



**KERN & Sohn GmbH**

Ziegelei 1

D-72336 Balingen

E-mail: [info@kern-sohn.com](mailto:info@kern-sohn.com)

Phone: +49-[0]7433-9933-0

Fax: +49-[0]7433-9933-149

[www.kern-sohn.com](http://www.kern-sohn.com)

# User Manual Thermal Printer

## KERN YKH-01

Version 1.1

2024-08

GB



YKH-01-e-2411



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Version 1.1 2024-08

## User Manual Thermal Printer

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### Contents

|           |                                          |           |
|-----------|------------------------------------------|-----------|
| <b>1</b>  | <b>Technical specification .....</b>     | <b>3</b>  |
| <b>2</b>  | <b>Unpacking .....</b>                   | <b>3</b>  |
| 2.1       | Scope of delivery .....                  | 4         |
| <b>3</b>  | <b>Device overview .....</b>             | <b>5</b>  |
| <b>4</b>  | <b>Basic instructions .....</b>          | <b>6</b>  |
| 4.1       | Safety instructions/Warning plates ..... | 6         |
| 4.2       | Warranty .....                           | 7         |
| 4.3       | Power supply .....                       | 7         |
| 4.4       | Cable connection.....                    | 8         |
| <b>5</b>  | <b>Printer installation .....</b>        | <b>9</b>  |
| 5.1       | Vertical printer installation .....      | 9         |
| 5.2       | Hanging the printer on the wall.....     | 10        |
| 5.3       | Inserting paper.....                     | 12        |
| <b>6</b>  | <b>Changing paper width.....</b>         | <b>13</b> |
| <b>7</b>  | <b>Disconnecter switch cover.....</b>    | <b>14</b> |
| <b>8</b>  | <b>Printer set-up .....</b>              | <b>15</b> |
| <b>9</b>  | <b>Help for any minor failures .....</b> | <b>18</b> |
| <b>10</b> | <b>Cleaning.....</b>                     | <b>20</b> |
| 10.1      | Printer enclosure cleaning .....         | 20        |
| 10.2      | Thermal head cleaning.....               | 20        |

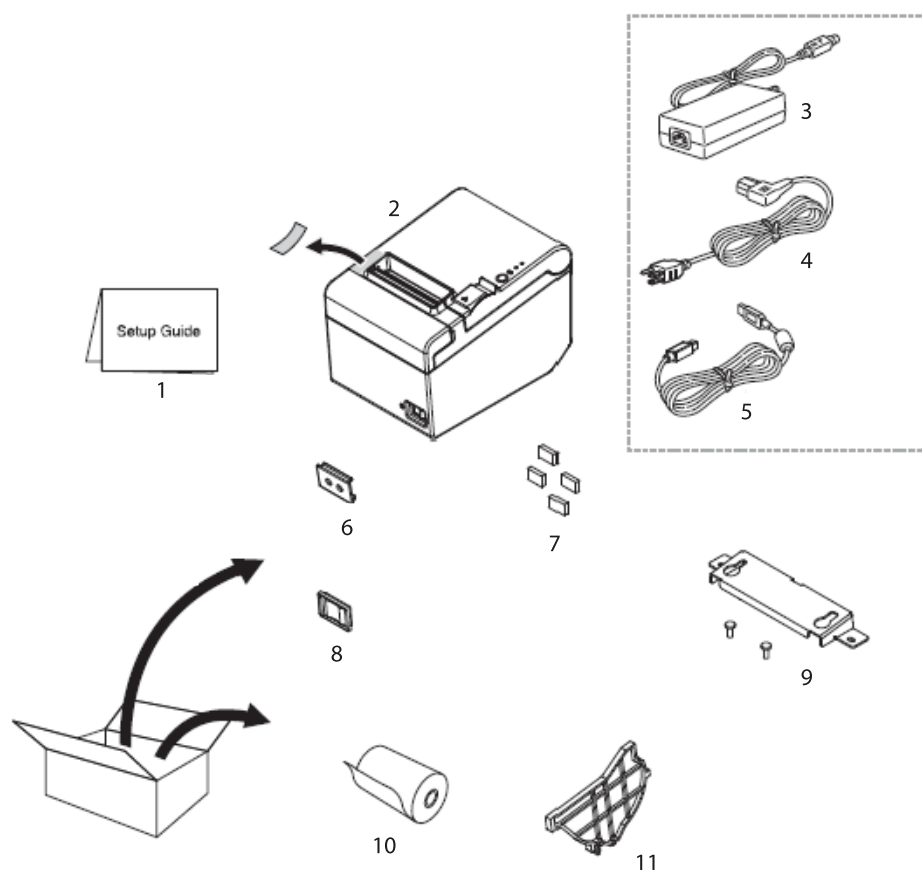
## 1 Technical specification

| KERN                         |          | YKH-01                                   |                                       |
|------------------------------|----------|------------------------------------------|---------------------------------------|
| Product number/type          |          | TYKH-01-A                                |                                       |
| Printing method              |          | Thermal line print                       |                                       |
| Printing speed               |          | 200 mm/s                                 |                                       |
| Paper                        |          | <b>Paper width 80 mm</b><br>KERN YKH-A01 | <b>Paper width 58 mm</b><br>NTP058-80 |
| Paper roll<br>(single-layer) | Width    | 79.5 mm ±0.5 mm                          | 57.5 mm ±0.5 mm                       |
|                              | Diameter | max. outer diameter: 83 mm               |                                       |
|                              | Core     | Core diameter: inner 12 mm; outer 18 mm  |                                       |
| Power supply input voltage   |          | 100–240 V                                |                                       |
| Balance input voltage        |          | 24 VDC, 1.5 A                            |                                       |
| Operating temperature        |          | 5–45°C                                   |                                       |
| Air humidity                 |          | max. 10–90%, relative (non-condensing)   |                                       |
| Dimensions [H x W x D]       |          | 140 × 199 × 146 mm                       |                                       |
| Weight                       |          | 1.7 kg                                   |                                       |

## 2 Unpacking

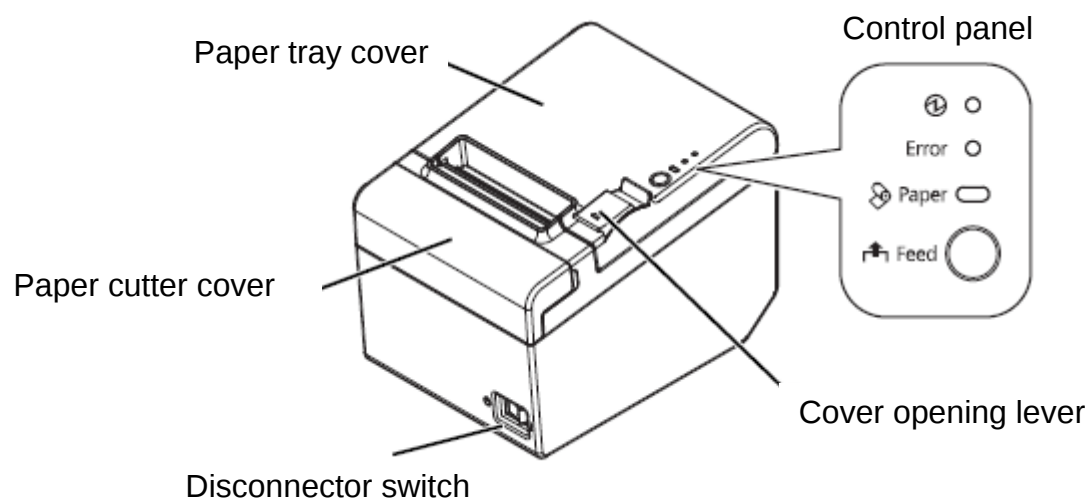
Remove the device and accessories from the packaging, remove the packaging material and place the device in the target location. Check if all components included in the delivery are present and not damaged.

## 2.1 Scope of delivery



| Item | Name                                  |
|------|---------------------------------------|
| 1    | User manual                           |
| 2    | Printer                               |
| 3    | Power supply                          |
| 4    | Power cord                            |
| 5    | USB interface cable                   |
| 6    | Disconnecter switch cover             |
| 7    | Rubber feet for vertical installation |
| 8    | Watertight disconnecter switch cover  |
| 9    | Wall bracket                          |
| 10   | Paper roll                            |
| 11   | Paper guide rail 58 mm wide           |
|      | Serial adapter (without illustration) |

### 3 Device overview



#### Control panel:

|                                                                                                            |                                                                                                |
|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
|  — <b>Power indicator</b> | Is lit when the printer is on.                                                                 |
| <b>“Error” LED — Error indicator</b>                                                                       | Is lit after an error has occurred in the device.                                              |
| <b>“Paper” LED — Paper indicator</b>                                                                       | Informs the paper has been used up.<br>If the LED flashes, the device is in the stand-by mode. |
| <b>“Feed” button — Movement button</b>                                                                     | Moving the paper forward.                                                                      |

## 4 Basic instructions



- ⇒ Before you set and start the device, read this user manual thoroughly even if you are familiar with KERN products.
- ⇒ All language versions contain non-binding translation. Only the original document in German is binding.

### 4.1 Safety instructions/Warning plates



- ⇒ Switch off the device immediately after you notice smoke, strange odours or noise. Continued operation of the device can cause fire or electric shock. Remove the plug immediately from the socket and contact the seller.
- ⇒ Do not try to repair the device yourself. Unauthorised repairs can create hazard.
- ⇒ Do not dismount or modify the product. Unauthorised works on the product can cause bodily injuries, fire or electric shock.
- ⇒ Ensure you use the recommended power supply. Connection to an incorrect power source can cause fire.
- ⇒ Do not plug or unplug the power cord with wet hands. This can result in serious electric shock.
- ⇒ Do not use any table sockets as a wall socket. Always use the standard power socket directly. Socket overloading can cause fire.
- ⇒ Be careful when handling the cord. Using for purposes other than the designed ones can cause fire or electric shock.
  - Do not use a damaged cord.
  - Do not replace and repair the cord.
  - Do not put any objects on the cord.
  - Avoid excessive bending, twisting and stretching the cord.
  - Do not place the cord near radiators.
- ⇒ Prevent foreign body penetration into the product. Fire danger!
- ⇒ After water or any other liquid penetrates into the product, remove the plug immediately and contact the seller. Fire danger!
- ⇒ Do not use any flammable cleaning agents to clean the product or near it. Fire danger!



- ⇒ Do not use the device in places with high humidity or high dust concentration. Excessive humidity or dust concentration can cause the device damage or fire.
- ⇒ Place the device on a solid, stable, horizontal surface. The device fall can result in its damage or bodily injury.
- ⇒ Be careful so that a manual cutter does not harm your hands when doing any below-mentioned works:
  - when removing the printed document,
  - when doing any other works, e.g. inserting a paper roll.



- ⇒ Do not touch the thermal head as it can be very hot after printing.

## 4.2 Warranty

The warranty expires:

- If you fail to follow our guidelines included in the user manual;
- If you introduce any modifications or open the device;
- If the device gets damaged mechanically or damaged by the utilities, liquids or ordinary wear and tear;
- If the device is not set correctly or the electrical system is not as required.

## 4.3 Power supply



The device can be connected to the power grid only when the voltage specified on the device (sticker) and the local voltage are identical.

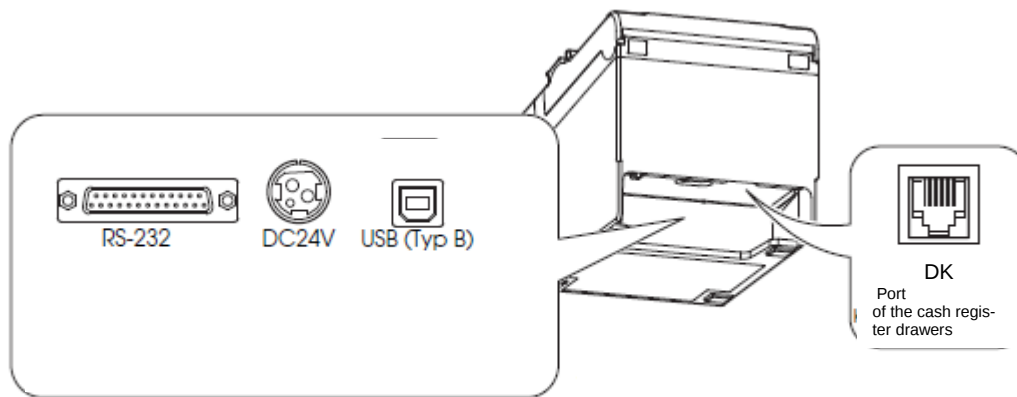
Always use the original power supply by KERN. Using any other products requires KERN consent.

### **Important information:**

- Before you start the device, check the power cord for damage.
- The power cord must not have any contact with liquids.
- The power plug must be always readily available.

## 4.4 Cable connection

### Ports:



CAUTION

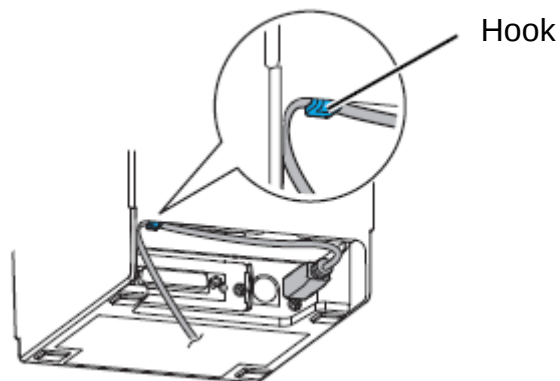
- ⇒ If you use a serial interface, error-free operation can be ensured solely with the included interface cable and the appropriate interface cable by KERN (optional). Whenever required, use a null modem and a Gender Changer delivered with the device.
- ⇒ For the USB interface, switch the printer on and then install the printer driver.
- ⇒ Do not try to stretch or strain the cord to connect it. The power cord must not be strained when used.

1. Ensure the printer is off.
2. Connect the interface cable to the printer.



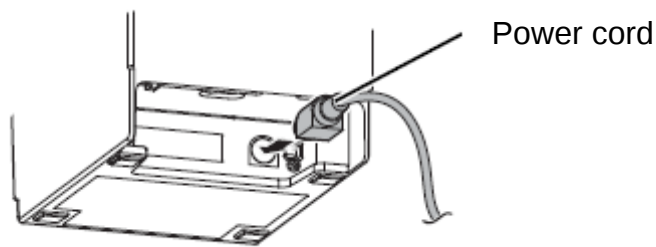
TIP

When connecting the USB cable, fix it as shown in the figure below to prevent it from getting loose.



3. Connect the power cord to the power supply.

4. Plug the power cord of the power supply and connect it to the mains.



## 5 Printer installation

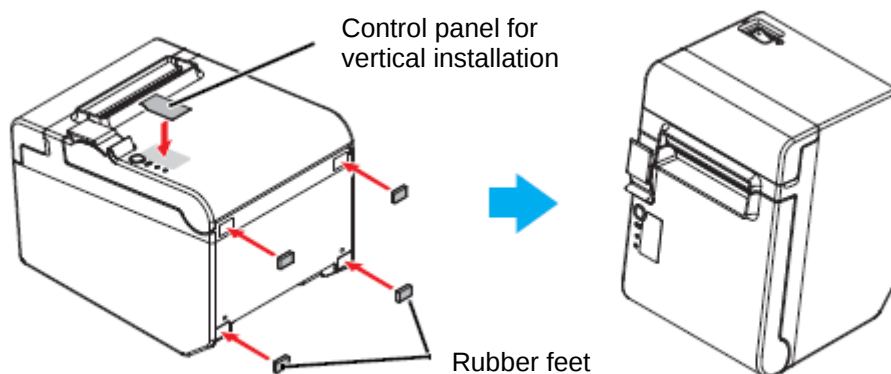
The printer can be installed horizontally (with the paper output on the top) or vertically (with the paper output on the front). Using the accessories supplied with the device, it is possible also to hang it on the wall.



Take measures to prevent printer movement as a result of vibrations when cutting the paper and using the drawer.

### 5.1 Vertical printer installation

When you install the printer vertically, remember to place the control panel for vertical installation on the paper roll cover and to fix four rubber feet in the rectangular recesses of the printer enclosure, as shown in the figure below.

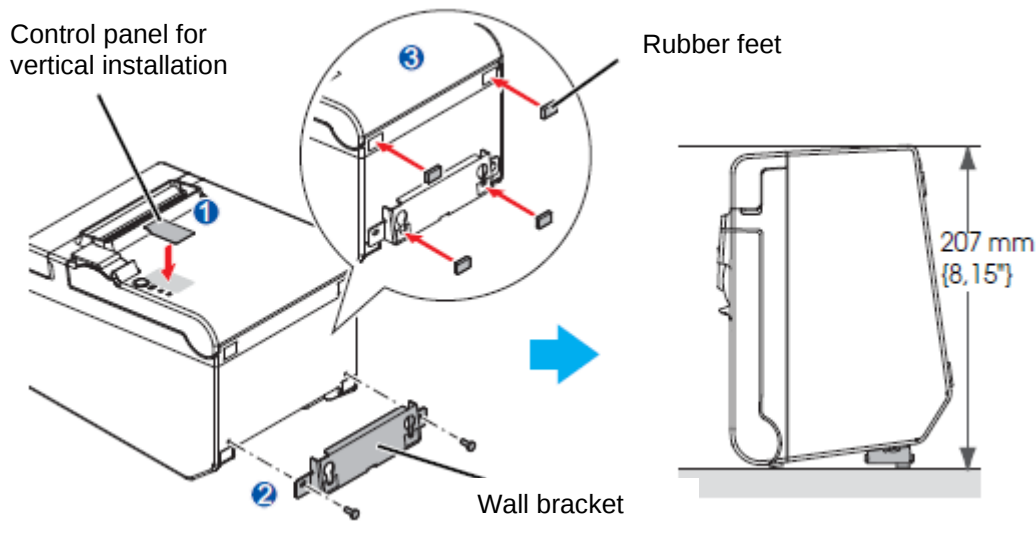




TIP

When you use the wall bracket supplied with the device, you can install the printer to ensure the paper roll cover is perpendicular to the installation surface.

1. Install the control panel for vertical installation on the paper roll cover.
2. Attach the wall bracket to the printer and fix it with two screws supplied with the device.
3. Place two rubber feet in the rectangular recesses in the printer enclosure and two rubber feet at the cut side of the wall bracket.
4. Place the printer with the wall bracket downward.



## 5.2 Hanging the printer on the wall

After you connect power to the printer, it is in the operating mode enabling to receive and print data. It is also possible to switch the printer to the stand-by mode.

For this purpose, press "SEL", the "SEL" indicator will go off. The printer is in the stand-by mode and cannot receive any data. To return to the operating mode, press the "LED" button and the "SEL" indicator will be lit again.



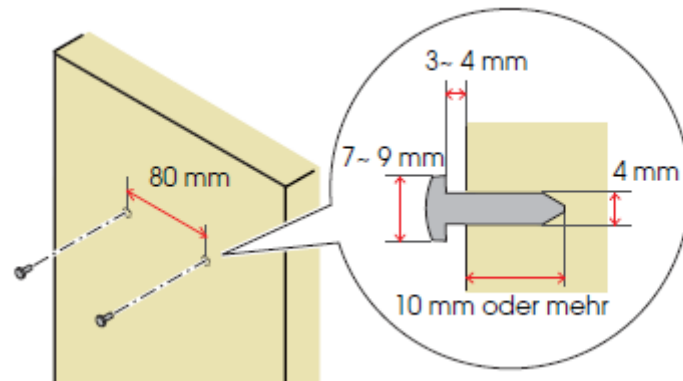
CAUTION

The wall bracket for safe installation of the printer should be fixed to the wooden, concrete or metal wall. The wall thickness should be 10 mm or more.

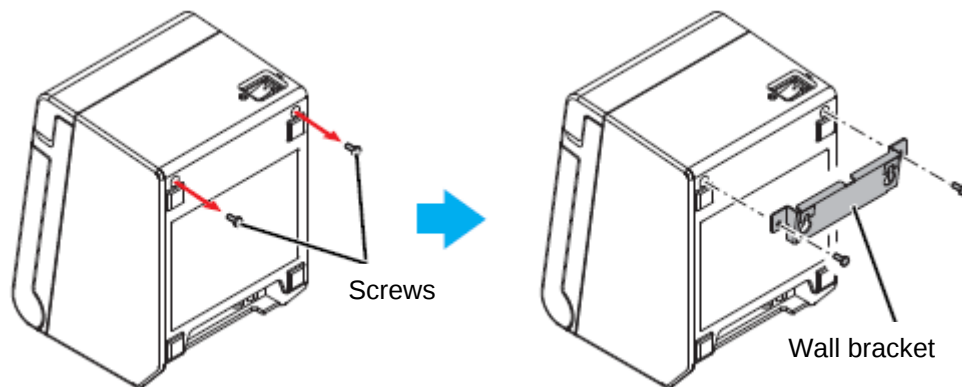
Always use metal screws.

The breaking strength of screws on the wall side must be 150 N or more.

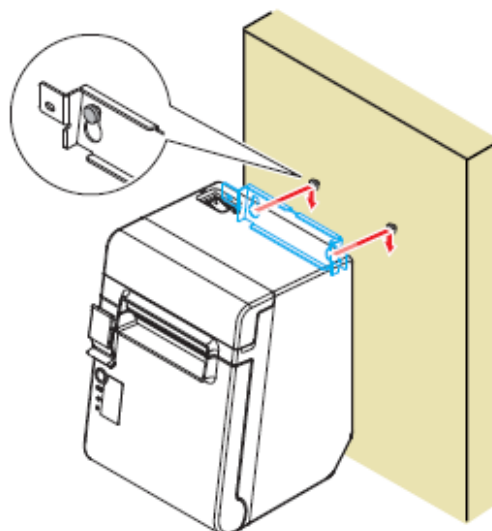
1. Fix 2 screws on the wall (the screw diameter 4 mm; head diameter: from 7 to 9 mm) at the distance of 80 mm. Ensure the screw shank length in the wall is 10 mm or more, and the length outside the wall is 3 to 4 mm.



2. Remove 2 screws shown in the figure below from the printer.
3. Attach the wall bracket to the printer and fix it with two screws removed in step 2.



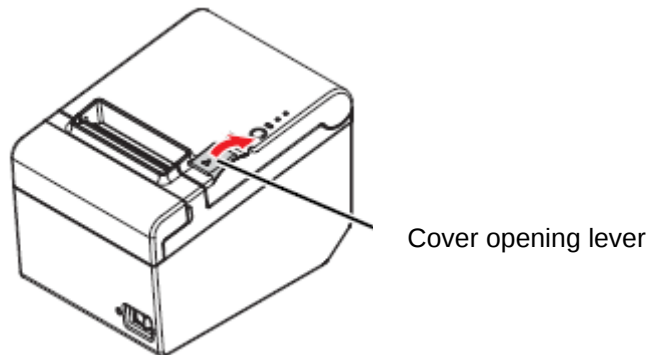
4. Align the openings in the wall bracket and screws for the wall brackets and hang the bracket.



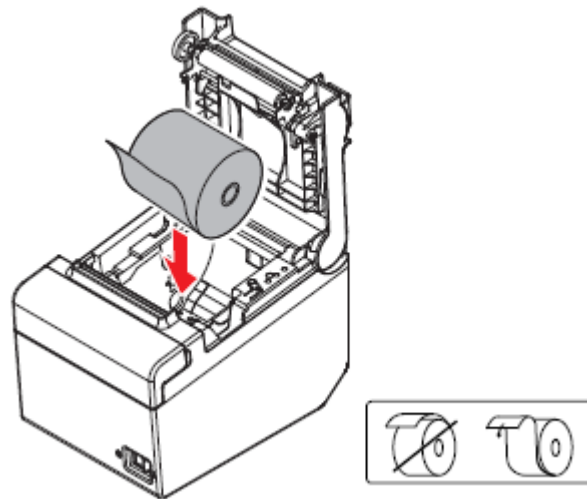
### 5.3 Inserting paper

To install a paper roll, perform the following steps:

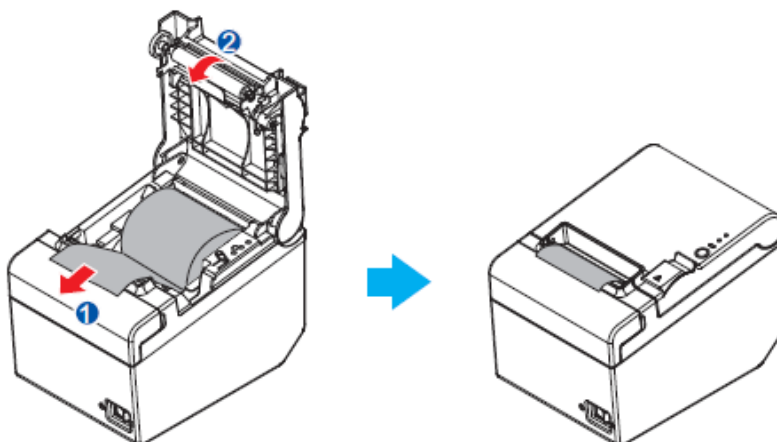
1. Open the paper roll cover using the cover opening lever.



2. Remove the used-up paper roll core (if it is present in the printer) and insert a new one. The paper movement direction is shown in the figure below.



3. Pull out a piece of paper and close the paper roll cover. After the printer power supply is switched on, the paper roll piece will be cut automatically.



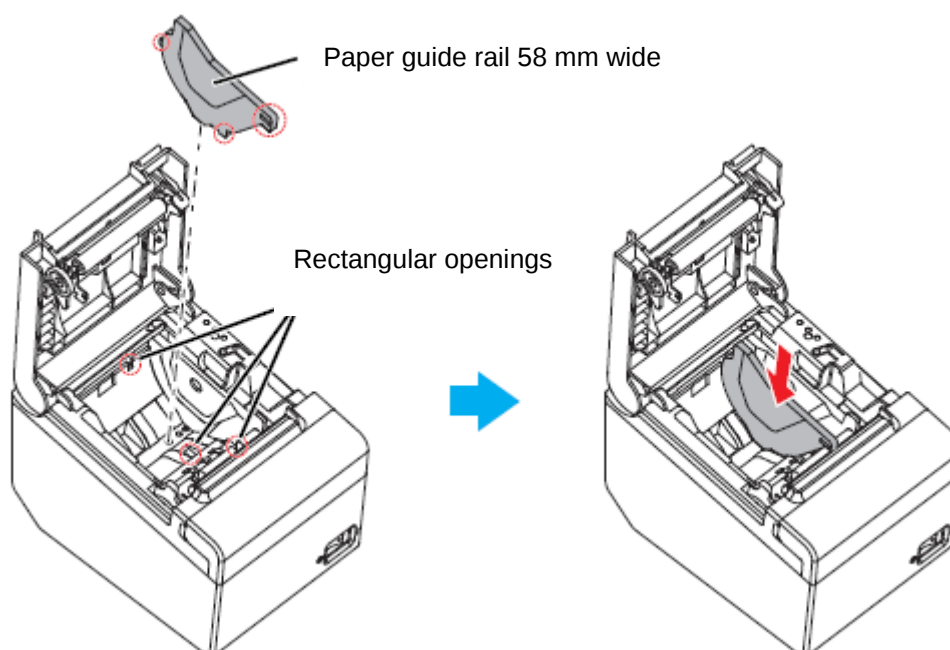
## 6 Changing paper width

The paper width can be changed from 80 to 58 mm (see Chapter 0), using the paper guide rail 58 mm wide supplied with the device. To change the paper width, perform the following steps:



After the paper width is changed from 80 mm to 58 mm, it is not possible to change it to 80 mm again.

1. Open the paper roll cover.
2. Align the three ribs of the paper guide rail 58 mm wide and the rectangular openings of the printer and press the rail downwards.



3. Install the paper roll.
4. Close the paper roll cover.

## 7 Disconnecter switch cover

The supplied disconnecter switch cover prevents inadvertent pressing of the disconnecter switch.

The disconnecter switch can be switched on and off by inserting a sharp object in the openings in the disconnecter switch cover.

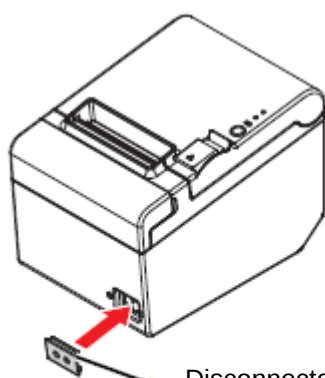
You can use a sharp object to remove the cover.

The scope of delivery comprises also a watertight disconnecter switch cover.

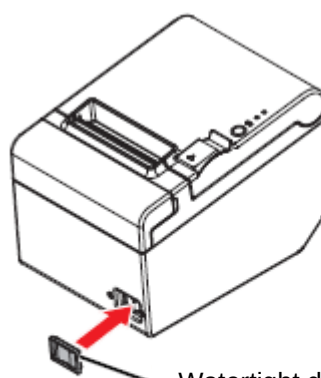
To use it, install it as shown in the figure below.



When the installed disconnecter switch cover is damaged, unplug the device immediately. Continued operation of the device causes the risk of fire or electric shock.



Disconnecter switch cover



Watertight disconnecter switch cover

## 8 Printer set-up

To ensure communication between the balance and the printer, the following conditions must be met:

Disconnect the balance from the power supply and connect with the device interface using an appropriate cord. Error-free operation can be ensured solely with the included interface cable and the appropriate interface cable by KERN.

Communication parameters (e.g. transmission speed, bits and parity) of the balance and printer interface must be compliant.

### What to do:

- ⇒ Switch the printer off.
- ⇒ Switch the printer on with the “Feed” button pressed. The current settings will be printed.

```
USB or Serial Interface
Baud rate   : 38400 bps
Data bits   : 8 bits
Parity       : none
Stop bit     : 1 bit or more
Handshaking  : DTR/DSR
Receive error: prints '?'

Buffer Capacity
4K bytes

Handshaking Operation (busy condition)
Offline or receive buffer full

Resident Character
Alphanumeric

Automatic Line Feed
(CR command function)
Disabled

Print Density
LIGHT [-3..0..+3] DARK

Maintenance Information
Thermal Head   : 0.000 km
Autocutter     : 10 cuts

Memory Switch 1
1 2 3 4 5 6 7 8
■ ■ ■ ■ ■ ■ ■ ■

Memory Switch 5
1 2 3 4 5 6 7 8
■ ■ ■ ■ ■ ■ ■ ■

Select Modes by pressing Feed button.
Continue SELF-TEST: less than 1 second
Mode Selection : 1 second or more
```



- ⇒ To change the settings, follow the relevant instructions on the printout.

## Example:

Changing the transmission speed to 9,600 bps

1. Press and hold the “Feed” button (> 1 s). The **<Mode Selection>** instruction will be printed.

|                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <pre>Mode Selection  Modes 0: Exit and Reboot Printer 1: NV Graphics Information 2: Receipt Enhancement Information 3: Customize Value Settings 4 or more: None  Select Modes by executing following procedure. step 1. Press the Feed button less than 1 second as many times as the selected mode number. step 2. Press Feed button for 1 second or more.</pre> | <p>Follow the instructions on the printout again:</p> <p><b>Step 1:</b><br/>Enter the numbers in the &lt;Modes&gt; column, pressing the “Feed” button the number of times corresponding to the relevant option.</p> <p><b>Step 2:</b><br/>Then press and hold the “Feed” button.</p> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

2. To trigger the **<Customize Value Settings>** instruction, press the “Feed” button three times and then press and hold it.  
The **<Customize Value Settings>** list will be printed.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <pre>Customize Value Settings  Modes 0: Exit 1: Print Current Settings 2: Print Density 3: Printing Speed 4: Serial Interface Settings 5: Auto Paper Feed&amp;Cut at cover close 6: Paper Width 8: Default Character 9: Embedded Font Replacement 10: USB Interface Settings 11: Buzzer Control 12: Column Emulation 13: Interface Settings 15: Logo Emulation 16: Automatic Paper Reduction 17: Interface Selection 18: Power Supply Unit Capacity  Select Modes by executing following procedure. step 1. Press the Feed button less than 1 second as many times as the selected mode number. step 2. Press Feed button for 1 second or more.</pre> | <p>Follow the instructions on the printout again:</p> <p><b>Step 1:</b><br/>Enter the numbers in the &lt;Modes&gt; column, pressing the “Feed” button the number of times corresponding to the relevant option.</p> <p><b>Step 2:</b><br/>Then press and hold the “Feed” button.</p> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

3. To trigger the <Serial Interface Settings> instruction, press the “Feed” button four times and then press and hold it.  
The <Serial Interface Settings> list will be printed.

```
4.Serial Interface Settings
.
Modes
0: Return to the previous menu
1: Baud Rate
2: Parity
3: Handshaking
4: Data Bits
5: Data Receive Error
```

4. To select the <Baud Rate> instruction, press the “Feed” button once and then press and hold it.  
The <Baud Rate> setting list will be printed.

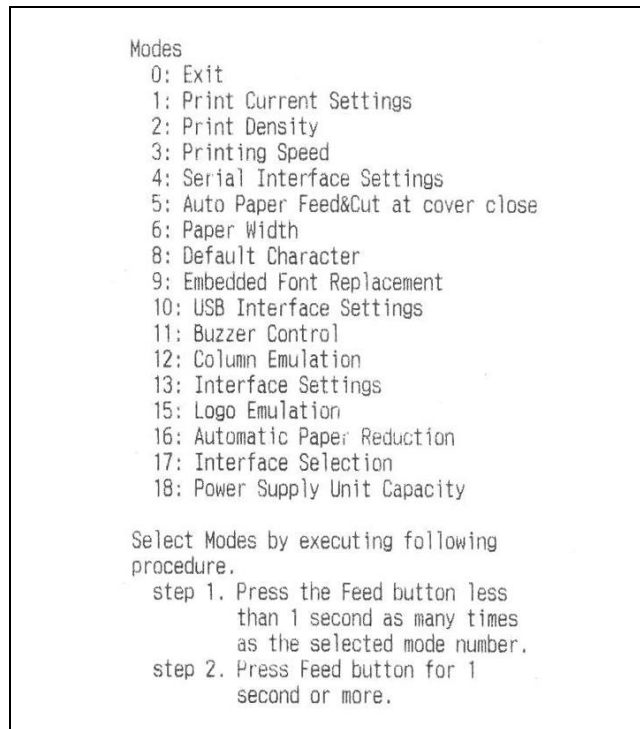
```
4.Serial Interface Settings
4.1.Baud Rate
.
Modes
0: Return to the previous menu
1: 2400bps
2: 4800bps
3: 9600bps
4: 19200bps
]*5: 38400bps
6: 57600bps
7: 115200bps

] means default value.
* means current set value.
```

5. To change the transmission speed to 9,600 bps, press the “Feed” button three times and then press and hold it.  
The following will be printed: the current transmission speed setting and the list of available settings.

```
4.Serial Interface Settings
4.1.Baud Rate
9600bps

Saved. You can turn off the printer.
```



6. To leave the menu, press and hold the “Feed” button or enter further settings. To do it, repeat steps 2–5 for every setting.

## 9 Help for any minor failures

| Symptom                                                          | Solution                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>The control panel LEDs are not lit</b>                        | Check if the power cord is connected to the printer and the socket correctly.                                                                                                                                                                                                                                                                                                                                      |
| <b>The error indicator is on and there is no printing</b>        | <ul style="list-style-type: none"> <li>➤ Check if the paper roll cover is closed. If open, close it.</li> <li>➤ The paper indicator is on, check the correct installation and the paper roll stock.</li> </ul>                                                                                                                                                                                                     |
| <b>The error indicator is flashing, but there is no printing</b> | <ul style="list-style-type: none"> <li>➤ Check the device for any paper jam. If there is a paper jam, remove the jammed paper as described below and install the paper roll correctly.</li> <li>➤ If the printer head is overheated, printing is suspended and restored automatically after it has cooled down.</li> <li>➤ For any other errors, switch the printer off and switch it on again in 10 s.</li> </ul> |

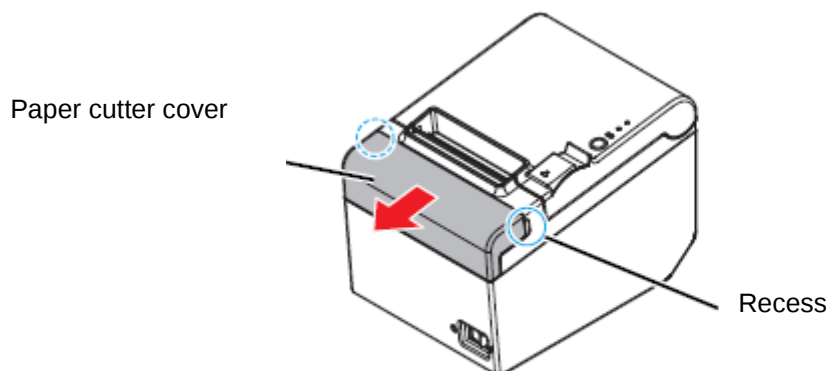
## Paper jam

Do not use force to pull paper if there is any paper jam. Open the paper roll cover and remove the jammed paper.

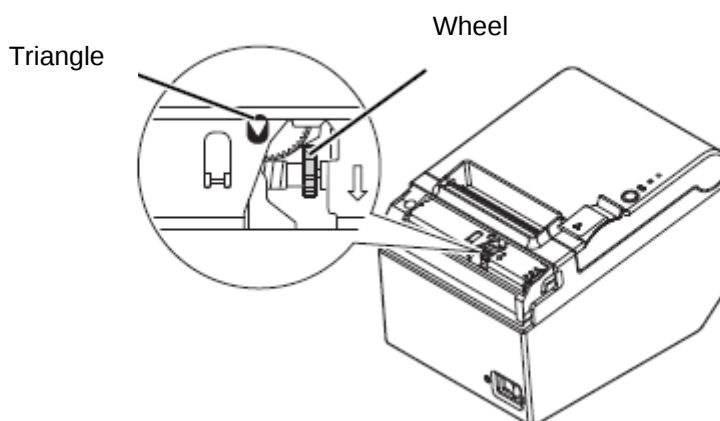
**CAUTION:** Do not touch the thermal head as it can be very hot after printing.

If the paper roll cover cannot be opened, perform the following steps:

1. Switch the printer off.
2. To remove the cover, grip the recesses on both sides of the paper cutter cover with your fingers and move it a bit towards the arrow shown in the figure below.



3. Turn the wheel until you see a triangle in the opening. Thanks to this, a blade was set in the initial position. See the user manual on the back of the paper cutter cover.



4. Replace the paper cutter cover.
5. Open the paper roll cover and remove the jammed paper.

## 10 Cleaning

### 10.1 Printer enclosure cleaning

Ensure the printer is off and wipe dirt off the enclosure using a dry or moist cloth.



Do not use any alcohol, petrol, diluent or other solvents to clean the product. This could damage or crush a plastic or rubber component.

### 10.2 Thermal head cleaning



The thermal head of the printer can be very hot after printing. Do not touch the thermal head and leave it to cool down before cleaning.

To avoid damaging the thermal head, do not touch it with your fingers or hard objects.

- ⇒ Switch the printer off, open the paper roll cover and clean the thermal head thermocouple using a cotton swab moisturised with an alcohol solution (ethanol or isopropyl alcohol).
- ⇒ To retain the original print quality, we recommend regular cleaning of the thermal head (basically every three months).

