the Power adapter at right method, or likely to cause damage.
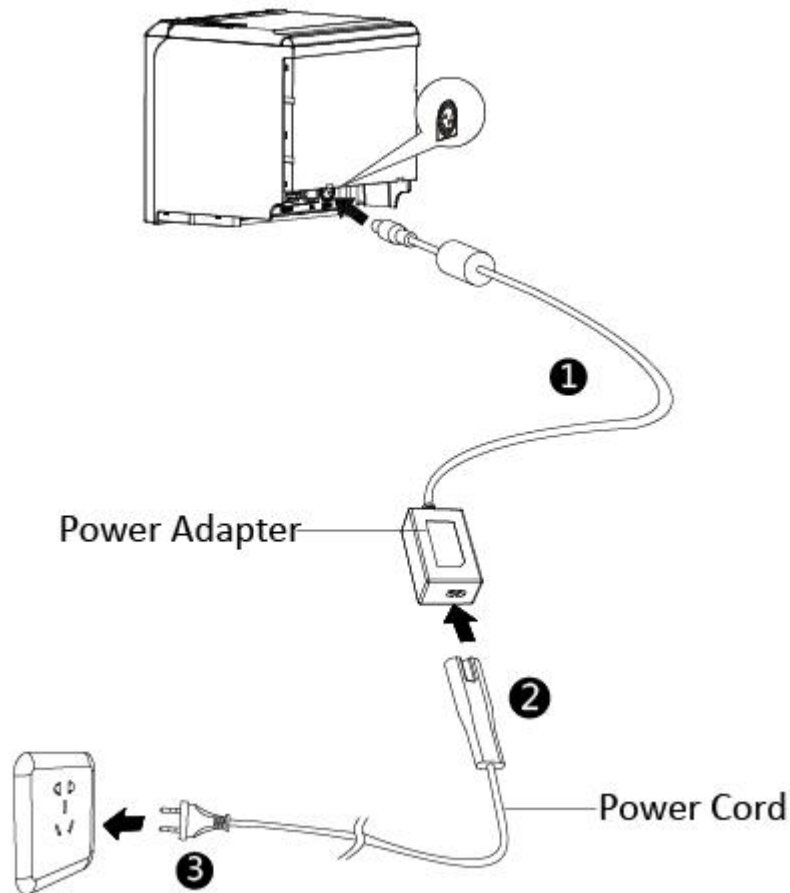
Note: The Power adapter and power cord vary by local and region.

When pull out the adapter, please pinch the shell of power adapter and pull the switch up, when the switch is fully opened then pull out the power adapter.

Don't put forth your strength to pull the plug by squeeze at any of place of power adapter. Because, it is more difficult to pull it out and easy to damage the cable.

⚠️ **Notes：**

► Please only use the power adapter recommended by supplied or equivalent products;
► When disconnecting the power adapter plug, handheld plug connector housing, to avoid the pulling on the cable in force;
► Avoid drag the power adapter cable, otherwise it will damage the cables, causing fire and shock;
► Avoid put power adapter around a heating device, otherwise the cable may melt, causing fire and shock;
► If you do not use the printer in a long time, disconnect the power supply of printer power adapter.

4.4 Interface Cable Connection

1) Make sure the printer's power switch is turned off;
2) Put the interface cable into the matched interface and fixed with screws (or spring) on the plug;
3) Connect the other end of the interface cable to the host.

4.5 Cash Drawer Connection

1) Make sure the printer's power switch is turned off;
2) Connect the cash drawer cable into the cash drawer interface on the rear side of the printer.

⚠️ **Warning:**

Cash drawer interface can only be connected to a voltage of 24V cash drawer device (can't connect to the phone line, etc.)

4.6 Print Test

4.6.1 Print Self-Test

The self-test checks the printer's current settings, status and whether the printer has any problem.

1. Make sure the power is connecting and paper is loading properly.
2. Make sure the printer is off and top cover closes properly.
3. Pressing the paper feed button and power button simultaneously turns the printer on. The printer is ready to receive data as soon as it completes the self-test.

4.6.2 Printing of Windows Driver Program

1. Install the Windows Driver program. (Please refer to the Windows Driver Manual)
2. Please set the "Interface" as the type you use.
3. Use the Windows Driver Program to print out the "Print Test Page".

5 INTERFACES

TP85 supports cash drawer interface and many other various communicate interfaces, such as Serial interface, USB interface, Ethernet interface.

5.1 USB
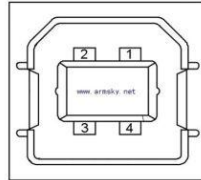
Figure 5-1

PIN	SIGNAL NAME
1	VBUS
2	D-
3	D+
4	GND

5.2 Serial Interface
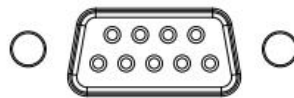
Figure 5-2

PIN	SIGNAL NAME
1	-
2	TXD
3	RXD
4	-
5	GND
6	RTS
7	CTS
8	RTS
9	-

5.3 Ethernet Interface
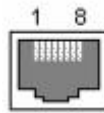
PIN NO.	Signal Name
1	TX+
2	TX-
3	RX+
4	-
5	-
6	RX-
7	-
8	-

5.4 Cash Drawer Interface
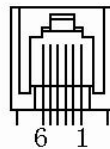
Figure 5-4

PIN NO.	Signal Name
1	FG
2	Drawer 1
3	DRSW
4	VDR
5	Drawer 2
6	GND

Electrical characteristics

- Driving voltage ： DC 24 V

- Driving current ： Maximum 0.8 A (In 510 ms)

Drawer check signal ： "L" = 0 ~ 0.5 V   "H" = 3 ~ 5 V

5.5 Power Supply Interface
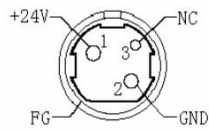
Figure 5-5

PIN No.	Signal Name
1	+24V
2	GND
3	N.C
SHELL	F.G

Printer end-Unetop DC-002 or similar products, user end-Unetop DC-002 or similar products.

6 TROUBLESHOOTING

Your printer is very reliable, but occasionally problems may occur. This chapter provides information on some common problems you may encounter and how to solve them. If you encounter problems that you can not resolve, contact your dealer for assistance.

6.1 Printer Not Working

Problem Description	Probable Reason	Solution
LED not light, printer not working	Printer no power	Connecting the power supply
	Printer not on	Turn on the printer
	Circuit board broken	Contact with the dealer

6.2 LED Indicator and Beeper

Problem Description	Probable Reason	Solution
Paper LED always on	Paper near end	The roll paper is near end, the printer can work normally
Error LED always on and beeper alarms	Printer Cover open	Close the printer cover
Paper LED and Error LED always on and beeper alarms	Paper end	Reload the roll paper
Error LED blinks and beeper alarms	Thermal print head overheated	Turn the printer off and resume when it cools
	Overvoltage	Print with specified voltage
	Low-voltage	Print with specified voltage

6.3 Troubles Occur During Printing

Problem Description	Probable Reason	Solution
Coloured stripe in the paper	Paper near end	Reinstall the roll paper
Blurred printing or spot	Incorrect roll paper installation	Check if the roll paper is installed
	Unqualified roll paper	Use recommended thermal roll paper
	Dirty thermal head or print roller	Clean the thermal head or print roller
	Low print density	Increase the print density level
Paper Jam	Paper strike	Open the printer cover, check the paper path and remove jammed paper
Vertical print words missing	Dirty thermal head or print roller	Clean the thermal head or print roller
	Thermal head damaged	Contact your dealer for assistance

NOTE: The density of setting, please refer to "OXHOO Utility Tool for POS Instruction".

6.4 Problems Emerge During The Paper Cutting

Problem Description	Probable Reason	Resolution
Cutter jam, the movable cutter cannot back	Cutter abrasion, insufficient cutting	Replace the cutter
	Worm gear and worm wheel abrasion	Replace the worm gear and worm wheel
	Motor burnt	Replace the motor
	Paper scraps	Clean the paper scraps on the transmission system
Insufficient cutting	Cutter edge abrasion, paper too thick	Replace the cutter
Paper jam	Thermal printer head over heat	Reduce the density of printing
	Driving too fast	Reduce the printer speed to the limit of thermal printer head
	Wrong paper feeding position	Put the paper parallel with the paper mount and insert into the space between platen roller and the thermal printer head.

NOTE: The density of setting, please refer to "OXHOO Utility Tool for POS Instruction".

6.5 Removing Jammed Paper

Warning:Do not touch the thermal print head because it becomes very hot after printing.

If the printer cover can be opened, operate it according to the next steps.
    1)Turn off the printer and pull open cover button.
    2)Remove jammed paper, reinstall the roll, and close the printer cover.

7 PRINTER CLEANING AND MAINTENANCE

Print quality might be degraded by dust, foreign substance, adhesive substance, or other pollution materials stuck in the printer head or inside the printer.

When dirty, clean the print head as follows:

※ **CAUTION**
- Make sure to turn off the printer prior to cleaning.
- As the print head gets hot during printing, intending to clean the print head, turn the printer off and wait approximately 2~3 minute before commencement.
- When cleaning the print head, take care not to touch the heated portion of the print head. Print Head is susceptible to damage from static electricity, etc.
- Take care not to allow the print head become scratched and/or damaged in any way.

7.1 Cleaning Head

1) Open the Printer Cover and then use the cleaning pen to clean the head in the direction from the center of the head to the edges.
2) After cleaning the head, do not use the printer until the alcohol used for cleaning evaporates completely (1~2 min) and the printer has completely dried.

7.2 Cleaning Sensors, Roller and/or Paper Path

1) Open the printer cover and then remove the paper.
2) Remove any dust or foreign substance using dry cloth or cotton swab.
3) Soak the cloth or cotton swab in alcohol for medical use and use it to remove adhesive foreign substances or other pollution materials.
4) After cleaning the parts, do not use the printer until the alcohol evaporates completely (1~2 min) and the printer has completely dried.

※ Clean the parts whenever print quality or paper detection degraded.