User’s manual

Thermal POS Printer
NT210

General Safety Information

Before installing and using the printer, please read the following items carefully.

1) Install the printer on a flat and stable place.
2) Reserve adequate space around the printer so that convenient operation and maintenance can be performed.
3) Keep the printer far away from water source.
4) Do not use or store the printer in a place exposed to heat of fire, moisture, serious pollution and direct sunlight.
5) Do not place the printer on a place exposed to vibration or impact.
6) No dew condensation is allowed to the printer. In case of such condensation, do not turn on the power until it has completely evaporated.
7) Connect the DC adapter to an appropriate grounding outlet. Avoid sharing a single electrical with large power motors and other devices that may cause the fluctuation in voltage.
8) Disconnect the DC adapter when the printer is not used for a long time.
9) Don't spill water or other materials on the printer. If this happens, turn off the power immediately.
10) Do not allow the printer to start printing when there is no paper installed, otherwise the print head will be damaged.
11) To ensure quality print and normal lifetime, use recommended or good quality paper.
12) Shut down the printer when connecting or disconnecting interfaces connectors to avoid damage to the control board.
13) Avoid using the printer to switch the printer frequently. Waiting for at least 3 seconds after turning off the printer.
14) The printer should only be disassembled or repaired by a technician, who is certified by the manufacturer.
15) Keep this manual safe and at hand for ready reference.

Contents

1 Introduction

NT210 thermal ticket printer can be connected to a computer or system terminal via a USB interface, and can be widely used in POS system integrators, stores, convenience stores, and the like of various scales.

2Specifications

Item		Parameters	Marks
Print related	Print Method	Direct thermal line	
	Print Resolution	203 × 203DPI	
	Print width	Max.48mm	Effective print width
	Print speed	Max.165mm/s	12.5% duty ratio sample
Memory	**Flash**	Capacity: 4M Font: Default support (GB18030+English)	
	RAM	Capacity: 64KB;	
	Flash LOGO	Downloading buffer size: 512KB	If you expand the font, the relevant area will shrink.
	RAM LOGO	Downloading buffer size: 4KB	
Barcode	**1D**	Code 39, Code 93, Code 128, Coda bar, Interleave 2 of 5, EAN-8, EAN-13, EAN-128, UPC-A, UPC-E, EAN/UPC（including 2-bit or 5-bit appending code）	
	2D	QR	Supports up to 512 characters
Font		Font A: 12×24(default) Font B: 9×17 Kanji : 24×24	
Character set	**Font**	Simplified Chinese（GB18030/GB2312）,Traditional Chinese（Big5),Hong Kong, Japanese, Korean, English	
	Code page	63 kinds of code pages	Details refer to the code page support list
	International character set	U.S.A., France, Germany, U.K., Denmark I, Denmark II, Italy Sweden, Spain I, Spain II, Japan, Norway, Latin America, Korean.	
	User-defined character	Support	Support up to 20 characters
Character processing		Bold White/Black reverse Underline Enlarge 1-6 times horizontally and vertically Rotation printing in four directions (0°, 90º, 180º, 270°)	
Command set		ESC/POS	
Interface	**Communication interface**	Onboard Type-c interface	
	Communication protocol	USB: 2.0 full speed	
	Human-machine interface	Power button Buzzer Function button Power indicator light Error indicator light	

	Cash drawer interface	Type: RJ12 Output voltage: 12V Output current: 1.0A (MAX) 1-way control	
	Power interface	Type: 8 words/2pin AC power supply: AC100-240VAC/50～60Hz/0.8A MAX	
Sensor		Paper end detection	
		Power supply voltage detection	
		Print head dead point detection	
		Print head temperature detection	
Media	**Paper type**	Continuous thermal paper	
	Outer diameter of paper roll	Max.Φ60	
	Width	58mm	
	Paper thickness	0.051～0.068mm	
	Paper ejection method	Front paper ejection / upper paper ejection	
Firmware upgrade		Support firmware online upgrade	
Power supply	**Built-in or external**	Built in	
	Input voltage and current specifications	AC: 110V－240V/50－60Hz/0.8A MAX	
	Output voltage and current specifications	Voltage: DC 12V Rated current: 2.0A Peak current: 6A	
Reliability	**print head**	50km	
Accessories delivered with the machine		Machine, operation manual, AC power cord, USB communication cable	
Size		116x116x116mm	
Weight		796g	
Operating temperature and humidity		Temperature: 0℃～50℃, Humidity: 30%～85%　without condensation	
Storage temperature and humidity		Temperature: - 20℃～60℃, Humidity: 10%～90%　without condensation	
EMC		Class B	
Certification		CE,FCC,UL,CCC	

Table 2.1-1

3 Appearance and components

3.1 Appearance and parts

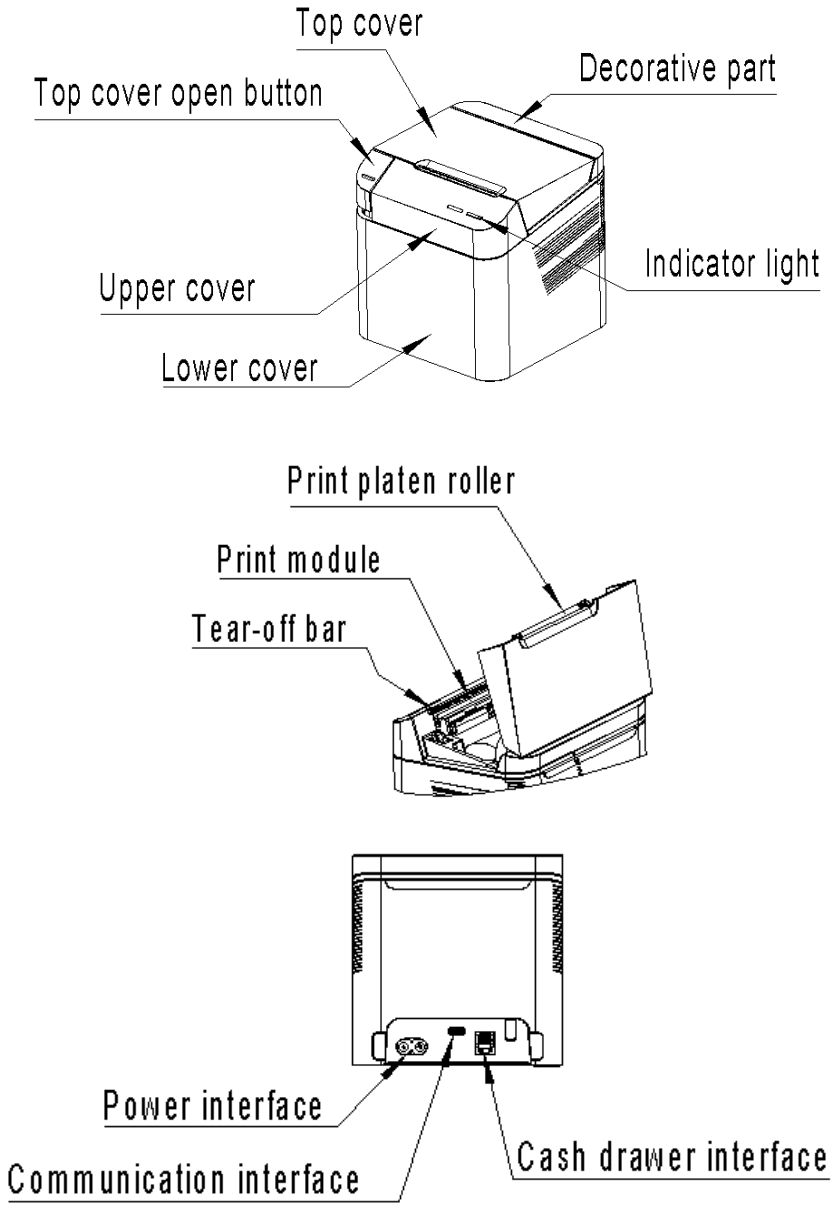


Figure 3.1-1

Functions of parts:

1) Power switch

2) FEED button

2.1) Press the paper feed button and the printer turns on, the printer will print a self-test page;

2.2) Under normal conditions, short press the paper feed button, each time you press it, the printer feeds a line; long press the paper feed button, the printer feeds continuously;

3) In the error state, press the paper feed button and the printer does not operate.

4) Power LED:

Indicate power status (ON/OFF).

(The blue LED is on, the printer is powered on; the blue LED is off and the motor is powered off.)

5) Error LED

Indicate some error status. (Under normal conditions, ERROR LED is always off. Under some error conditions, ERROR LED will flash.)

6) Paper end sensor

Used to detect if paper is existing or not when using continuous paper;

3.2 LED

1) Functions of LED

LED name	Status	Description
Power LED (blue)	Always on	Printer power is on.
	Off	Printer power is off.
Error LED (red)	Flash	Printer is in error status
	Off	Printer is in normal status.

Table 3.2-1

2) LED and error message

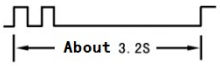
Error Type	Description	Error LED display mode	Recover
Print head is overheating	Temperature of the print head is too high.		Recover automatically when the temperature of print head falls down.
Paper end	Paper sensor detects paper end.		Recover automatically when reloading paper.
Voltage is abnormal	Voltage is too high or too low.		Replace the normal power supply

Table 3.2-2

⚠ Caution:

✧ The temperature of the print head is detected by a thermal resistor. If the print head is overheating, the protective circuit will shut off the power automatically and force the printer to stop printing; the temperature of print head when printing is stopped is 70℃.

4 Installation

4.1 Unpacking

Check whether all items, which are listed on the packing list, are present and in a good condition. If any item is damaged or missing, please contact your dealer or the manufacturer.

4.2 Printer installation

1) Install the printer on a flat and stable place.Keep the printer far away from water source;
2) Do not place the printer in the place exposed to vibration and impact;
3) The printer power must be safely grounded;
4) It is recommended to keep proper space (figure 4.2-1) in order to guarantee the reliability and operational convenience of the printer during operation and maintenance.

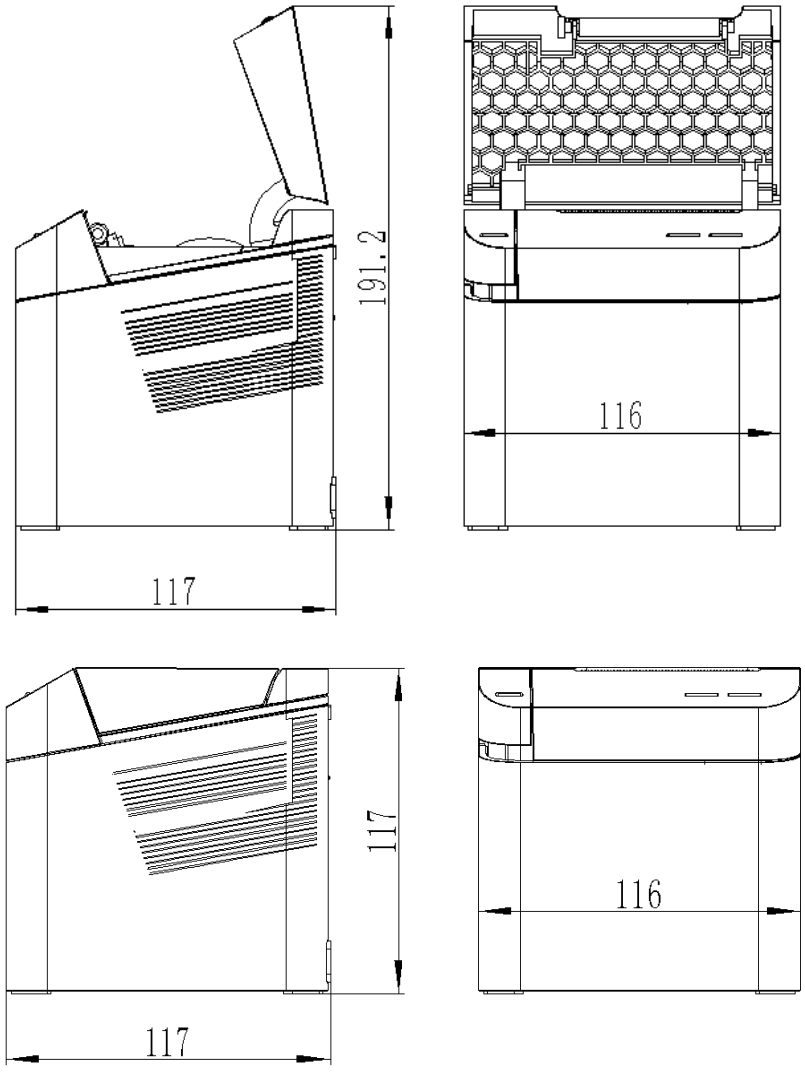


Figure 4.2-1 Structural space map

4.3 Connect the power cable

1) Ensure that the printer is powered off;

2) Insert the connector of DC power cable into the interface at the back of printer;

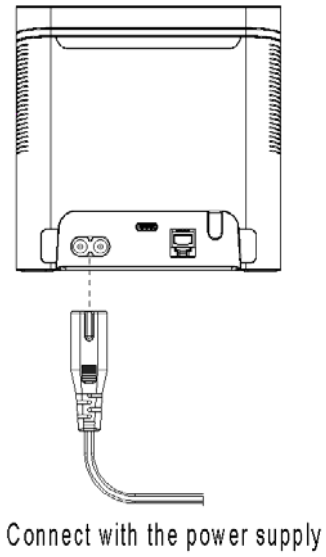


Figure 4.3-1

3) Connect with the power supply.

⚠ **Caution:**

- ✧ **Please use the recommended power adapter or its equivalents.**
- ✧ **When connecting or disconnecting the power cable, always hold the connector cover and avoid dragging it with force.**
- ✧ **Avoid pulling the cable of power adapter or power input cable, otherwise the cable may be damaged or broken, causing a risk of fire or electric shock.**
- ✧ **Do not place the cable of power adapter or power input cable near a heating device; otherwise the cover of the cable may melt, causing a risk of fire or electric shock.**
- ✧ **If the printer will not be used for a long time, disconnect the power cable for safety.**

4.4 Connect the interface cable

1) Ensure that the printer is powered off
2) Insert the interface cable into corresponding interface, and fix the connector with screw as shown in Figure 4.4-1;
3) Connect the other end of interface cable to the host.

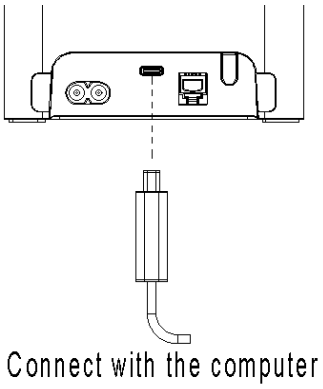


Figure 4.4-1

4.5 Connect the cash drawer

1）Ensure that the printer is powered off

2） Insert the cash drawer cable into the cash drawer interface at the back of printer.

⚠ **Warning:** The cash drawer interface is only used for cash drawer device (telephone line or other lines are not allowed).

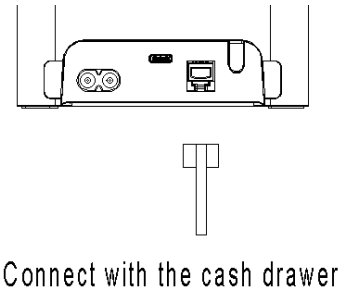


Figure 4.5-1

4.6 Paper roll installation

4.6.1Confirm the print paper

After connecting the power adapter and the interface cable, you can install the media for printing. Confirm the type of paper used for the printer before printing.

4.6.2 Install/Replace the paper roll

1) Power off the printer;
2) Open the top cover of printer, and then place the paper roll into the paper cabinet (refer to Figure 4.6-1);
3) Close the top cover, and then tear off the surplus paper head and power on the printer, the printer will enter the waiting status for printing (refer to Figure 4.6-2).

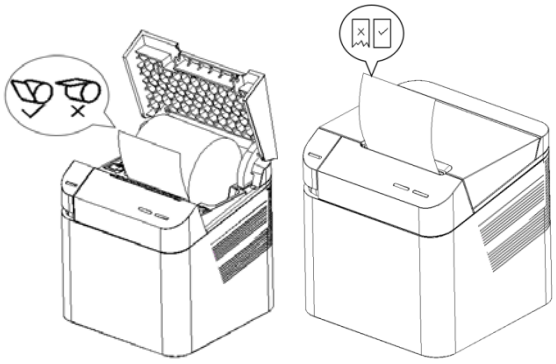


Figure 4.6-1 **Figure 4.6-2**

⚠ **Caution:**

- ✧ Make sure that the paper roll is in tighten status, otherwise it may cause paper jamming or other malfunctions;
- ✧ The paper roll should be placed in the paper cabinet smoothly without tilt, otherwise it may affect the printing.

4.7 Printer self-test

1) Confirm that the paper roll has been installed in the printer and the top cover of printer is closed;
2) Press and hold the feed button while turning on the power switch, and release the button when the printer starts to feed paper, then the printer will print a self-test sample.

5 Interface signal

5.1USB interface

Support USB2.0 protocol.

Connector (printer side): Type-C socket

Signal definition and function description are as follows:

Pin No.	Signal name	Description
1	VBUS	+5V
2	DATA-	Printer data transmission negative phase end.
3	DATA+	Printer data transmission positive phase end.
4	GND	Ground

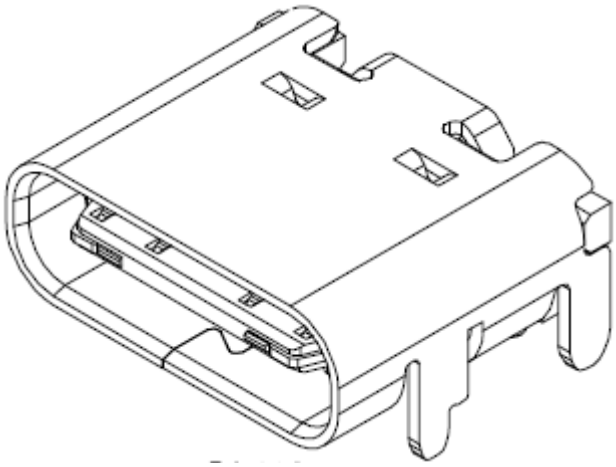


Figure 5.1-1 USB connector diagram

5.2 Power interface

1) Pin definition

   The brown line is the fire line and the blue line is the zero line. There is no need to distinguish between the positive and negative poles.

2) Interface type

   Printer side adopts: GB 2PINS, 8-word AC interface

5.3 Cash drawer interface

1) Electrical characteristics
   - Drive voltage: DC12 V
   - Drive current: maximum current is 1 A
   - Cash drawer status detection signal:

     "L" = 0～0.5 V"H" =3.3 V

2) Cash drawer interface adopts RJ-12 6P-type connector

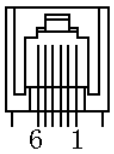


Figure 5.4-1

3) Interface signal definition

No.	Signal	Function
1	FG	Frame
2 5	EN-CASH	Cash drawer 1 drive signal
3	CASH-SIG	Cash drawer status detection signal
4	VDR	Cash drawer drive power
6	GND	Circuit sharing ground

Table 5.4-1

⚠ Caution:

- **Do not to plug and unplug the communication cable with power;**
- **Avoid parallel with strong power when wiring the communication cable;**
- **Shielded communication cables should be used.**

FCC Statement:
Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
This device complies with part 15 of the FCC Rules. 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.

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.

6 Troubleshooting

Refer to this chapter for solution if the printer has any problems. If the problem cannot be solved, please contact SNBC or your local dealer.

6.1Printer doesn't work

Problem	Possible reasons	Solution
LED is off and the printer doesn't work.	Printer power is not connected.	Connect the printer power.
	Power switch is not turned on.	Turn on the power switch.
	Power adapter is damaged.	Replace the power adapter.
	Circuit board is damaged.	Contact SNBC or your local dealer.

Table 6.1-1

6.2 Error LED

Problem	Possible reasons	Solution
ERROR LED flash	Paper end	Install a new paper roll.
	Input voltage is abnormal.	Turn off the printer power and check the input voltage.
	Print head is overheating.	Turn off the printer power and wait until the temperature of printer returns to normal.
	Printer has a serious error.	Contact SNBC or your local dealer.

Table 6.2-1

6.3 Problems during printing

Problem	Possible reasons	Solution
Printout is light and not clear.	Print head is damaged.	Replace the print head.
Printout is blank	The media is placed inverse.	Place the media according to the prompts.
Printout is not clear or dirty.	Dirty print head or paper feed platen roller.	Clean the print head or the paper feed platen roller.
Paper cannot be outputted normally.	Paper jams.	Open the top cover, check paper feeding path and clear the jammed paper.

Table 6.3-1

Caution:

- ✧ Ensure that the print head and platen rollers are not scratched by hard objects (like forceps) during the cleaning;
- ✧ To improve the lifetime of print head, it is recommended that the print head and platen rollers should be cleaned every month. If the environment is bad, the cleaning times should be increased;