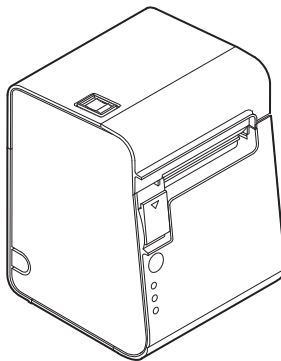


TM-L90

User's Manual



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Important Safety Information

This section contains important information intended to ensure safe and effective use of this product. Please read this section carefully and store it in an accessible location.

Key to Symbols

The symbols in this manual are identified by their level of importance, as defined below. Read the following carefully before handling the product.



WARNING:

Warnings must be followed carefully to avoid serious bodily injury.



CAUTION:

Cautions must be observed to avoid minor injury to yourself, damage to your equipment, or loss of data.



Note:

Notes have important information and useful tips on the operation of your equipment.

Safety Precautions



WARNING:

Shut down your equipment immediately if it produces smoke, a strange odor, or unusual noise. Continued use may lead to fire. Immediately unplug the equipment and contact your dealer or a Seiko Epson service center for advice.

Never attempt to repair this product yourself. Improper repair work can be dangerous.

Never disassemble or modify this product. Tampering with this product may result in injury or fire.

Be sure to use the specified power source. Connection to an improper power source may cause fire.

Do not allow foreign matter to fall into the equipment. Penetration by foreign objects may lead to fire.

If water or other liquid spills into this equipment, unplug the power cord immediately, and then contact your dealer or a Seiko Epson service center for advice. Continued usage may lead to fire.

Do not use aerosol sprayers containing flammable gas inside or around this product. Doing so may cause fire.

Do not connect a telephone line to the drawer kick-out connector; otherwise, the printer and the telephone line may be damaged.

Use a shield cable for the drawer connector cable.

CAUTION:

Do not connect cables in ways other than those mentioned in this manual. Different connections may cause equipment damage and burning.

Be sure to set this equipment on a firm, stable, horizontal surface. The product may break or cause injury if it falls.

Do not use in locations subject to high humidity or dust levels. Excessive humidity and dust may cause equipment damage or fire.

Do not place heavy objects on top of this product. Never stand or lean on this product. Equipment may fall or collapse, causing breakage and possible injury.

Take care not to injure your fingers on the manual cutter

- When you remove printed paper
- When you perform other operations such as loading/replacing roll paper

To ensure safety, unplug this product before leaving it unused for an extended period.

Caution Labels

The caution labels on the product indicate the following precautions.

CAUTION:

The thermal head can be very hot during printing and immediately after printing. Touching it may cause burns.

Restriction of Use

When this product is used for applications requiring high reliability/safety, such as transportation devices related to aviation, rail, marine, automotive, etc.; disaster prevention devices; various safety devices, etc.; or functional/precision devices, etc.; you should use this product only after giving consideration to including fail-safes and redundancies into your design to maintain safety and total system reliability. Because this product was not intended for use in applications requiring extremely high reliability/safety, such as aerospace equipment, main communication equipment, nuclear power control equipment, or medical equipment related to direct medical care, etc., please make your own judgment on this product's suitability after a full evaluation.

Unpacking

Check whether the following items are included. If any items are damaged, contact your dealer.

- Printer
- Power switch cover
- Wire saddle
- Roll paper spacer
- Screw for installation of the roll paper spacer
- Paper exit guide for horizontal installation
- Start Here
- Manual CD
- Roll paper*
- Control panel label for horizontal installation*
- AC adapter*
- AC cable*

* *May not be included depending on the printer model.*

Downloading Utilities and Manuals

The latest versions of utilities and manuals can be downloaded from one of the following URLs.

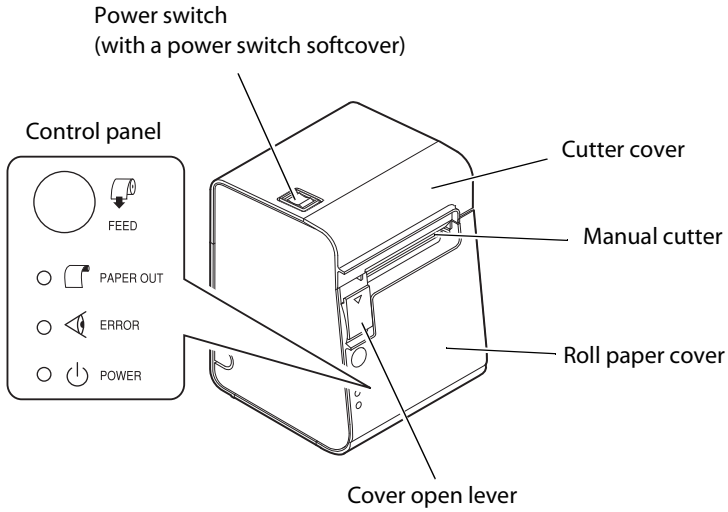
For customers in North America, go to the following web site:

<http://www.epsonexpert.com/>

For customers in other countries, go to the following web site:

<http://download.epson-biz.com/?service=pos>

Printer Parts



Control Panel

FEED button

Feeds the roll paper.

PAPER OUT LED

Lights when roll paper is out.

ERROR LED

Off when the printer is online, lights when the printer is offline, and flashes when an error occurs.

POWER LED

Lights when the power is on, and is off when the power is off.

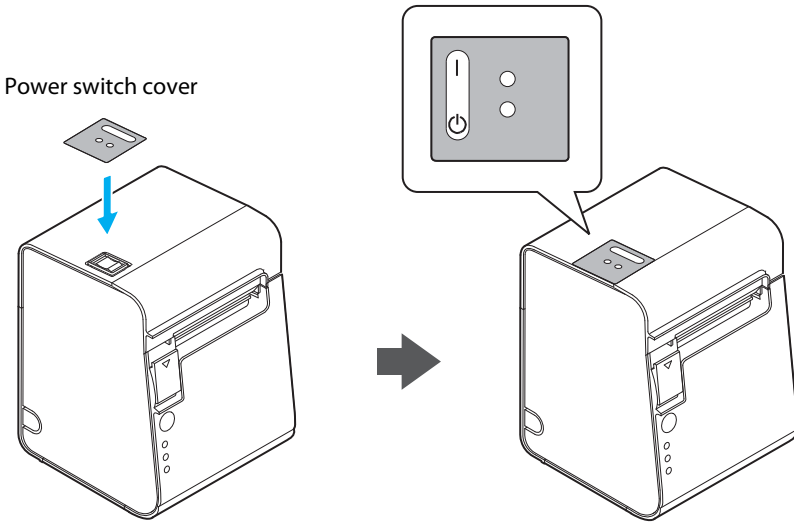
Power Switch

Use the power switch on the top left of the printer to turn the printer on and off.

Power Switch Cover

The enclosed power switch cover ensures that the power switch is not pressed accidentally.

You can turn the power switch on and off by inserting a pointed object such as a ballpoint pen in the holes in the power switch cover.



⚠ WARNING:

If an accident occurs with the power switch cover attached, unplug the power cord immediately. Continued use may cause fire or shock.

⚠ CAUTION:

Do not remove the power switch soft cover.

Installing the Printer Vertically or Horizontally

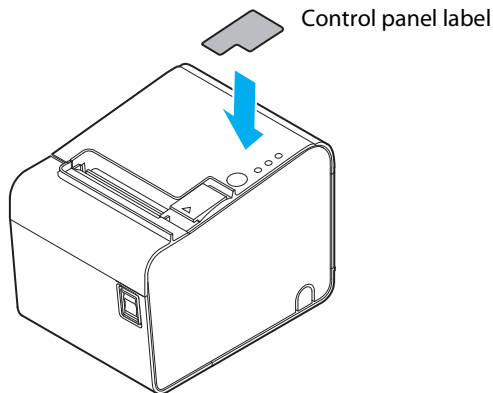
You can install the printer vertically (with the paper exit at the front) by hanging it on a wall, using the optional WH-10 hanging bracket set or horizontally on a flat surface (with the paper exit on top).

⚠ WARNING:

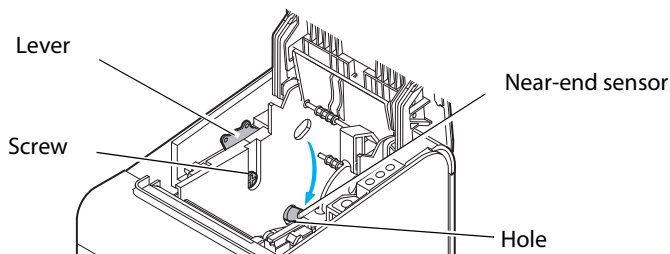
When hanging the printer on the wall with the hanging bracket set, be sure to attach a connector cover to the printer.

Installing the printer horizontally

1. Attach the control panel label.



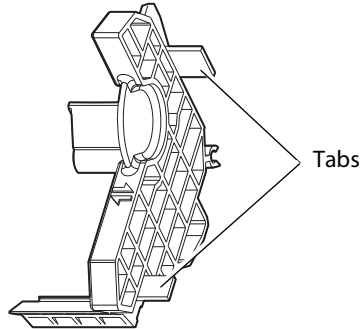
2. Loosen the screw with a coin or similar tool and turn it at least 3 or 4 times.
3. Turn the lever to move the sensor in the direction of the arrow in illustration until the sensor comes out from another hole near the bottom of the printer.



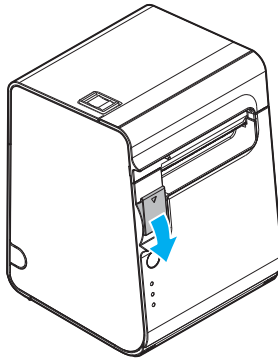
4. Tighten the screw and make sure the lever moves smoothly.

Changing the Paper Width

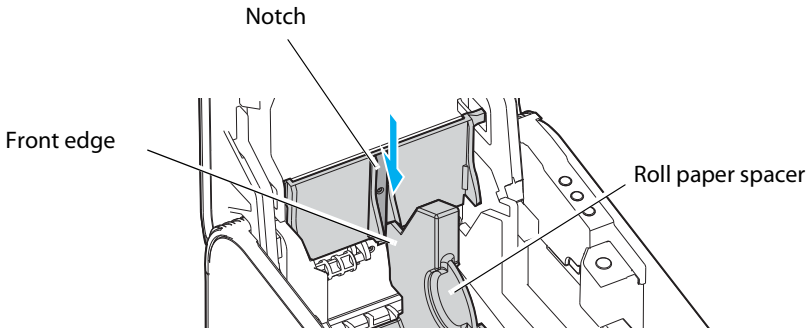
This printer accommodates 80 mm wide roll paper with no adjustments. For rolls from 38 mm to 70 mm wide, use the roll paper spacer included with the printer. (If the rolls are from 61 to 70 mm wide, break two tabs off the back of the roll paper spacer. (You can still use widths from 38 mm to 60 mm with the roll paper spacer with the tabs broken off.) Follow the steps below to attach the roll paper spacer.



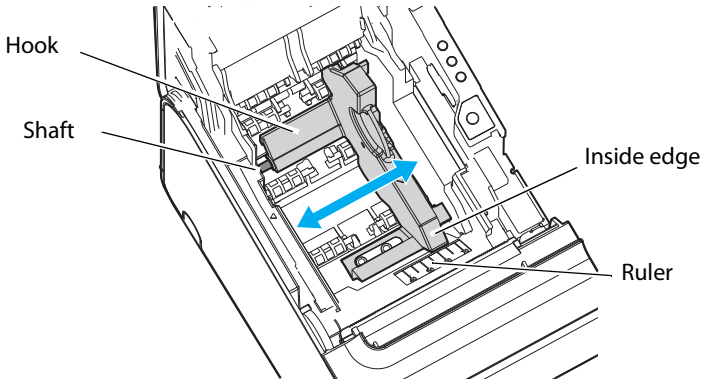
1. Open the roll paper cover.



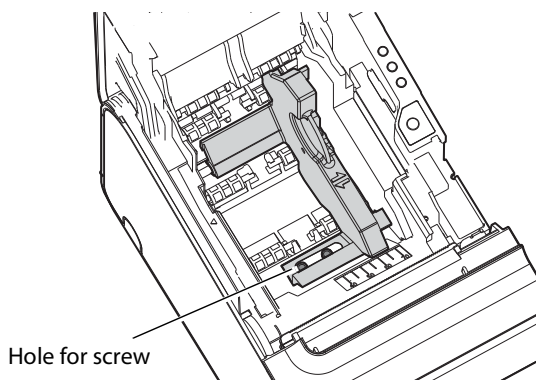
2. Insert the roll paper spacer so that the front edge goes through the notch; then push down the spacer so that the hook on the spacer and the shaft align.



3. Push the roll paper spacer until you feel it clicks onto the shaft. Check that the roll paper spacer slides smoothly to the left and right.
4. Slide the roll paper spacer to the appropriate width. You can use the ruler printed inside the printer, aligning the inside edge of the spacer with the desired measurement.



5. Tighten the spacer with the screw included with the spacer.
(Although there are two holes, this is the only one to put the screw in.)



Notes on Changing the Paper Type

This printer is set to use the paper layout for the bundled label roll paper (or receipt paper). In some cases, changing the paper type may cause an error. Follow the steps below to fix the error and set the new paper layout. (When an error occurs, the ERROR LED flashes twice repeatedly.)

Steps to fix Errors

While the ERROR LED is flashing twice repeatedly,

1. Open the roll paper cover.
2. Load a roll of paper to use.
3. Close the roll paper cover. The roll paper is fed automatically, the error is fixed, and the paper layout is set automatically.

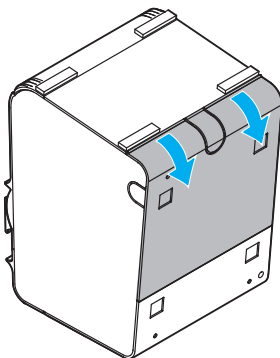
Note:

When using black mark die-cut label paper, you may not be able to use the paper normally even if you follow the steps above. In this case, set the paper layout with the memory switch setting utility. See the TM-L90 Technical Reference Guide for details.

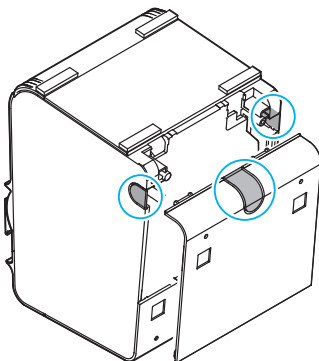
See the *TM-L90 Technical Reference Guide* also for how to use the product and detailed product specifications. Go to <http://www.epson.jp/dl-sd> to download the memory switch setting utility and *TM-L90 Technical Reference Guide*.

Connecting Cables

1. Place the printer and pull the cover in the direction of the arrow in the illustration to remove the cover.



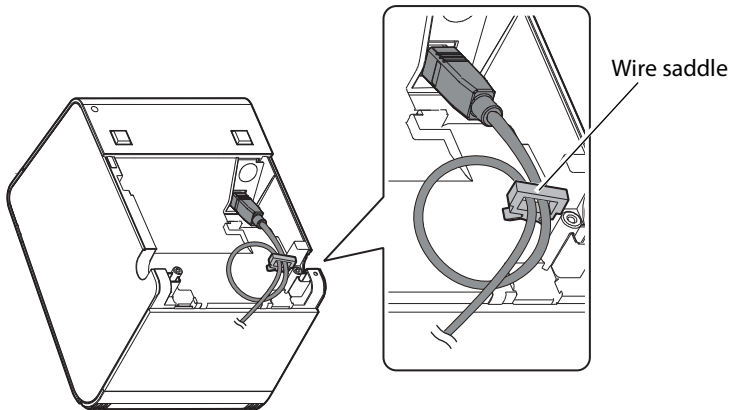
2. Break off by hand any of the three portions indicated by circles in illustration to pass the cables through.



3. Connect the cables to the printer.
4. Attach the cover while passing the cables through the holes.

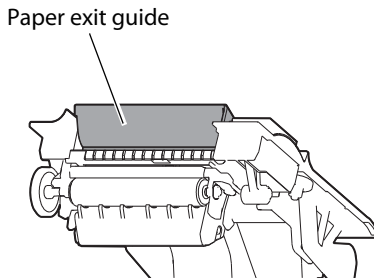
Wire Saddle

To prevent the USB cable from coming off the connector, attach the enclosed wire saddle to the printer.



Attaching the Paper Exit Guide

When you use the printer horizontally, peel off the backing sheet of the paper exit guide and attach it to prevent the paper cut by the autocutter from falling inside the printer.

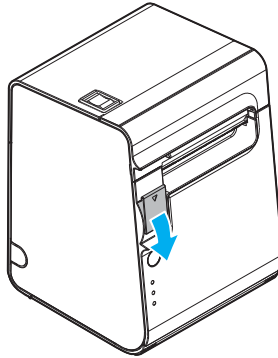


Note:

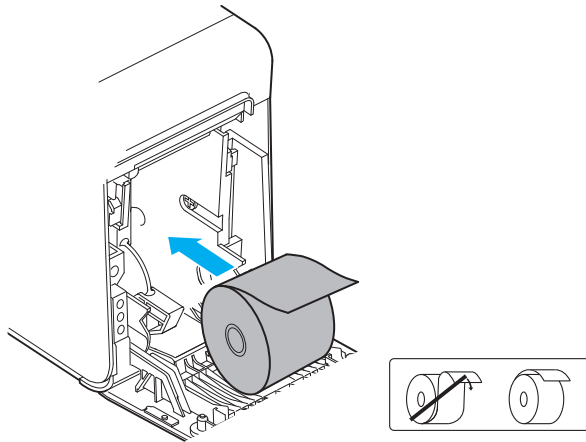
When using a roll paper that has a paper core smaller than the specified (internal diameter: 25.4 mm {1"}, external diameter: 31.4 mm {1.24"}), do not use the paper guide, or paper jam may result.

Installing the Roll Paper

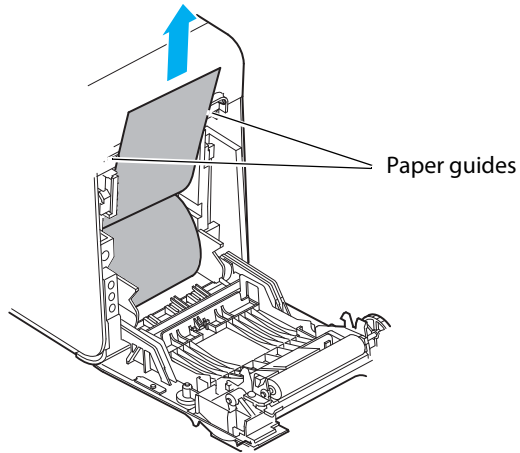
1. Lift the cover open lever and open the roll paper cover.



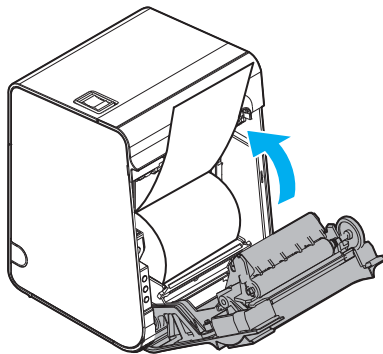
2. Remove the used roll paper core, if any.
3. Install the roll paper in the correct direction.



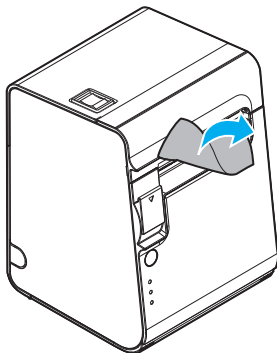
4. Pull out some roll paper, so that the paper is set between the paper guides.



5. Close the roll paper cover.



6. Tear off the roll paper.



 **Note:**

Be sure to use the roll paper that meets the specifications.

Cleaning

Cleaning the Printer Case

When cleaning the printer case, be sure to turn off the printer, and wipe the dirt off the printer case with a dry or damp cloth.

⚠ CAUTION:

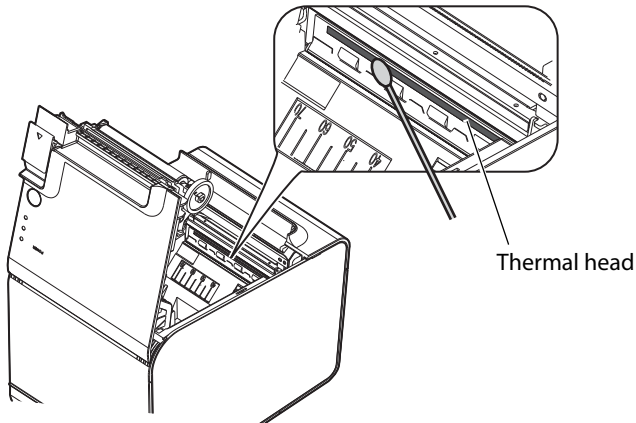
Never clean the product with alcohol, benzine, thinner, or other such solvents. Doing so may damage or break the parts made of plastic and rubber.

Cleaning the Thermal Head

⚠ CAUTION:

After printing, the thermal head can be very hot. Do not touch it and to let it cool before you clean it. Do not damage the thermal head by touching it with your fingers or any hard object.

Turn the printer off and open the printer cover. Clean the thermal elements of the thermal head with a cotton swab moistened with an alcohol solvent (ethanol or IPA).



Epson recommends cleaning the thermal head periodically (generally every 3 months) to maintain receipt print quality.

Troubleshooting

Printout is faint

When printout is faint, adhesive glue or another foreign substance may be present on the thermal head, platen roller, or paper path of the printer.

In such case, first clean the thermal head by following the instructions described in “Cleaning the Thermal Head” on page 17.

If the print quality does not improve, clean the platen roller and paper path of the printer by following the instructions described in “Cleaning the Thermal Head” on page 17.

ERROR LED on or flashing

- Check to see that the roll paper cover is closed and check the PAPER OUT LED. Close the cover or replace the roll paper if necessary.
- If the printer has been printing a lot, the thermal head may be hot. Wait for the head to cool. Printing will resume automatically.
- Open the roll paper cover, and check to see if the paper is jammed. If a paper jam occurs or if the roll paper cover will not open, see the section below.
- Turn the printer off and back on. If the LED is still flashing, notify your manager. The printer may require servicing.

Paper jam

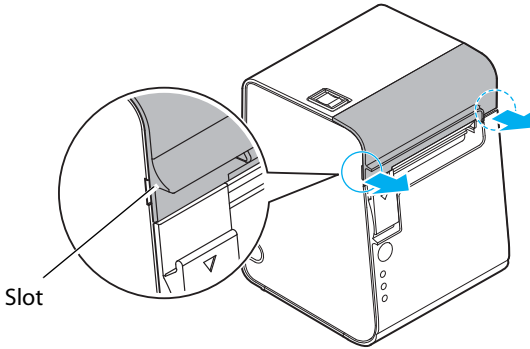
Turn off the power and open the roll paper cover to remove the jammed paper. After that, install the roll paper correctly. If the roll paper cover will not open, see the section below.

If glue or another foreign substance is present on the autocutter blade, platen roller, or the paper path, a paper jam is likely to occur. See “Cleaning the Thermal Head” on page 17 for cleaning instructions.

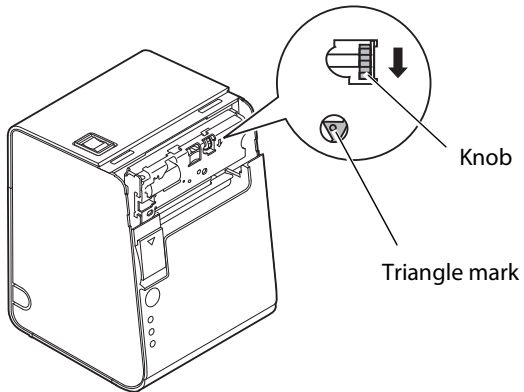
The roll paper cover will not open

Follow the steps below when the roll paper cover will not open.

1. Turn off the printer.
2. Insert a tool such as a screwdriver into the slots on both sides of the printer, and lift the cover in the direction of the arrow in illustration to remove it.



3. Turn the knob in the direction of the arrow in illustration, by using a ballpoint pen or tweezers, until you see a triangle mark in the opening.



TM-L90 Specifications

Print method	Thermal line printing
Dot density	203 dpi × 203 dpi [dots per 25.4 mm {1"}]
Print width	72 mm {2.84"}, 576 dot positions (receipt paper roll with 80 mm width)
Paper dimensions	37.5 ± 0.5 ~ 69.5 ± 0.5 mm, 79.5 ± 0.5 (max roll diameter 90 mm)
Interface (compatible)	Serial (RS-232)/Parallel (IEEE 1284)/USB [Compliance: USB 2.0, Communication speed: Full-speed (12 Mbps)]/Ethernet (10BASE-T/100BASE-TX)/Wireless (IEEE802.11a/b/g/n)
Power supply*	DC + 24 V ± 7%
Current consumption	Approximately 1.8 A
Temperature	Operating: 5 to 45°C {41 to 113°F} Storage: -10 to 50°C {14 to 122°F}, except for paper
Humidity	Operating: 10 to 90% RH Storage: 10 to 90% RH, except for paper
Overall dimensions	148 × 140 × 203 mm {5.83 × 5.51 × 7.99"} (H × W × D)
Weight (mass)	Approximately 1.9 kg {4.19 lb}

dpi: dots per 25.4 mm (dots per inch)

*: Be sure to use a safety-standards-applied power source that meets the following specifications.

Rated output: 24 V/2.0 - 10.0 A, Maximum output: 240 VA or less