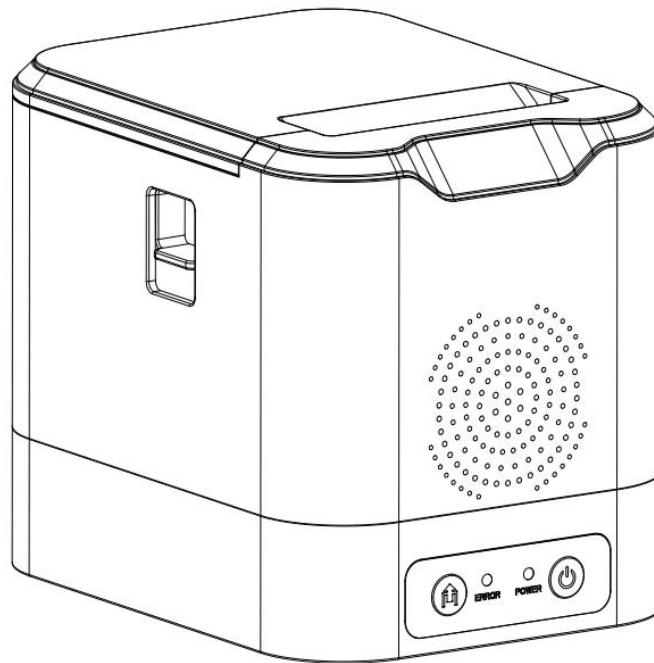


SP-TL28 Label Printer User Manual

(Ver 1.00)



Statement

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Warning & Attention

Warning

The precautions in the instructions must be followed to avoid injury to the human body and damage to the equipment.

Attention

This manual provides important information and tips for operating the printer.

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Precautions

Please read this chapter carefully before using the printer!

Safety precautions

1. Do not touch the print head and its connecting parts to avoid burns or damage to the print head due to static electricity.
2. If the printer smokes, has a strange smell or abnormal noise, turn off the printer immediately and cut off the power supply. Continuing to use it may cause a fire. At the same time, please contact the seller or the SPRT Customer Service Center as soon as possible to ask for a solution to the problem.
3. Do not disassemble the machine by yourself. Improper repairing is dangerous and will void the warranty commitment provided by the supplier.
4. Please use the power adapter provided by the supplier or in compliance with the specifications. An inappropriate power adapter may damage the printer and cause a fire.
5. Prevent foreign objects from entering the printer to avoid damage to machine components, which may even cause fires and accidents.
6. If water or other liquids flow into the printer, please cut off the power supply immediately and contact the seller or the SPRT Customer Service Center as soon as possible to ask for a solution to the problem. Continuing to use it may cause a fire.

Use Precautions

1. The printer should not be immersed in water or exposed to rain, otherwise it may cause damage to the printer.
2. The paper cover should not be opened during printing, otherwise the printer may not work properly.
3. When using the USB interface, the USB cable cannot be unplugged during printing, otherwise the printed data may be incomplete. When using Bluetooth, the distance during printing cannot exceed 10 meters, otherwise it may cause garbled printing or failure to print.
4. Although the printer can work stably at 0°C to 50°C, too high ambient temperature (45°C) or too low ambient temperature (5°C) will cause reduced print quality.
5. Excessive ambient humidity (above 85% relative humidity) or too low ambient humidity (below 20% relative humidity) will cause reduced print quality.

6.Using inferior printing paper or printing paper that has been stored for too long may cause reduced print quality or even damage the printer.

7.When the printer prints labels, the labels must not exceed the maximum value designed for the printer, otherwise the printer may not work properly.

Storage Precautions

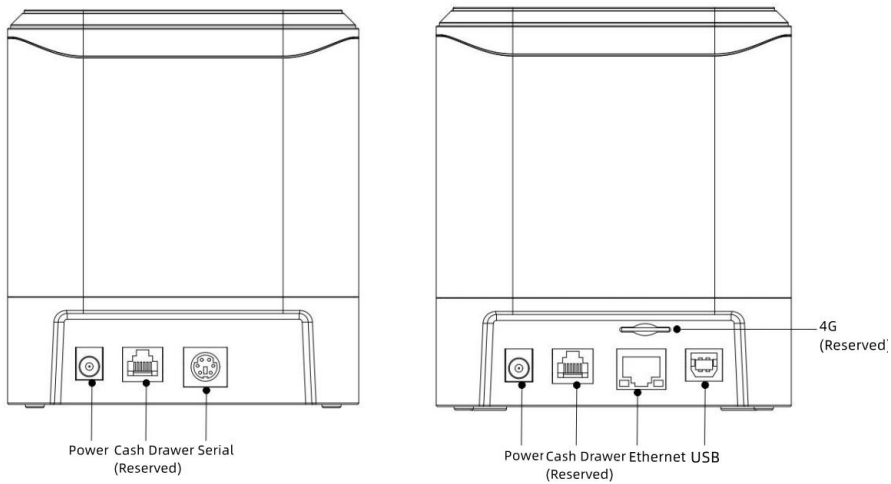
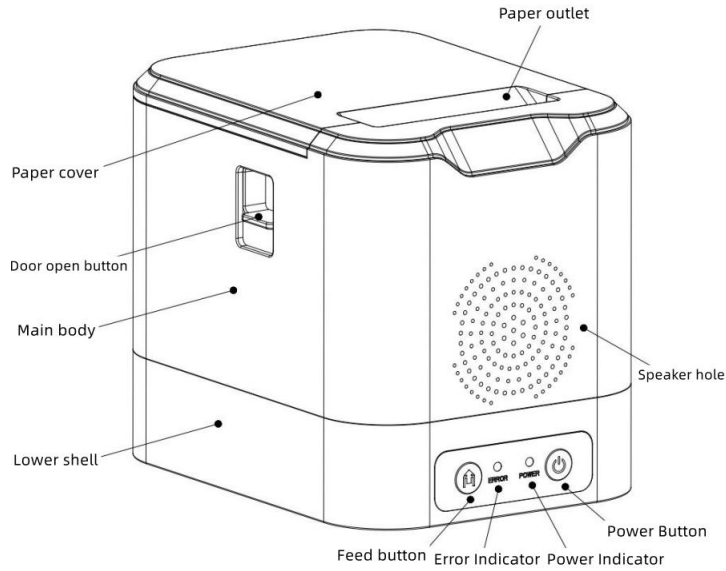
The printer should be stored in an environment with a temperature of -20° C to 60° C and a relative humidity of 10% to 90%.

This is a grade A product

WARNING: Operation of this equipment in a domestic environment may cause radio interference.

Chapter 1 Printer Appearance and Model

1.1 Appearance



SP-TL28 Appearance

1.2 Model

Model	Model Description	Print Density
SP-TL28U	USB, cash drawer port (Reserved)	8dots/mm (203dpi)
SP-TL28S	Serial RS232, cash drawer port (Reserved)	
SP-TL28UBTDM	USB, cash drawer port (Reserved) & Double Mode Bluetooth	
SP-TL28UBTMM	USB, cash drawer port (Reserved) & Multiple Mode Bluetooth	

Chapter 2 Performance Characteristics

2.1 Printing performance

- ✧ Printing Method: Thermal Line
- ✧ Paper width: 25mm-60mm (Lining paper)
- ✧ Effective Print Width: 48mm
- ✧ Maximum Label Size: 48x100mm
- ✧ Minimum Label Size: 20x30mm
- ✧ Resolution: 8dots/mm(203dpi)
- ✧ Printing Speed: 60mm/s(Max)

2.2 Printing paper

- ✧ Paper Thickness: 0.12~0.14mm

2.3 Character Set & Print Font

- ✧ GB1803 0& GB12345
- ✧ ASCII: 12x24,9x17
- ✧ Self-defined characters, graphics
- ✧ 1D: UPCA, EAN13, EAN8, CODE39, ITF25, CODABAR, CODE93, CODE128
- ✧ 2D: QR CODE

2.4 Physical parameters

- ✧ Dimension: 154(L)X116(W)X130(H)mm;
- ✧ Weight: 550g (No Paper) ;
- ✧ Paper Roll Diameter: ≤80mm;
- ✧ Interface: USB、Bluetooth、Serial RS232;

2.5 Environmental parameters

- ✧ Operating Temp: 0℃~50℃;
- ✧ Operating Humidity: 10%~85%;

- ◇ Storage Temp: -20°C~60°C;
- ◇ Storage Humidity: 10%~90%。

2.6 Other features

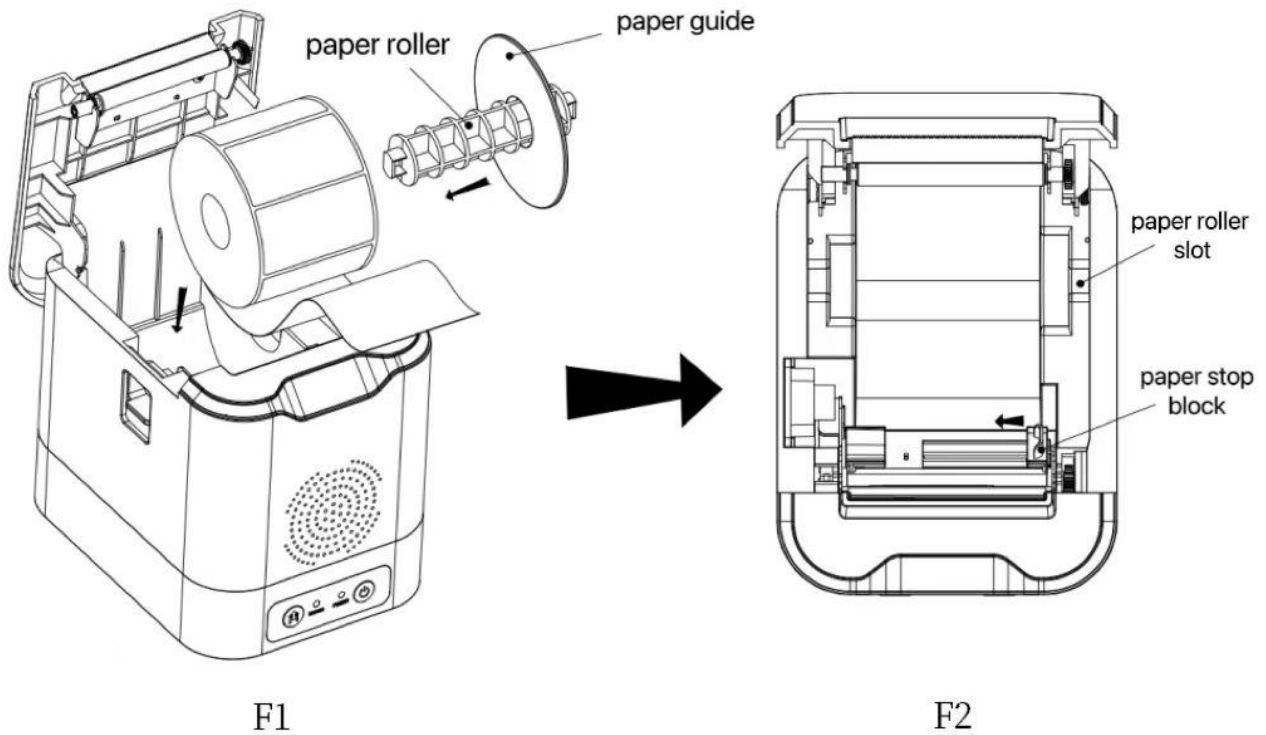
- ◇ Command Set: TSPL
- ◇ Power Supply: DC8.5V±5%, 2A.

Chapter 3: Instructions for Use

3.1 Operating Steps

Installing the Paper Roll

1. Open the paper compartment cover and remove the paper shaft.
2. Insert the paper shaft into the core of the paper roll, placing the paper guide on the right side of the roll. Ensure the thermal side of the paper is facing the print head.
3. Pull out a portion of the paper and place the roll into the paper compartment, aligning the paper shaft with the slots inside. Adjust the paper guide to position the paper roll snugly to the left, ensuring the roll can rotate smoothly, as shown in Figure F1. Place the protruding paper into the channel of the paper guides and adjust the right-side guide to secure the paper within the channel. This prevents the paper from shifting sideways during printing and ensures smooth movement, as shown in Figure F2.
4. Close the paper compartment cover, ensuring the length of the label paper left outside is minimized.



3.2 Basic Function Usage

3.2.1 Power On

Press the power button on the printer to turn it on. You will hear a "beep" sound indicating the printer is powered on and ready to work.

3.2.2 Power Off

Press the power button on the printer to turn it off.

3.2.3 Self-Test

The self-test feature allows users to check the printer's current settings and status at any time.

How to Enter Self-Test Mode:

When the printer is off, press and hold the feed button, then press the power button to turn on the printer. You will first hear a single "beep" indicating the printer is powered on. After a second "beep-beep" sound, release the feed button. The printer will then print a self-test page.

3.2.4 Paper Feeding (Manual Feeding)

While the printer is powered on and using label paper, press the feed button. The printer will advance the

paper to the gap position and stop feeding.

3.2.5 Restore Factory Settings

If incorrect parameter settings cause the printer to malfunction, use the factory reset function to restore the printer's default settings.

How to Restore Factory Settings:

Press and hold both the power button and feed button, then power on the printer. After the initial "beep," wait for three "beep-beep" sounds, then release both buttons. The printer will reset to factory settings, restart automatically, and print a self-test page.

3.2.6 Calibrate Gap Sensor Sensitivity

The printer is preset with default sensor values at the factory. If these values do not match the paper being used (e.g., the printer cannot detect label gaps properly), you can recalibrate the printer to match the paper.

How to Calibrate the Gap Sensor:

Press and hold both the power button and feed button, then power on the printer. After the initial "beep," wait for two "beep-beep" sounds, then release both buttons. The printer will automatically calibrate itself. Once calibration is complete, the printer will restart automatically.

3.2.7 Calibrate Sensor Sensitivity for Zero-Waste Function

The printer is preset with default sensor values for the zero-waste function. If these values do not match the paper being used, the zero-waste function may not work correctly. Generally, no further action is required after factory calibration.

How to Calibrate for the Zero-Waste Function:

Press and hold both the power button and feed button, then power on the printer. After the initial "beep," wait for four "beep-beep" sounds, then release both buttons. The printer will execute the calibration process and print instructions saying, "Please remove the label paper and press the feed button." Follow the instructions, and the printer will restart automatically.

3.2.8 Firmware Upgrade

Connect the printer to the computer using a USB data cable or serial cable. Ensure the printer is powered on and in normal working condition with no errors. The firmware can then be updated using the PC upgrade tool.

Open the "UpdateFirmware.exe" upgrade tool.

Select the USB port or corresponding serial port, open the port, choose the firmware file to be updated, and click "Start Upgrade." Once the data update is complete, the printer will automatically enter upgrade mode.

After the upgrade is finished, the printer will automatically print a self-test page and switch to normal working mode.

3.3 Interface Connection and Printing

3.3.1 Power Interface

The printer requires a rated input voltage of DC 8.5V \pm 5% and a rated current of 2A. It uses a desktop power socket with a positive inner pole and a negative outer pole. Please ensure to use the standard power adapter provided.

3.3.2 USB Connection

The SP-TL28 printer comes with a standard USB printer cable (Type-B data cable) for connecting the printer to the host device. The USB interface on the printer is a DEVICE-type port. The appearance and pin definitions are shown in the diagram below:

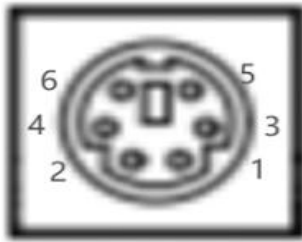


3.3.2 USB Socket and Pin Definitions

PIN	PIN Definition	Note
1	V Bus	—
2	Data -	Data -
3	Data +	Data +
4	GND	GND

3.3.3 Serial Connection

The SP-TL28 serial model printer comes equipped with a standard 9-pin/PS6-pin cable for connecting the printer to other devices. The appearance and pin definitions are shown in the diagram below:



PIN	PIN Definition	Note
1	RS232_RX	Serial data receiving
2	RS232_TX	Serial data sending
3	RTS	Require to send low active
5、6	GND	GND

3.3.4 Bluetooth Connection

Bluetooth-enabled handheld devices, laptops, or other information terminals can drive the SP-TL28 printer through its Bluetooth interface. The default device name is SP-TL28 Printer, and the initial password is 1234. Users can modify the device name, password, and other settings using the SP-TL28 Configuration Tool Software.

Before use, the SP-TL28 printer must pair with the controlling Bluetooth host device. Pairing is initiated by the host device and typically follows these steps:

1. Turn on the printer.
2. Use the host device to search for external Bluetooth devices.
3. If multiple external Bluetooth devices are detected, select the printer name indicated on the self-test page.
4. Enter the password provided on the self-test page.
5. Complete the pairing process.

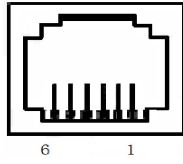
Note:

The SP-TL28 printer supports connections with Android devices and Apple devices supporting Bluetooth 4.0.

Cautions:

1. The printer must be powered on during pairing.
2. Once the printer’s Bluetooth is successfully paired and linked with a host Bluetooth device, it will not be discoverable or connectable by other host devices until the connection with the current host device is terminated.
- 3.

3.3.5 Cash Drawer Interface (Reserved)



3.3.4 Cash Drawer Interface

PIN	Signal	Direction
1	GND	—
2	Cash drawer drive signal	output
3	Cash drawer on/off signal	input
4	+12V DC	—
5	NC	—
6	Signal ground	—

3.4 Buzzer Description

The printer is equipped with a buzzer that provides audible alerts. When powered on, it will emit a "beep" sound. If an error occurs, such as out of paper or the cover being open, the printer will emit a series of "beep-beep" sounds at varying frequencies. The buzzer will continue for one minute, after which it will stop.

3.5 Indicator Light Description

The TL28 has two indicator lights: a green [ONLINE] light for power indication, and a red [ERROR] light for status indication.

When the printer is operating normally, the red [ERROR] light will be off. The flashing patterns of this red indicator light indicate different error statuses, as shown below:

Error	Error Indicator Status	Description
Paper Cover Open	Slow flashing (interval 640ms) with "beep-beep" sound from the buzzer	Close the paper cover
Out of Paper	Fast flashing (interval 160ms) with "beep-beep" sound from the	Replace the paper or use suitable label paper

	buzzer	
Print Head Overheating	Fast flashing (interval 160ms) with no sound from the buzzer	Wait for a while before printing again

Chapter 4 Other Information

4.1 Developer Manual

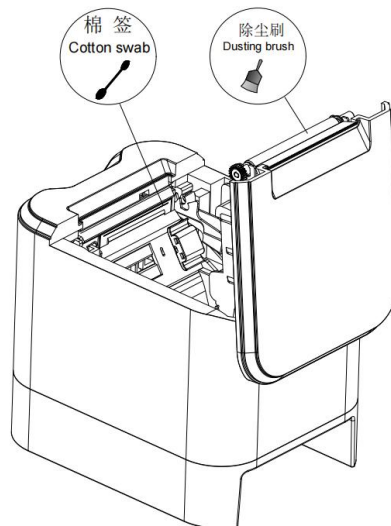
The SP-TL28 Developer Manual is a technical guide to assist users in developing printer applications for the SP-TL28 printer. This manual is available upon request from our company.

4.2 Cleaning and Maintenance

The printer requires regular maintenance:

When the printer is powered off, use a cotton swab dipped in a small amount of alcohol to gently wipe the print head, removing carbon build-up, dust, and other impurities.

Use a dusting brush to clean off paper scraps and dust from the printer's rollers.



Chapter 5: Using the Printer on Windows

The SP-TL28 thermal label printer driver version is SP_TSPL_Printer_Driver_Win. The driver and installation instructions can be downloaded from our website (www.sprt-printer.com). Further details on the installation are not provided here.