

TM-P60 with Peeler

User's Manual

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Standards and Approvals

The following standards are applied only to the printers that are so labeled. (EMC is tested using the Epson power supplies.)

North America: EMI: FCC/ICES-003 Class B
Safety: UL 60950/CSA C22.2 No. 60950

WARNING

The connection of a non-shielded printer interface cable to this printer will invalidate the EMC standards of this device.

You are cautioned that changes or modifications not expressly approved by Seiko Epson Corporation could void your authority to operate the equipment.

FCC Compliance Statement For American Users

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 instruction manual, 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.

For Canadian Users

This Class B digital apparatus complies with Canadian ICES-003.

À l'intention des utilisateurs canadiens

Cet appareil numérique de classe B est conforme à la norme canadienne NMB-003.

FCC

DECLARATION of CONFORMITY

According to 47CFR, Part 2 and 15 for Class B Personal Computers and Peripherals; and/or CPU Boards and Power Supplies used with Class B Personal Computers:

We: EPSON AMERICA, INC.
Located at: MS 3-13
3840 Kilroy Airport Way
Long Beach, CA 90806
Telephone: 562-290-5254

Declare under sole responsibility that the product identified herein, complies with 47CFR Part 2 and 15 of the FCC rules as a Class B digital device. Each product marketed, is identical to the representative unit tested and found to be compliant with the standards. Records maintained continue to reflect the equipment being produced can be expected to be within the variation accepted, due to quantity production and testing on a statistical basis as required by 47CFR §2.909 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.

Trade Name: EPSON
Type of Product: Printer
Model: M196D

Important Safety Information

This section presents important information intended to ensure safe and effective use of this product. 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.

 **DANGER:**
Dangers must be observed carefully to avoid serious injury or death.

 **WARNING:**
Warnings must be observed carefully to avoid serious bodily injury.

 **CAUTION:**
Cautions must be observed to avoid minor injury to yourself or damage to 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, do not continue to use it. Continued use may lead to fire. Unplug the equipment immediately and contact your dealer or a Seiko Epson service center for advice.
Do not use aerosol sprayers containing flammable gas inside or around this product. Doing so may cause fire.

 **CAUTION:**
Do not connect cables in ways other than those mentioned in this manual. Different connections may cause equipment damage and burning.
When connecting a serial cable, do not stress the connector part. Doing so may damage that part.
Be careful not to drop this product. The product may break or cause injury if it is dropped.
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.

Before moving the product, unplug it and unplug all cables connected to it.

Safety Precautions for Rechargeable Battery Pack

DANGER:

If any liquid from the battery gets into your eyes, promptly wash it out with clean water for more than 10 minutes and consult your doctor at once. If you do not, the liquid may cause loss of eyesight.

Never disassemble or modify the battery pack. This may cause fire, explosion, leakage, overheating or damage.

Do not expose the battery to fire or heat it. This may cause fire, explosion, leakage, overheating or damage.

WARNING:

Keep the battery pack away from fire or flame if it produces a strange odor or leakage. Otherwise fire or explosion may occur.

Should any battery liquid get on skin or clothing, promptly wash it off with clean water. If you do not, the liquid may damage your skin.

Do not expose the battery to water. Do not allow water to contact the terminals. This may cause fire, overheating, or electric shock.

Be sure to use and charge the specified battery. Using a battery other than the one specified may cause fire, explosion, leakage, overheating, or other damage.

Safety Label

The safety label on the product indicates the following precaution.

CAUTION:

During printing or after printing, the thermal head can be very hot.

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.

Notes on Use

- ❑ Be sure that the printer is installed horizontally when you install it on a table.
- ❑ Be sure to use the power switch to turn the printer on and off.
- ❑ Do not unplug or plug in the AC adapter during printing.
- ❑ To communicate with a computer via a serial cable, connect the cable before turning on the printer.
- ❑ To use the serial cable, it is recommended to secure it to avoid stress on it.
- ❑ Be sure not to open the roll paper cover when the printer is operating.
- ❑ Protect the printer from impact.
- ❑ Do not apply excessive force to the printer case.
- ❑ Do not place food or beverages such as coffee on the case of the printer.
- ❑ For Bluetooth interface models, if you establish a radio connection between the host computer and the printer each time you start printing instead of maintaining the connection, it may take a while between the time you send a print job and the time that the printer actually starts printing. This happens because connecting the host computer and the printer requires some time. The time required for connection depends on the operating environment.
- ❑ For Bluetooth interface models, when the wireless connection is ended while the printer is offline, reconnection may not be possible. In such case, remove the cause of offline and reconnect it.

Notes on Power Supply

Battery Pack

Before using the printer for the first time, charge the battery LIP-2500. To install and charge the battery, see "Installing and Charging Battery."

Read also the safety precautions for the rechargeable battery described previously in this manual.

WARNING:

Be sure to use the battery LIP-2500. Using a battery other than the one specified may cause fire, explosion, leakage, overheating or other damage.

CAUTION:

Dispose of used batteries according to the instructions.

External Power Supply

This product is intended to be supplied by AC adapter EPSON PS-10 (Model: DA-42Y12) or a Listed Power Unit marked "Class 2" or "LPS," rated 12 V DC, 3.5A.

When you use the AC adapter PS-10, be sure to use a power cable that meets the following conditions.

- ❑ UL and CSA approved
- ❑ Plug: AC125V, 7A or more, NEMA 5-15P
- ❑ Cable: 6 to 10 feet long, 3*AWG 18, SPT-2 or heavier
- ❑ Connector: AC125V, 7A or more

Recycling the Batteries

The lithium-ion battery is recyclable. At the end of its useful life, under various state and local laws, it is illegal to dispose of this battery into your municipal waste stream. Please call 1-800-8-BATTERY for information on how to recycle this battery.



Purpose of This Manual

This manual provides information to operators of the TM-P60 with Peeler printer to describe basic operations to enable safe and correct use of the printer.

Downloading Drivers, Utilities, and Manuals

Drivers, utilities, and manuals can be downloaded from the following URL: <http://www.epsonexpert.com/> and follow the on-screen instructions.

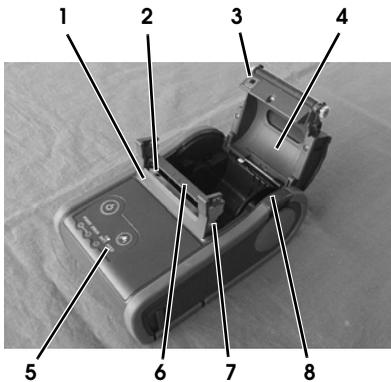
Unpacking

The following items are included for the standard specification printer. If any item is damaged, contact your dealer.

- Printer
- Roll paper
- Battery pack (LIP-2500) and its User's Manual*
- User's Manual (this manual)

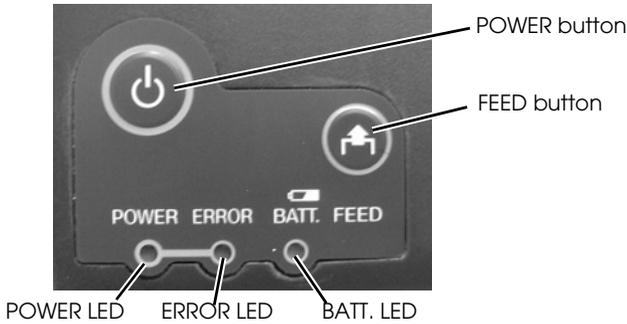
* May not be included depending on the printer model.

Part Names



1. Peeler cover
2. Label peeler detector
3. Paper detector
4. Roll paper cover
5. Control panel
6. Peeler holder
7. Peeler change over lever
8. Open button
9. Connector for AC adapter

Control Panel (LEDs and Buttons)



POWER LED	Meaning
On	Power is on.
Off	Power is off.
Flashing	The printer is power-off. For Bluetooth interface models, the printer is in an area where wireless communication is not possible.

Printer Condition	ERRORLED	Meaning
Power On	On	Printer is offline (paper out, power-on initialization, roll paper cover open, power-off operation, or when the battery is used to supply the power, the remaining battery charge is not enough for printer operation).
	Off	Printer is online.
	Flashing	The temperature of the printer is too high. The printer resumes printing automatically when the temperature returns to normal.
Power Off, battery installed, and AC adapter connected	On	Indicates that an abnormality occurred during battery charging. The battery must be replaced with a new one.
	Off	Battery is being charged. (BATT. (battery) LED is on.)

Printer Condition	BATT. LED	Meaning
Power On, battery installed, and AC adapter disconnected	On	Remaining battery charge is not enough. It must be fully charged.
	Off	Remaining battery charge is adequate.
	Flashing	Remaining battery charge is below half.
Power On, battery installed, and AC adapter connected	On	The battery is being charged.
	Off	Standby: The battery is fully charged. Operating: The battery is not being charged.
Power Off and battery installed	On	The battery is being charged.
	Off	The battery is fully charged or the AC adapter is disconnected.

Buttons

POWER

Press the button to turn the power on or off. To turn off the power, you need to hold the button for more than 2 seconds.

FEED

Press the button to feed paper.

Connecting to the Host Computer/Setting up the Printer

For connecting the TM-P60 with Peeler to the host computer using Bluetooth® technology and for setting up the printer, go to <http://pos.epson.com/> to see the TM-P60 with Peeler Bluetooth® Interface Model Technical Reference Guide.

Installing and Charging Battery

Follow the steps below to install and charge the battery.

Note:

The battery can be charged only when the temperature is 0 ~ 40°C (32 ~ 104°F).

1. Make sure that the printer is turned off.
2. Slide the battery cover to open it.
3. Install the battery, and close the battery cover.



Battery cover

Battery

4. Connect the AC adapter to the printer.

Recharging will be started.

Recharging will take approximately 5 hours with the AC adapter, or if you use the fast recharger (option), recharging will take approximately 2.5 hours. For detailed information for the fast recharger (option), see its instructions. The times described above are the times taken to charge a battery pack that is fully discharged.



Connector for the AC adapter

Switching Issuing Mode

The issuing mode can be switched between the label continuous issuing mode and the label peeler issuing mode by folding the peeler holder under the peeler cover.

Installing or Replacing Roll Paper

CAUTION:

Be sure to use roll paper that meets the specifications.

Note:

Do not use paper rolls that have the paper glued to the core.

1. Press the open button to open the roll paper cover and the peeler cover.

See illustration **A** on page 11.

2. Remove the used roll paper core if there is one.

(When using the label continuous issuing mode)

3. Fold the peeler holder under the peeler cover. This covers the label peeler detector. See illustration **B**.

(When using the label peeler issuing mode)

3. Peel off the first label, and press the peeler change over lever to lift the peeler holder.

(When installing the label paper horizontally)

4. Set the new roll paper on the inside of the roll paper cover.

Note:

Note the direction the paper comes off the roll. See illustration **C**.

(When installing the label paper vertically)

4. Set the new roll paper in the inside of the roll paper cover. See ① in illustration **D**.

Note:

Be sure that the roll paper side is on the bottom when you install the printer vertically.

5. Pull the leading edge of the roll paper. See ② in illustration **D**.

6. Align the left edge of the roll paper with the edge of the cover. See ③ in illustration **D**.

Note:

Note the direction the paper comes off the roll.

7. Pull the leading edge of the roll paper. See illustration **C**.

8. Close the roll paper cover.

9. Close the peeler cover.

Note:

Removing the issued label enables the label peeler detector to detect a paper end and the printer to issue the next label.

If the first label is not removed when using the label peeler issuing mode, the thickness of the label and the backing paper overloads the peeler holder, possibly stopping the paper feed motor.

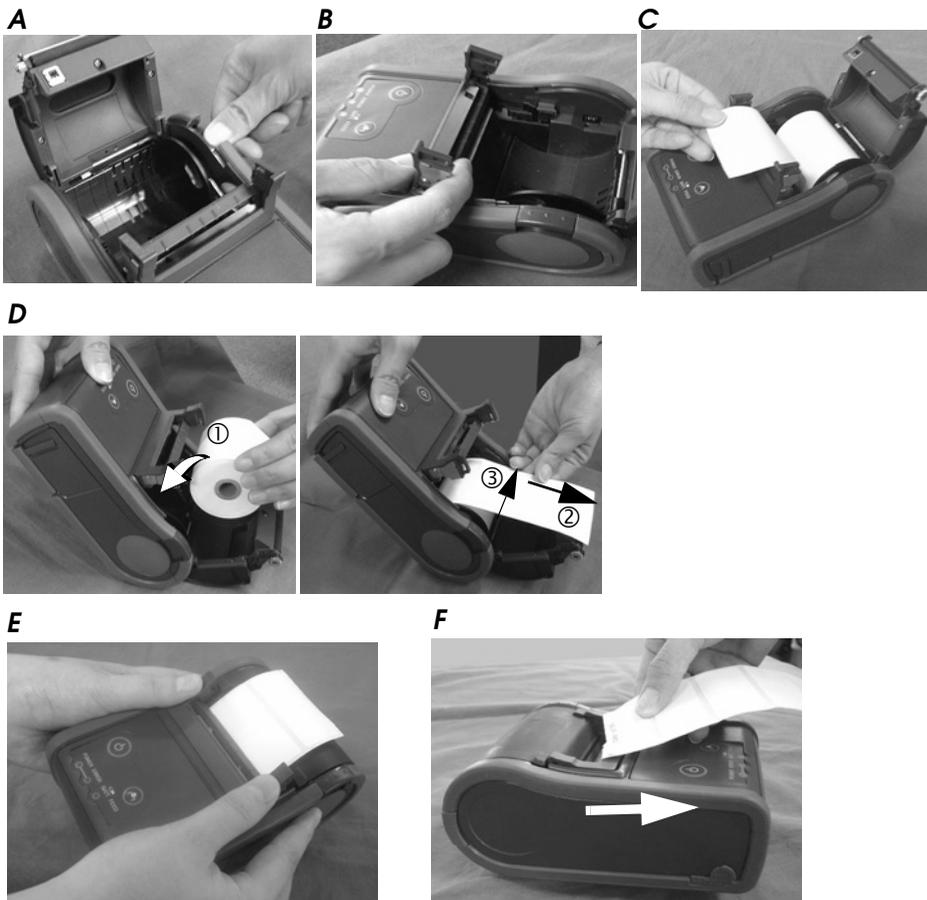
When closing the peeler cover, make sure to close it firmly, pressing both ends.

See illustration **E**.

When tearing the backing paper, pull it in the direction of the arrow shown in the illustration **F** as you tear it. Otherwise, the backing paper may move to one side, causing a paper jam.

When the label is completely fed to the peeling position, the printer goes in the label removal waiting state, so remove the label.

When the label peeler detector detects the paper at the power on, the printer goes in the label removal waiting state and the **ERROR LED** comes on. Be sure to remove the label before powering off the printer. Otherwise, the printer goes into the label removal waiting state when it is powered on again.



Belt Clip

You can hang the printer on your belt using the belt clip attached to the back of the printer. If you want to hang the printer on your neck, you can use the neck strap provided as an option.

Buzzer

The factory default is set to On (buzzer sounds) to indicate the following:

- Remaining battery charge is not adequate
- Roll paper end
- Error
- Host disconnection (only for Bluetooth interface models)
- Transmission of status information (only for Bluetooth interface models)



Troubleshooting

No lights on the control panel

- ❑ Check that the battery is installed.

ERROR LED is flashing or on

- ❑ The printer temperature may be too high. The printer resumes printing automatically when the temperature returns to normal.
- ❑ Make sure that the roll paper cover is properly closed.
- ❑ Make sure that roll paper is installed.
- ❑ When the printer power is on, if the ERROR LED and the BATT. LED are on, the remaining battery charge is not enough for printer operation. The battery must be fully charged.
- ❑ When the battery is being charged, if the ERROR LED is on, an abnormality has occurred. The battery must be replaced with a new one.
- ❑ Turn off the power, wait several seconds, and then turn it on again. If the error remains, contact a qualified service person.
- ❑ In the label peeler issuing mode, the ERROR LED may flash when a label blocks the label peeler detector. In this case, remove the label. If you cannot remove the label, reload the label roll paper or press the FEED button for more than 1 second to execute a forced paper feed.

Cleaning the Thermal Head

CAUTION:

After printing, the thermal head can be very hot. Be careful not to 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 off the printer, open the peeler cover and the roll paper cover, and clean the thermal elements of the thermal head with a cotton swab moistened with an alcohol solvent (ethanol or IPA). See the illustration below.

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

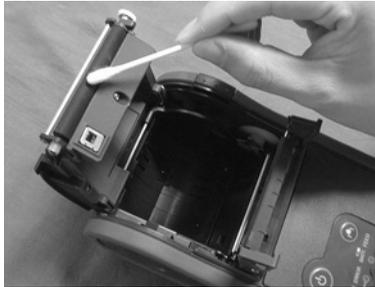


Thermal head

Cleaning the Platen Roller/Roll Paper End Sensor

When paper dust accumulates on the platen rollers or the roll paper end sensor, follow the steps below to clean them. To maintain good functional capabilities, clean them regularly (every 6 months).

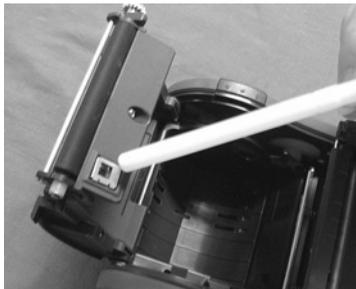
1. Turn off the printer, open the peeler cover, and then the roll paper cover.
2. Clean the platen roller with a cotton swab lightly moistened with water or alcohol.



3. Blow the paper dust accumulated around the roll paper end sensor with a blower or a straw.

⚠ CAUTION:

Do not wipe the roll paper end sensor with water or alcohol. Its functional capabilities may be affected.



4. Close the roll paper cover after the water or alcohol has dried.

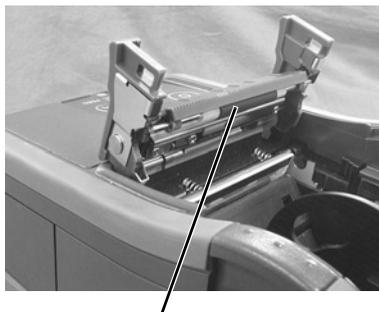
Cleaning the Peeler Unit

After the peeler is used for a prolonged period of time, the glue from the labels accumulates on the rollers of the peeler unit. If you leave the rollers in such a condition, the glue may stick to issued labels, or a paper jam may occur. To prevent malfunctions and maintain good print quality, clean the rollers regularly (every 20,000 labels).

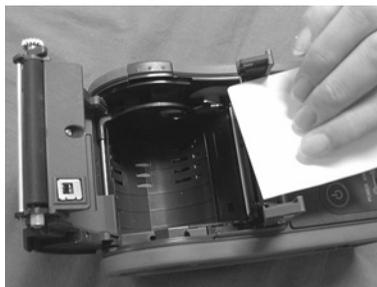
You can clean them easily if you use a wasted label, as shown in the lower right illustration.

Note:

Do not use any alcohol based solvents for cleaning. Such solvents may enter the roller shaft and cause a malfunction of the peeler.



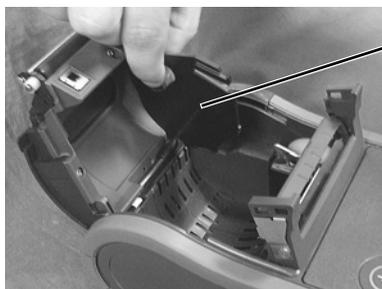
Roller



Using Different Paper Widths

6 paper widths from 29.5 mm to 57.5 mm are available by using the roll paper guide. If you remove the roll paper guide, you can also select 59.5 mm.

1. Press the button and open the peeler holder and the roll paper cover.
2. Remove the roll paper if there is one.
3. Insert your finger into the hole of the roll paper guide and lift it upward. Undo the top part that is fixed in one of the slots.



Roll paper guide

4. Move the roll paper guide to the position matching the width of the paper you are using.
5. Insert the top of the roll paper guide and press it down until it clicks.
6. Insert the roll paper. See "Installing Roll Paper" for detailed information.

Note:

Do not increase the paper width after you have used a narrower width because if the printer has ever been used with narrow paper, part of the head contacts the platen. Therefore, when a wider setting is used, part of the head may be worn out, which can cause poor printing.

Specifications

Print method		Thermal line printing
Print density		203 dpi × 203 dpi (dpi: dots per 25.4 mm (dots per inch))
Printing width (default)		48.5 mm {1.91"}, 388 dot positions (label width 54 mm {2.13"}, backing paper width 58 mm {2.28"})
Print font	Font	Font A: 12 × 24, Font B (default): 10 × 24, Font C: 8 × 16
	Characters per line	Font A: 35, Font B: 42, Font C: 52
	Character size (W×H)	Font A: 1.50 × 3.0, Font B: 1.25 × 3.0, Font C: 1.0 × 2.0
	Character set	95 Alphanumeric, 48 International, 128 × 10 Graphic
Paper	Roll paper dimensions (default)	29.5 ± 0.5 mm ~ 57.5 ± 0.5 mm {1.16 ± 0.02"} ~ {2.26 ± 0.02"} (59.5 ± 0.5 mm {2.34 ± 0.02"} by removing the spacer installed)
	Paper roll spool diameter	outside 31.4 mm {1.24"} or more
	Receipt paper	Original: Kanzaki Specialty Paper (USA): P350 (paper thickness: 62 µm), P310 (paper thickness: 58 µm) P300 (paper thickness: 56 µm)
	Label roll paper	ETLA058050025, ETLA055050051, ETLA029050025
Print speed		Maximum 80 mm/s {3.15 in/s} (maximum 40 mm/s {1.57 in/s} when using the peeler), when number of dots per dot line is 64 dots or less (printing with a fully charged battery, at 25°C {77°F}, print density 100%)
Interface		Serial (RS-232)/Bluetooth®
Receive buffer		128 bytes
Power consumption	Specified battery*1	Lithium-ion battery: Product name: LIP-2500 Trade name: Seiko Epson Corporation Output: DC 7.4 V, Capacity: 2200 mAh
	AC adapter: EPSON PS-10 (Model DA-42Y12)	Output voltage: DC 12 V Input voltage: AC 100 V ~ 240 V Product name: PS-10, Trade name: Seiko Epson Corporation
	LPS power supply	Output voltage: DC 12V Output current: 0.06A ~ 3.5A Note: Should be a listed Class 2 power unit or LPS power supply.
Life	Label	500,000 labels
	Receipt	10,000,000 lines printing
	Print head	100,000,000 dots
Temperature /humidity	Operation	5 ~ 45°C {41 ~ 113°F}, 10 ~ 90% RH
	Storage	Abnormal operations not found when the printer is left under the environment of 25°C {77°F}, 60% RH for 2 hours after it was left in the following conditions: High temperature and humidity: 50°C {122°F}, 90% RH for 120 hours High temperature: 70°C {158°F} for 120 hours Low temperature: -25°C {-13°F} for 120 hours
Overall dimensions (mm)		103 × 159 × 65 {4.1 × 6.3 × 2.6"} (W × D × H)
Mass (with the battery, without roll paper)		Approx. 640 g {1.41 lb}

*1: For the battery specifications, see its instructions.

