

CL4-SXR/CL6-SXR

User Manual



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1st Edition

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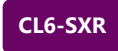
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About This Manual

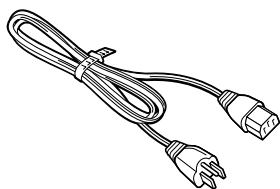
- Any unauthorized reproduction of the contents of this document, in part or whole, is strictly prohibited.
- The content of this manual is subject to change without notice.
- Great care has been taken in the preparation of this document, but if any problems, mistakes, or omission are found, please contact your SATO reseller or technical support.
- The illustrations and screenshots in this manual are for the CL4-SXR, unless otherwise noted.
- About symbols used in this manual
 -  (Warning): Ignoring this symbol and handling the product incorrectly could result in death or serious injury
 -  (Caution): Ignoring this symbol and handling the product incorrectly could result just in personal injury or property damage
 -  (Important): Important information that must be observed to prevent malfunctions, damage, or incorrect operation of the product
 -  (Note): Supplemental information that is useful to know
 -  : Content relevant to the CL4-SXR
 -  : Content relevant to the CL6-SXR
 -  : For use in Japan
 -  : For international use
- The following environments are recommended when you read this manual.
 - The latest version of Microsoft Edge (Windows)
 - The latest version of Google Chrome (Windows/Mac)
- Some features or displays may not function properly when using Safari (Mac, iPhone, iPad), smartphones, or tablets.
- Make sure to update your browser to the latest version.
- Note that even in the above recommended environments, some features may not work properly depending on your browser settings.

Before Installation

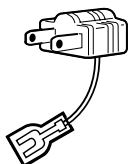
Confirming the Accessories

After unpacking the product, make sure that you have all the bundled accessories. If there are any missing items, contact the SATO reseller where you purchased the product.

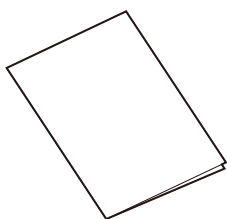
- Power cord



- 3 pin/2 pin converter plug 



- Manuals



- Printer cleaning wipes 



- Do not splash water on the power cord or get it wet. Doing so could result in damage or electric shock.



- The provided power cord and 3 pin/2 pin converter plug can only be used with the product. You cannot use them for other electrical equipment.



- Keep the packaging box and cushioning material after installing the product. You can pack the product into the packaging box to ship it to have repairs done.
- The shape of the power plug depends on the region where the product was purchased.
- Check the labels included with the product for the user name and initial password used for authentication during the first startup.

Precautions for Installation

Note the following precautions during installation.

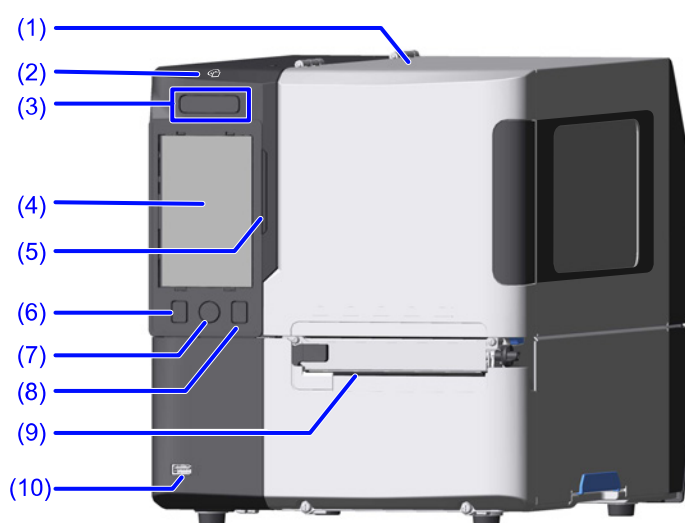
- Install in a level and stable location
- Allow for sufficient space for operations
(Make sure that there is sufficient space so that the top cover can be fully opened when operating, replacing consumables, or doing maintenance)
- Do not let any stress be applied to the power cord or cables connected to the back of the product
- Supply a stable source of electricity
(Do not share its power outlet with other electrical devices. This could cause power fluctuations and performance issues with your product.)



- Do not place the product near heating equipment such as cooking appliances or a heater, or in high-temperature locations. Doing so could damage the product or result in a fire or electric shock.
- Do not use the product near a container holding liquid. If the product is dropped into water, immediately power it off, and contact your SATO reseller or technical support. Using the product in this condition could result in a fire or electric shock.

Parts Identification

Front View



(1) Top cover

Open this cover when replacing consumables or cleaning the product.

(2) NFC antenna location

When communicating with an NFC-enabled mobile device, hold the mobile device here.

(3) Power button

To power on the product, press the  button until the LED indicator lights blue.

To power off the product, press the  button for more than 2 seconds, and then tap [Power off]. The LED indicator lights red, then turns off and the power is turned off.

(4) Touch Panel

Shows the status of the product, error messages, menu items, and more. The display is operated by touching it with your finger.



- Do not operate the display with pointed or sharpened objects such as mechanical pencils or ballpoint pens. Doing so could damage the display or result in electric shock.

(5) LED Indicator

Indicates the current status of the product.

(6) Online/Offline button

Switches between Online mode and Offline mode.

(7) Home button

Move to the Home Screen.

For more information on the Home Screen, see [Displays and Operations in the Home Screen](#).

(8) Feed button

Feeds the media.

(9) Media discharge outlet

Discharges the printed media.

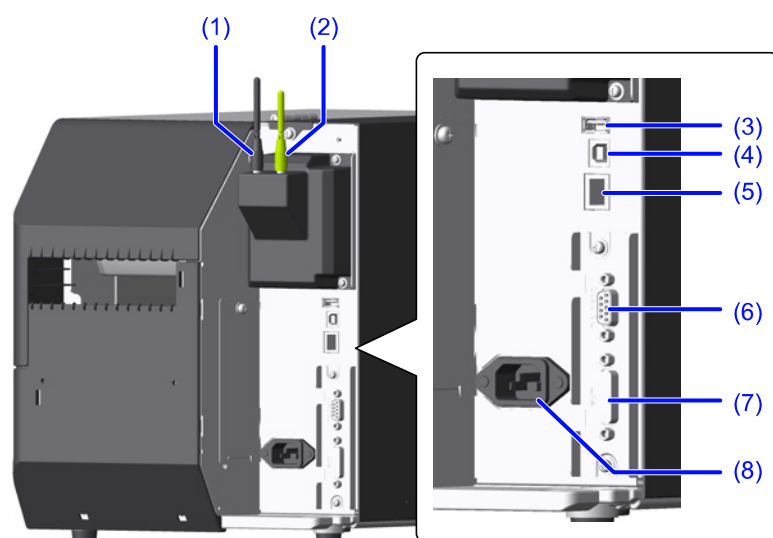
(10) USB connector (Type A)

Connect USB devices, like a USB memory, scanner, or keyboard.



- Use a USB memory whose volume label contains only single-byte alphanumeric characters. Volume labels with double-byte characters are not supported.
- Connection via a USB hub is not supported.
- Format the USB memory in FAT32 before use.

Rear View



(1) SIM communication unit (option)

This unit is needed to use SIM communications (cellular) for the SOS (SATO Online Services) function. Use the black antenna.

(2) Wireless LAN/Bluetooth unit (option)

This unit is needed to use wireless LAN and Bluetooth. Use the green antenna.

(3) USB connector (Type A)

Connect USB devices, like a USB memory, scanner, or keyboard.

(4) USB connector (Type B)

Connect USB cables. To connect the product to the computer using the USB interface.

(5) LAN connector

Connect LAN cables.

(6) RS-232C connector (option, standard equipment)

Connect RS-232C cables. To connect the product to the computer using the RS-232C serial interface.

Also, a scanner can be connected.



- Printing using the USB serial conversion cable is not guaranteed, so be sure to use the recommended RS-232C cable.
- To connect and use a scanner, you must change the setting to [RS-232C] in [Printing] > [Advanced] > [Barcode Checker] > [Interface].

(7) EXT connector (option, standard equipment)

Connect a cable for external signals. Used to connect an external device to the product.

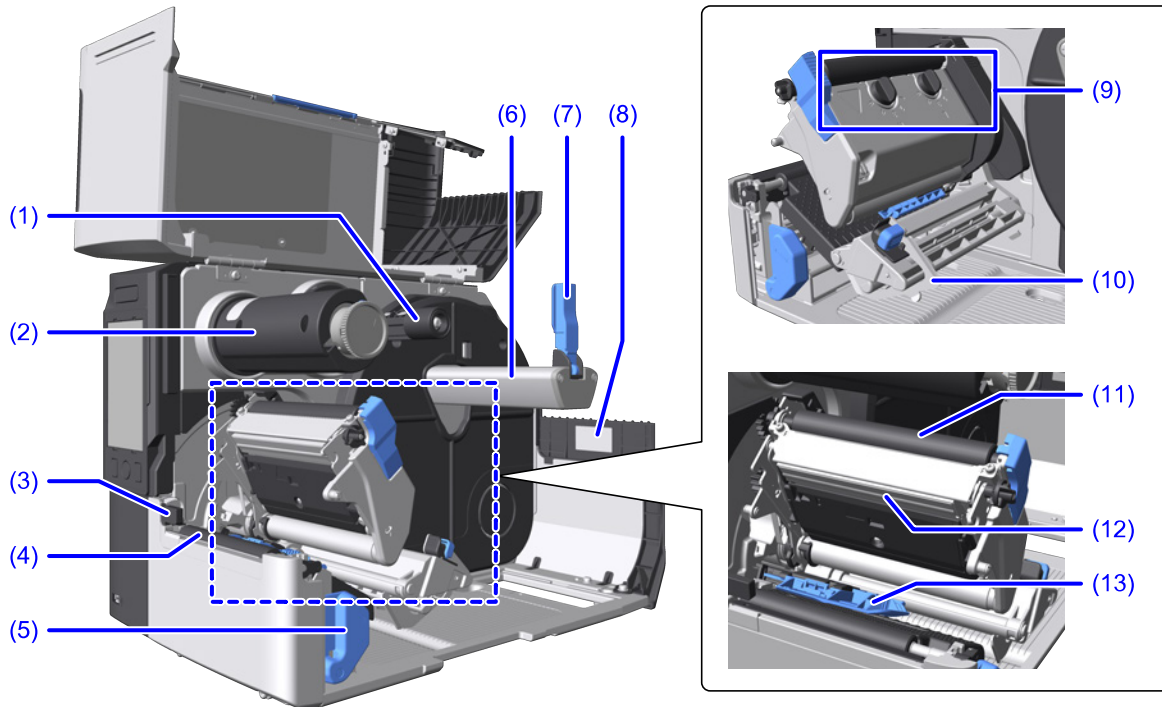
(8) AC input terminal

Connect the power cord.



- When connecting the power cord, be sure to connect the ground wire to the ground terminal. Electric shock could occur if you do not.

Internal View



(1) Ribbon supply spindle

Load the ribbon here.

(2) Ribbon rewind spindle

This is the part that winds up the used ribbon.

(3) Label top sensor

When the Label Waste Prevention function is enabled, this sensor detects the leading edge of the media and aligns the media to the print start position.

(4) Platen roller (consumable part)

This part presses the media and print head together and feeds the media.

(5) Head lock lever

Press this lever backward to open the head assembly to replace media, etc.

(6) Media roll holder

Load the media roll here.

(7) Media roll holder guide

Adjust to the width of the media being used.

(8) Sticker

Shows information about the product, such as model name and serial number.

The 8-digit alphanumeric number to the right of "S/N" is the serial number.

(9) Head Pressure Adjustment Dial(s)

Adjust the pressure balance of the print head according to the thickness and width of the media you are using.

For more information, refer to [Adjusting the Head Pressure Balance](#).

(10) Media Guide

Align the position of the media guide to the width of the media you are using.

(11) Ribbon Roller

This is the part that feeds the ribbon.

(12) Print head (consumable part)

This is the part that prints directly on the media or uses a ribbon.

(13) Media sensor guide

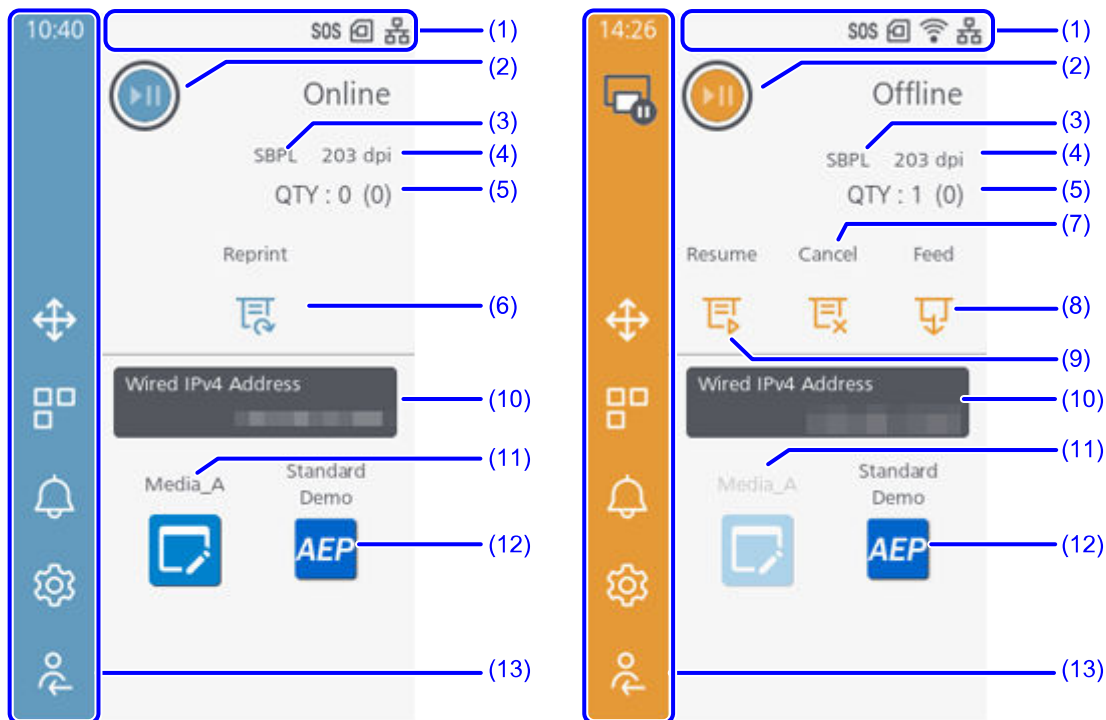
Use to adjust the position of the media sensor.

For more information, see [Adjusting the Position of the Media Sensor](#).

Displays and Operations in the Home Screen

While the product is powered on, you can switch to the Home screen by pressing the  button.

The Home screen displays different screens depending on whether the product is in Online mode or Offline mode.



(1) Status bar

Icons that indicate the product's status is displayed. For more information, see [Checking the Product's Status \(Status Icon\)](#).

(2) Switch between Online mode and Offline mode

Tap the icon on the screen or press the  button to switch between Online mode and Offline mode.

(3) Current printer language

Regarding available printer languages, see [Switching Commands Automatically](#).

(4) Resolution of the product

(5) Number of pages in the print job being processed

When [System] > [Show Total Count] in the settings menu is enabled, the total number of pages printed since the power was turned on is shown in parentheses.

(6) Reprint

The previous data can be printed again.

Appears if the [Printing] > [Advanced] > [Reprint] in the settings menu is enabled.

(7) Cancel

Cancel the print job. Disabled when there are no print jobs.

(8) Feed

Feeds the media.

(9) Resume

Resumes printing. Displayed when the print stop request command DLE is received and printing has stopped.

(10) Widget

The widget created in [System] > [Home Screen] in the Settings menu will be displayed.

For more information, see [Displaying Widgets](#).

(11) Media Profile

The media profile (a combination of media type and media settings) created in [Printing] > [Media Profiles] in the settings menu will be displayed. Tap it to apply the media profile settings to the product.

For more information, see [Setting Media Profiles](#).

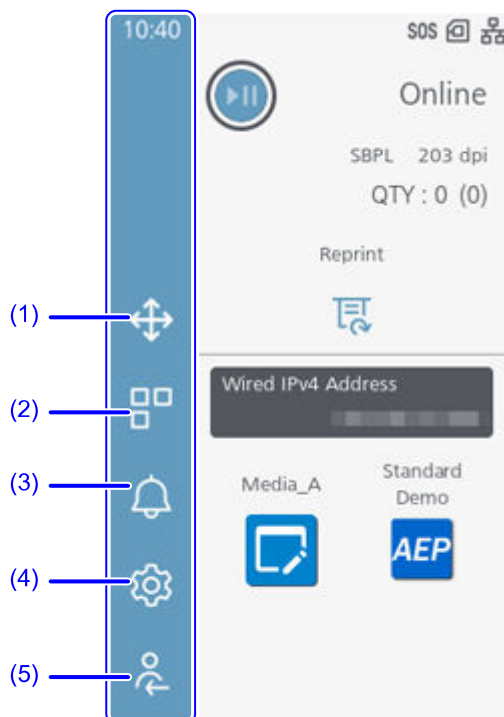
(12) Application

Applications for AEP will be displayed.

Appears if the [Applications] > [AEP] in the settings menu is enabled.

(13) Menu Bar

Menu Bar



(1) [Move/Delete Items](#)

Move or delete applications, widgets, and media profiles on the Home screen.

(2) [Application Control](#)

Switch between running applications.

(3) [Notification](#)

Notification of when it is time to clean or replace consumable parts and notifications about the condition of the product will be displayed.

(4) [Settings Menu](#)

Display the settings menu.

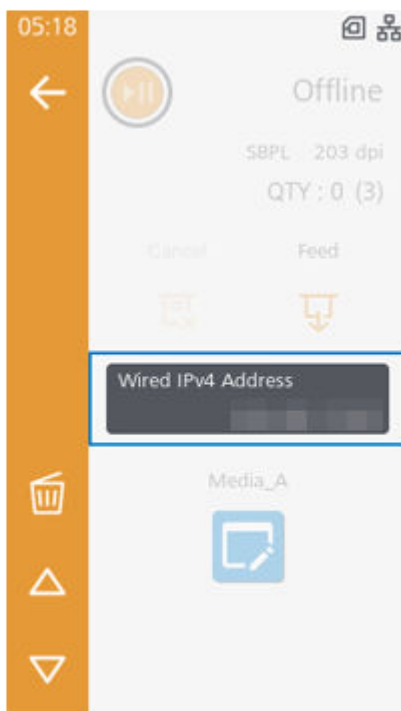
(5) [Login](#)

Log in to the product as an administrator.



- Buttons on the menu bar can be operated from either the Online screen or Offline screen.

(1) Move/Delete Items



Tap the item on the Home screen that you want to move or delete to select it.

Tapping  or  moves items up or down. Tap  to save the changes.

Tapping  deletes items.



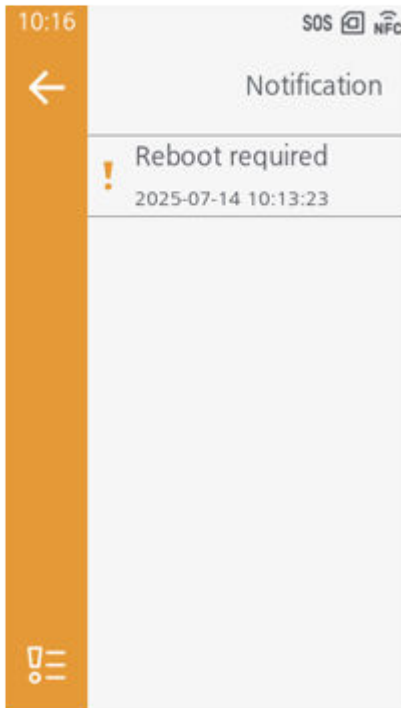
- If passwords are enabled, you must log in to the product as an administrator to move or delete items on the home screen. For more information, see [\(5\) Login](#).

(2) Application Control

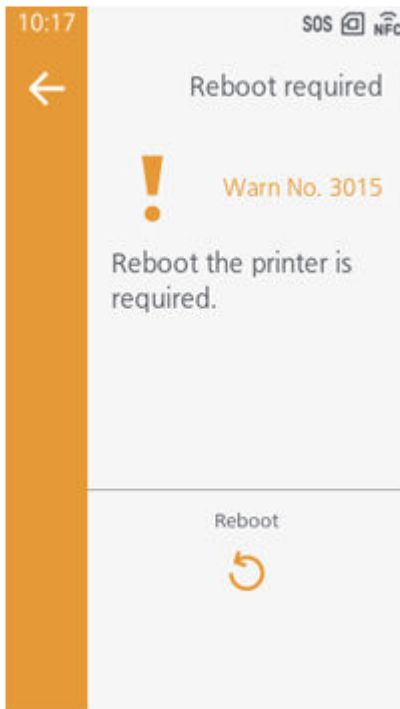
A list of the running applications is displayed.

You can switch applications or close them.

(3) Notification



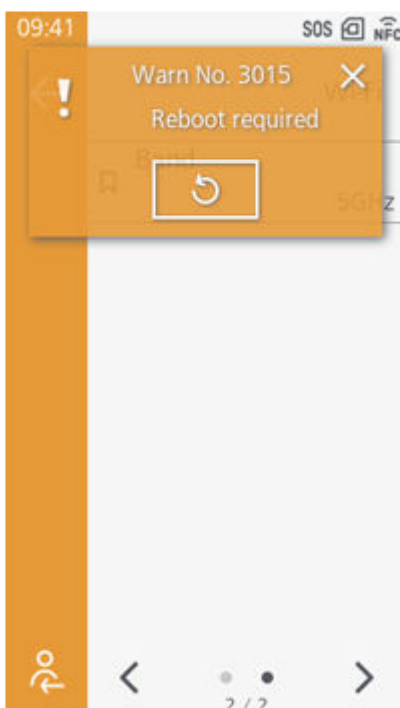
Tap any notification to display detailed information.



The operation buttons appear according to the content of the notification.

You can display settings, restart the product, play help videos, display QR codes, execute cuts, cancel printing, clear counts, and more.

If a new notification occurs while operating the product, a notification banner will be displayed at the top of the screen.



Tapping the notification banner allows you to confirm the details of the notification.

(4) Settings Menu

For more information, see the descriptions for each Settings menu.



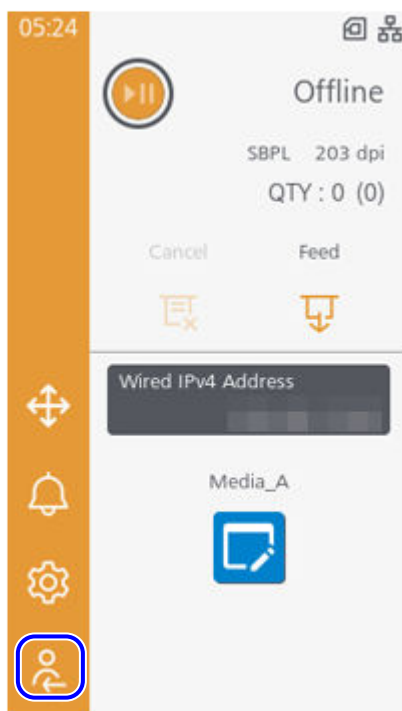
- If passwords are enabled, you must log in to the product as an administrator to enter the settings screen. For more information, see [\(5\) Login](#).

(5) Login

Log in to do operations that require administrator privileges, such as setting passwords.

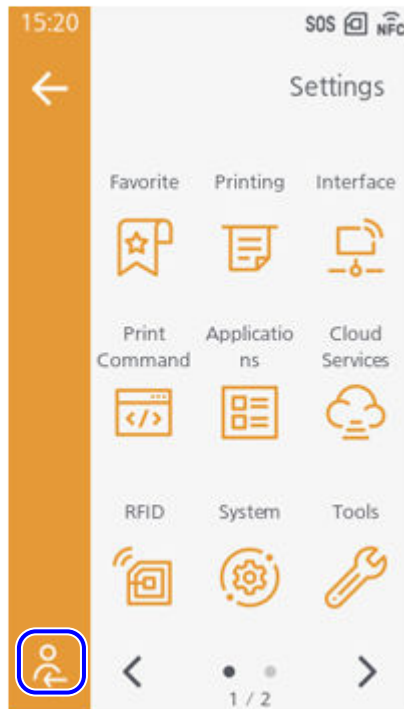
The login procedure is as follows:

1. Tap on the Online or Offline screen.

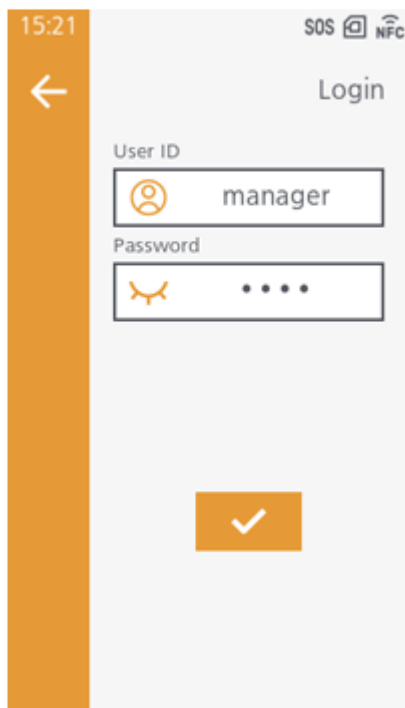




- You can also log in from the settings screen.

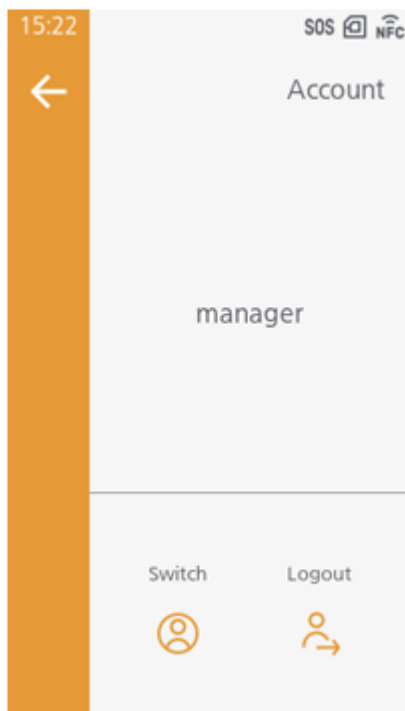


2. Enter the [User ID] ("manager") and password, then tap .



- The initial password is assigned uniquely for each product. Check the labels included with the product.

3. After logging in, tap  and confirm that "manager" is displayed on the account screen.



4. Tap  in the upper left of the screen to return to the previous screen.

Online Mode and Offline Mode

Online Mode (LED indicator: lights up in blue)

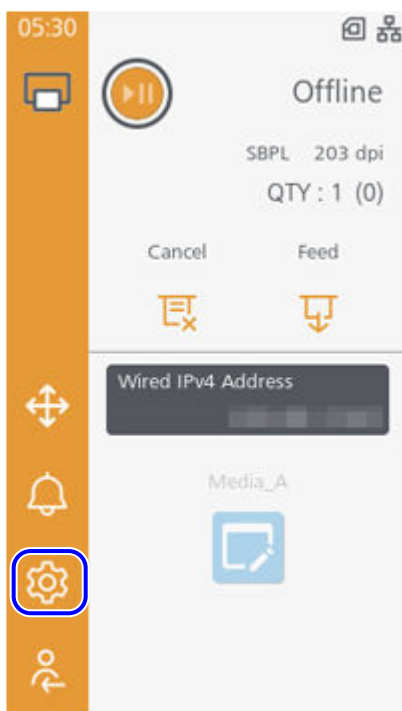
Printing can be executed in this mode.

Offline Mode (LED indicator: lights off)

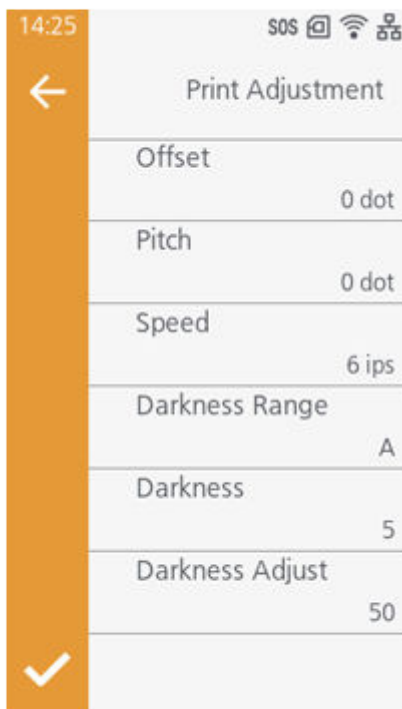
Printing is stopped in this mode.

- To adjust the print settings during printing

Press the  button during printing and tap  when printing has stopped.



Select an item and adjust the setting.

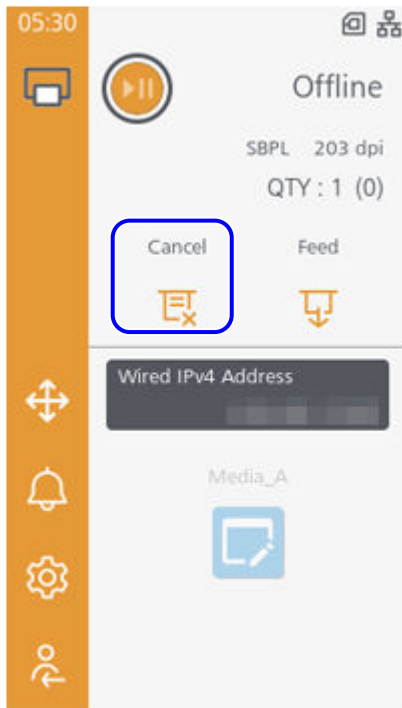


- The [Print Adjustment] screen appears when print data is available.

To resume printing, press the  button again.

- To cancel during printing

Press the  button while printing, and then tap [Cancel] when printing has stopped.



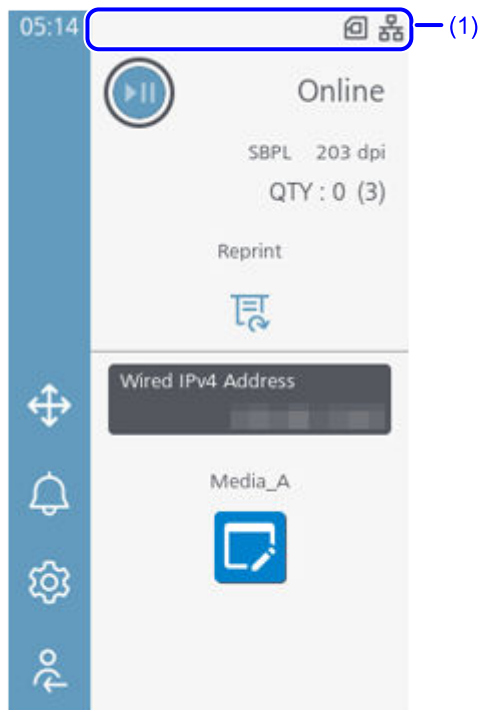
Select [Current Data] or [All].



- If printing multiple sheets in succession, printing stops when the job currently being printed is completed.

Checking the Product's Status (Status Icon)

This topic explains the icons that appear on the status bar of the display to show the product's status.



(1) Status bar

Communication Interface Status

Icon	Description
	Connected via wired LAN.
	Wired LAN or wireless LAN is connected, but no IP address has been assigned.
	Connected via wireless LAN. Signal Level: 4
	Connected via wireless LAN. Signal Level: 3
	Connected via wireless LAN. Signal Level: 2

Icon	Description
	Connected via wireless LAN. Signal Level: 1
	An error has occurred at the wireless LAN module.
	Connected as a group owner via Wi-Fi Direct.
	Connected as a client via Wi-Fi Direct.
	A device is connected to the product via Bluetooth.
	An error has occurred at the Bluetooth module.
	Product is connected to USB host.
	NFC is enabled.
	Waiting for external I/O signal.
	 The product is connected to a mobile network. Signal Level: 4
	 The product is connected to a mobile network. Signal Level: 3
	 The product is connected to a mobile network. Signal Level: 2

Icon	Description
	 The product is connected to a mobile network. Signal Level: 1

Status of Cloud Services

Icon	Description
	The On-Demand mode of the SOS (SATO Online Services) is enabled.
	The periodic notification in the On-Demand mode of SOS as set previously has arrived. Scan the QR code and send the information to the SOS cloud.
	The Real Time mode of the SOS is enabled. The product is connected to the SOS cloud.
	The Light mode of the SOS is enabled. The product is connected to the SOS cloud.
	The Real Time mode or the Light mode of the SOS connection is in progress.
	The Real Time mode or the Light mode of the SOS is selected, but not connected to the SOS cloud.
	An SOS provisioning error has occurred.
	The Real Time mode or the Light mode of the SOS is enabled, but connection to the SOS Cloud has been disconnected. If  or  status icons are not displayed, the product is not connected to the network.

Icon	Description
	If  or  status icons are displayed, there is a problem with the internet connection to the SOS Cloud.
SOTI	SOTI Connect is enabled and connected to the server.
SOTI	SOTI Connect is enabled, but not connected to the server and the product is not registered.
SOTI 	SOTI Connect is enabled and connected to the server, but the product is not registered or the registration is invalid.
SOTI 	SOTI Connect is enabled and connected to the server, and the product was successfully registered.
SOTI!	SOTI Connect is enabled but failed to connect to the server or was disconnected. (the product registration is invalid)
SOTI!	SOTI Connect is enabled and connected to the server, but registration of the product failed.
SOTI 	SOTI Connect is enabled but failed to connect to the server or was disconnected, and registration of the product failed.

RFID Status (RFID Models Only)

Icon	Description
	RFID is enabled.
	RFID is enabled, but the system is defective.

USB Memory Status

Icon	Description
	USB memory is connected.

Print Job Status

Icon	Description
	Waiting for media removal. Remove the media.
	Receive buffer is nearly full. Wait until the product starts printing the previously sent data, and then send the next data.
	HEX dump is enabled.

Status Related to Commands

Icon	Description
	Standard code is disabled.
	Command error detected. Check the print data.

Status Related to Maintenance and Replacement of Consumables

Icon	Description
	Defective print head is detected. Replace the print head.
	Print head cannot be recognized normally. Replace the print head.
	The remaining amount of ribbon is running low. Prepare a new ribbon.  To display this icon, enable [Advanced] > [Ribbon Near End] in the [Printing] menu.
	The remaining amount of media is running low. Prepare new media.  To display this icon, enable [Advanced] > [Label Near End] in the [Printing] menu.

If you enable [Notifications] in the [System] menu, the following icons notify you when it is time to clean or replace consumable parts for each period of time set.

Icon	Description
	Clean the print head or platen roller.
	Replace the print head.
	Replace the platen roller.
	Replace the cutter unit.

Icon	Description
	Clean the cutter unit.

Other Statuses

Icon	Description
	Not connected to the NTP time server.
	Currently accessing via remote desktop.
	Scanner is connected.
	There is a file being downloaded.

Preparing to Print

Loading Media

This topic explains how to load and replace media according to the options and media being used.

You can also check the procedure in the video.

- [Media roll loading \(standard\)](#)
- [Media roll loading \(standard\) \(Label Waste Prevention enabled\)](#)
- [Media roll loading \(cutter\)](#)
- [Media roll loading \(cutter\) \(Label Waste Prevention enabled\)](#)

- [Media roll loading \(rotary cutter\)](#)
- [Media roll loading \(linerless cutter\)](#)
- [Fan-fold media loading \(standard\)](#)
- [Fan-fold media loading \(standard\) \(Label Waste Prevention enabled\)](#)
- [Fan-fold media loading \(cutter\)](#)
- [Fan-fold media loading \(cutter\) \(Label Waste Prevention enabled\)](#)
- [Fan-fold media loading \(rotary cutter\)](#)



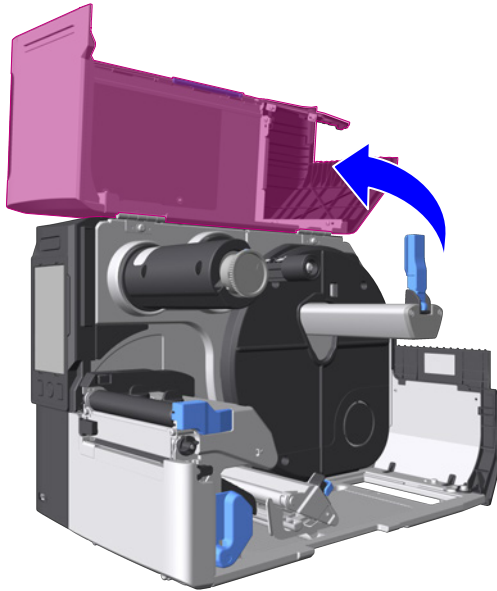
- Regarding available media, see [Media](#).
- When using the cutter, depending on the type or size of the media and the operating environment, static electricity may cause the media to stick to the cutter unit and prevent it from falling.
- When using media that is 100 mm (3.93") or longer with the cutter, depending on the media type and roll direction, the leading edge of the media may get caught between the bottom of the product and the surface on which it is installed, preventing the cut media from falling out.
- To print without using a ribbon, use thermal media.

To use a dispenser unit, refer to the procedure in [Loading Media \(When Using Dispenser\)](#).

1. Open the top cover.



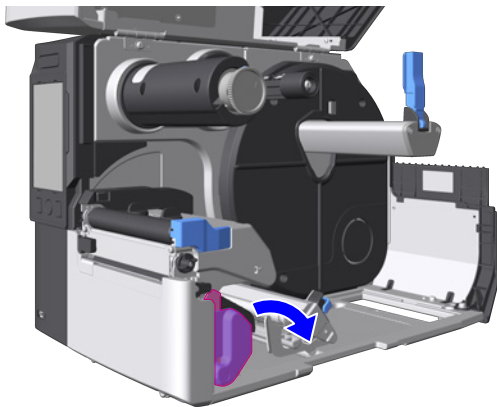
- Open the top cover fully to prevent it from accidentally falling over.



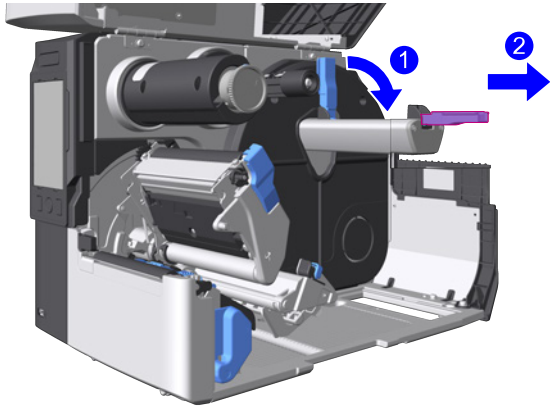
2. Press the head lock lever backward.



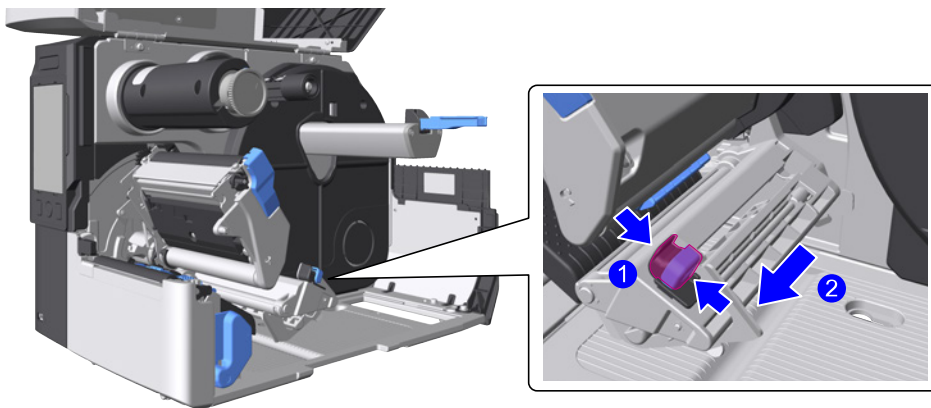
- The print head and its surroundings are hot after printing. Be careful not to touch it, to avoid being burned.
- Touching the edge of the print head with your bare hand could cause injury.



3. Flip down the media roll holder guide and slide it to the tip of the media roll holder.



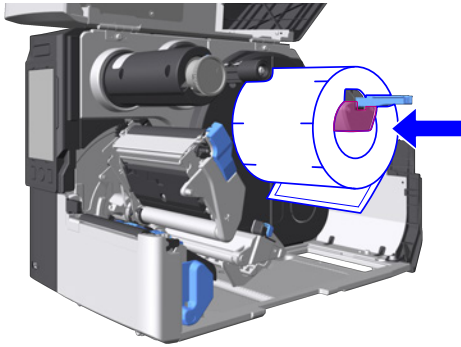
4. Open the media guide.



5. Load the media with the print side up.

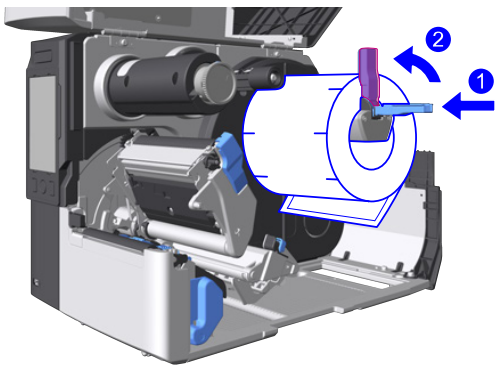
Roll

- (1) Load it all the onto the media roll holder.



The figure shows a face-in media roll

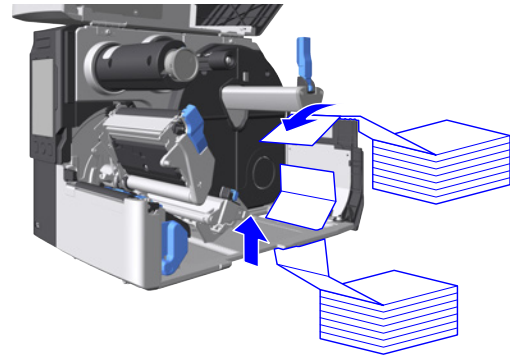
- (2) Adjust the media roll holder guide to the width of the media and raise it up.



Fanfold

Load it from the rear or bottom of the product.

Place the fan-fold media on a flat surface.





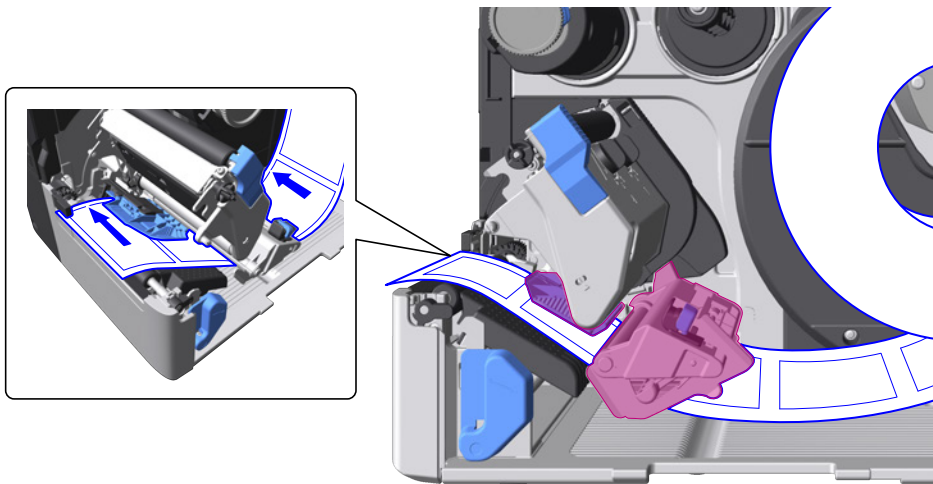
- When loading fan-fold media, be careful not to get injured when handling the media inlet.



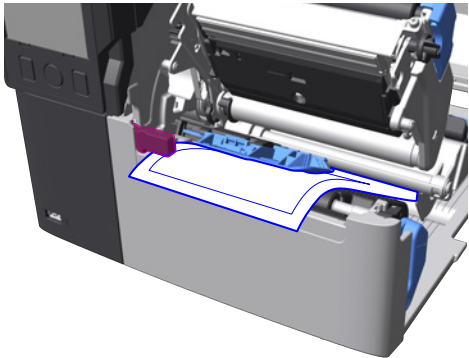
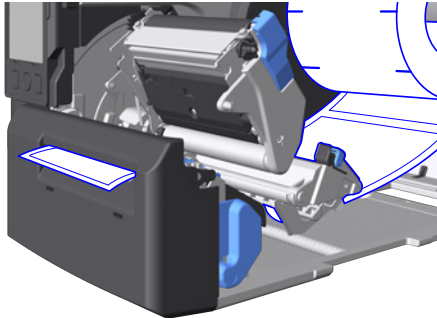
- If frequent media jams occur when fan-fold media is loaded from the bottom, then load the fan-fold media from the rear.

6. Pass the media under the damper and the media sensor guide.

The edge of the media should touch the back of the unit.



7. Pass the media through the media discharge outlet.

Standard	Cutter Linerless cutter Rotary cutter
Pass the media under the label top sensor and pull the media out until the tip of the media comes out slightly from the media discharge outlet. 	Pull the media out until the tip of the media comes out slightly from the media discharge outlet.  The figure shows the cutter unit



- When using the cutter, be careful not to cause injury with the cutter blade.

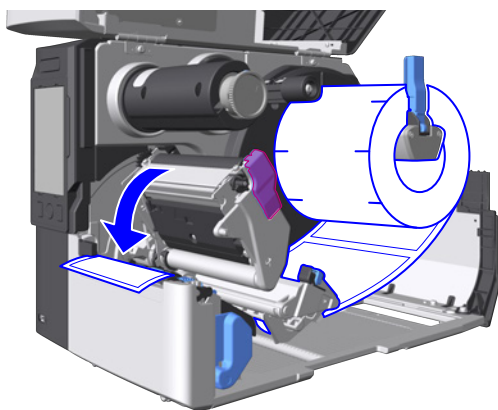


- When the Label Waste Prevention function is enabled, an error occurs if the leading edge of the media is too far from the correct loading position. Regarding the correct loading position, see [Precautions](#).

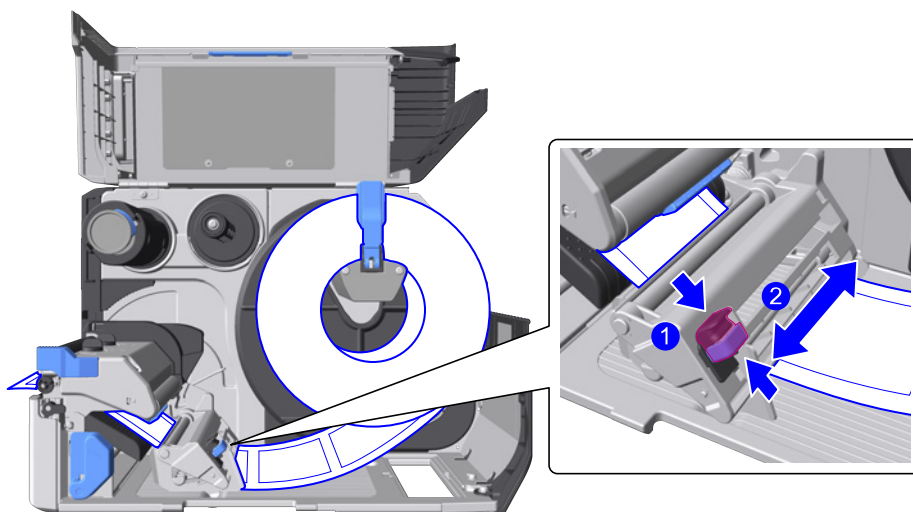
8. Push the head assembly downward until it "clicks" into place.



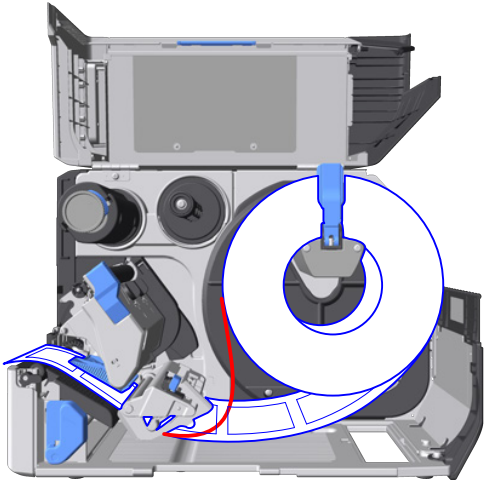
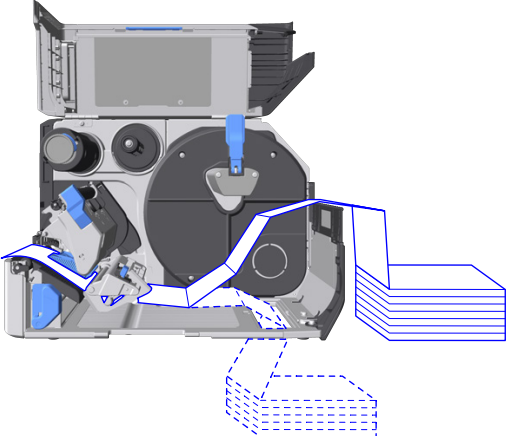
- When pushing the head assembly downward, be careful not to pinch your fingers.



9. Adjust the position of the media guide to the width of the media.



When you have finished loading the media, the path should look as shown below.

Roll	Fanfold
 — Face-in media roll — Face-out media roll	 — Path when loaded from the rear - - - Path when loaded from the bottom

10. Close the top cover.



- When closing the top cover, be careful not to pinch your fingers.

11. Align the media to the print start position, and switch to Online mode.

When the Label Waste Prevention function is enabled

Press the  button to have the media position adjusted automatically.

When the Label Waste Prevention function is disabled

Press the  button to feed media, then press the  button to switch to Online mode.



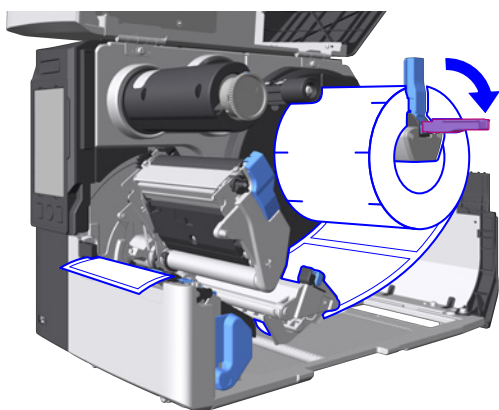
- Always have the top cover of the product closed when using. You could get injured by touching the moving parts. Also, dust or foreign objects could get inside, possibly resulting in the product to reduced print quality, malfunctions, and failures.



- When not using the product for a long time, unplug the power cord from the outlet to maintain safety.
- Open the head assembly and remove linerless labels from the platen roller if they are not used for printing for a long period. Media jam might occur if the head assembly is closed for a long period with linerless labels loaded.

To Replace Media

1. Flip down the media roll holder guide and remove the media.



Loading Media (When Using Dispenser)

You can also check the procedure in the video.

- [Media roll loading \(dispenser\)](#)
- [Media roll loading \(dispenser with rewinder\)](#)



- Media with perforations cannot be used in dispenser mode because the perforations affect the dispenser function.

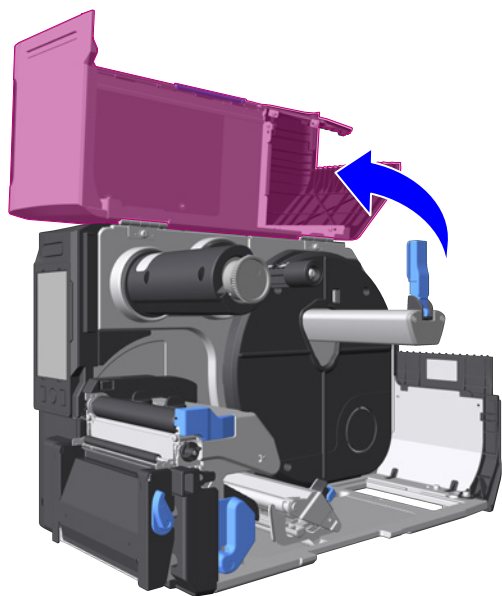


- For media that is 120 mm (4.72") or longer, the leading edge of the ejected label may stick to the surface on which the product is installed.
- Long media may stick together on the adhesive side during ejection.

1. Open the top cover.



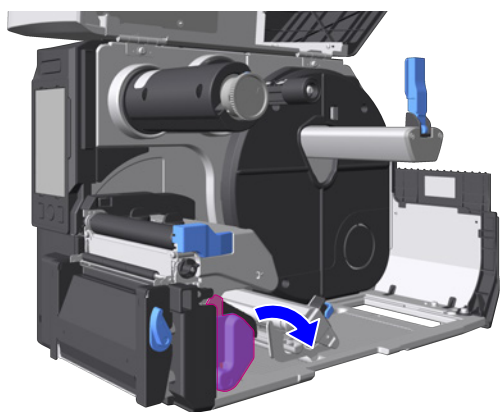
- Open the top cover fully to prevent it from accidentally falling over.



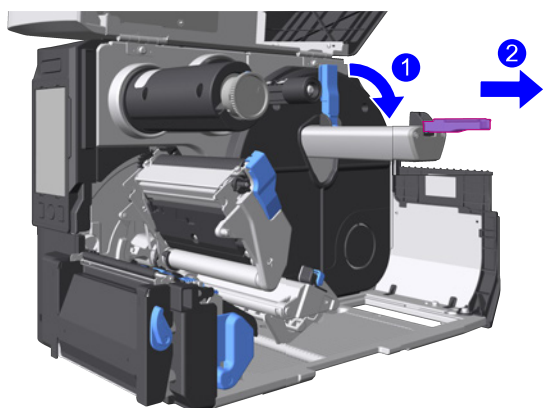
2. Press the head lock lever backward.



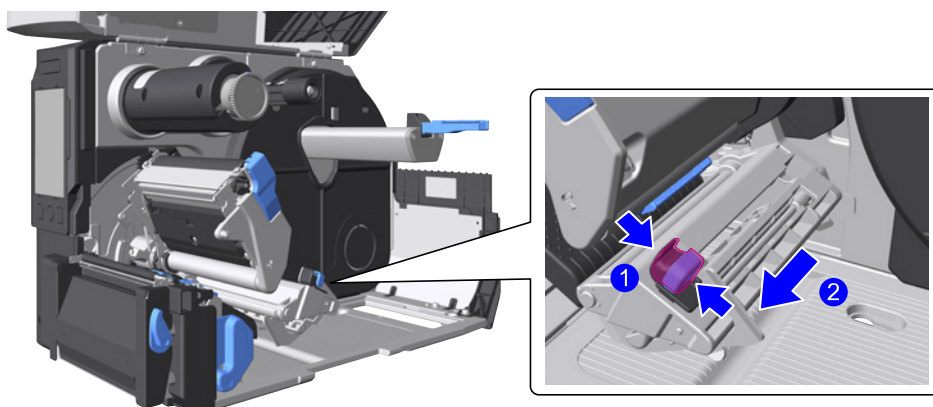
- The print head and its surroundings are hot after printing. Be careful not to touch it, to avoid being burned.
- Touching the edge of the print head with your bare hand could cause injury.



- 3. Flip down the media roll holder guide and slide it to the tip of the media roll holder.**



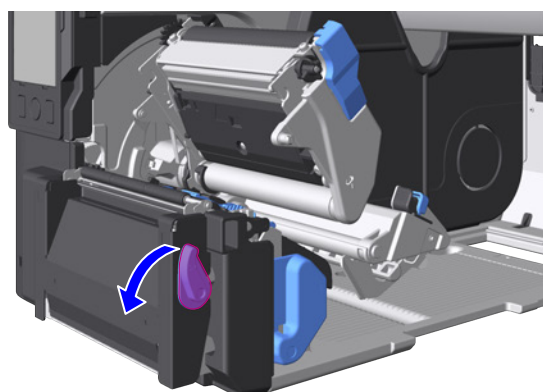
- 4. Open the media guide.**



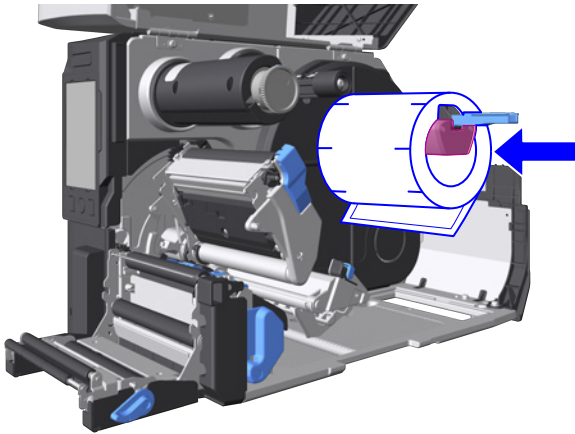
- 5. Tilt the lever toward you and open the cover of the dispenser unit.**



- When opening or closing the cover of the dispenser unit, be careful not to pinch your fingers.

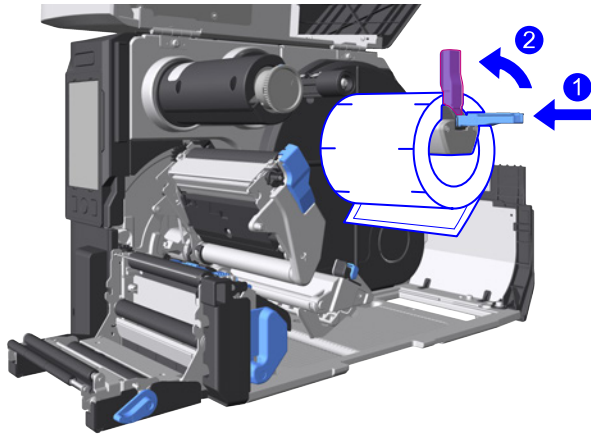


- 6. Load the media, with the print side up, all the way onto the media roll holder.**



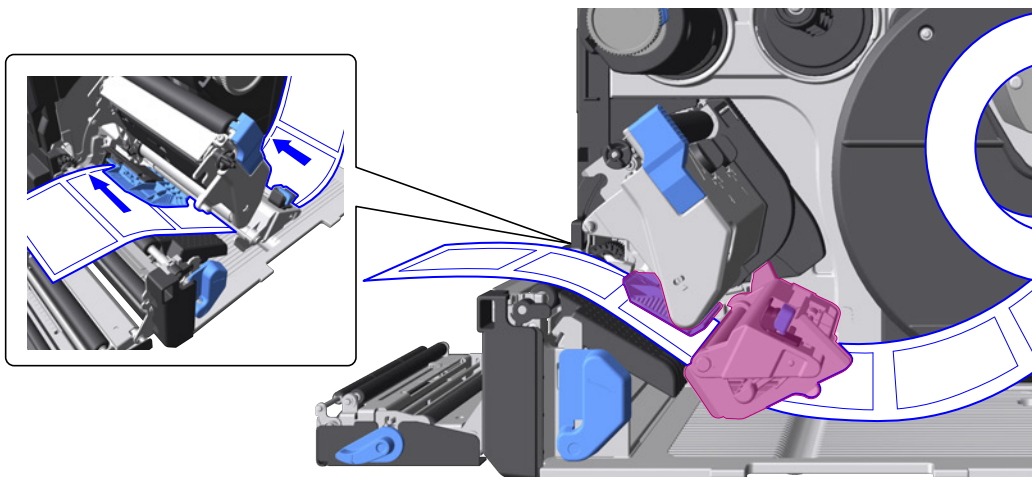
The figure shows a face-in media roll

- 7. Adjust the media roll holder guide to the width of the media and raise it up.**



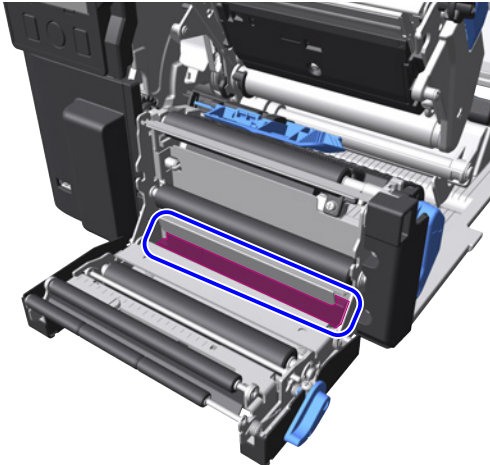
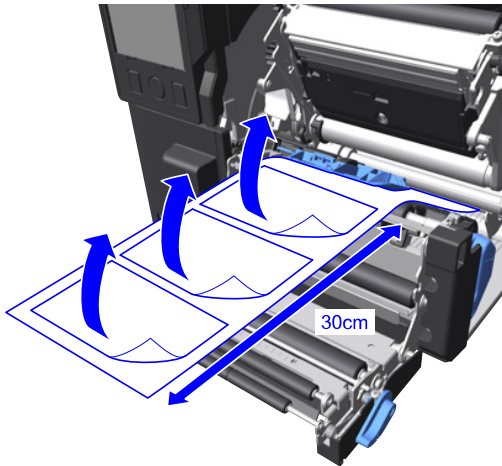
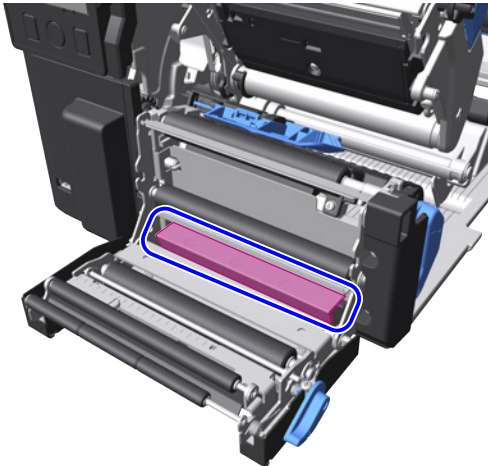
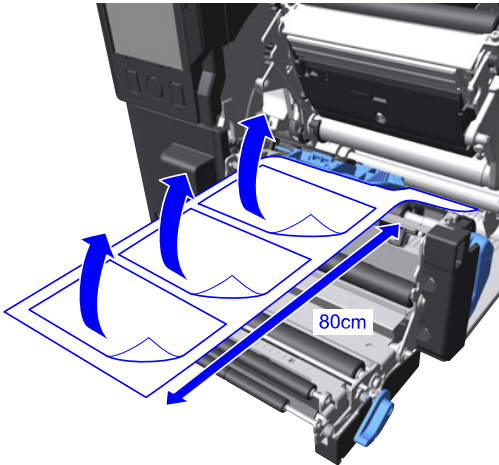
- 8. Pass the media under the damper and the media sensor guide.**

The edge of the media should touch the back of the unit.



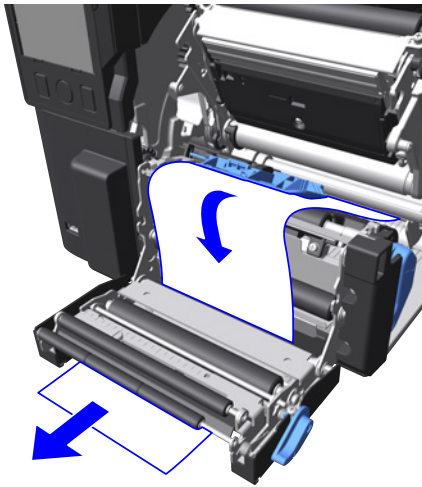
9. Load the liner.

There are two ways to eject the liner, eject outside the product or wind it up inside the product. Load the liner according to how it is ejected.

Ejecting Out of the Product	Winding Into the Product
(1) Check if there is a  mark in the colored area inside the dispenser unit.  (2) Removes about 30 cm (11.81") of labels from the liner.  (3) Pass the liner through the gap in the dispenser unit to the outside of the	(1) Check if there is a  mark in the colored area inside the dispenser unit.  (2) Removes about 80 cm (31.50") of labels from the liner.  (3) Pass the liner through the gap in the dispenser unit to the inside of the

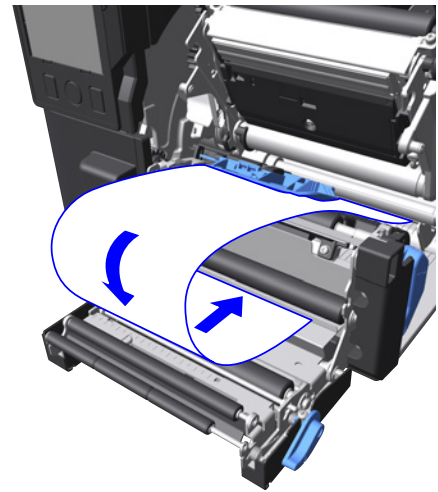
Ejecting Out of the Product

product.

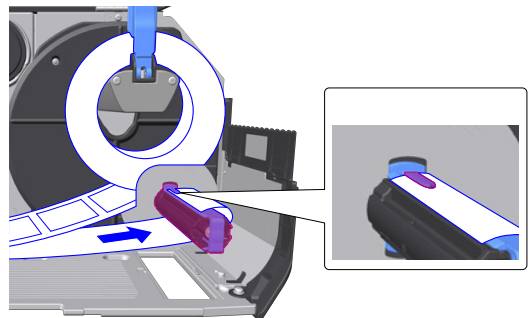


Winding Into the Product

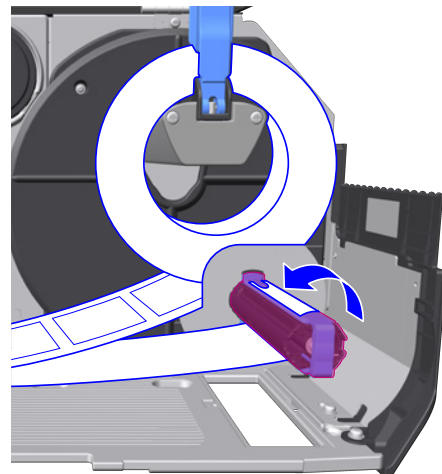
product.



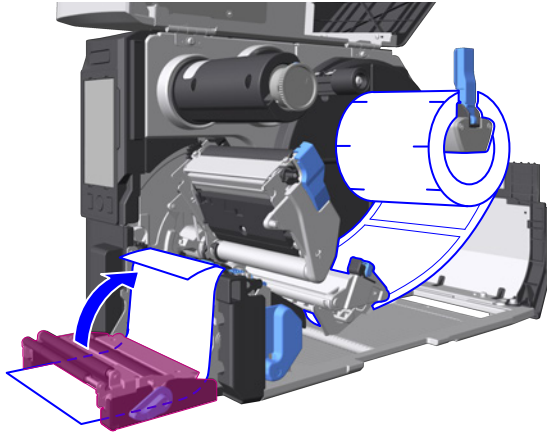
- (4) Pass the liner under the liner rewriter spindle and secure it (in 2 locations) with clips.



- (5) Turn the liner rewriter spindle to the left by hand to wind up the liner.



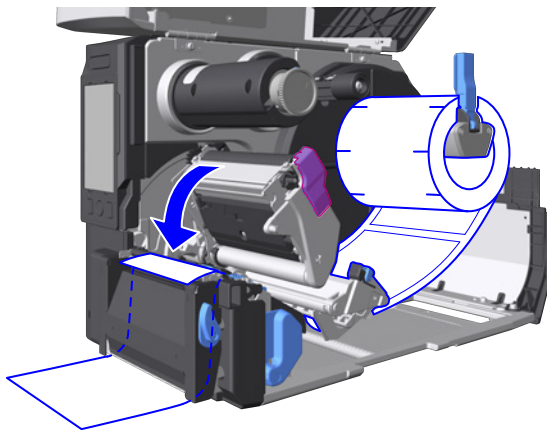
10. Close the cover of the dispenser unit.



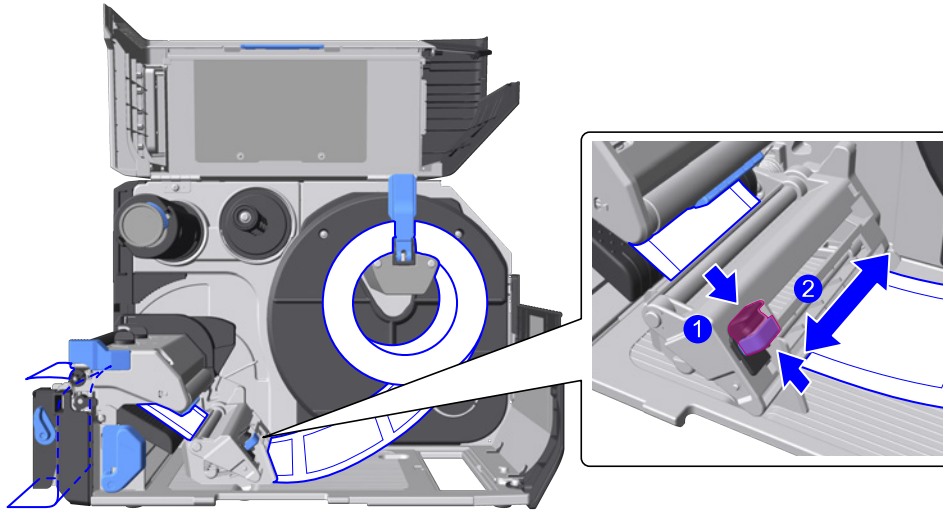
11. Push the head assembly downward until it "clicks" into place.



- When pushing the head assembly downward, be careful not to pinch your fingers.



12. Adjust the position of the media guide to the width of the media.



13. Close the top cover.



- When closing the top cover, be careful not to pinch your fingers.

14. Press the button to feed media, then press the button to switch to Online mode.

To Remove Liner from the Liner Rewinder Spindle

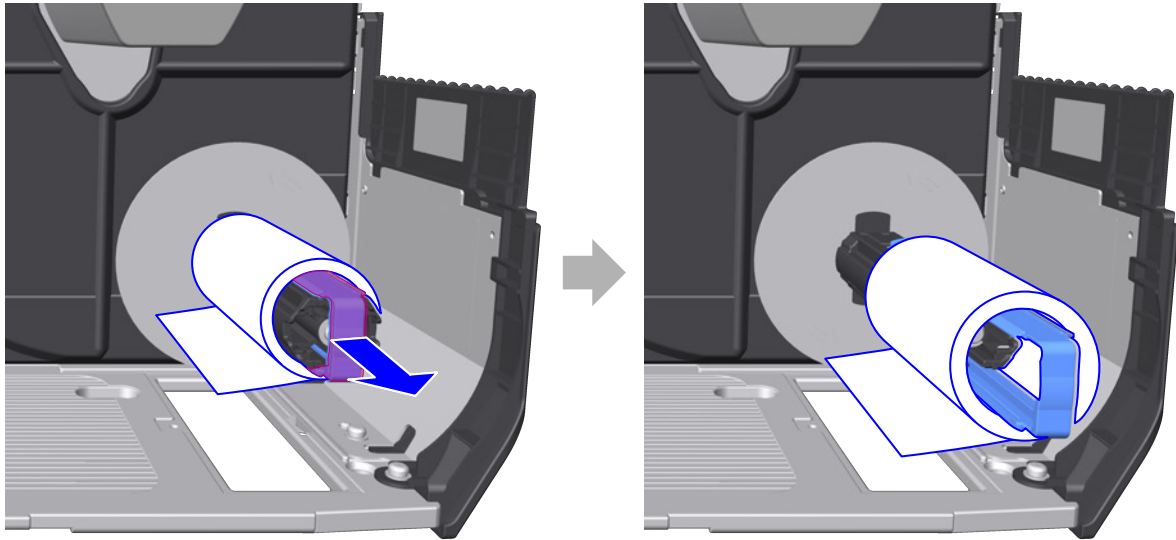


- Depending on the media type, the rolled-up liner may come into contact with the media roll, potentially preventing proper winding. Remove the liner before it contacts the media roll.

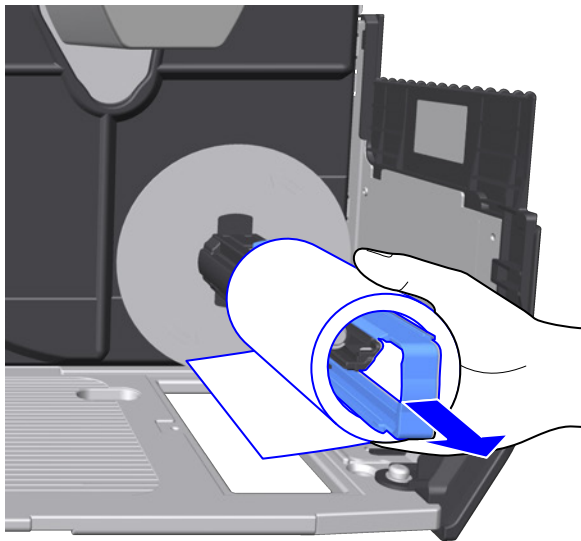


- The maximum diameter of the liner that can be wound up inside the product is $\phi 120$ mm (4.72").
- The liner should be cut to remove it.

1. Pull out the lever.



2. Pull the liner off the liner rewinder spindle.

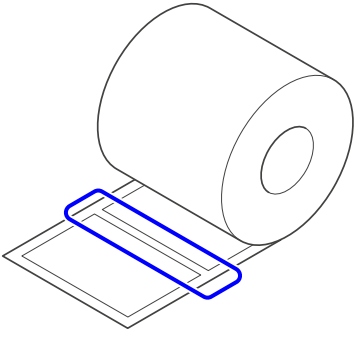
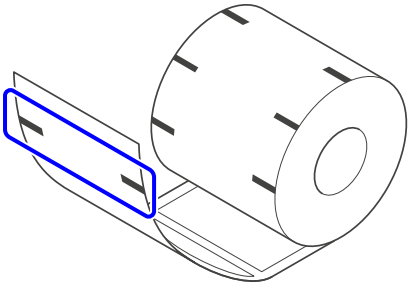


3. Return the lever to its original position.

Adjusting the Position of the Media Sensor

There are two types of media sensors: gap sensors and I-Mark sensors.

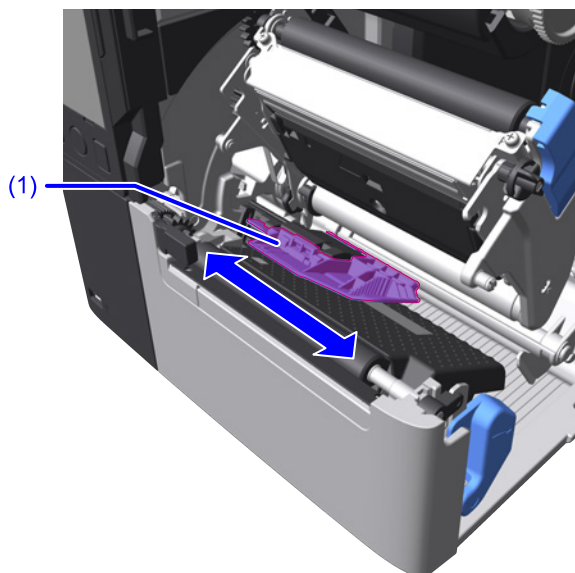
The GAP sensor detects the gap between labels, while the I-Mark sensor detects the leading edge of the media by using a black mark (I-mark) printed on the back of the media, which allows the media to be fed to the print position.

Gap	I-mark
	

If you are using media that already has printing on its reverse side or media that is a special shape, the gaps and I-marks on the media may not be detected correctly, which may result in incorrect printing.

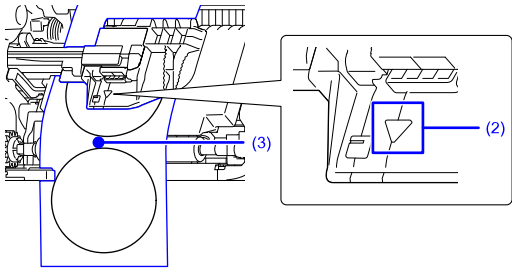
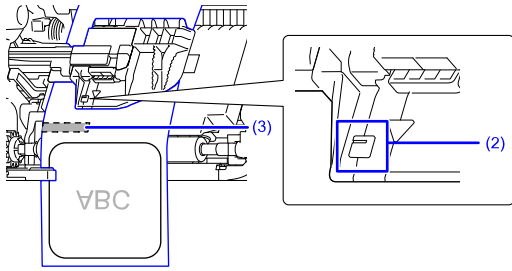
In such cases, adjust the media sensor position to ensure the gap or I-mark is detected correctly.

To adjust the media sensor position, move the media sensor guide (1) left or right.



The marks (2) on the media sensor guide indicate the position of the gap and I-mark sensor.

Ensure the media's gap or I-mark (3) passes under their respective marks (2).

Gap	I-mark
	

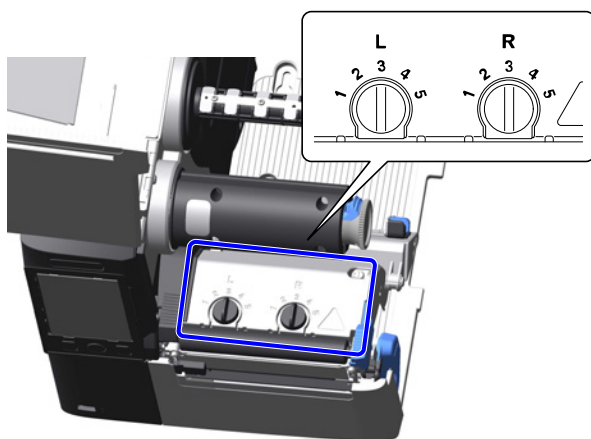


- The RFID model features a fixed position for the I-Mark sensor, so only the GAP sensor can be adjusted.

Adjusting the Head Pressure Balance

Head pressure balance refers to the balance of pressure between the print head and the platen roller. If the head pressure balance is not adjusted properly, printing on one side of the media may be darker than the other side, or the media may shift to one side.

1. Check the position of the head pressure adjustment dial(s).



2. Press down and turn the head pressure adjustment dial(s) to set the head pressure according to the thickness of the media.

Media Thickness *	Head Pressure Adjustment Dial(s)	Example of Media
0.060 to 0.200 mm (0.002 to 0.008")	Left (L): 3 Right (R): 3	Thin media, standard media, etc.
0.200 to 0.268 mm (0.008 to 0.010")	Left (L): 4 to 5 Right (R): 4 to 5	Thick media, tags, etc.

*: Values include liners



- The factory default setting is "3" for both left and right.

3. If the media is printed and appears to be shifted to the right when viewed from the front of the product, adjust the pressure balance by turning the head pressure adjustment dial(s) to match the width of the media.

CL4-SXR

Media Width	Head Pressure Adjustment Dial(s)
25 to 54 mm (0.98 to 2.13")	Left (L): 5 Right (R): 1
54 to 83 mm (2.13 to 3.27")	Left (L): 3 or 4 Right (R): 2
83 to 131 mm (3.27 to 5.16")	Left (L): 3 Right (R): 3

CL4-SXR

When using Micro Label Print function:

Media Width	Head Pressure Adjustment Dial(s)
25 to 54 mm (0.98 to 2.13")	Left (L): 5 Right (R): 1
54 to 83 mm (2.13 to 3.27")	Left (L): 5 Right (R): 3
83 to 131 mm (3.27 to 5.16")	Left (L): 5 Right (R): 5

CL6-SXR

Media Width	Head Pressure Adjustment Dial(s)
50 to 120 mm (1.97 to 4.72")	Left (L): 5 Right (R): 1
120 to 140 mm (4.72 to 5.51")	Left (L): 3 or 4 Right (R): 1
140 to 160 mm (5.51 to 6.30")	Left (L): 3 or 4 Right (R): 2
160 to 180 mm (6.30 to 7.09")	Left (L): 3 or 4 Right (R): 3 or 4

CL6-SXR

When using Micro Label Print function:

Media Width	Head Pressure Adjustment Dial(s)
50 to 90 mm (1.97 to 3.54")	Left (L): 5 Right (R): 1
90 to 130 mm (3.54 to 5.12")	Left (L): 5 Right (R): 3
130 to 180 mm (5.12 to 7.09")	Left (L): 3 Right (R): 3



- The factory default setting is "3" for both left and right.
- The dial settings in the table are guidelines, and the optimal settings may vary depending on the type of media. Confirm that the print quality is stable by actually printing.
- For more information on the Micro Label Print function, see [Setting the Micro Label Print Function](#).

Load the Ribbon (When Printing by Using a Ribbon)

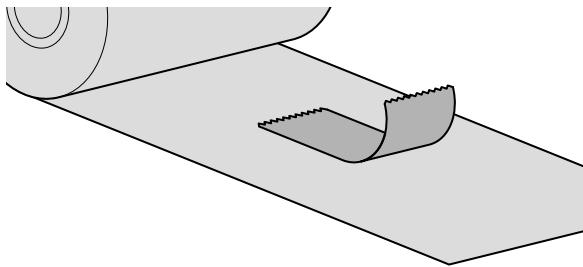
You need to load the ribbon when printing by using ribbon. The topics here explain how to load and replace the ribbon.

You can also check the procedure in the video. ([Ribbon loading](#))

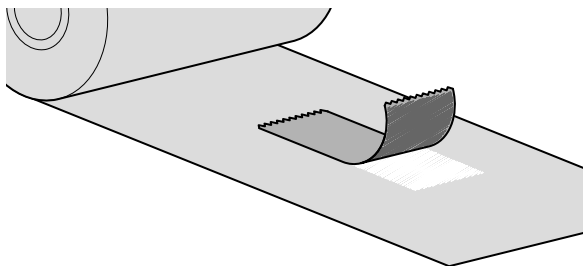


- The direction in which the ribbon is winding can be confirmed by applying adhesive tape to the inside of the ribbon. If ink adheres when the tape is peeled off, ink has been applied to the inside (face-in).

When the ink side is facing out (face-out ribbon)

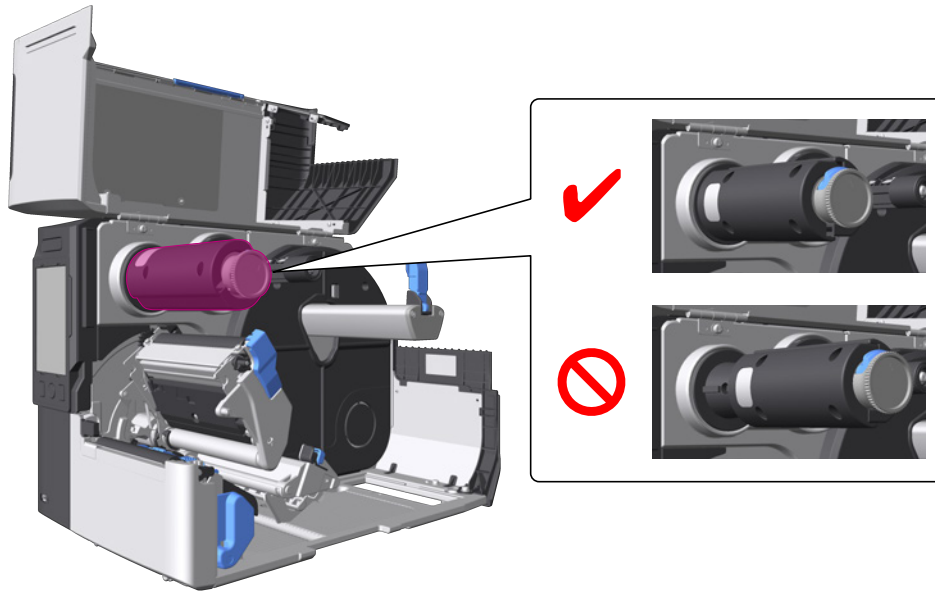


When the ink side is facing in (face-in ribbon)

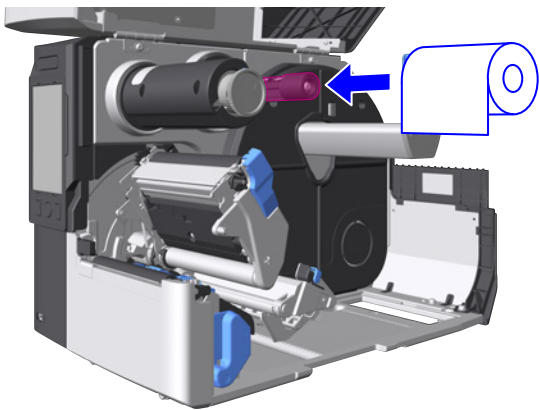


The product is compatible with both face-out and face-in. For more information, see [Ribbon](#).

1. Make sure that the ribbon rewind spindle is pushed all the way in.



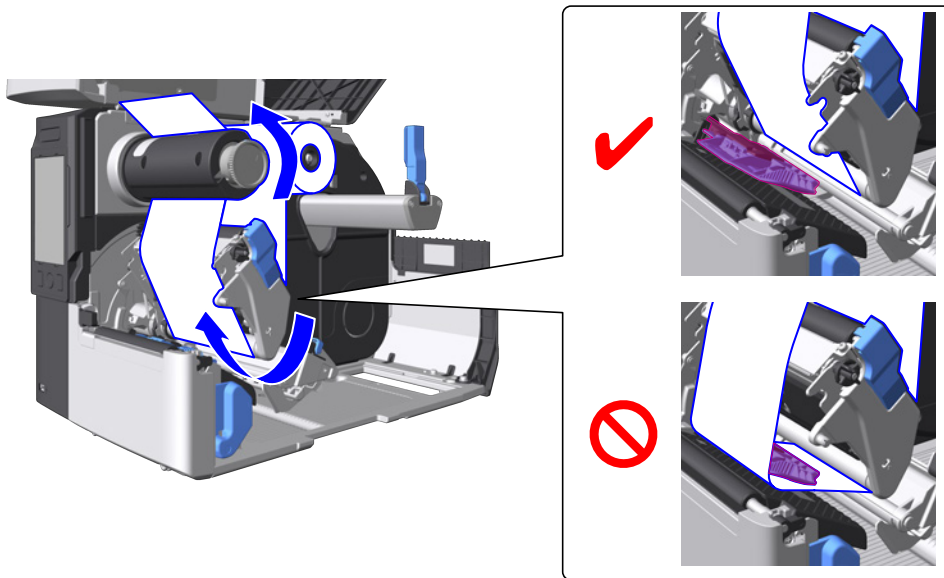
2. Load the ribbon so the ink side of the ribbon is facing the rear of the printer and it is fully onto the ribbon supply spindle.



The figure shows a face-in ribbon

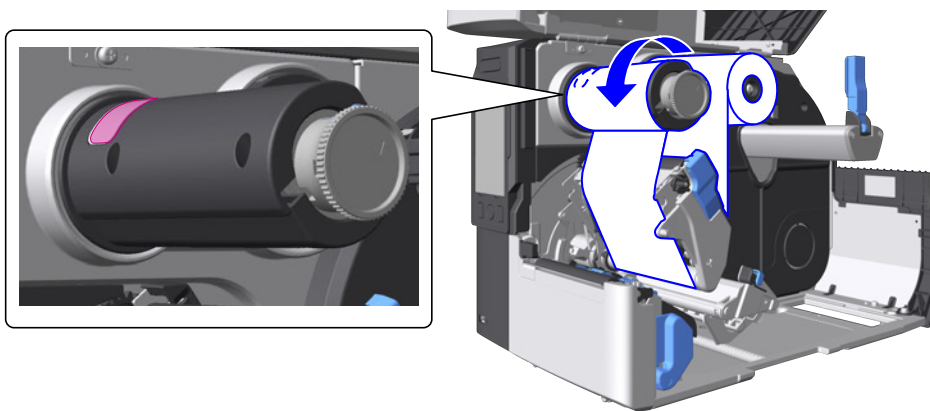
3. Pass the ribbon under the print head.

The ribbon should pass over the media sensor guide.

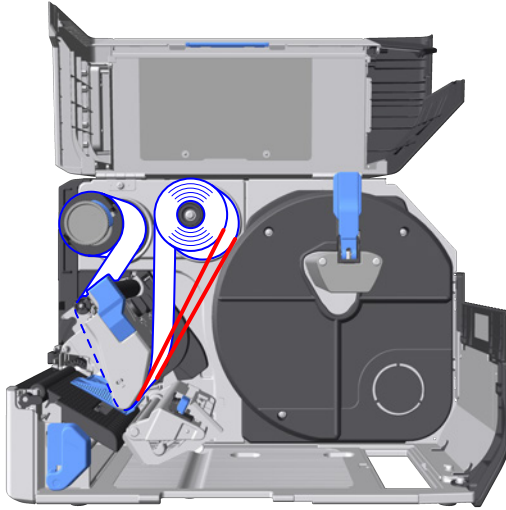


4. Wrap the ribbon around the ribbon rewind spindle in a counterclockwise direction.

Put the ribbon on the grip sheet and wind it around the spindle several times to the left.



When you have finished loading the ribbon, the path should look as shown below.



Face-in ribbon

Face-out ribbon

5. If media has already been loaded, push the head assembly downward until it "clicks" into place.



- When pushing the head assembly downward, be careful not to pinch your fingers.

If no media has been loaded, then load the media.

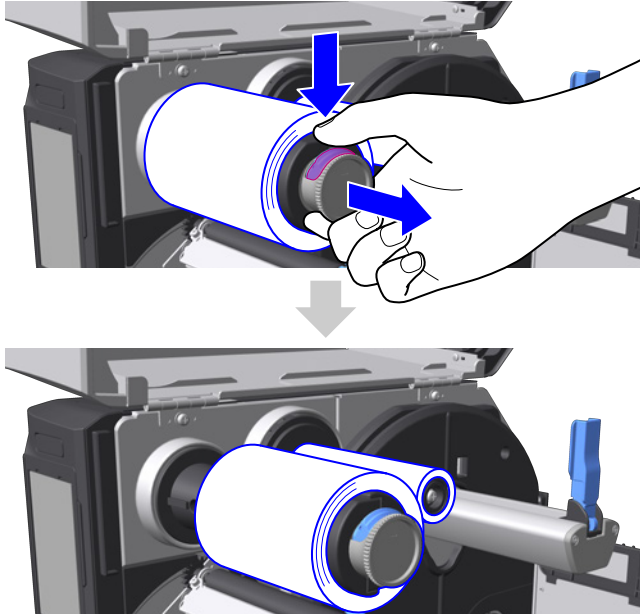
6. Close the top cover.



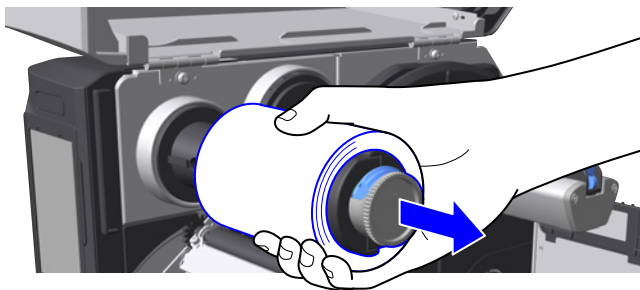
- When closing the top cover, be careful not to pinch your fingers.

To Replace the Ribbon

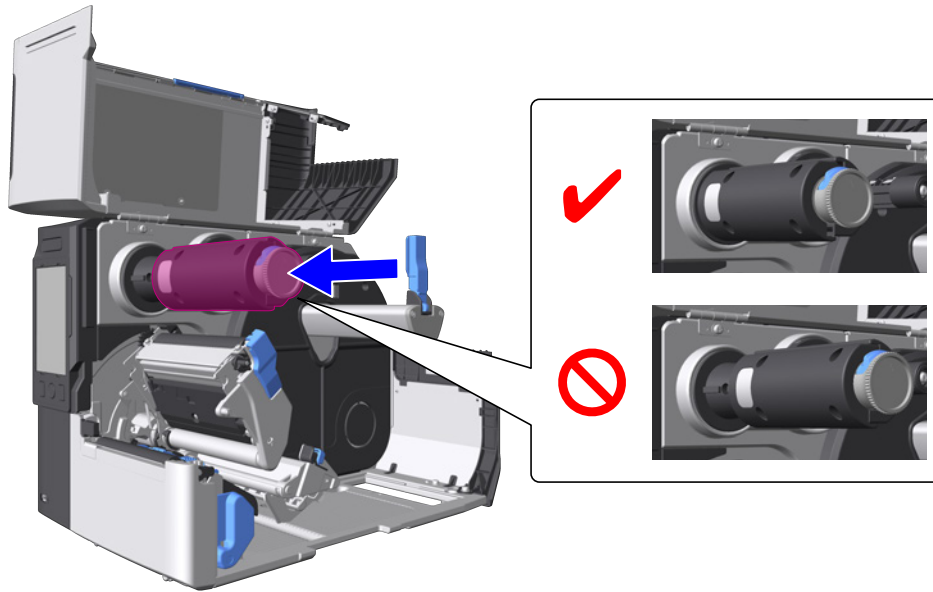
1. Press the button at the tip of the ribbon rewind spindle and pull out the ribbon rewind spindle.



2. Remove the used ribbon from the ribbon rewind spindle.



3. Push the ribbon rewind spindle all the way in.



4. Remove the used ribbon core from the ribbon supply spindle.

Connecting Interfaces

Connect the interface according to your environment, and configure the interface settings of the product according to the communication conditions of the connected network and computer.

The product supports the following interfaces.

- USB
- Wired LAN
- NFC
- Wireless LAN (option)
- Bluetooth (option)
- SIM ( option)
Allows connections to SOS (SATO Online Services).
- RS-232C ( option,  standard equipment)
- External signal ( option,  standard equipment)

For the position of connectors, see [Parts Identification](#).

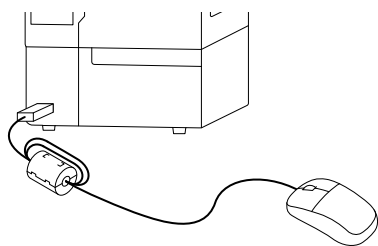
Regarding the various interfaces, see [Setting Up Connections](#).



- This product must be connected through a router or similar networking device and cannot be directly connected to the internet provided by telecommunication carriers, including public wireless LANs. When connecting the product to the Internet, always connect via a router or similar device.



- Use USB cables of Type A or B that are 3 m (9.84 ft) or shorter.
- When connecting a mouse to a Type A connector, attach a ferrite core to prevent radio wave interference to the surrounding area.
Recommended core characteristics: Impedance value 125 Ω @100 MHz



Settings

Setting Method

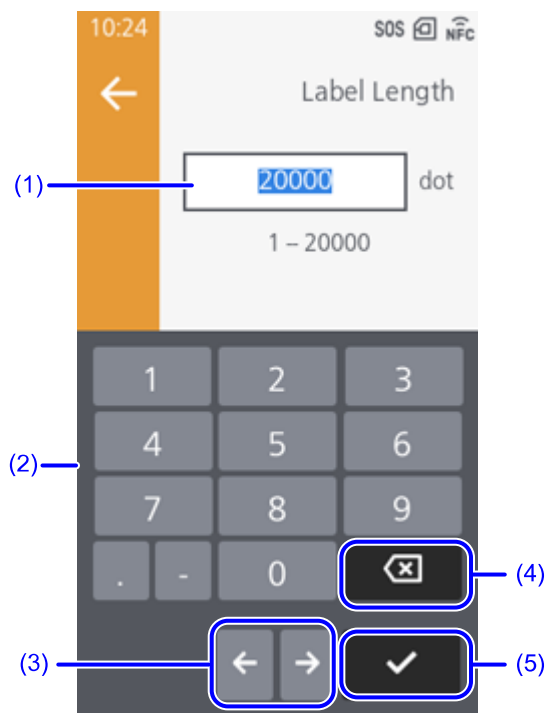
Input Numbers and Characters on the Settings Screen

This topic describes the character and number input on the setting screen.



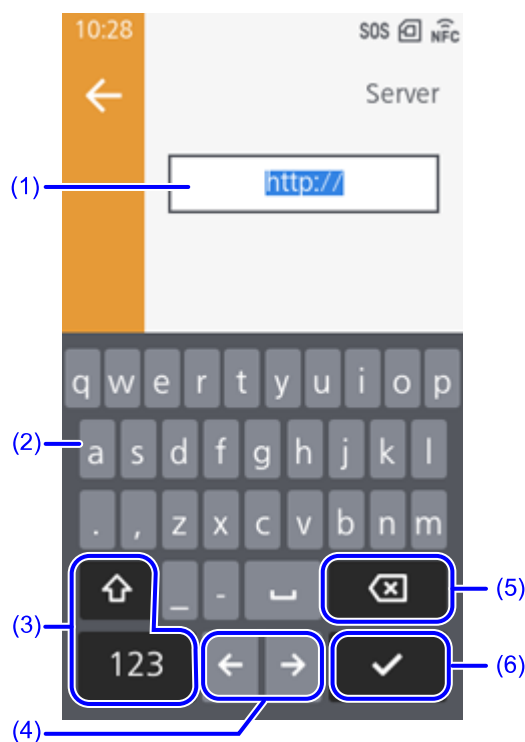
- You can also input characters and numbers from a USB keyboard by connecting it to the product.

Input Numbers



- (1) The numbers you input are displayed in the text box.
- (2) Tap the on-screen keyboard to input numbers.
- (3) Move the cursor to the left or right.
- (4) Delete the number to the left of the cursor as shown in the text box.
- (5) Confirm what was input.

Input Characters



- (1) The characters you input is displayed in the text box.
- (2) Tap the on-screen keyboard to input characters.
- (3) Change the input mode. Tapping  once switches to uppercase input for one character, while tapping twice quickly locks the input to uppercase.
- (4) Move the cursor to the left or right.
- (5) Delete the character to the left of the cursor as shown in the text box.
- (6) Confirm what was input.

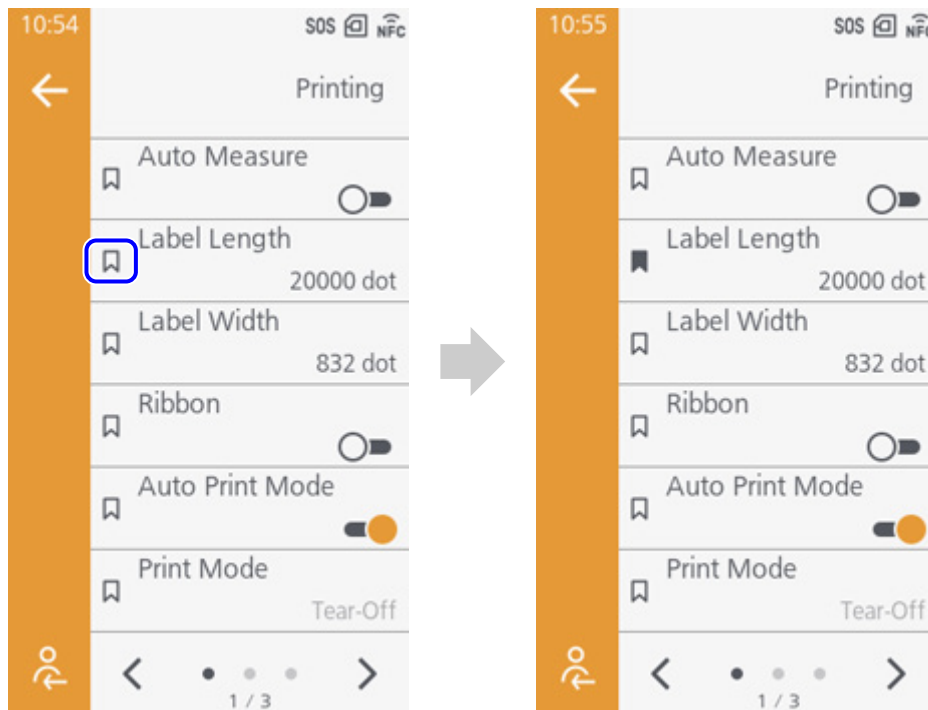
[Favorite] Menu

Registering Frequently Used Settings as Favorites

Register frequently used settings in the settings menu as favorites to easily access them from the [Favorite] menu.

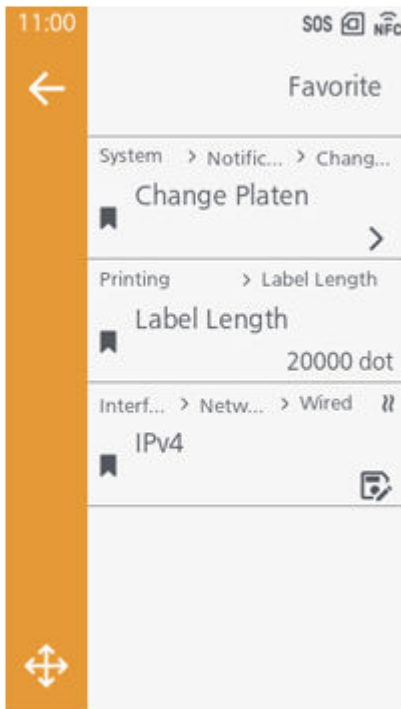
Registering Setting Items as Favorites

To register a setting item as a favorite, tap  on the left side of each setting item.



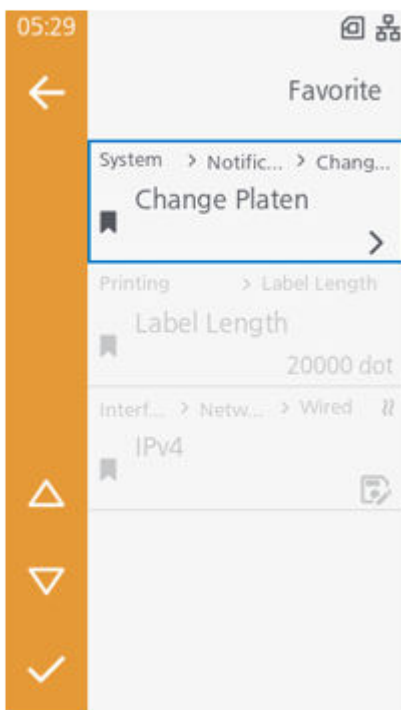
- Tap  to unregister it from favorites.

Setting items registered as favorites are displayed in the [Favorite] menu.



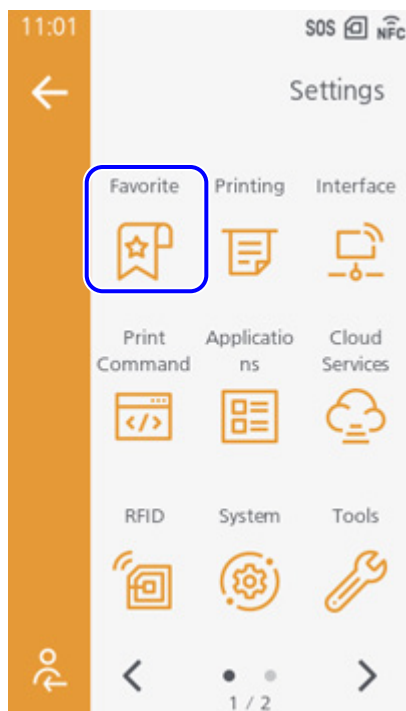
Tap  to change the order of items as needed.

Tap the setting item you want to reorder to select it, then tap  or  to move the item up or down.
Tap  to save the changes.

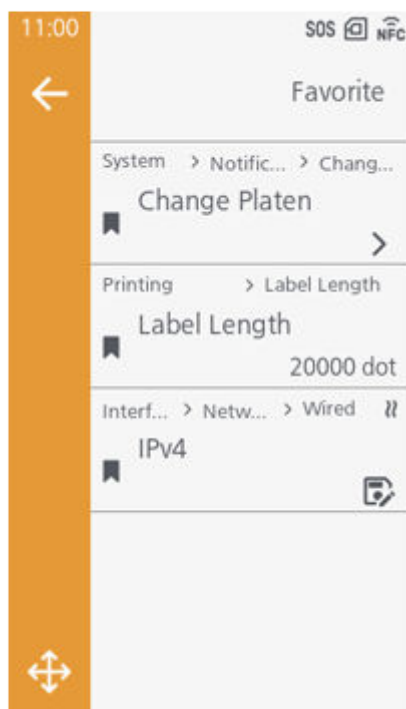


Accessing Setting Items from Favorites

1. Tap [Favorite] on the settings screen.

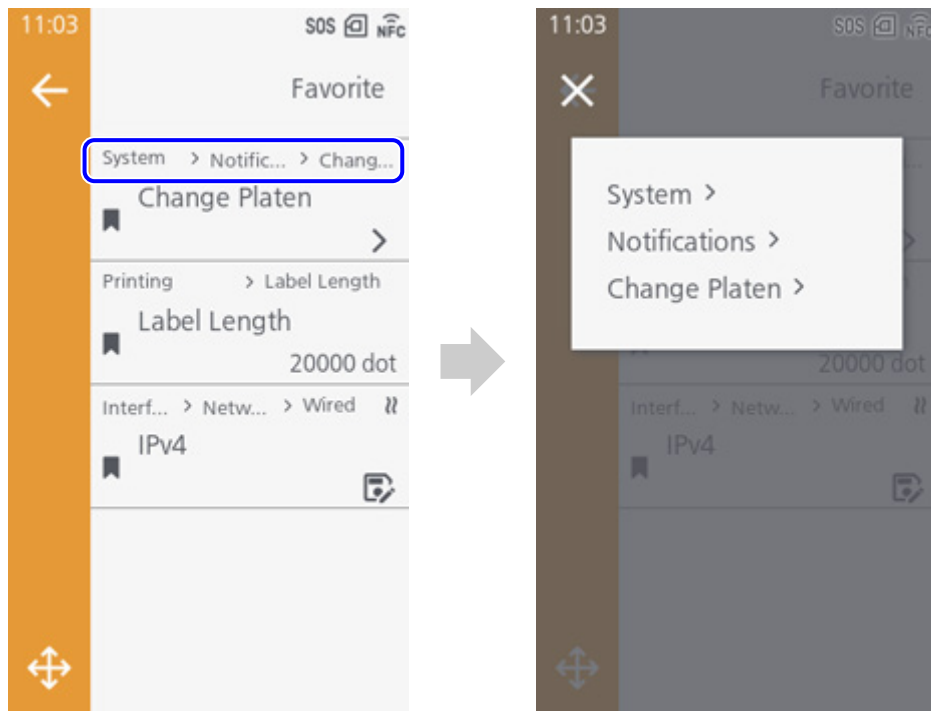


2. Tap the item you want to set from among the items registered in favorites.





- Tap the top of each setting item to see the hierarchy in which the setting item is located.



- You can also delete a setting item from favorites by tapping  in the [Favorite] menu screen.

[Printing] Menu

List of Printing Menus

Printing

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[Label Width](#)

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[Label Near End](#)

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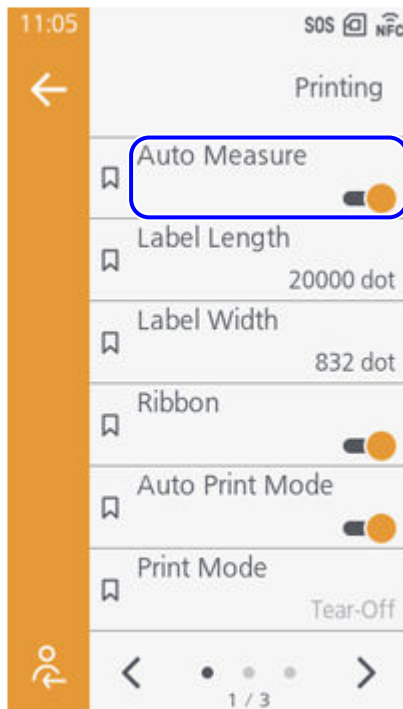
Media Size Settings

Automatically Measuring the Length of Media

The length of a single loaded label can be set automatically by using the Auto Measure function.

1. Load the media.

2. From the settings screen, tap [Printing] > [Auto Measure] to enable this.



Initial value: Disabled

3. Press the  button to display the Offline screen.

4. Open the head assembly.

Error No. 1007 ([Head Open]) is displayed.

5. Close the head assembly.



- When pushing the head assembly downward, be careful not to pinch your fingers.

6. Press the  button to go to Online mode.

Two labels are fed and the length of the label is measured.

7. The measured label length is saved in [Label Length].



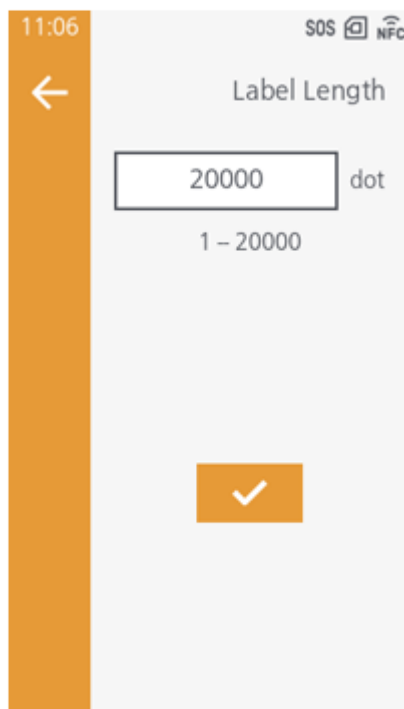
- This function executes in the following conditions:
 - The first time the product changes to Online mode after being powered on
 - When the product changes to Online mode after the head assembly is opened/closed

- When the Micro Label Print function is enabled, this function will be executed either before printing or after media feeding when the head assembly has been opened/closed.
- If [Advanced] > [Label Waste Prevention] is enabled, then disable [Auto Measure].

Manually Measuring the Length of Media

Set the length of one label including the liner.

[Printing] > [Label Length]



CL4-SXR

- 203 dpi: 1 to 20,000 dots (initial value: 20000)
- 305 dpi: 1 to 18,000 dots (initial value: 18000)
- 609 dpi: 1 to 9,600 dots (initial value: 9600)

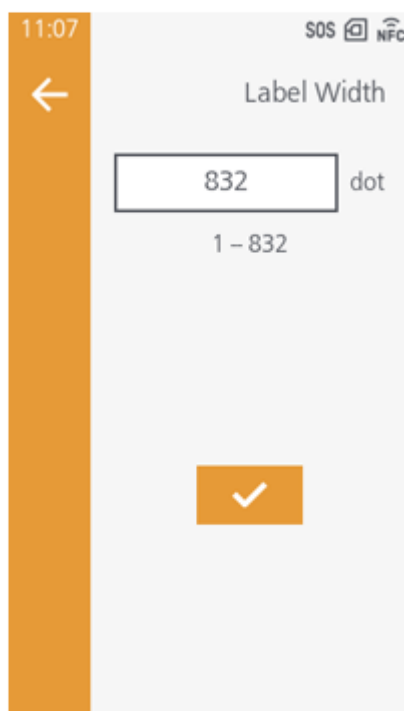
CL6-SXR

- 203 dpi: 1 to 20,000 dots (initial value: 20000)
- 305 dpi: 1 to 18,000 dots (initial value: 18000)

Setting the Width of the Media

Set the width of the media including the liner.

[Printing] > [Label Width]



CL4-SXR

- 203 dpi: 1 to 832 dots (initial value: 832)
- 305 dpi: 1 to 1,248 dots (initial value: 1248)
- 609 dpi: 1 to 2,496 dots (initial value: 2496)

CL6-SXR

When the [Head Base Position] is [Standard]

- 203 dpi: 1 to 1,216 dots (initial value: 1216)
- 305 dpi: 1 to 1,984 dots (initial value: 1984)

When the [Head Base Position] is [Left-justify]

- 203 dpi: 1 to 1,340 dots (initial value: 1984)
- 305 dpi: 1 to 2,010 dots (initial value: 2010)

Changing the Print Method

[Printing] > [Ribbon]

Enable this when printing using a ribbon (thermal transfer method).

For how to load ribbons, see [Load the Ribbon \(When Printing by Using a Ribbon\)](#).

Disable this setting to print using direct thermal media without using a ribbon.

Initial value: Enabled

Setting Printing Operations

Automatically Switch Printing Operations

[Printing] > [Auto Print Mode]

The print modes automatically switch according to the options being used.

Initial value: Enabled

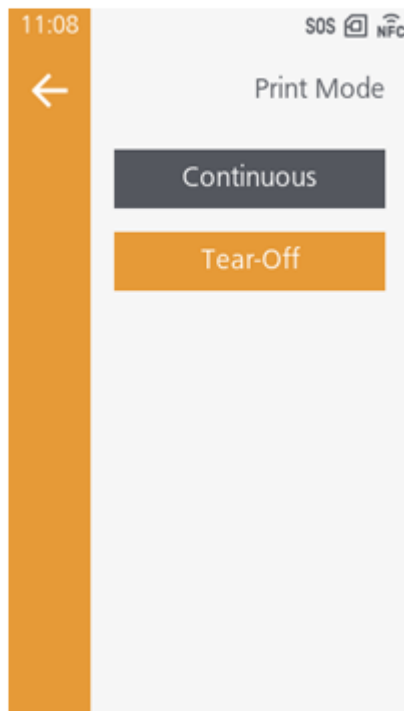
Manually Set Printing Operations

[Printing] > [Print Mode]

Manually set the print mode.

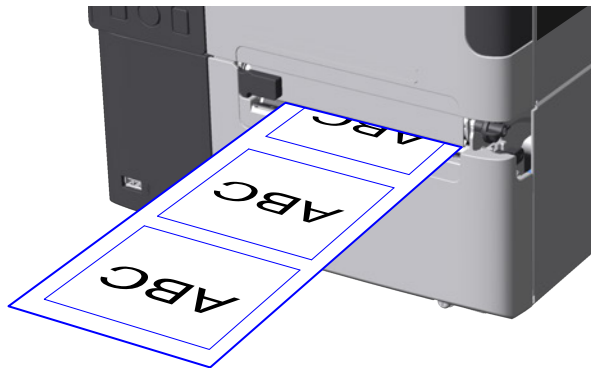
To set the print mode manually, disable [Auto Print Mode].

The print modes that can be used differ according to the options.



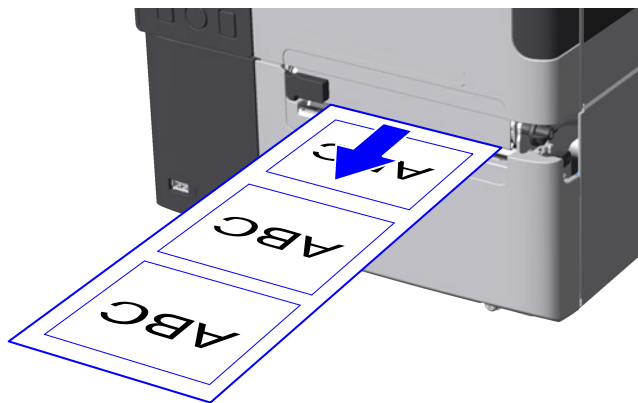
[Continuous]

The specified number of pieces of media are printed continuously.

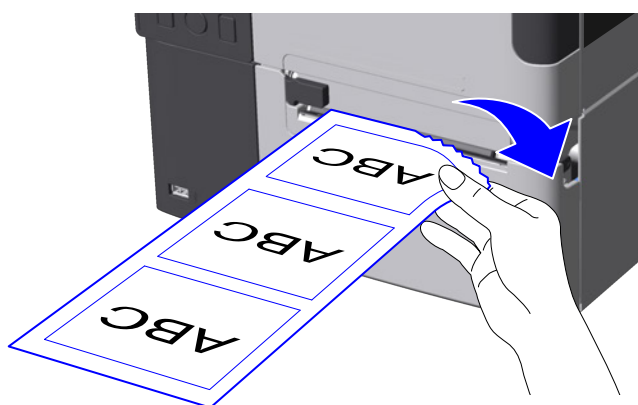


[Tear-Off]

- 1. After printing, media is fed to the tear-off position.**

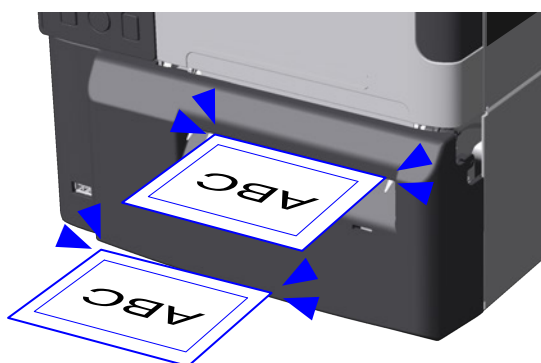


2. Tear off the media at the front edge of the media discharge outlet.



[Cutter]

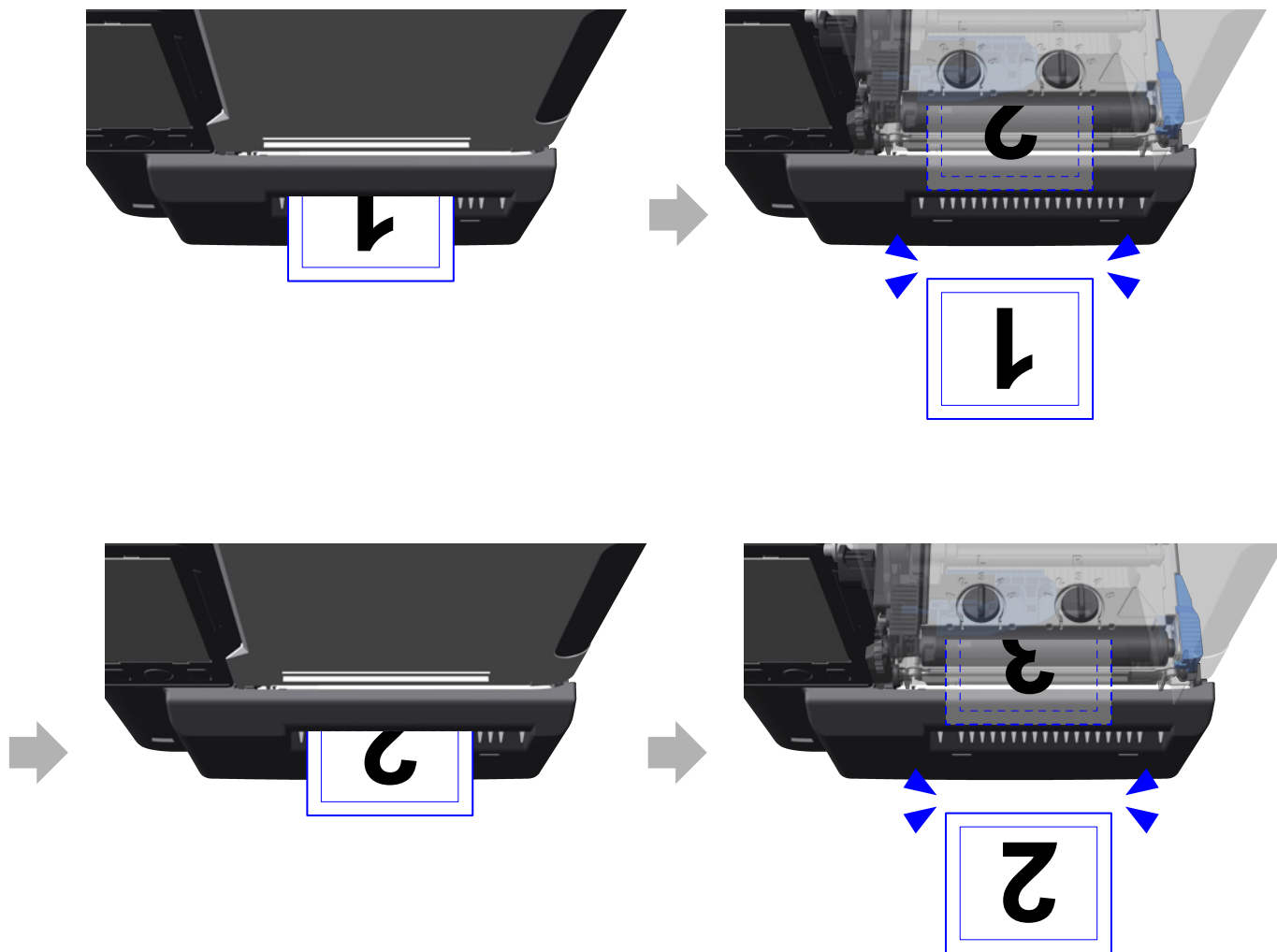
After printing, the media is automatically cut.



- This can be set while the cutter unit or rotary cutter unit is being used.

[Cut & Print]

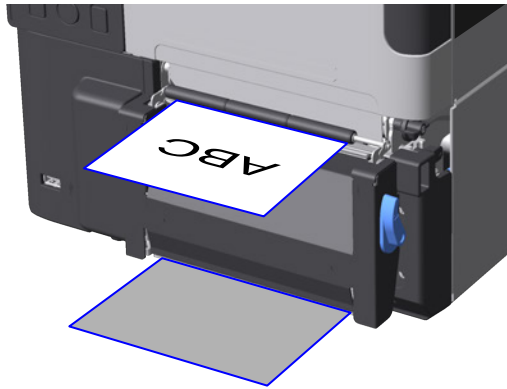
The printed media is cut at the cut position while printing operations continue.



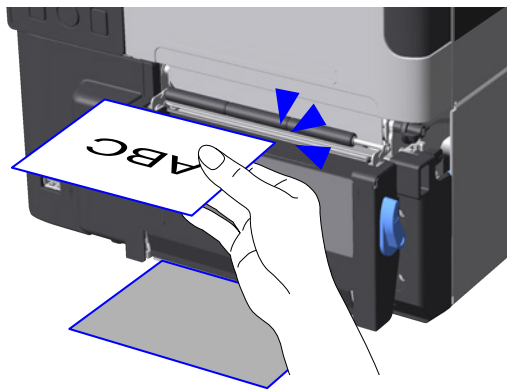
- This can be set while the cutter unit or rotary cutter unit is being used.
- Be careful of the print layout because white streaks may occur around the location of the print head when cutting.
- With [Eject Cut], you can set the time between when the last printed media is ejected and when it is cut. For more information, see [Setting the Timing to Cut Media](#).

[Dispenser]

1. The printed labels are peeled from the liner as they are ejected.



2. Remove the label.



When the label is removed, the next one starts printing.

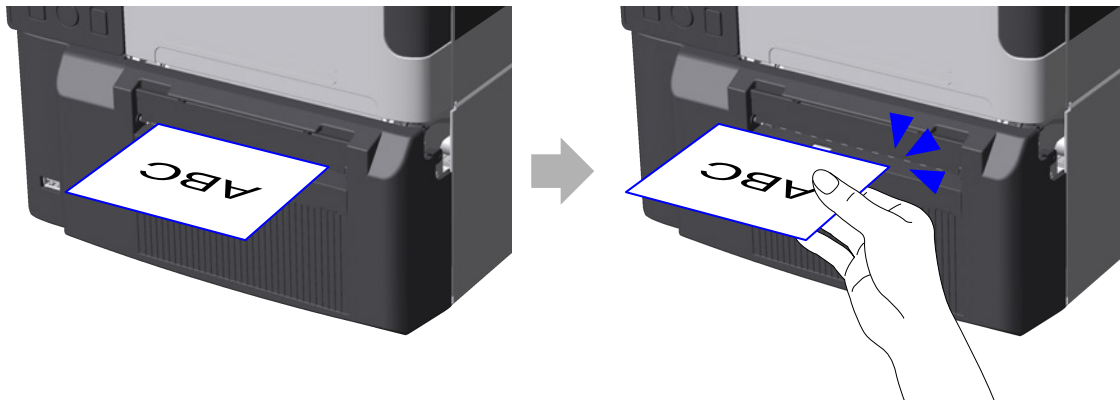


- This can be set when the dispenser unit is being used.

[Linerless Cutter]

Prints on labels that have no liner.

After printing, the label is automatically cut, then when you remove it the next one starts printing.





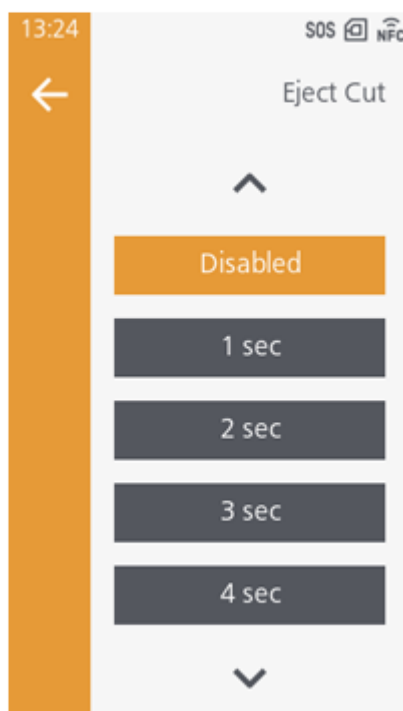
- This can be set when the linerless cutter unit is being used.

Initial value:

- Standard: [Tear-Off]
- When using a cutter: [Cutter]
- When using a dispenser: [Dispenser]
- When using a rotary cutter: [Cutter]
- When using a linerless cutter: [Linerless Cutter]

Setting the Timing to Cut Media

[Printing] > [Advanced] > [Eject Cut]



You can set the time between when the last printed media is ejected and when it is cut.

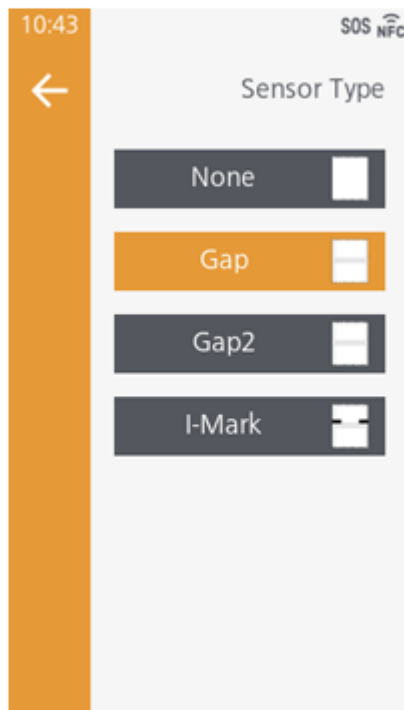
Appears if you select [Cut & Print] for [Print Mode].

Initial value: [Disabled]

Setting and Adjusting the Media Sensor

Change the Media Sensor Being Used

[Printing] > [Sensor Type]



Set the sensor to be used to detect media.

The media sensors that can be used vary depending on the model in use, the print mode, and the Micro Label Print function settings.

- [None]
Media sensor is not used.
- [Gap]
Select this to use media with gaps between labels.
- [Gap2]
Select this to use media with gaps between labels. This can improve the precision of the print position when using smaller media sizes.
- [I-Mark]
Select this when using media with a black mark (I-mark) on the reverse side.

Initial value:

- When the print mode is [Continuous], [Tear-Off], [Dispenser], [Cutter], [Cut & Print]: [Gap]
- When the print mode is [Linerless Cutter]: [None]



- When using the GAP2 sensors, sensor adjustment is required for each label or ribbon used. For more information on sensor adjustments, see [Calibration of Media Sensor](#). (We recommend performing sensor adjustment again after replacing the ribbon to ensure optimal adjustment values.) Also, if you are using multiple types of media, we recommend registering settings as media profiles for each media. For more information on media profiles, see [Setting Media Profiles](#).
- Using the GAP2 sensors with a ribbon having low transparency may result in incorrect detection of gaps between labels.
- If error No. 1028 ([Gap Not Found]) appears, adjust the sensor again.

Calibration of Media Sensor

If problems with media detection occur, adjust the media sensor level to improve detection accuracy.

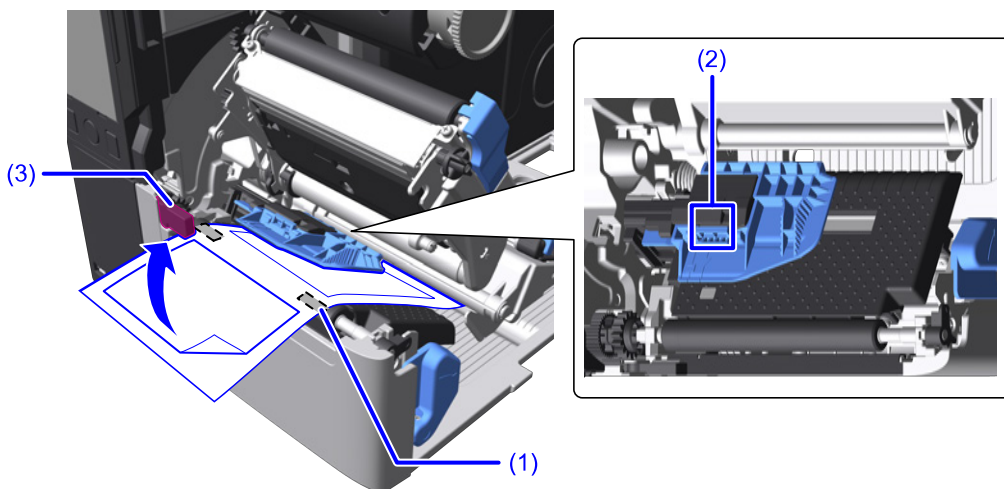
Adjusting the Media Sensor Automatically



- Auto calibration of the media sensor is not possible when using a linerless cutter.

1. Load the media.

Peel off the label from the media and pass the liner under the media sensor guide.



- Position the liner so that the I-mark (1) does not touch the media sensor position (2).
- Position the liner so that the I-mark (1) does not touch the label top sensor (3).

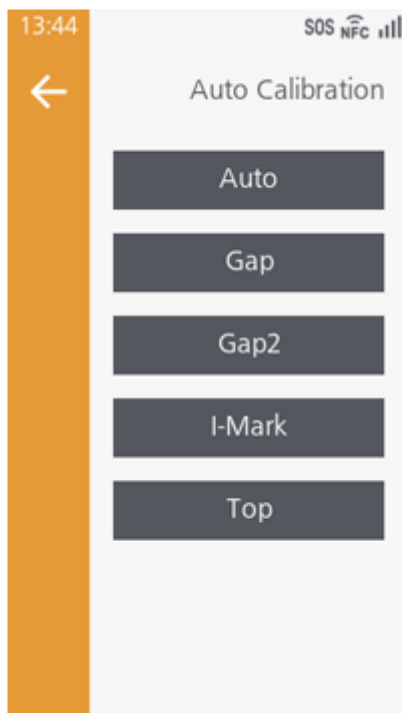
2. Push the head assembly downward until it "clicks" into place.



- When pushing the head assembly downward, be careful not to pinch your fingers.

3. From the settings screen, tap [Printing] > [Advanced] > [Sensor Adjustments] > [Auto Calibration].

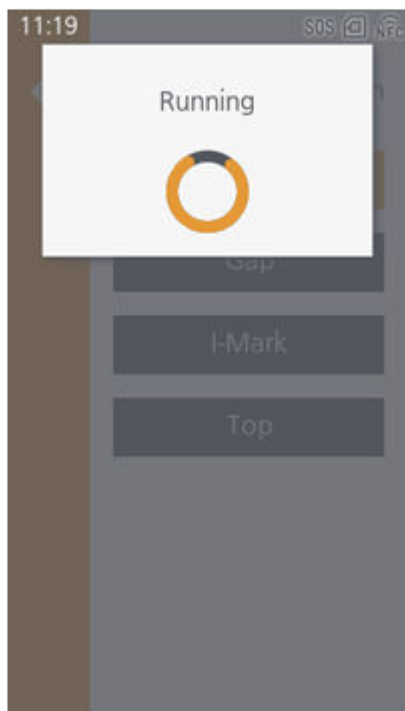
4. Select a sensor to be adjusted.



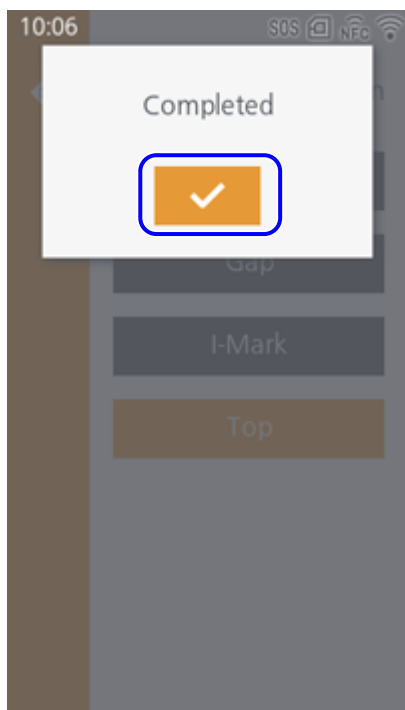
- Selecting [Top] adjusts the label top sensor.
- If [Auto] is selected, sensors other than [Top] are adjusted. Adjusting the label top sensor is not included.
- The selections displayed vary depending on the options being used.

5. When the confirmation screen appears, tap .

Sensor adjustments start.



6. When sensor adjustments are complete, tap .



- If message indicating adjustment failed, load the media correctly and try again.

7. Press the  button to go to the Offline screen.

8. Press the  button to confirm that the media is fed correctly.

When adjusting [Top], press the  button to switch to Online mode, then confirm that the media is correctly adjusted to the print start position by the Label Waste Prevention function.



- For more information on the Label Waste Prevention function, see [Setting the Label Waste Prevention Function](#).
- If the media is not fed correctly after executing [Auto Calibration], contact your SATO reseller or technical support.

Adjusting the Media Sensor Manually

The media sensor sensitivity and slice level can be manually adjusted in [Printing] > [Advanced] > [Sensor Adjustments] under the following items.

- [GAP Levels]
- [GAP Slice Level]
- [GAP2 Levels]
- [GAP2 Slice Level]
- [I-Mark Levels]
- [I-Mark Slice Level]



- Normally, no adjustment is necessary.
- The selections displayed vary depending on the sensors being used.

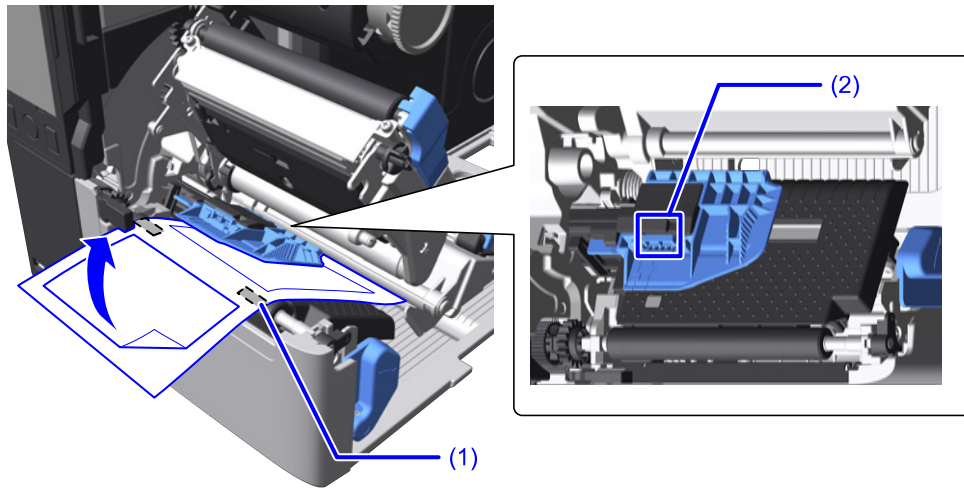
Adjusting the Sensitivity

First, calculate the "Low" level values of the media sensors to be adjusted.

1. Pass the media under the media sensor guide and load it.

To adjust [GAP Levels] or [GAP2 Levels], peel off the label from the media and pass just the liner under the media sensor guide.

When adjusting [I-Mark Levels], load the media without peeling off the labels.





- Load the media so that the I-mark (1) does not touch the media sensor position (2).

2. Push the head assembly downward until it "clicks" into place.



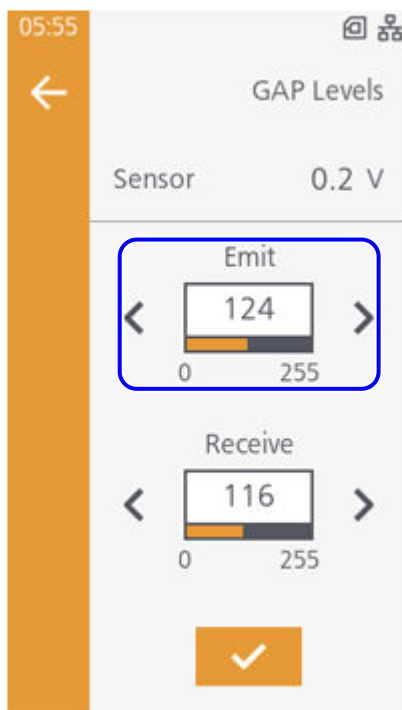
- When pushing the head assembly downward, be careful not to pinch your fingers.

3. From the settings screen, tap [Printing] > [Advanced] > [Sensor Adjustments].

4. Tap the sensor to adjust ([GAP Levels]/[GAP2 Levels]/[I-Mark Levels]).

5. Change the value of [Emit] until the value of "Sensor" is less than 0.5 (V).

Set the value for [Emit] as low as possible.



Initial value:

- [GAP Levels]: 124
- [GAP2 Levels]: 83
- [I-Mark Levels]: 50

6. If changing the [Emit] value does not reduce the "Sensor" value below 0.5, change the [Receive] value.

Initial value:

- [GAP Levels]: 116

- [GAP2 Levels]: 101
- [I-Mark Levels]: 60

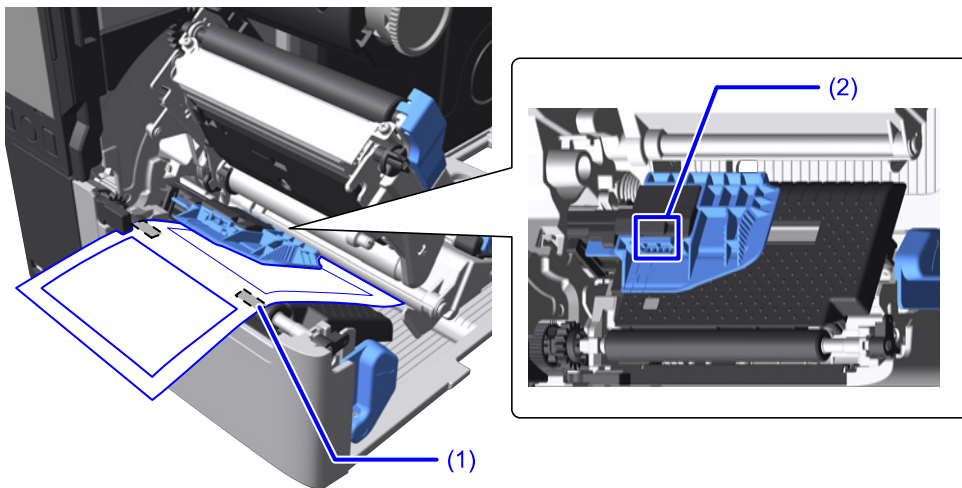
7. Make a note of the values of the "Sensor".

These are the "Low" level values.

Next, calculate the "High" level values of the media sensors to be adjusted.

8. Press the head lock lever backward, open the head assembly, and then load the media again.

Leave the labels on.



- For [GAP Levels]/[GAP2 Levels], load the media so that the I-mark (1) does not touch the media sensor position (2).
- For [I-Mark Levels], load the media so that the I-mark (1) overlaps the media sensor position (2), allowing the media sensor to detect it.

9. Push the head assembly downward until it "clicks" into place.



- When pushing the head assembly downward, be careful not to pinch your fingers.

10. Confirm the values of the "Sensor".

If the value is 1.0 (V) or more higher than the "Low" level value that was noted in step 7, this is the "High" level value.

If the difference between the "High" level and "Low" level is less than 1.0, repeat the procedure from step 1 to adjust the [Emit] and [Receive] values until the difference exceeds 1.0.

11. If the "Sensor" value is within the reference range, tap to confirm the value.



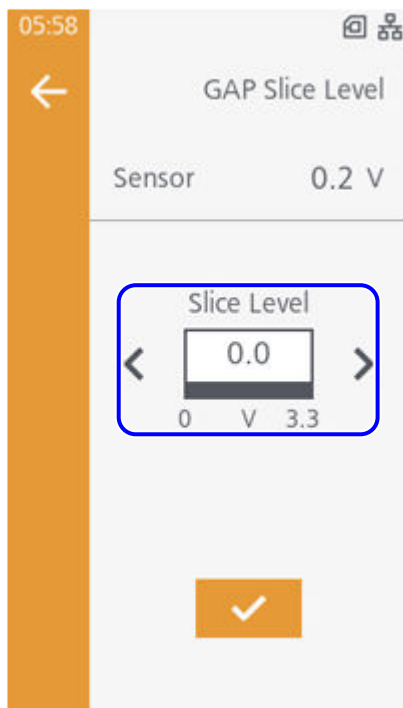
- The reference values for the "High" level and "Low" level are as follows.
 - Low < 0.5 (V)
 - High - Low ≥ 1.0 (V)

Adjusting the Slice Level

1. From the settings screen, tap [Printing] > [Advanced] > [Sensor Adjustments].
2. Tap the slice level to adjust ([GAP Slice Level]/[GAP2 Slice Level]/[I-Mark Slice Level]).
3. Calculate the slice level value using the following formula and set it to [Slice Level].

GAP Slice Level, GAP2 Slice Level = (High level - Low level) x 0.3 + Low level

I-Mark Slice Level = (High level - Low level) x 0.7 + Low level



Initial value: 0.0

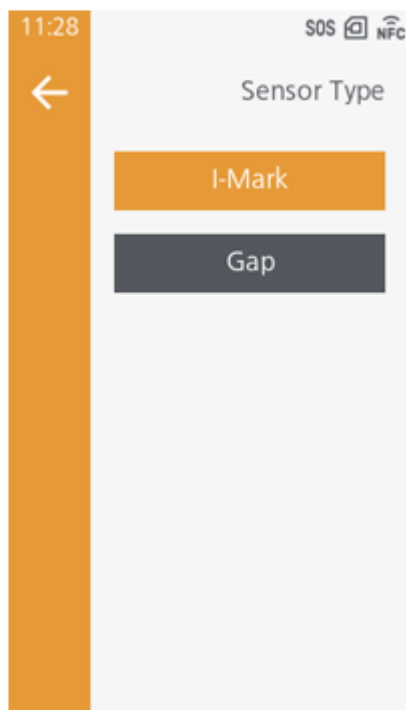
4. Tap  to confirm the value.



- When [Slice Level] is set to 0.0 (V), the slice level is automatically set by the product.

Setting the Sensor that Detects the End of the Media

[Printing] > [Advanced] > [Paper End] > [Sensor Type]

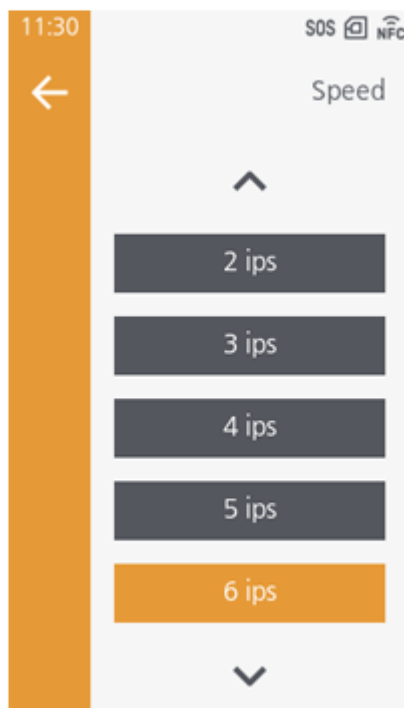


- [I-Mark]
Use the I-mark sensor to detect the paper end.
- [Gap]
Use the gap sensor to detect the paper end.

Initial value: [I-Mark]

Adjusting Print Speed

[Printing] > [Speed]



CL4-SXR

- 203 dpi: 2 to 18 inches/second (50.8 to 457.2 mm/second) (initial value: 6)
- 305 dpi: 2 to 16 inches/second (50.8 to 406.4 mm/second) (initial value: 6)
- 609 dpi: 2 to 6 inches/second (50.8 to 152.4 mm/second) (initial value: 4)

CL6-SXR

- 203 dpi / 305 dpi: 2 to 14 inches/second (50.8 to 355.6 mm/second) (initial value: 6)



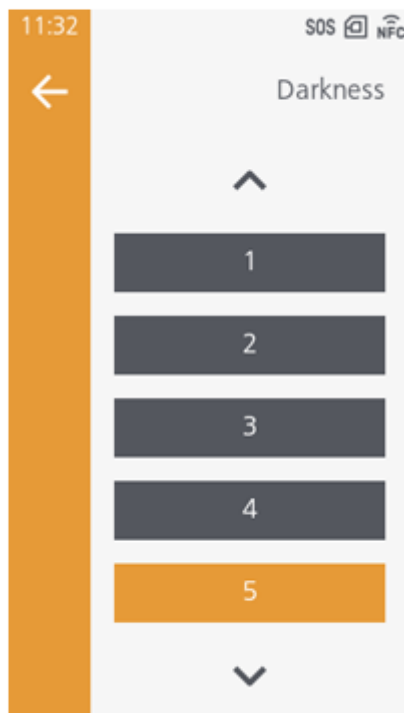
- The setting range differs depending on the options and print mode being used.
 - When the print mode is [Cut & Print]:
2 to 14 inches/second (50.8 to 355.6 mm/second) (initial value: 6)
 - When the print mode is [Dispenser]:
2 to 10 inches/second (50.8 to 254 mm/second) (initial value: 6)
 - When the print mode is [Linerless Cutter]:
2 to 6 inches/second (50.8 to 152.4 mm/second) (initial value: 4)
 - When using the GAP2 sensor (203 dpi):
2 to 16 inches/second (50.8 to 406.4 mm/second) (initial value: 6)
 - When the Micro Label Print function is enabled:
2 to 6 inches/second (50.8 to 152.4 mm/second) (initial value: 4)
 - When using the heat-proof rotary cutter unit:
fixed to 2 inches/second (50.8 mm/second)
 - RFID models:
2 to 14 inches/second (50.8 to 355.6 mm/second) (initial value: 6)

- Printing at speeds of 15 inches/second (381 mm/second) or higher may affect print quality depending on the label, ribbon, print layout, barcode type, etc. Do an advance check in your environment to confirm operations.
- When using a media roll with an outer diameter of 265 mm (10.43") on the media roll holder for large diameter at print resolutions of 203 dpi or 305 dpi, set the print speed to 14 inches/second (355.6 mm/second) or less.

Adjusting Print Darkness

[Printing] > [Darkness]

Specify the print darkness from 10 steps. (1 is lightest and 10 is darkest)

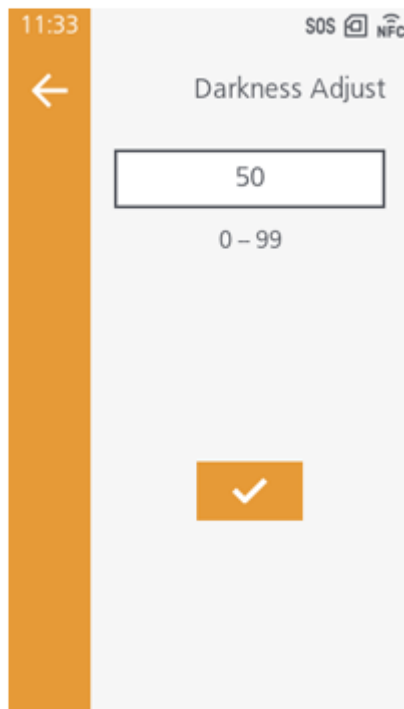


Initial value: 5



- To further fine tune the print darkness, set [Printing] > [Print Adjustment] > [Darkness Adjust].

[Printing] > [Print Adjustment] > [Darkness Adjust]



Fine tune the print darkness. (0 is lightest and 99 is darkest)

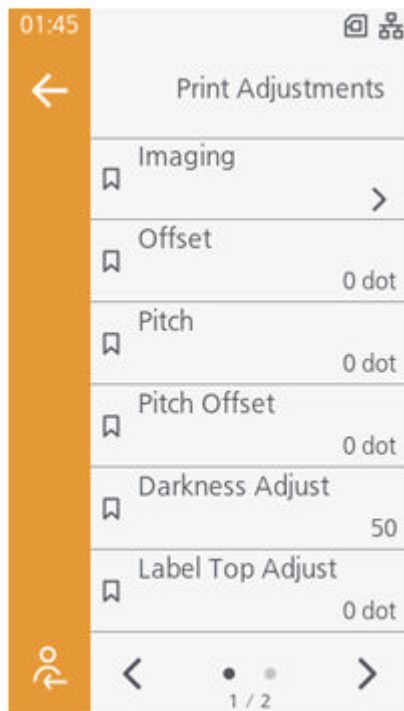
Initial value: 50



- [Darkness Range] normally uses A. Changing the setting value does not alter the print darkness.

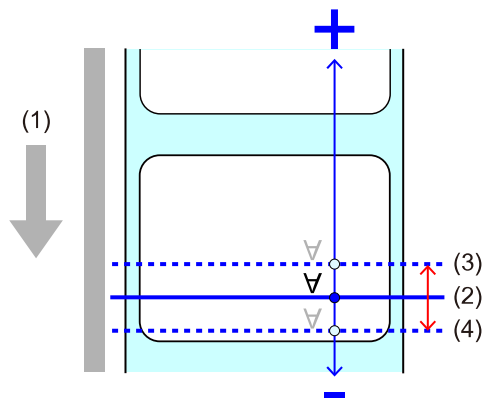
Adjusting Printing Positions

[Printing] > [Print Adjustment]



[Imaging] > [Vertical]

Adjust the print start position by setting '+' to move the print position in the direction opposite to the media feed direction and '-' to move it in the media feed direction.



- (1) Media feed direction
- (2) Print position before adjustment
- (3) Print position after adjustment in the plus direction
- (4) Print position after adjustment in the minus direction

CL4-SXR

- 203 dpi: -19,999 to 19,999 dots (initial value: 0)

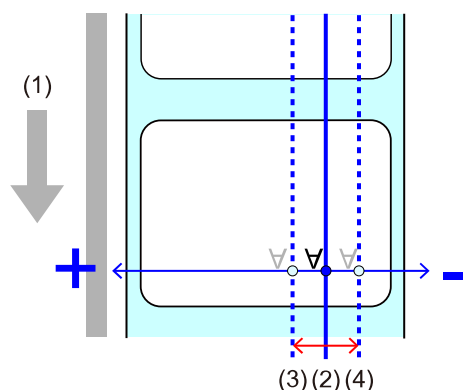
- 305 dpi: -17,999 to 17,999 dots (initial value: 0)
- 609 dpi: -9,599 to 9,599 dots (initial value: 0)

CL6-SXR

- 203 dpi: -19,999 to 19,999 dots (initial value: 0)
- 305 dpi: -17,999 to 17,999 dots (initial value: 0)

[Imaging] > [Horizontal]

Adjust the print start position by using "+" to adjust to the left side and "-" to adjust to the right side while facing the front of the product.



- (1) Media feed direction
- (2) Print position before adjustment
- (3) Print position after adjustment in the plus direction
- (4) Print position after adjustment in the minus direction

CL4-SXR

- 203 dpi: -831 to 831 dots (initial value: 0)
- 305 dpi: -1,247 to 1,247 dots (initial value: 0)
- 609 dpi: -2,495 to 2,495 dots (initial value: 0)

CL6-SXR

When the [Head Base Position] is [Standard]

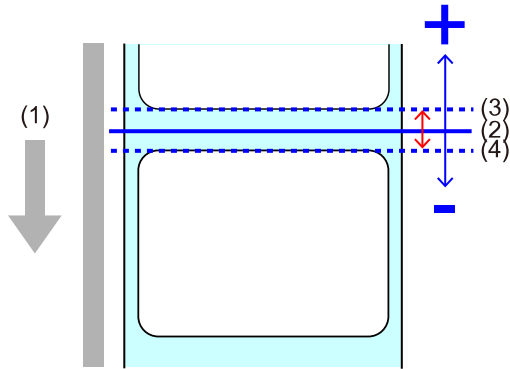
- 203 dpi: -1,215 to 1,215 dots (initial value: 0)
- 305 dpi: -1,983 to 1,983 dots (initial value: 0)

When the [Head Base Position] is [Left-justify]

- 203 dpi: -1,339 to 1,339 dots (initial value: 0)
- 305 dpi: -2,009 to 2,009 dots (initial value: 0)

[Offset]

Adjust the tear-off position, cut position, and dispense position.



- (1) Media feed direction
- (2) Position before adjustment
- (3) Position after adjustment in the plus direction
- (4) Position after adjustment in the minus direction

CL4-SXR

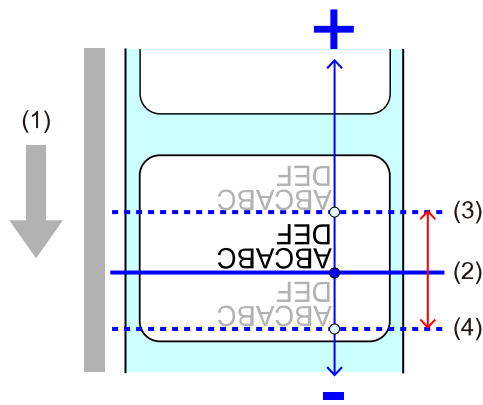
- 203 dpi: -30 to 30 dots (initial value: 0)
- 305 dpi: -45 to 45 dots (initial value: 0)
- 609 dpi: -90 to 90 dots (initial value: 0)

CL6-SXR

- 203 dpi: -30 to 30 dots (initial value: 0)
- 305 dpi: -45 to 45 dots (initial value: 0)

[Pitch]

Fine-tune the vertical print layout position by setting '+' to move the print position in the direction opposite to the feed direction and '-' to move it in the feed direction.



- (1) Media feed direction
- (2) Print position before adjustment
- (3) Print position after adjustment in the plus direction
- (4) Print position after adjustment in the minus direction

CL4-SXR

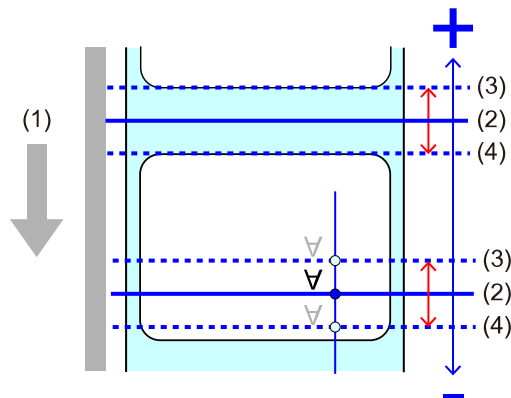
- 203 dpi: -30 to 30 dots (initial value: 0)
- 305 dpi: -45 to 45 dots (initial value: 0)
- 609 dpi: -90 to 90 dots (initial value: 0)

CL6-SXR

- 203 dpi: -30 to 30 dots (initial value: 0)
- 305 dpi: -45 to 45 dots (initial value: 0)

[Pitch Offset]

Adjust the tear-off position, cut position, dispense position, and print start position at the same time.



- (1) Media feed direction
- (2) Position before adjustment
- (3) Position after adjustment in the plus direction
- (4) Position after adjustment in the minus direction

CL4-SXR

- 203 dpi: -392 to 392 dots (initial value: 0)
- 305 dpi: -588 to 588 dots (initial value: 0)
- 609 dpi: -1,176 to 1,176 dots (initial value: 0)

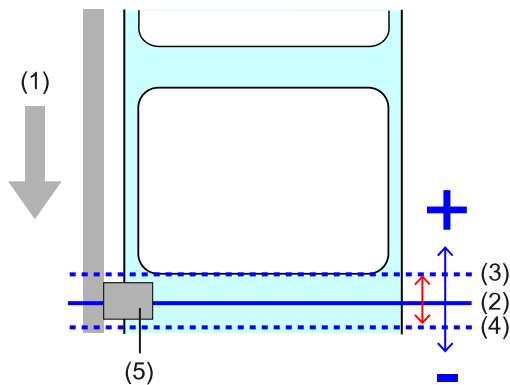
CL6-SXR

- 203 dpi: -392 to 392 dots (initial value: 0)
- 305 dpi: -588 to 588 dots (initial value: 0)

[Label Top Adjust]

Adjust the position at which the label top sensor detects the leading edge of the media.

This is not displayed if the dispenser, linerless cutter or rotary cutter is being used.



- (1) Media feed direction
- (2) Detection position before adjustment
- (3) Detection position after adjustment in the plus direction
- (4) Detection position after adjustment in the minus direction
- (5) Label top sensor

CL4-SXR

- 203 dpi: -30 to 30 dots (initial value: 0)

- 305 dpi: -45 to 45 dots (initial value: 0)
- 609 dpi: -90 to 90 dots (initial value: 0)

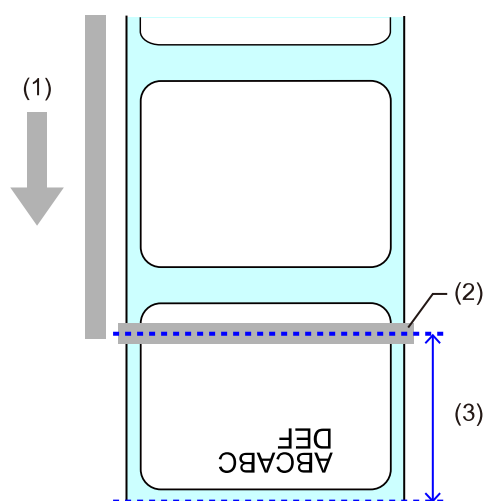
CL6-SXR

- 203 dpi: -30 to 30 dots (initial value: 0)
- 305 dpi: -45 to 45 dots (initial value: 0)

[Option Feed]

Set the media feed amount for tear-off, cut and dispense stop, with the print head position at 0.

The actual media feed amount is the value of [Offset] + [Option Feed].



- (1) Media feed direction
- (2) Print head
- (3) Option Feed + Offset values

CL4-SXR

- 203 dpi: 0 to 2,040 dots (initial value: 0)
- 305 dpi: 0 to 3,060 dots (initial value: 0)
- 609 dpi: 0 to 6,120 dots (initial value: 0)

CL6-SXR

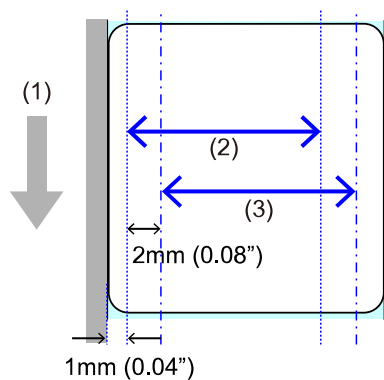
- 203 dpi: 0 to 2,040 dots (initial value: 0)
- 305 dpi: 0 to 3,060 dots (initial value: 0)

[Head Base Position]

Set the print reference position.

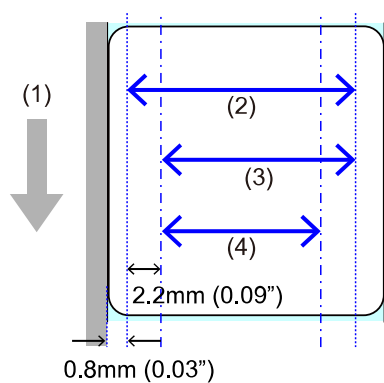
Select [Left-justify] to move the position of the printable area to the left when facing the product.

CL4-SXR



- (1) Media feed direction
- (2) Printable area (left-justify)
- (3) Printable area (standard)

CL6-SXR



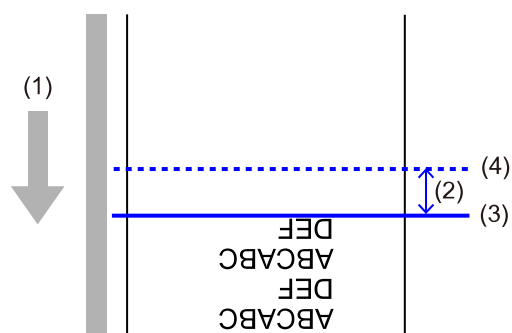
- (1) Media feed direction
- (2) Printable area (203 dpi/305 dpi, left-justify)
- (3) Printable area (305 dpi, standard)
- (4) Printable area (203 dpi, standard)

Initial value:

- **CL4-SXR** [Standard]
- **CL6-SXR**  [Left-justify],  [Standard]

[Print End Position]

Adjust the media stop position or cut position when [Sensor Type] is set to [None]. This adjustment sets the blank amount from the media stop position.



- (1) Media feed direction
- (2) Value to be set for [Print End Position]
- (3) Media stop position/cut position before adjustment
- (4) Media stop position/cut position after adjustment

CL4-SXR

- 203 dpi: 0 to 20,000 dots (initial value: 0)
- 305 dpi: 0 to 18,000 dots (initial value: 0)
- 609 dpi: 0 to 9,600 dots (initial value: 0)

CL6-SXR

- 203 dpi: 0 to 20,000 dots (initial value: 0)
- 305 dpi: 0 to 18,000 dots (initial value: 0)

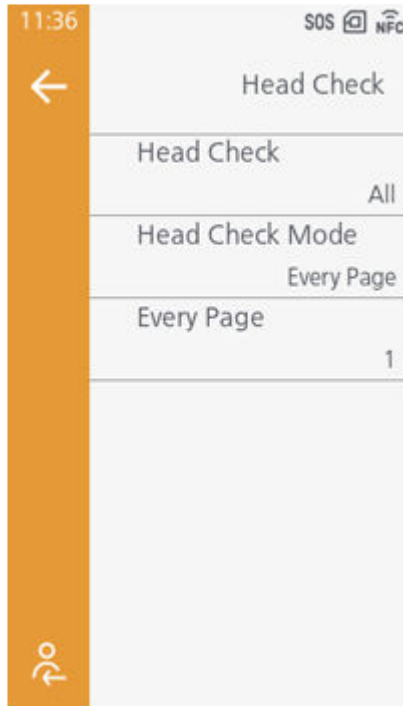
Checking for Broken Elements in the Print Head

[Printing] > [Advanced] > [Head Check]

During printing, check whether the print head is broken.



- This function does not guarantee barcode readability. A regular barcode reader test is required. There may be a slight delay between the occurrence of white voids in printing and the activation of the Head Check function.
- For labels printed after a head check results in error No. 1012 ([Head Error]), check any printed barcodes by scanning them with a scanner.



[Head Check]

- [Disabled]
Disable the head check.
- [All]
Check the entire print area.
- [Barcode]
Check only the area for printing a barcode. Head check is not applicable for barcodes printed as graphic data.

Initial value:

-  [All]
-  [Disabled]

[Head Check Mode]

Appears if you have selected [All] or [Barcode] for [Head Check].

- [All]
Perform the head check for every item.
- [After Batch]
The head check occurs before starting to print and when printing is stopped. When backfeed is enabled, a head check is performed at the following times:
 - Backfeed before printing: During backfeed and when printing stops
 - Backfeed after printing: Before printing starts and during backfeed
- [Every Page]
Perform the head check for each specified number of media.
In [Every Page], specify how many labels to print before a head check is performed.

Initial value: [All]

[Every Page]

Perform the head check for each specified number of media.

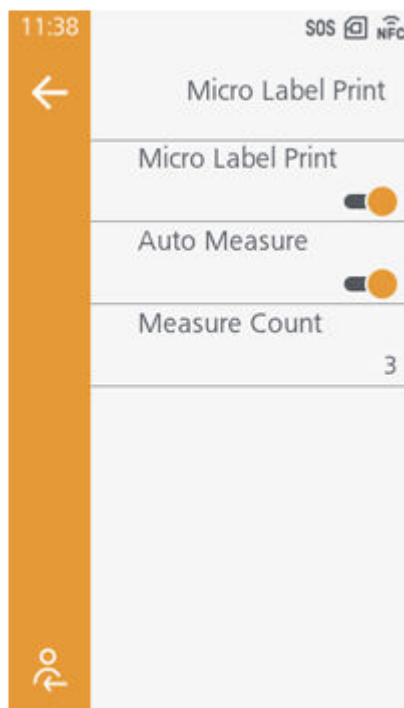
Appears if you have selected [Every Page] for [Head Check Mode].

Initial value: 1

Setting the Micro Label Print Function

[Printing] > [Advanced] > [Micro Label Print]

When using the Micro Label Print function, high-precision printing is possible on small labels.



[Micro Label Print]

Use the Micro Label Print function.



- The printing precision of Micro Label Print may be affected by the processing precision of the label, the print layout, the ribbon size, and the customer's usage conditions.
We recommend using this feature under the following conditions.
 - Print speed: 6 inches/second (152.4 mm/second) or less
 - Ribbon roll length: 300 m (984.25 ft) or less
 - Media sensor type: Gap sensor (transparent)
 - Head pressure balance: Refer to [Adjusting the Head Pressure Balance](#).
- When this function is enabled, [Gap2] cannot be set in [Sensor Type].
- For media * that is 52.8 mm (2.08") long or longer, this function does not affect the printing accuracy.
- When the print speed is set to 7 inches/second (177.8 mm/second) or higher and this function is enabled, the print speed will be changed to the initial value.
- When this function is enabled and print speed specified by the command is 7 inches/second (177.8 mm/second) or higher, a command error occurs.
- When using this function with RFID models, we recommended that you check operations beforehand.

*: 33.6 mm (1.32") or more for RFID models when using I-mark sensor

Initial value: Disabled

[Auto Measure]

When [Micro Label Print] is enabled, this setting automatically measures the length of the label.



- If the print start position is misaligned, disable this function and manually set the label length in [Micro Label Print] > [Label Length].

Initial value: Enabled

[Measure Count]

Set the number of times to measure the label length to calculate the label length when [Micro Label Print] and [Auto Measure] are enabled.

Initial value: 3

[Label Length]

When [Micro Label Print] is enabled and [Auto Measure] is disabled, set the label length manually.

Set a value that includes the liner.

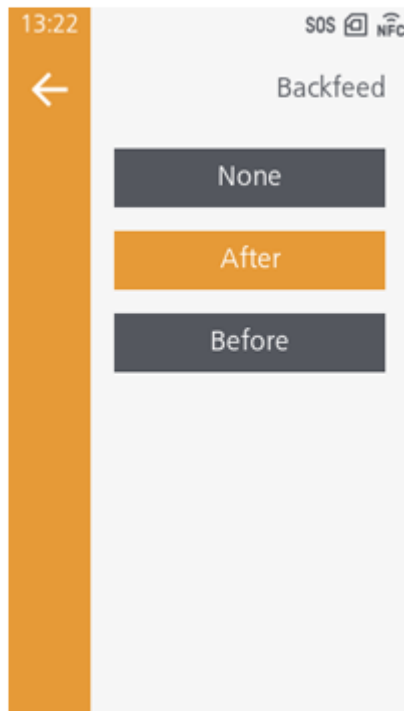
- **CL4-SXR**
203 dpi: 72 to 424 dots (initial value: 320)
305 dpi: 108 to 636 dots (initial value: 480)
609 dpi: 216 to 1,272 dots (initial value: 960)
- **CL6-SXR**
203 dpi: 72 to 424 dots (initial value: 320)
305 dpi: 108 to 636 dots (initial value: 480)

Setting and Adjusting the Media Feed

Set the Timing for the Backfeed

[Printing] > [Backfeed]

Set the timing to backfeed media.



You can change this when [Print Mode] is set to [Dispenser] or [Cutter].

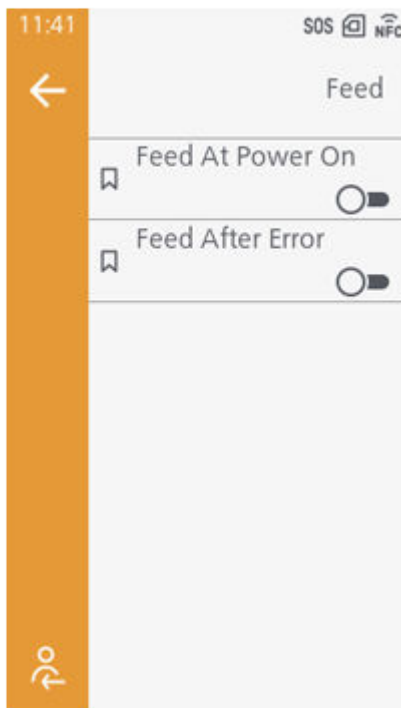
- [None]
Does not backfeed. After printing, the media stops at the following positions.
 - When print mode is [Continuous]: At the print head
 - When the print mode is [Cutter]: At the cut position
 - When the print mode is [Dispenser]: At the dispenser position
- [After]
When [Print Mode] is set to [Cutter], after the media is cut, the leading edge of the next media is backfed to the print head position. When [Print Mode] is set to [Dispenser], the leading edge of the next media is backfed to the position of the print head after the current label is dispensed.
- [Before]
Before printing, the leading edge of the next media is backfed to the print head position.

Initial value:

- When print mode is [Continuous]: [None]
- When print mode is [Tear-Off] or [Linerless Cutter]: [Before]
- When print mode is [Dispenser], [Cutter], or [Cut & Print]: [After]

Set the Timing for Feeding Media

[Printing] > [Advanced] > [Feed]



[Feed At Power On]

Media is automatically fed when the product is started and changes to Online mode.

Can be set if [Label Waste Prevention] is disabled.

Initial value: Disabled

[Feed After Error]

Media is automatically fed when recovering from an error and changing to Online mode.

Can be set if [Label Waste Prevention] is disabled.

Initial value: Disabled

Checking Media Sizes

[Printing] > [Advanced] > [Check Media Size]

An error is displayed to prevent misprints when the sizes of the print data and loaded media are different.

Error No. 1010 ([Media Error]) appears if either of the following conditions applies:

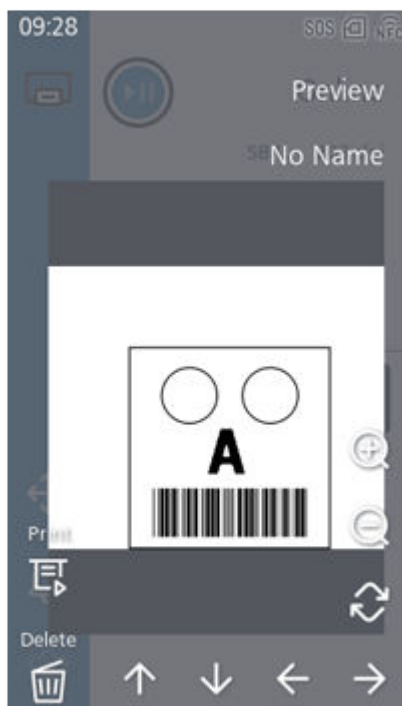
- If the media is more than 3 mm (0.12") longer than the media length specified with the media size command ESC + A1
- If the current media feed length is more than 3 mm (0.12") longer than the media length fed for the first time after this function is enabled

Initial value: Disabled

Previewing Print Data

[Printing] > [Advanced] > [Print Preview]

A preview of the print data is displayed before printing.



Initial value: Disabled

Reprinting Data

[Printing] > [Advanced] > [Reprint]

Tap [Reprint] on the Online screen to reprint the previously printed data.

Initial value: Disabled

Starting in Online Mode

[Printing] > [Advanced] > [Start Online]

The product starts in Online mode.

Initial value: Enabled

Setting the Label Waste Prevention Function

Enabling the Label Waste Prevention function allows you to print on the first label by aligning the media with the print start position. This prevents the waste of media by eliminating the need to feed blank media to align positions.

[Printing] > [Advanced] > [Label Waste Prevention]

This is not displayed if the dispenser, linerless cutter or rotary cutter is being used.

Can be set if [Feed After Error] and [Feed At Power On] are disabled.



- The Label Waste Prevention function is executed at the following times.
 - The first time the product changes to Online mode after being powered on
 - When the product changes to Online mode after the head assembly is opened/closed
- To set up the Label Waste Prevention function for each media be used, register it as a media profile. For more information on media profiles, see [Setting Media Profiles](#).

Initial value: Disabled

Adjusting the Label Top Sensor

With the Label Waste Prevention function, the label top sensor, which is located at the media discharge outlet, detects the leading edge of the media and aligns the media to the print start position.

If the print start position is misaligned, try adjusting the position and sensitivity of the label top sensor.

- **Adjusting the Position of the Sensor**

[Printing] > [Print Adjustment] > [Label Top Adjust]

For more information, see [\[Label Top Adjust\]](#).

- **Adjusting the Sensitivity of the Sensor**

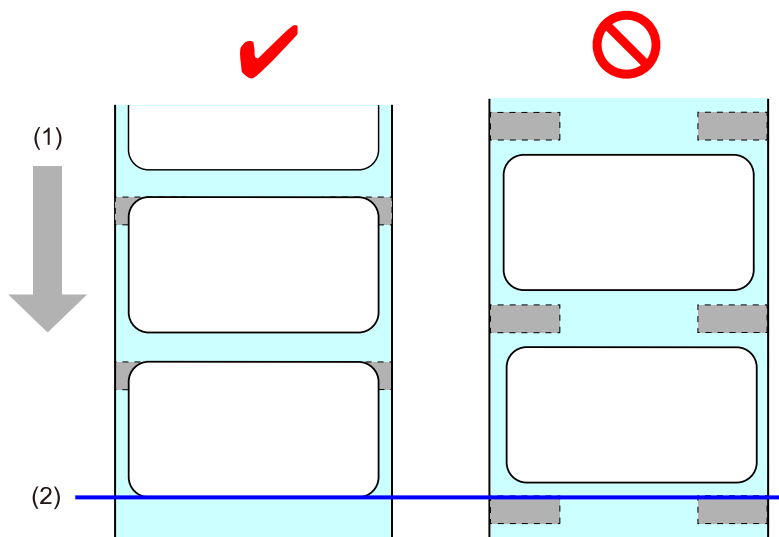
[Printing] > [Advanced] > [Sensor Adjustments] > [Auto Calibration] > [Top]

For more information, see [Adjusting the Media Sensor Automatically](#).

Restrictions

The Label Waste Prevention function cannot be used in the following conditions:

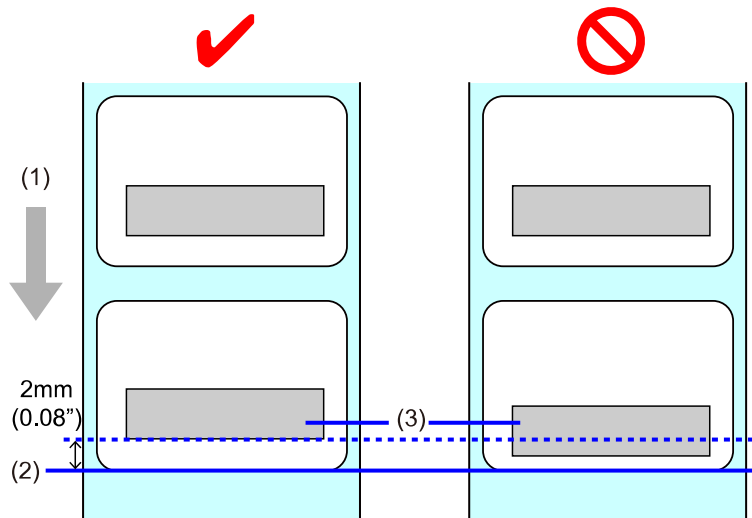
- When the dispenser, linerless cutter or rotary cutter is being used
- When using linerless labels or journal paper
- When using labels with special shapes, such as round
- When using Micro Label Print function
- When [None] is selected in [Sensor Type]
- When [I-Mark] is selected in [Sensor Type] (because the media stop position is shifted from the leading edge of the media)



(1) Media feed direction

(2) Print head position

- When using RFID tags with an inlay position less than 2 mm (0.08") from the leading edge of the media

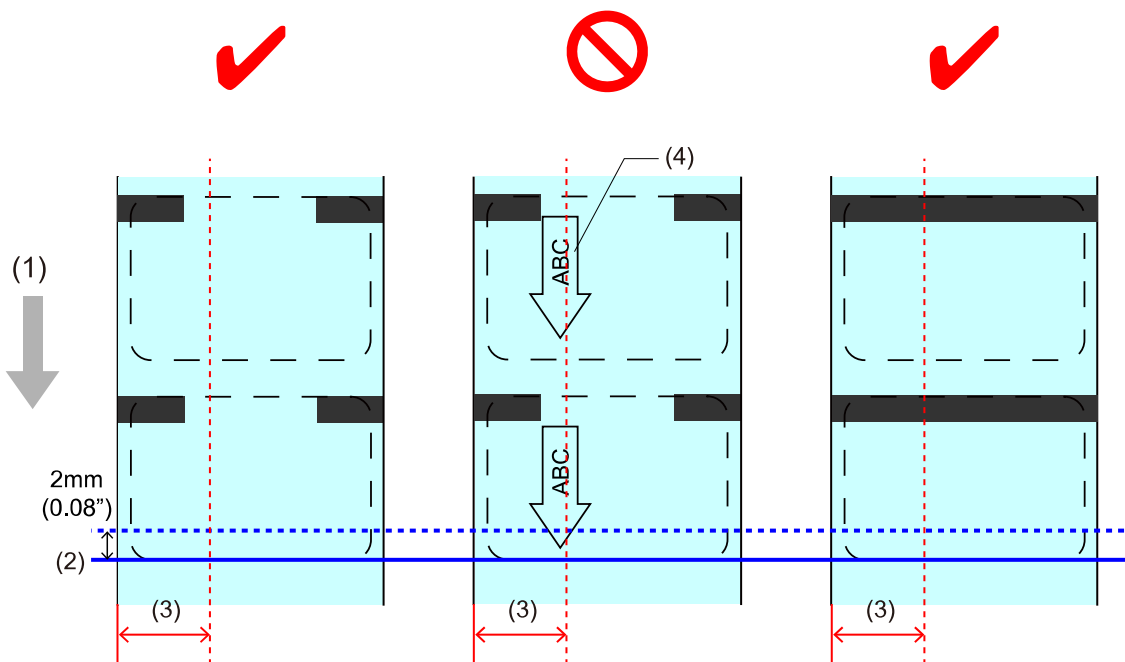


(1) Media feed direction

(2) Leading edge of the media

(3) Inlay

- When using media with a preprint on the back side that is less than 2 mm (0.08") from the leading edge of the media and at the position that passes the label top sensor



(1) Media feed direction

(2) Leading edge of the media

(3) Position that passes the label top sensor (standard: 8 ± 1.5 mm (0.31 ± 0.06 ")), cutter: 9 ± 1.5 mm (0.35 ± 0.06 "))

(4) Example of preprinting on back side

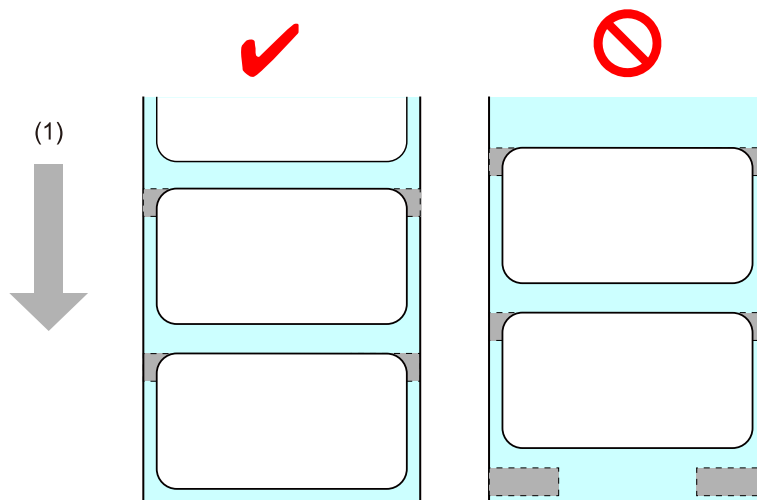
- When using media with a gap of more than 3 mm (0.12") and [Check Media Size] is enabled
For more information on [Check Media Size], see [Checking Media Sizes](#).
- When [Option Feed] is changed

If you change [Option Feed], operation of the Label Waste Prevention function is not guaranteed, so use the initial value. For more information on [Option Feed], see [\[Option Feed\]](#).

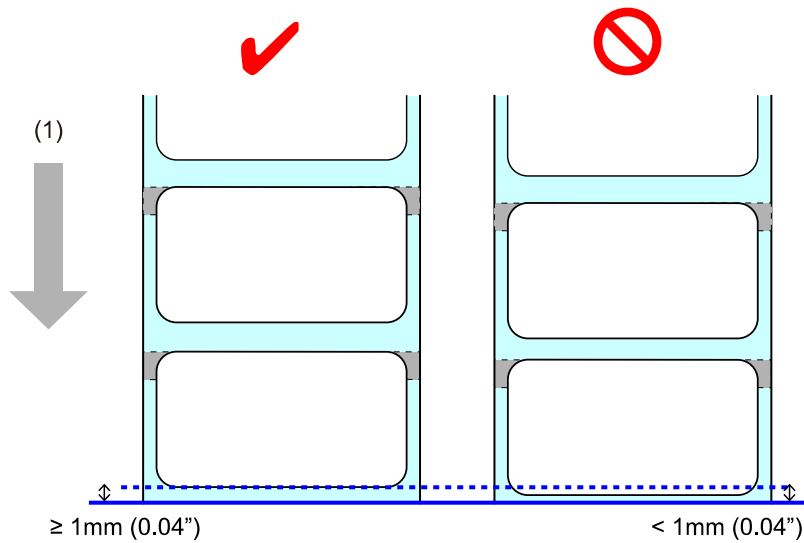
Precautions

Note the following precautions when using the Label Waste Prevention function.

- Keep out of direct sunlight. This function may not operate correctly.
- Confirm that printing can be done on the first label. This function does not operate correctly if the media is torn, is cut in the middle, or if the label is peeled off so only the liner is left.
- Note the following precautions when loading media.
 - Make sure there are no I-marks on the back of the liner at the leading edge of the labels.



- Make sure that the length of the liner at the leading edge of the label is 1 mm (0.04") or more. If it is less than 1 mm (0.04"), the print start position could shift.

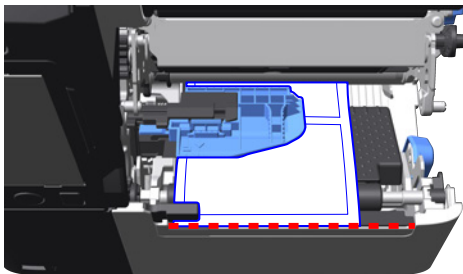


- An error occurs if the leading edge of the media is too far from the correct loading position. Align the leading edge of the media to the correct loading position.

When standard

Align the leading edge of the media with the media discharge outlet.

You can also check this in the video. ([Position of leading edge of the loaded media when using Label Waste Prevention function \(standard\)](#))

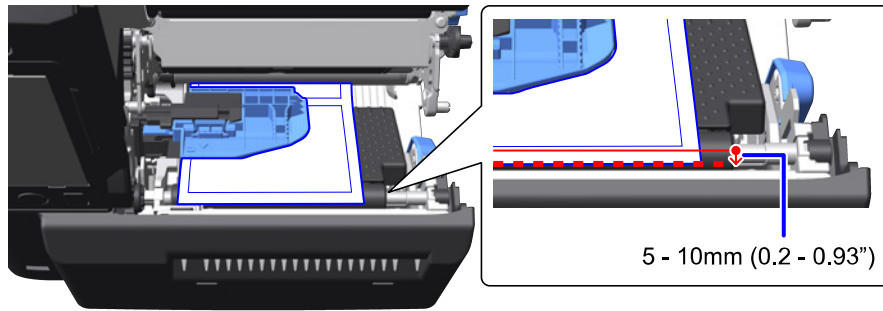


When using cutter

Position the leading edge of the media slightly ahead of the center of the platen roller (guideline: 5-10 mm (0.2-0.93")).

You can also check this in the video. ([Position of leading edge of the loaded media when using](#)

Label Waste Prevention function (cutter)



- If the print data contains the starting point command ESC+#, media may fall out depending on the settings.
- When using RFID tags, if the values for [Offset], [Pitch], [Label Top Adjust] in the [Printing] > [Print Adjustment] menu, or the adjustment values set via the offset command ESC+PO are too large, writing data to the inlay may fail.
- When the head assembly is opened while the Label Waste Prevention Function is enabled, the ribbon rewind spindle may rotate to rewind used ribbon.
- When using short-length labels, ^{*1} the product will backfeed to the print head position after printing the first label. ^{*2} The product will operate according to the specified print mode from the second and following labels.

^{*1}: Short-length labels refer to media whose length (including liner) is shorter than the distance from the label standby position to the media sensor.

^{*2}: Backfeeds even in continuous operation

Settings to Check Reading of Barcodes CL4-SXR

By using the barcode check function, you can use the scanner mounted to the product to read and verify the of printed barcodes to prevent the distribution of labels with invalid barcodes.



- Cannot be used in Tear-Off mode.
- Cannot be used with RFID models.
- Use the barcode checker mount kit to mount the scanner.

Before connecting the scanner to the product, change its operating settings to enable communication with the product.

To use the barcode check function, install a compatible scanner and then configure settings using the following procedure.

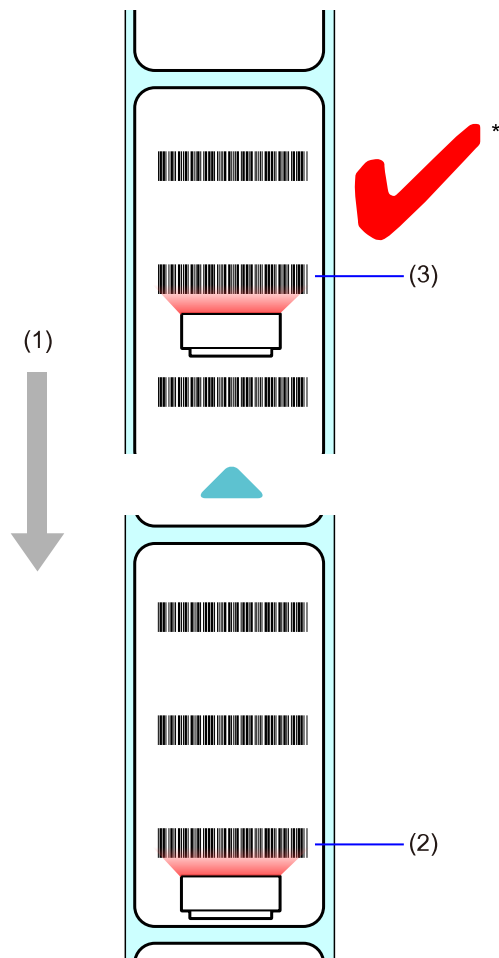
If using a scanner not manufactured by Keyence, proceed to step 4.

1. From the settings screen, tap [Printing] > [Advanced] > [Barcode Checker] > [Mode] to select the barcode check function mode.



- [Disabled]
Disable the barcode check.
- [Readable]
When [Readable] is selected, it checks whether the printed barcodes are readable.
Determines whether the number of barcodes read by the scanner matches the number of barcodes in the print data.
If the number of barcodes read by the scanner reaches the number of barcodes in the print

data, then they are judged to be readable.



*: They are considered readable even if the number of barcodes read by the scanner exceeds the number of barcodes in the print data.

- (1) Media feed direction
- (2) First barcode
- (3) Second barcode

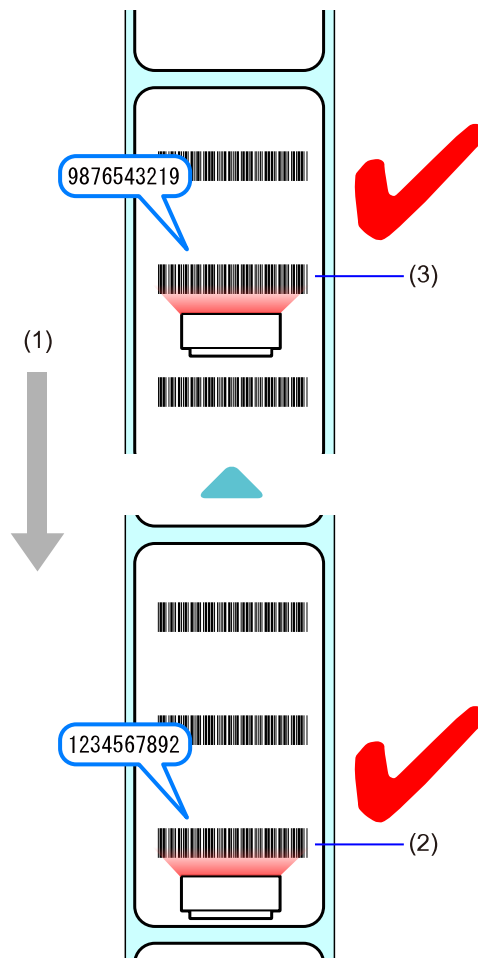


- Barcodes created using methods other than barcode commands may not be read by the scanner, causing the Readable mode to function incorrectly.

- **[Comparison]**

When [Comparison] is selected, it checks whether the barcode reading results match the barcode data in the print data. Applies to barcodes created with the barcode command. If the result of reading a printed barcode matches the barcode data in the print data, it is

judged to be normal.



(1) Media feed direction

(2) First barcode

(3) Second barcode

Initial value: Disabled

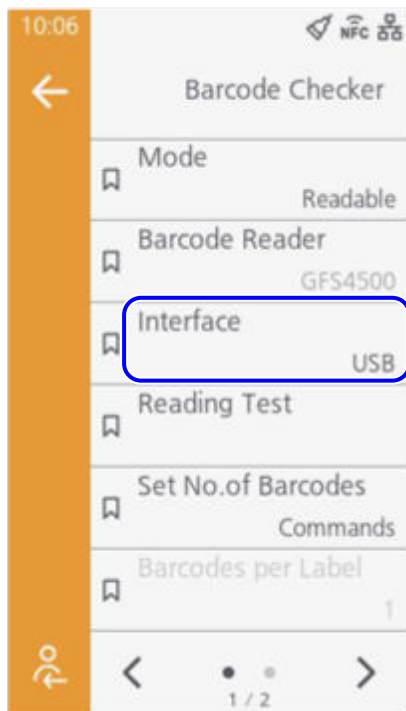


- To use Comparison mode, barcodes must be created using the barcode command. If graphic data (such as BMP images) or pre-printed barcodes are within the reading range, Comparison mode will not function properly.



- Even if Readable mode or Comparison mode is set, barcode verification is not performed if no barcode data is specified in the print data.
- Multiple barcodes on one label can also be checked. There is no limit to the number of barcodes, but a reading error will occur if a single barcode exceeds 100 bytes or the total barcode data exceeds 200 kilobytes.

2. Set [Interface] to [RS-232C].



3. Power off the product and then power it back on.

When you power on the product, the scanner will also turn on automatically.



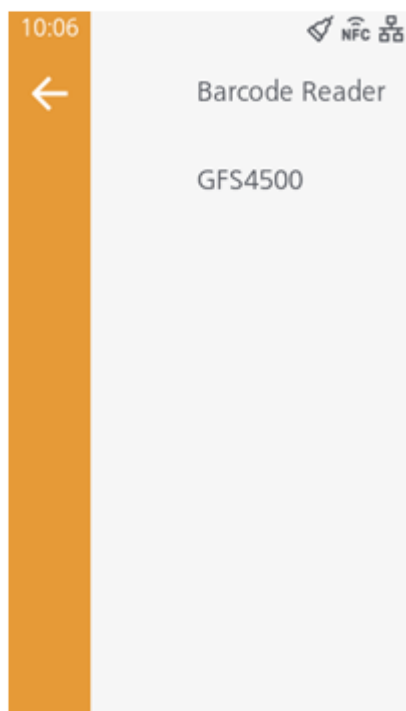
- When the scanner powers on, a laser beam is emitted from the scanner. Take great care to avoid direct eye contact with the laser beam.



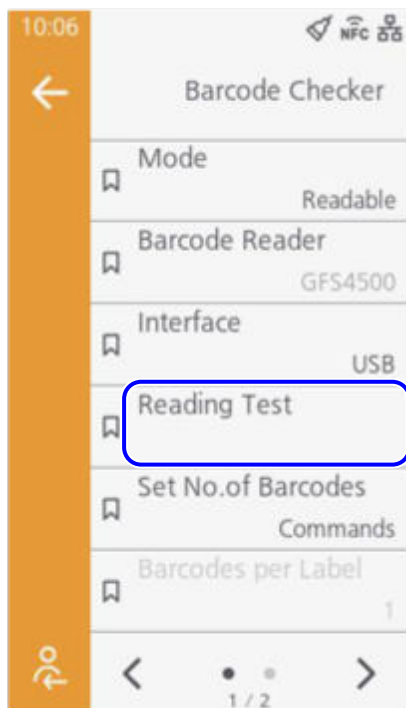
- Do not plug or unplug the scanner while the product is powered on. This product may not operate correctly.

When the connection to the scanner is complete,  is shown in the status bar.

4. From the settings screen, tap [Printing] > [Advanced] > [Barcode Checker] and confirm that the connected scanner is shown in [Barcode Reader].



5. Place a label with a printed barcode within the scanner's reading range.
6. Tap [Reading Test] to perform a barcode reading test.



If the reading is successful, the type of barcode read and its data will be displayed on the screen. If reading fails, or if the displayed reading result is incorrect, adjust the position of the scanner.

7. If necessary, configure the following advanced settings.

[Set No.of Barcodes]

Appears if you select [Readable] for [Mode].

When [Commands] is selected, the barcodes created with the barcode command are subject to read checks.

When [Settings] is selected, barcodes created using methods other than barcode commands (such as graphic data or pre-printed barcodes) are included in the read checks.

Initial value: [Commands]

[Barcodes per Label]

When [Settings] in [Set No.of Barcodes] is selected, then specify the number of barcodes on one label.



- If you set [Start Position] to exclude the first barcode from the check target, specify the number of barcodes without counting the excluded barcodes.

Initial value: 1

[Start Position]

Adjust the start position for checking the barcodes (the position where the scanner starts reading).

The scanner begins reading after each label has passed the length specified in this setting from the print start position.

This is used when multiple barcodes are printed on each label and you want to exclude the first barcode from the check.

- 203 dpi: 10 to 20,000 dots (initial value: 72)
- 305 dpi: 15 to 18,000 dots (initial value: 108)
- 609 dpi: 30 to 9,600 dots (initial value: 216)

[VOID Print]

Set to print / marks on the corresponding label in the event of a reading error or a comparison error.

After printing VOID, the same barcode will be issued and checked until the number of retries specified in [Retry Count] is reached.



- This function cannot be used when [Print Mode] is set to [Dispenser] or [Linerless Cutter].
- This function cannot be used when the length of the print data is less than 8 mm (0.31").
- The maximum length of the backfeed amount for VOID print is 45 mm (1.77"). However, if the length of the image printed on the label being checked is less than 45 mm (1.77"), the backfeed amount will be the length of that image.
- When this function is enabled, even if the cutter does not cut during the cutting operation, a VOID print will be forced if a comparison error occurs.

Initial value: Disabled

[Retry Count]

Set the number of times the same barcode is reprinted and checked after VOID print. (0 to 10)

Appears if [VOID Print] is enabled.

Initial value: 0

[Host Notification]

The barcode check results for each label are sent back to the host with the following information.

- If the check succeeds: <STX>BV,OK<ETX>
- If the check fails: <STX>BV,NG<ETX>

Initial value: Disabled

[Logs]

Copy or delete the log data that is automatically generated when barcode readable check or comparison check is successful or an error occurs.

This function can be used only when there is barcode check log data in the product.

When the log file reaches its maximum size (1 MB), the new log data overwrites the older log data.



- You can tap [Copy] to copy log data to a USB memory if you have connected a USB memory.

Barcode check log data is created in the following format.

```
YYYY/MM/DD hh:mm:ss (ZZZ) [TTTTTTT] READING[IR]:SRSR:drdr...<CR><LF>
[RRRRRRR] COMMAND[IC]:SCSC:dcdc...<CR><LF>
```

The output results for each log item differ depending on whether the barcode is read or verified.

Format ID	Description
YYYY/MM/DD	Date when read (year/month/day)
hh:mm:ss	Time when read (hour : minutes : seconds)
ZZZ	Time zone
TTTTTTT	Total number of labels issued since the product was started • If the total number of labels issued is 8 or more digits, the number of digits output will also increase.
IR	Number of read data received after reaching the check start position • If the check result is "IGNORED," it will be "00."
SRSR	Read data size (bytes)

Format ID	Description
drdr...	Read data
RRRRRRR	Check results • SUCCESS ◦ Always OK in Readable mode. ◦ In Comparison mode, this indicates that the read data and the print data match. • FAILURE ◦ In Readable mode, this indicates that the scanner did not read the data for the printed barcode. ◦ In Comparison mode, this indicates that there was a mismatch between the read data and the print data. • IGNORED Indicates that the data was read outside the period between the start and end of the check while the product was operating.
IC	Number of print data to be checked  • If the check result is "IGNORED," it will be "--."
SCSC	Print data size (bytes)  • If the check result is "IGNORED," it will be "----."
dcdc...	Print data  • If the check result is "IGNORED," nothing is output.

Notifying When to Replace Media and Ribbon

A notification appears when the remaining amount of media or ribbon is running low.

[Printing] > [Advanced] > [Label Near End]

A notification appears on screen when the remaining amount of media is running low. Also, a warning icon  appears in the status bar.



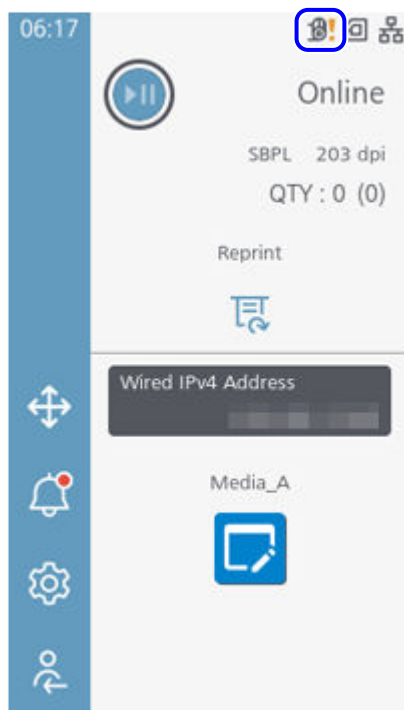
- The label near-end status is output to status response and external signal.

Initial value: Disabled

[Printing] > [Advanced] > [Ribbon Near End]

Appears if [Ribbon] is enabled.

A notification appears when the remaining amount of ribbon is running low. Also, a warning icon  appears in the status bar.





- The ribbon near-end status is output to status response and external signal.

Initial value: Enabled

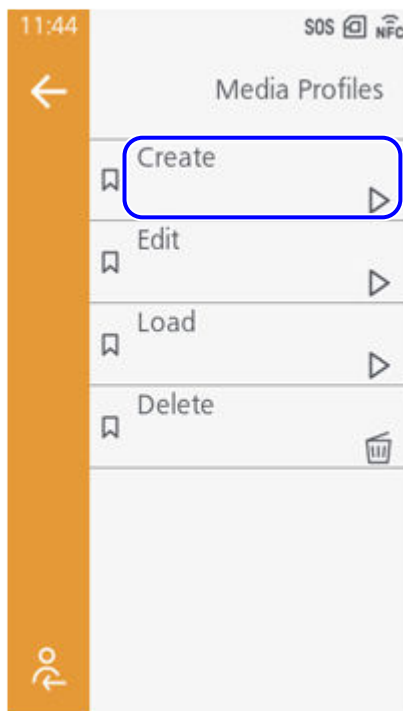
Setting Media Profiles

Print settings can be saved for each type of media. This is useful when using multiple types of media.

You can register a maximum of 10 media profiles.

The procedure to create media profiles is as follows.

- 1. From the settings screen, tap [Printing] > [Media Profiles] > [Create].**



- 2. Set the following setting items according to the screen.**

- [Ribbon]
- [Sensor Type]
- [Auto Calibration] (Sensor Adjustments)
- [Speed]
- [Darkness]
- [Label Waste Prevention]
- [RFID Profile] (Only when RFID profiles are registered on an RFID model)

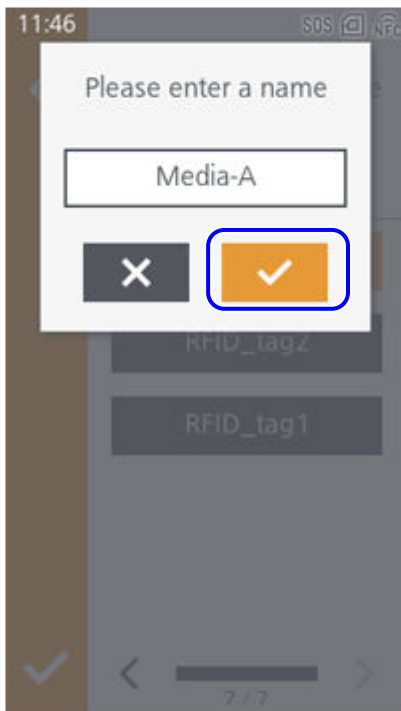
3. Tap  to the lower left on the menu bar to save the setting value.

4. Tap  on the confirmation screen.

5. Enter the name of the media profile, and tap .

You can enter 1 to 32 characters. You can use alphabet (capital and small letters), numbers and symbols.

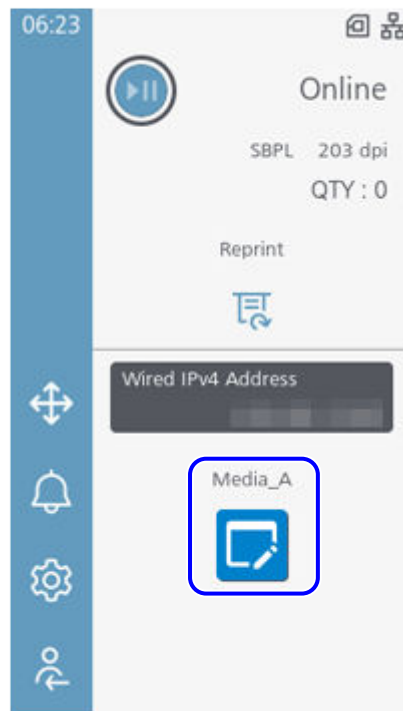
A period cannot be input as the first character. If you input any other invalid characters or symbols, the name cannot be confirmed.



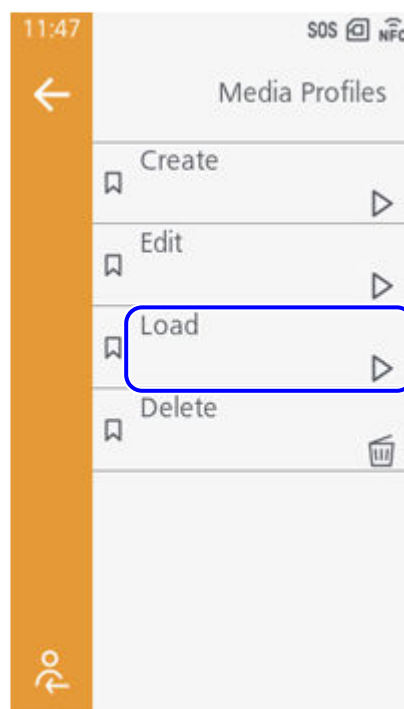


- To cancel the settings you are currently doing, tap . Tap  on the message to confirm you want to cancel the settings.
- To edit a registered media profile, tap [Edit], then select the media profile to edit.
- To delete a registered media profile, tap [Delete], then select the media profile to delete.

- You can apply the created media profiles to the product in one of the following ways.
 - On the Home screen (Online/Offline) tap the icon of the media profile you created.



- Select the media profile to be applied from [Printing] > [Media Profiles] > [Load].



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Netmask

Gateway

Primary DNS

Secondary DNS

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Mode

Renew Lease

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Common

[Delay Reply ENQ](#)

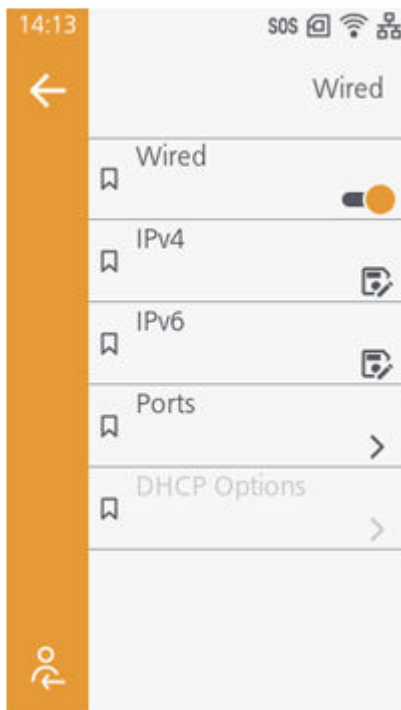
Setting Up Connections

Setting the Wired LAN/Wireless LAN

When Using Wired LAN

Tap [Network] > [Wired] > [Wired] to enable it, and then configure the network settings such as the IP address. (Initial value: Disabled)

For more information, see [Configuring Network Settings](#).



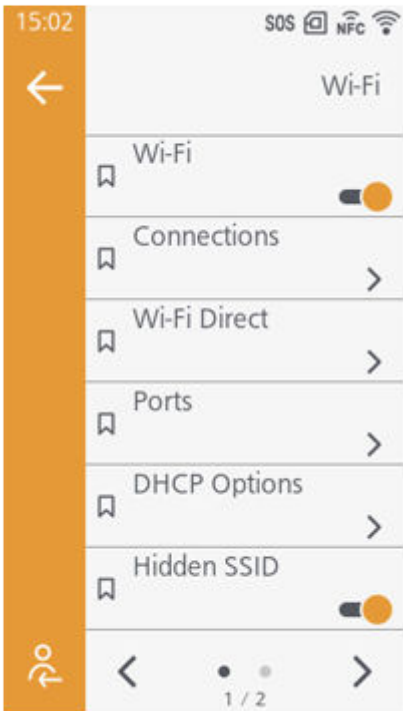
When Using Wireless LAN

This can be used when the wireless LAN/Bluetooth unit is installed.

Tap [Network] > [Wi-Fi] > [Wi-Fi] to enable it, and then configure the network settings in [Connections]. (Initial value: Disabled)

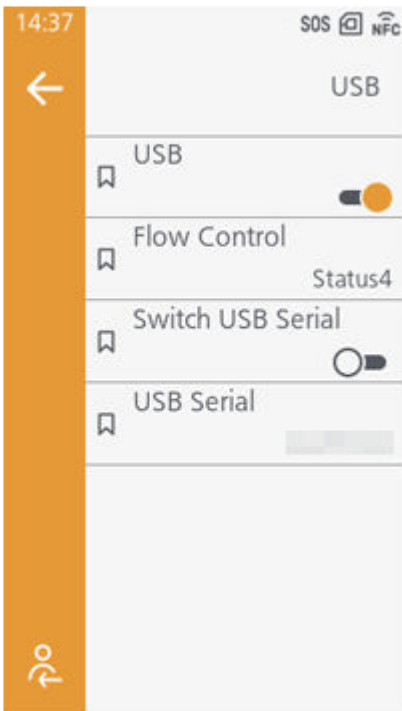
For more information, see [Configuring Network Settings](#).

If necessary, change the Hidden SSID function (initial value: Enabled) and frequency band (initial value: [All]) settings.



Setting Up a USB Connection

[Interface] > [USB]



Configure settings related to USB. (Initial value: Disabled)

Before setting up the product, enable [Switch USB Serial] to return the USB serial number, allowing you to replace the product without adding a new printer driver.

If [Switch USB Serial] is disabled, the factory-set USB serial number (unique to each product) will be returned, and you need to configure the printer driver settings for each product.

The USB serial number can be confirmed in [USB Serial].

Initial value:

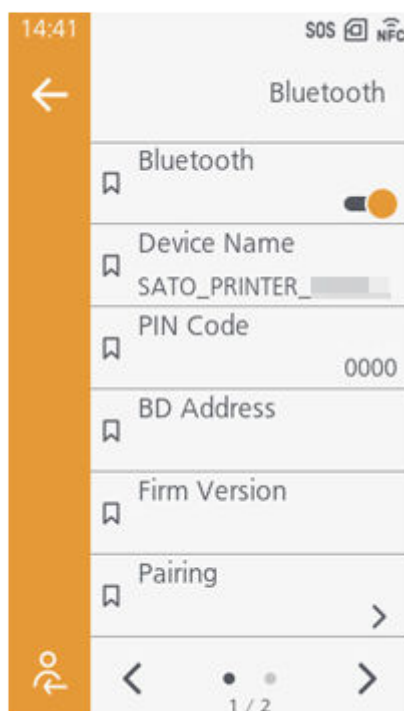
- [Flow Control]: [Status4]
- [BCC]: Disabled
- [Switch USB Serial]: Disabled



- If two products that have the same USB serial number are connected to the same computer, a blue screen error may occur on the computer.

Setting Up a Bluetooth Connection

[Interface] > [Bluetooth]



Configure settings related to Bluetooth. (Initial value: Disabled)

Set the device name, PIN code, host BD address, and authentication level.

This is shown when the wireless LAN/Bluetooth unit is being used.

Search for a Bluetooth device and show the name of the device in [Pairing] > [Search Devices].

When you execute [Pairing] > [Pairing Standby], the host can detect the product as a printer available for pairing.

Initial value:

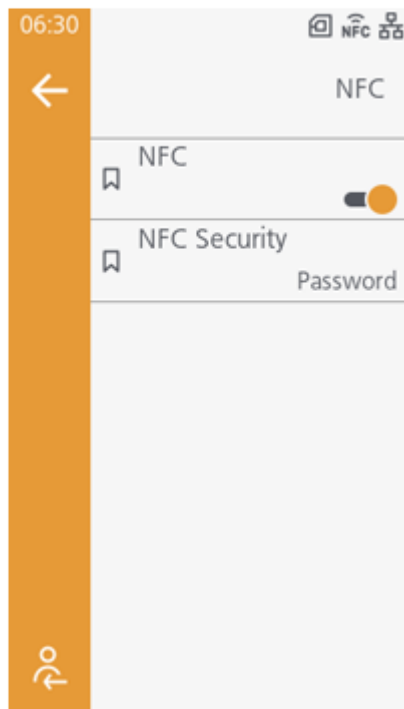
- [Device Name]: SATO PRINTER_XXXXXXXXXXXX
- [PIN Code]: 0000
- [Sniff]: Enabled
- [Security]: [Level 4]
- [CRC Mode]: Disabled
- [Flow Control]: [Status4]



- If pairing fails, the pairing information from the previous pairing may be remained on the product's side. Delete the product's pairing information from [Paired Devices] and then try pairing again.

Setting Up a NFC Connection

[Interface] > [NFC]

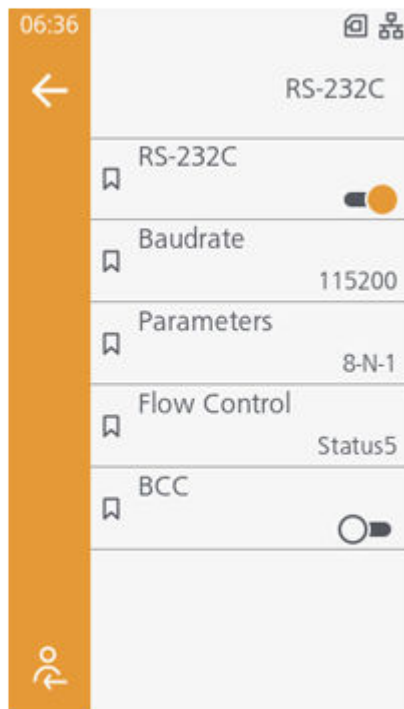


Configure settings related to NFC. (Initial value: Disabled)

In [NFC Security], selecting [Confirm] displays a confirmation screen when writing settings from a device, and selecting [Password] requires you to enter a password. (Initial value: [Password])

Setting Up an RS-232C Connection

[Interface] > [RS-232C]



Configure settings related to RS-232C. (Initial value: Disabled)

Configure data transfer rate (bps) and parameters.

This appears if the interface expansion board is installed.

If [RS-232C] is displayed in [Barcode Checker], the scanner used for the barcode check function is configured to connect via the RS-232C port. Verify the communication interface used for the barcode check function.

Parameter Configurations List

Parameter	Data Length (Bits)	Parity	Stop bit (bit)
8-N-1	8	NONE	1
8-O-1	8	ODD	1
8-E-1	8	EVEN	1
8-N-2	8	NONE	2

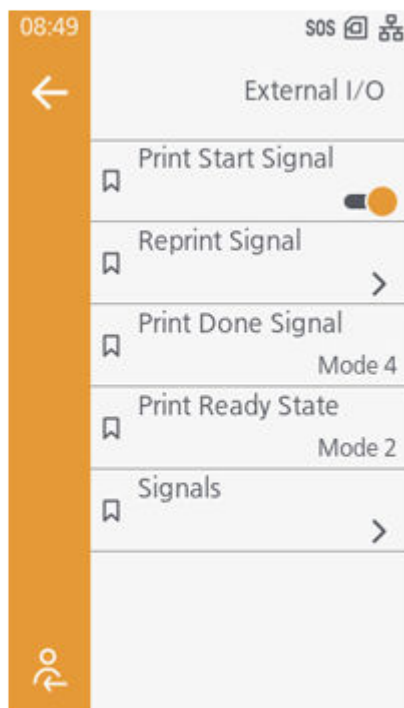
Parameter	Data Length (Bits)	Parity	Stop bit (bit)
8-O-2	8	ODD	2
8-E-2	8	EVEN	2
7-N-1	7	NONE	1
7-O-1	7	ODD	1
7-E-1	7	EVEN	1
7-N-2	7	NONE	2
7-O-2	7	ODD	2
7-E-2	7	EVEN	2

Initial value:

- [Baudrate]: 115200
- [Parameters]: [8-N-1]
- [Flow Control]: [Status4]
- [BCC]: Disabled

Setting Up an External Signal Connection

[Interface] > [External I/O]



Configure settings related to external signal.

This appears if the interface expansion board is installed.



- Refer to the SBPL Command Reference for external signal pinout tables and timing charts.

[Print Start Signal]

If there is print data and the printer is in Online mode, printing starts at the time the print start signal is input.

Initial value: Disabled

[Reprint Signal] > [Reprint Signal]

If there is no print data and the printer is in Online mode, the previously printed content is reprinted when the reprint signal is detected.

Initial value: Disabled

[Print Done Signal]

Select the mode for the Print Done Signal.

- [Mode 1]
The print done signal (PREND) supplies a 20 ms "LOW" pulse after printing and dispensing are complete.
- [Mode 2]
The print done signal (PREND) supplies a 20 ms "HIGH" pulse after printing and dispensing are complete.
- [Mode 3]
The print done signal (PREND) is "LOW" during printing and during forward media feed.
- [Mode 4]
The print done signal (PREND) is "HIGH" during printing and during forward media feed.

Initial value: [Mode 4]

[Print Ready State]

Select the mode for the Print Ready State.

- [Mode 1]
Outputs a High signal when the product is in Online mode and has print data.
In other conditions, a Low signal is output.
- [Mode 2]
Outputs a High signal when the product is in Online mode.
In Offline mode, a Low signal is output.

Initial value: [Mode 2]

[Signals] > [Input Signal]

Select the function to be assigned to each pin number from print start and reprint.

Initial value:

- PIN5: [Print Start]
- PIN7: [Reprint]

[Signals] > [Output Signal]

Select from the following function to be assigned to each pin number.

- None
- Paper End
- Ribbon End
- Machine Error
- Print Done
- Printable
Appears if you select [Mode 1] for [Print Ready State].
- Online / Offline
Appears if you select [Mode 2] for [Print Ready State].
- Ribbon Near End
- Dispense Done
- Label Near End
- Paper / Ribbon End (for RFID models)
- RFID Tag Error (for RFID models)
- Machine / RFID Error (for RFID models)

Initial value:

For standard models

- PIN1: [Paper End]
- PIN3: [Ribbon End]
- PIN4: [Machine Error]
- PIN6: [Print Done]
- PIN9: [Online / Offline]
- PIN10: [Ribbon Near End]

For RFID models

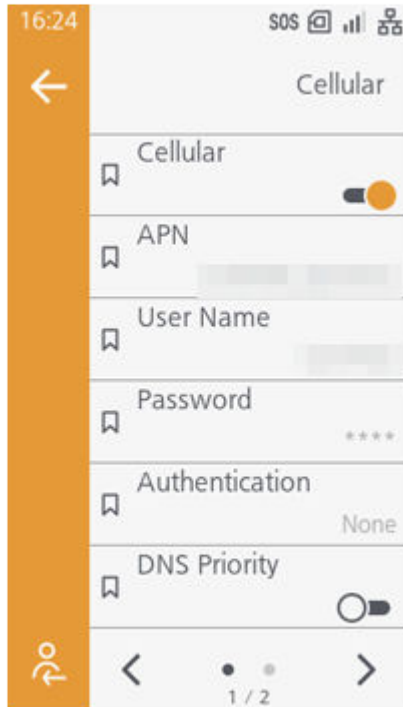
- PIN1: [Paper / Ribbon End]
- PIN3: [RFID Tag Error]
- PIN4: [Machine / RFID Error]
- PIN6: [Print Done]
- PIN9: [Online / Offline]
- PIN10: [Ribbon Near End]

Setting Up a SIM Connection (Cellular)

[Interface] > [Cellular]

By using a SIM connection (cellular), SOS services (SATO Online Services) can be used in environments where there is no network connection.

If you require a SIM connection (cellular), contact your technical support (dedicated SOS contact).



This appears when the SIM communication unit is installed.

When SIM connection (cellular) is enabled, you can see the access point name, user name, password, and authentication method.

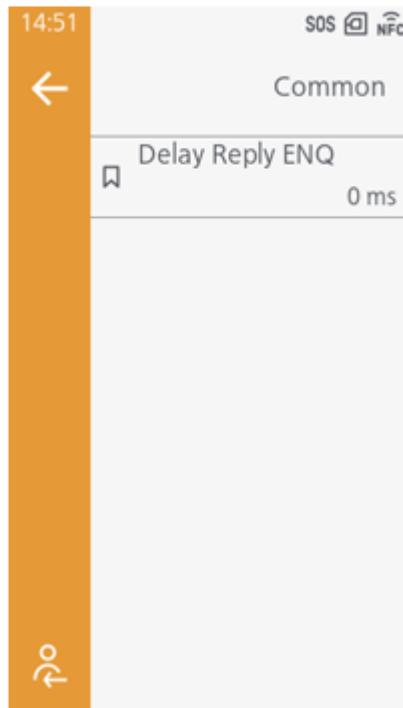
The IP address used for SOS server communication is displayed in [IPv4].

Initial value:

- [Cellular]: Disabled
- [DNS Priority]: Disabled

Configuring Settings Common to All Interfaces

[Interface] > [Common]



[Delay Reply ENQ]

Set the period to delay status reply to status request command ENQ.

This applies to Status3 and Status4 on all interfaces.

Initial value: 0 ms

Configuring Network Settings

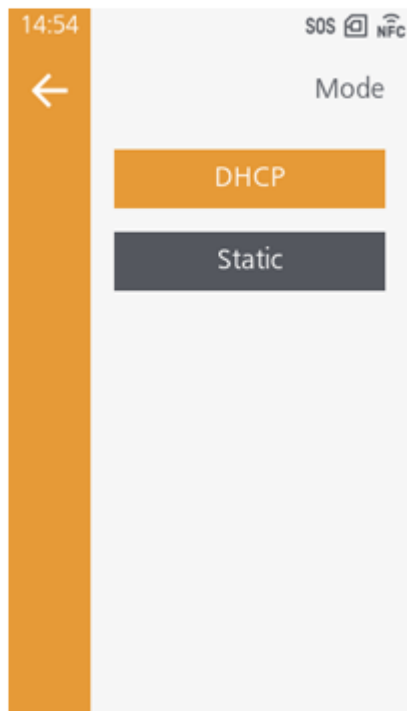
Setting the IP Address

Set the IP address of the product.

1. Select the IP address assignment method.

For wired LAN: [Network] > [Wired] > [Mode] in [IPv4] or [IPv6]

For wireless LAN: [Network] > [Wi-Fi] > [Connections] > [Mode] in [IPv4] or [IPv6]



Initial value:

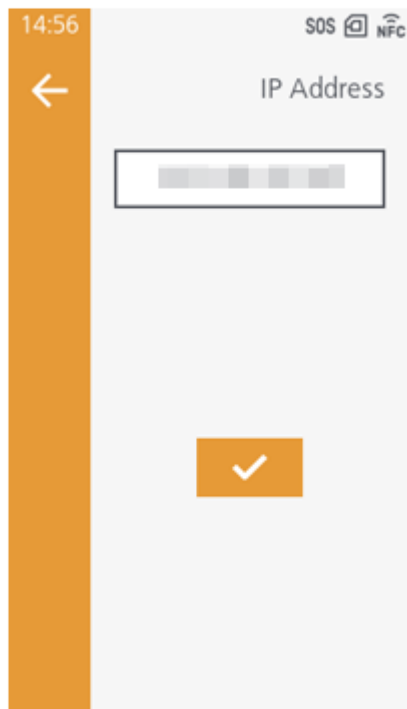
- [IPv4:]: [DHCP]
- [IPv6]: [Disabled]

2. Set and check the IP address in [IP Address].

If you select [DHCP] in [Mode], the IP address acquired from the DHCP server appears.

If you select [Static], enter the IP address manually.

If you are using IPv6 and select [Auto], an IP address is automatically generated.



Initial value:

- [IPv4]: 0.0.0.0
- [IPv6]: ::



- If you select [DHCP] in [Mode], [Renew Lease] appears. Tap it to update the lease time and get the IP address from the DHCP server again.

3. As needed, set the subnet mask, default gateway, prefix length, and DNS server address.

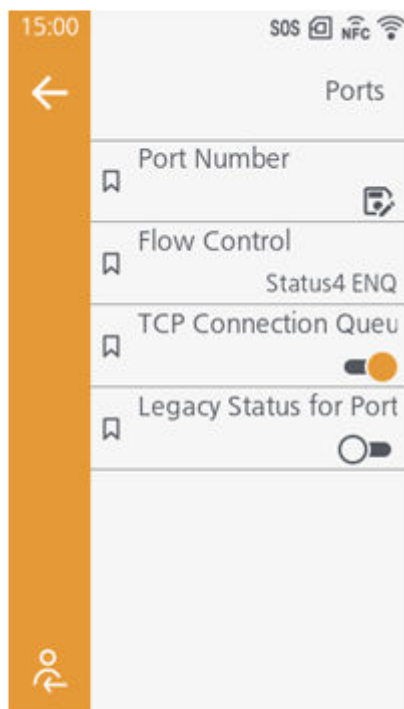
Initial value:

- [IPv4] > [Netmask]: 255.255.255.0
- [IPv4] > [Gateway]: 0.0.0.0
- [IPv4] > [Primary DNS]: 0.0.0.0
- [IPv4] > [Secondary DNS]: 0.0.0.0
- [IPv6] > [Prefix Length]: 64
- [IPv6] > [Gateway]: ::
- [IPv6] > [Primary DNS]: ::
- [IPv6] > [Secondary DNS]: ::

Setting the TCP/IP Port

[Interface] > [Network] > [Wired] > [Ports]

[Interface] > [Network] > [Wi-Fi] > [Ports]



Set the TCP/IP port.

Specify the port numbers to be used for ports 1 to 3 and configure the settings.

The displayed items vary depending on the settings for [Flow Control].

The intended uses for each port are as follows:

- Port 1
When connected to two ports in STATUS4: Receiving print data
When connected to one port in STATUS3/STATUS5: Receiving print data and returning the status
- Port 2
When connected to two ports in STATUS4, returning the status
- Port 3
When connected to one port in STATUS3/STATUS4/STATUS5, receiving print data and returning the status

Initial value:

- [Port1]: 1024
- [Port2]: 1025

- [Port3]: 9100
- [Flow Control]: [Status4 ENQ]
- [TCP Connection Queue]: Enabled
- [Legacy Status for Port 9100]: Disabled
- [Status4 Cyclic Response]: 500ms
- [BCC]: Disabled



- Each port (1, 2, 3) must be set to different values. Also, set a port number that is not used by any other service.
- When you have enabled [TCP Connection Queue] (initial value), be sure to use one port connection for STATUS3, STATUS4, and STATUS5. Operation using two port connections for STATUS4 is not guaranteed.

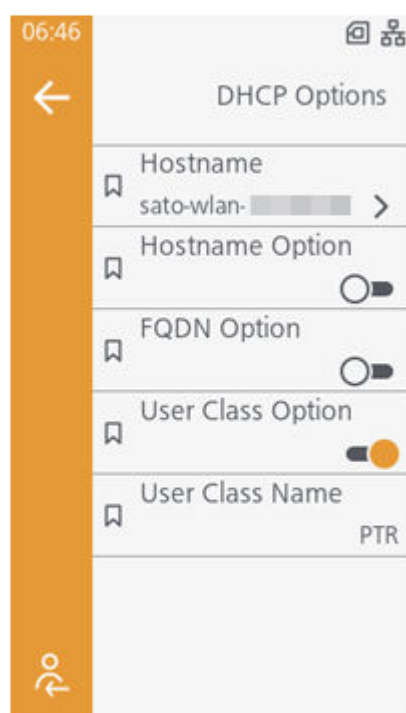


- The settings for [TCP Connection Queue], [Legacy Status for Port 9100], and [Status4 Cyclic Response] should typically remain unchanged.

Setting DHCP Options

[Interface] > [Network] > [Wired] > [DHCP Options]

[Interface] > [Network] > [Wi-Fi] > [DHCP Options]



Configure DHCP server options.

This can be set when [DHCP] is selected in [Mode] under [IPv4] or [IPv6].

Initial value:

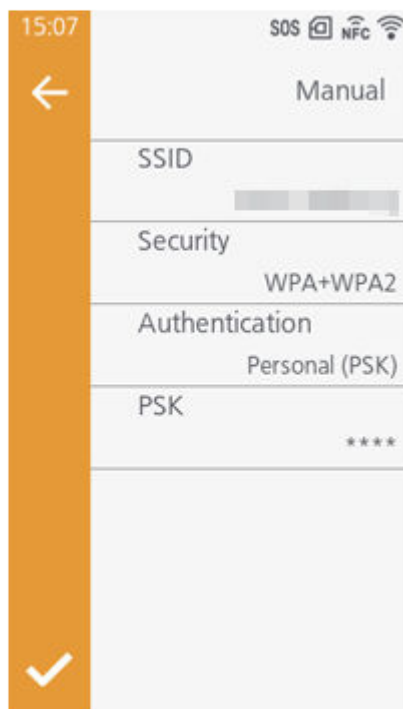
- [Hostname] (Wired): sato-wired-
- [Hostname] (Wi-Fi): sato-wlan-
- [Name] (Wired): sato-wired-
- [Name] (Wi-Fi): sato-wlan-
- [Suffix]: [Printer Serial]
- [Hostname Option]: Disabled
- [FQDN Option]: Disabled
- [User Class Option]: Disabled
- [User Class Name]: [PTR]



- In [Hostname] > [Name], periods can only be entered as delimiters.

Setting Wireless LAN Connections Manually

[Interface] > [Network] > [Wi-Fi] > [Connections] > [Manual]



Set the SSID and security authentication for the wireless LAN.

You can select the SSID from the wireless LAN networks displayed on the screen or enter one manually.

The displayed items vary depending on the authentication method used.

Initial value:

- [SSID]: SATO_PRINTER
- [Security]: [WPA3]
- [WEP Authentication]: [Open System]
- [KEY Index]: 1
- [Authentication]: [Personal (PSK)]
- [EAP Mode]: [FAST]
- [192-bits Security]: Disabled
- [Inner Method]: [Auto]
- [Verify Server Cert.]: Enabled



- The range of the key index varies depending on the connected device. If the range of the key index of the device you are connecting to is 0 to 3 and the product is set to "1", set "0" for the device you are connecting to.

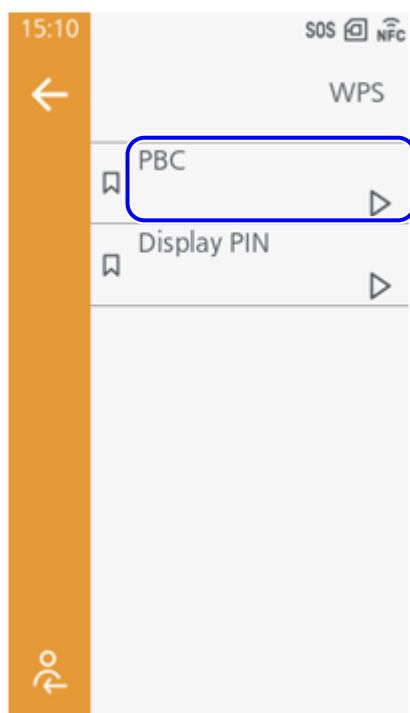


- Set the security method so that the product, host and network devices match.
- If [6GHz] is selected in [Band], [Security] is fixed to [WPA3]. ([6GHz] is available only in North America and Japan.)
- Depending on the length of the WEP key, the number of characters you can set for [Key 1] to [Key 4] are as follows:
 - When the key length is 64 bits
ASCII: 5 characters
Hexadecimal: 10 characters
 - When the key length is 128 bits
ASCII: 13 characters
Hexadecimal: 26 characters
- For [PSK], you can enter 8 to 63 ASCII characters or 64 hexadecimal digits.

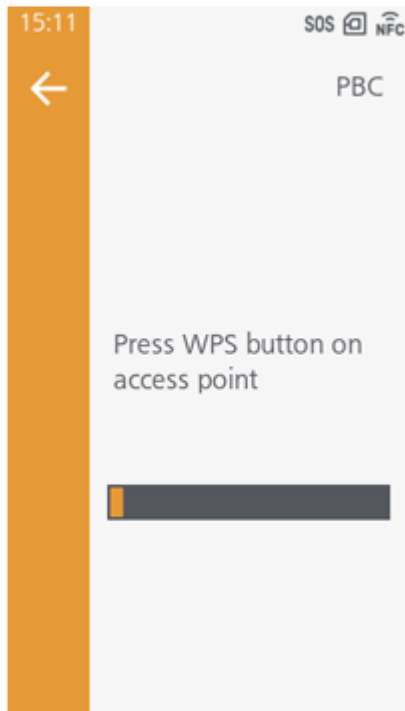
Setting the Wireless LAN Connection by Using the Push Button or PIN Code Method

To Connect by Using the Push Button Method

1. From the settings screen, tap [Interface] > [Network] > [Wi-Fi] > [Connections] > [WPS] > [PBC].



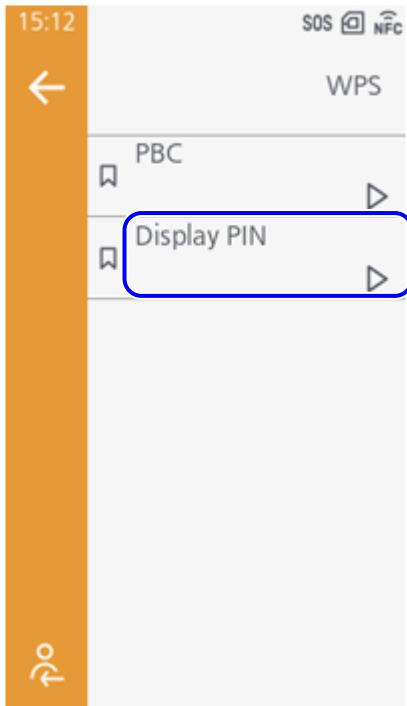
2. When the following screen appears, press the WPS button on the access point of the wireless LAN device.



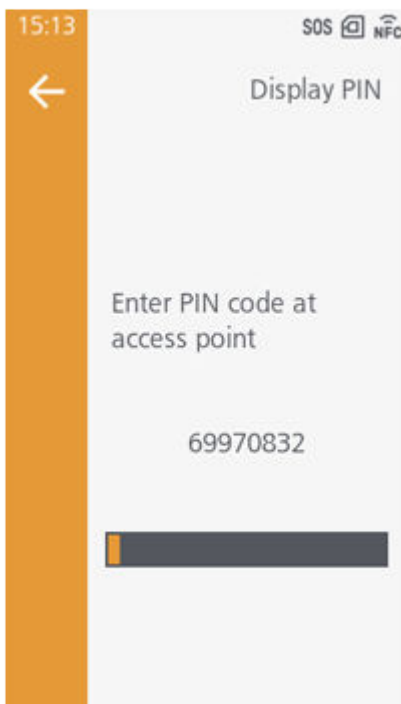
3. When the connection to the access point is established, [Connected] appears on the screen.

To Connect by Using the Display PIN

1. From the settings screen, tap [Interface] > [Network] > [Wi-Fi] > [Connections] > [WPS] > [Display PIN].

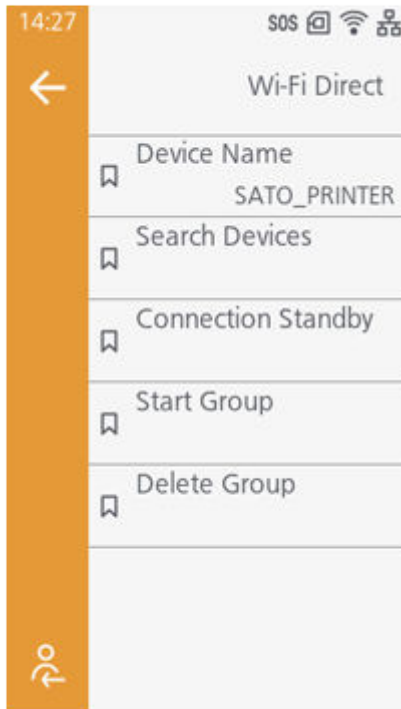


2. When the following screen appears, set the PIN code shown on the screen, then access the wireless LAN or computer's access point.



3. When the connection to the access point is established, [Connected] appears on the screen.

Using Wi-Fi Direct



1. From the settings screen, tap [Interface] > [Network] > [Wi-Fi] > [Wi-Fi Direct].
2. Set the device name for the product in [Device Name].

You can enter 1 to 16 characters. You can use alphabet (capital and small letters), numbers and symbols.

3. Follow the steps below to connect this product to other devices.

When connecting the product as a client using [Search Devices]

- (1) On the product, tap [Search Devices], search for the name of the device you want to connect to, and select it.
- (2) Select the connection method from [PBC] or [Display PIN].
- (3) Complete the connection according to the screen on the product or the Wi-Fi Direct connection screen of the device you want to connect to.

When connecting the product as a client using [Connection Standby]

- (1) On the product, tap [Connection Standby].

- (2) Select the product's device name on the Wi-Fi Direct connection screen of the device you want to connect to.
- (3) Complete the connection according to the screen on the product or the Wi-Fi Direct connection screen of the device you want to connect to.

When connecting the product as the group owner (host)

- (1) To start a group, tap [Start Group].
To create a new group, tap [New].
To use an existing group, select the group from the displayed list.
- (2) After creating the group, tap [WPS] and select the connection method from [PBC] or [Display PIN].
- (3) Select the product's device name from the Wi-Fi Direct connection screen of the device you want to connect to.
- (4) Confirm on the product's screen that it is connected to the device.

4. Tap [Disconnect] if you want to stop the connection.

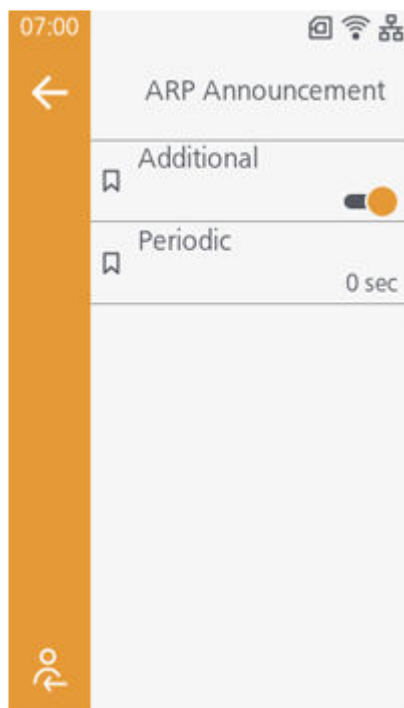


- [Wi-Fi Direct] appears if you have selected [All] or [2.4GHz] for [Band].
- You can connect a maximum of 32 devices.
- When Wi-Fi Direct is enabled, [Device Name] cannot be changed.
- [Start Group] and [Delete Group] are shown if Wi-Fi is enabled and the product is not connected to a Wi-Fi Direct network.
- If the product is powered off during a persistent group connection, the group will be started automatically after the product is powered on.

Setting Network Services

Setting ARP Announcements

[Interface] > [Network] > [Network Services] > [ARP Announcement]

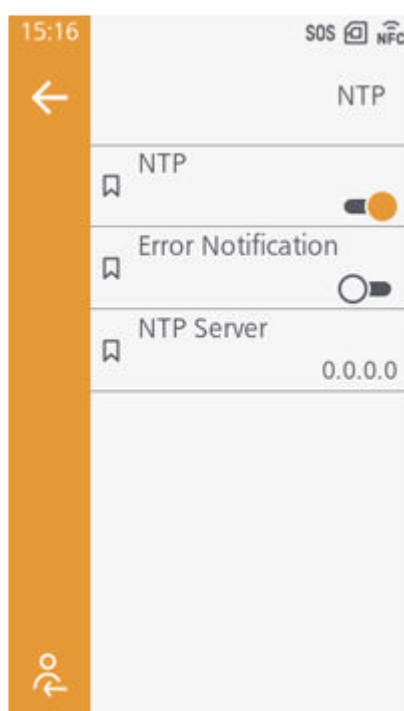


The ARP is sent at 1, 2, 4, 8 and 16 seconds after DHCP assignment. (Initial value: Enabled)

Also, set the interval for ARP announcements. (Initial value: 300 sec 0 sec)

Setting the Functions for NTP

[Interface] > [Network] > [Network Services] > [NTP]



Gets the time information from the NTP server through the network and sets the time for the product. (Initial value: Disabled)

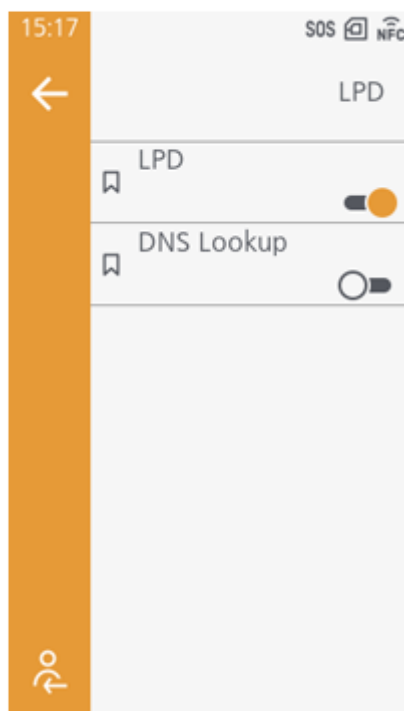
When [Error Notification] is enabled, an NTP error message is displayed when an error is detected. (Initial value: Disabled)



- The [NTP Server] is normally set to 0.0.0.0 (the initial value). By setting the initial value, the global NTP server will be assigned automatically. Set a unique IP address if the time synchronization is requested for a specific server. Also, IPv6 addresses cannot be set for [NTP Server].

Setting the Functions for LPD

[Interface] > [Network] > [Network Services] > [LPD]

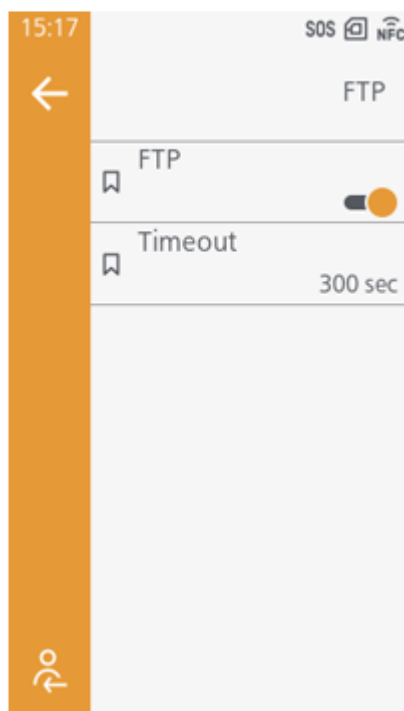


Prints using LPD. (Initial value: Enabled)

Also, uses the DNS Lookup function. (Initial value: Disabled)

Setting the Functions for FTP

[Interface] > [Network] > [Network Services] > [FTP]

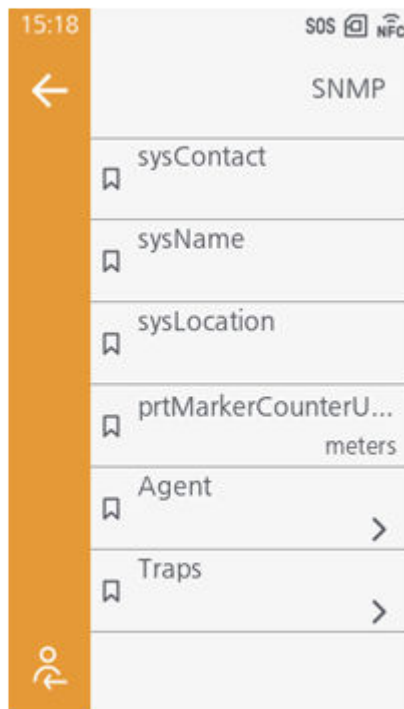


Transferring the file to the printer's directory executes printing. (Initial value: Disabled)

In [Timeout], set the number of seconds until the connection between the product's FTP server and the client times out. (Initial value: 300 seconds)

Setting the Functions for SNMP

[Interface] > [Network] > [Network Services] > [SNMP]



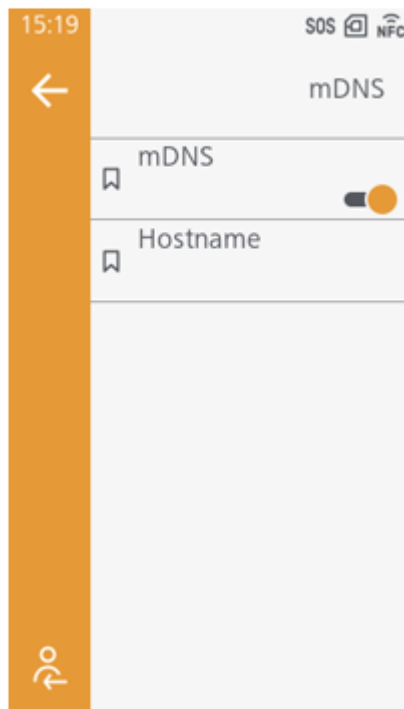
Monitor and manage a UDP/IP based network.

Set the contact, equipment name, and installation location, and set the units to use in counter reports for the subunit in [prtMarkerCounterUnit].

Set the community name, user name, and security authentication settings for the Agent function, and the Traps function.

Setting mDNS

[Interface] > [Network] > [Network Services] > [mDNS]



Use mDNS. (Initial value: Disabled)

Setting the Remote Desktop Function

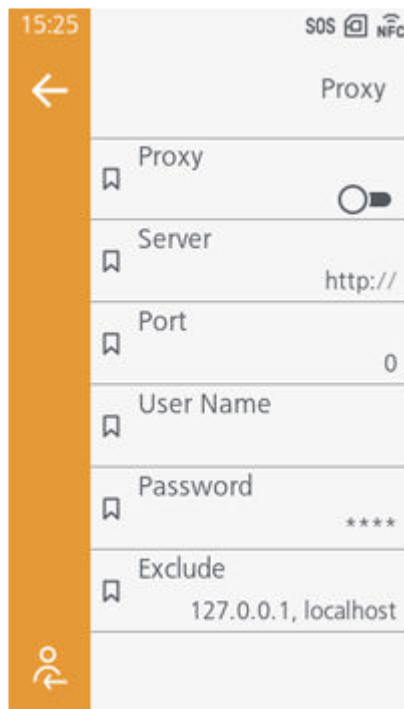
[Interface] > [Network] > [Network Services] > [Remote Desktop]

Access the product from your browser and operate the product remotely. (Initial value: Disabled)

Regarding operating from the web configuration screen, see [Remote Desktop](#).

Setting the Proxy

[Interface] > [Network] > [Advanced] > [Proxy]



Set the proxy server information. (Initial value: Disabled)

To enable this, the following settings are required.

- [Server]: Set the IP address of the proxy server
- [Exclude]: Set at least "127.0.0.1" and "localhost"

Initial value:

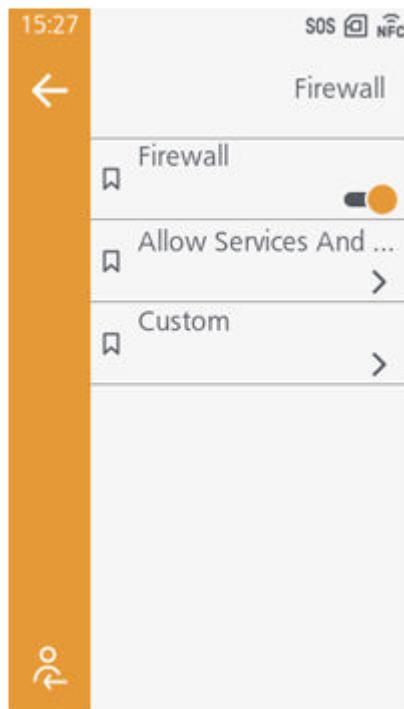
- [Port]: 0
- [Exclude]: "127.0.0.1", "localhost"



- For the port number that is allowed to communicate with the proxy server ([Port]), set a port number that is not used by any other service.

Setting the Firewall

[Interface] > [Network] > [Advanced] > [Firewall]



To prevent unauthorized access, specify the services and ports to which access is allowed. (Initial value: Disabled)

For details on packet filtering accessible when enabling each service port, refer to the SBPL Command Reference.

Initial value:

- [AEP Tools]: Enabled
- [Data Ports]: Enabled
- [MAILC]: Enabled
- [PING]: Enabled
- [SATO All-In-One Tool]: Enabled
- [SATO App Storage]: Disabled
- [SCP]: Enabled
- [WEBC]: Enabled
- [WebConfig]: Enabled

The settings for items other than those shown above are changed in conjunction with the menus in [Interface] or [Cloud Services].

In [Custom], you can allow communication by specifying specific TCP or UDP port numbers and ICMP types.

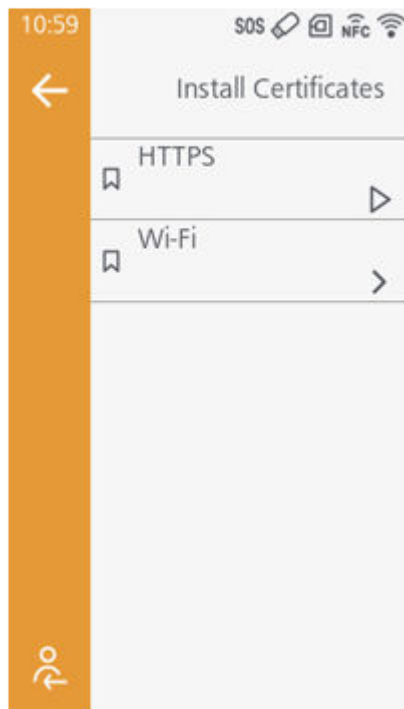


- When registering port numbers in [Additional Port No.] for each item, refer to the following.
 - To specify multiple port numbers, separate them with commas ",".
Input example: 10000,10001,10002,10003
 - To specify a range, use a colon ":" and enter "lower limit port number: upper limit port number" in that order.
Input example: 10000:10003
 - If you do not specify any port number, leave it blank.
- Up to 21 specific port numbers for TCP and UDP can be registered, and up to 44 ICMP type numbers can be registered.

Installing Certificates

Install certificates used for Wi-Fi authentication and for HTTPS.

- 1. Save the certificate files to the USB memory's root folder.**
- 2. Insert the USB memory into the USB connector (Type A).**
- 3. Tap [Interface] > [Network] > [Advanced] > [Install Certificates].**
- 4. Tap the certificate file from the list, and install it according to the on-screen instructions.**



Certificates that can be installed:

- [HTTPS]
- [Root CA]
- [Client Certificate]
- [Private Key]



- The following formats can be used.
 - HTTPS: Server certificate + private key concatenation
(Cannot be used without a private key. Also, encrypted private keys and p12 format cannot be used.)
 - Root certificate: .pem, .crt, .cer, .der
 - Client certificate: .pem, .crt, .cer, .der, .pfx, .p12
 - Private key: .prv, .key
- Installed certificates can be deleted from [Delete Certificates].

[Print Command] Menu

List of Print Command Menus

Print Command

Auto Switch

[SBPL](#)

[SZPL](#)

SBPL

[Show Error](#)

[Protocol Code](#)

[Label Rotation](#)

[Fonts](#)

[Zero Slash](#)

[Kanji](#)

[Kanji Set](#)

[Character Code](#)

[Kanji Style](#)

[Proportional](#)

[Code Page](#)

[€](#)

SZPL

[Label](#)

[Shift](#)

[Top](#)

[Label Rotation](#)

[Control Code](#)

[Caret](#)

[Delimiter](#)

[Tilde](#)

[Clock Format](#)

[Default Font](#)

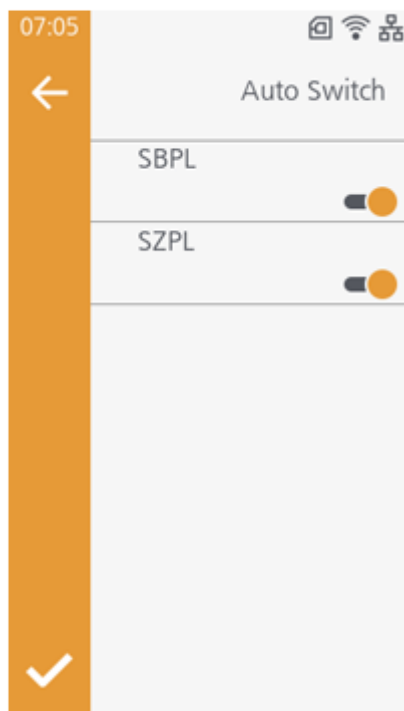
[Format Convert](#)

[Prioritize](#)

[Ignore CR/LF](#)

[Ignore CAN/DLE](#)

Switching Commands Automatically

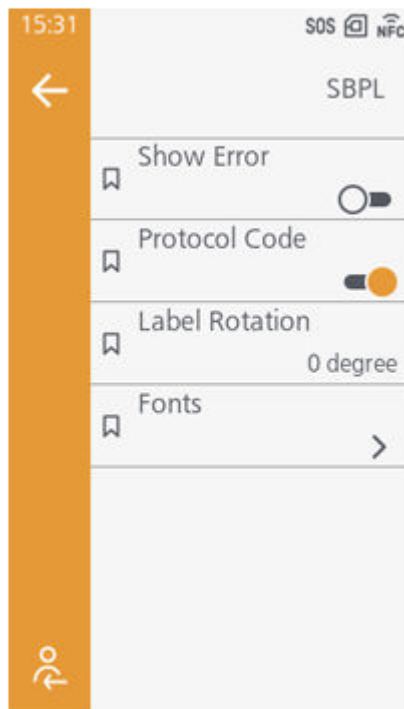


Automatically switches the printer language based on the received data. Enable the printer language to be used.

Initial value:

- [SBPL]: Enabled
- Other than [SBPL]: ☐ Disabled, ☒ Enabled

Setting SBPL Commands



SBPL (SATO Barcode Printer Language) is used for the common commands that controls SATO barcode label printers.

[Show Error]

When enabled, the error No. 1017 ([SBPL Command Error]) appears and the print operation is paused when an incorrect command or parameter is detected in the print data.

When disabled, incorrect commands and parameters are ignored and printing operations continue.  is shown in the status bar.



- For RFID models, even if it is disabled, it will be enabled when you reboot the product.

Initial value:

- Disabled
- For RFID models: Enabled

[Protocol Code]

When enabled, use a standard code. When disabled, use a nonstandard code.

Initial value: Enabled

[Label Rotation]

Set the rotation of the print layout for label printing.

Initial Value: [0 degree]

[Fonts] > [Zero Slash]

Set whether to print the number zero (0) with or without a slash (/).

Initial value:

- ☐ Disabled
- ☐ Enabled

[Fonts] > [Kanji]

Set the kanji code, character code, and typeface (Mincho/Gothic) to be used.

Initial value:

- [Kanji Set]: ☐ [JP-JISX0208], ☐ [GB18030]
- [Character Code]: ☐ [SJIS], ☐ [GB18030]
- [Kanji Style]: [Gothic]

[Fonts] > [Proportional]

When enabled, each character is printed using a propotional pitch. When disabled, each character is printed using a fixed pitch.

Initial value:

- ☐ Disabled
- ☐ Enabled

[Fonts] > [Code Page]

Select the code page to be used from the list.

Initial value:

-  X201
-  858

[Fonts] > [€]

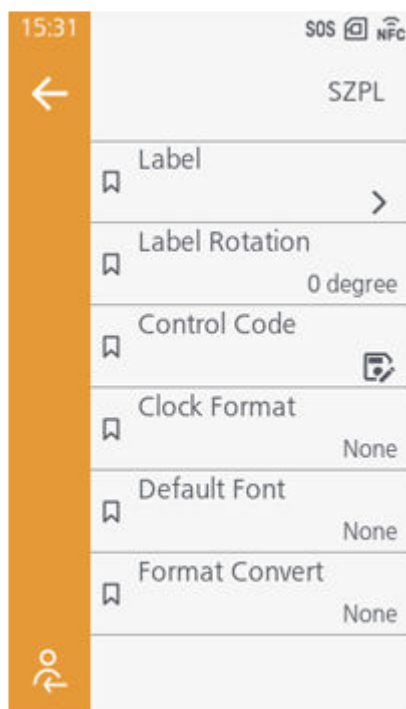
Set the European currency symbol to the ASCII code.

Initial value: 213

Setting Other Printer Commands

Setting SZPL Commands

[Print Command] > [SZPL]



[Label] > [Shift]

Set the shift offset position of the label.

CL4-SXR

- 203 dpi: -832 to 832 dots (initial value: 0)
- 305 dpi: -1,248 to 1,248 dots (initial value: 0)
- 609 dpi: -2,496 to 2,496 dots (initial value: 0)

CL6-SXR

- 203 dpi: -832 to 832 dots (initial value: 0)
- 305 dpi: -1,248 to 1,248 dots (initial value: 0)

[Label] > [Top]

Set the top offset position of the label.

-120 to 120 dots (initial value: 0)

[Label Rotation]

Set the rotation of the label print layout based on the media size set in the product.

Initial Value: [0 degree]

[Control Code]

Set the code for the caret (^), the delimiter (,), and the tilde (~).

Initial value:

- [Caret]: 94
- [Delimiter]: 44
- [Tilde]: 126

[Clock Format]

Set the date format.

Initial value: [None]

[Default Font]

If you are using the multilingual fonts in the product, select a default font from the list.

Initial value: [None]

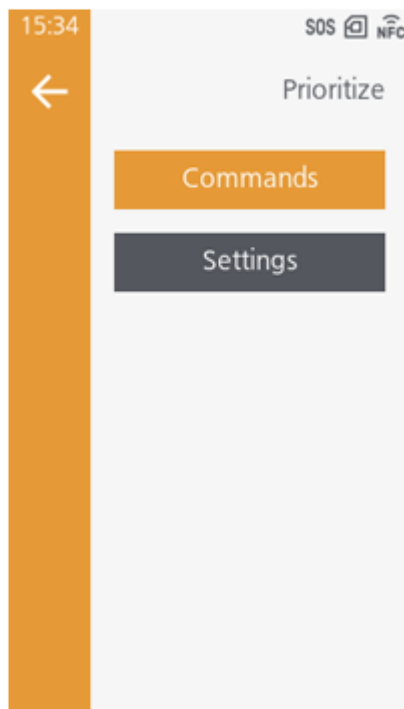
[Format Convert]

Set the resolution conversion when printing data that differs from the resolution of the product.

Initial value: [None]

Configuring Priority Settings

[Print Command] > [Prioritize]



Specify whether settings through the commands or settings through the printer have priority.

Initial value: [Commands]

Ignoring CR/LF and CAN/DLE Codes

Set the processing of control codes in the received data.

[Print Command] > [Ignore CR/LF]

Ignore the line feed codes (CR/LF (0x0D / 0x0A)) included in the received data.

Initial value: Disabled

[Print Command] > [Ignore CAN/DLE]

Ignore the CAN/DLE code (0x18/0x10) included in the received data.

Initial value: Disabled

[Applications] Menu

List of Applications Menus

Applications

[Starting Application](#)

[AEP](#)

[AEP](#)

[Locale](#)

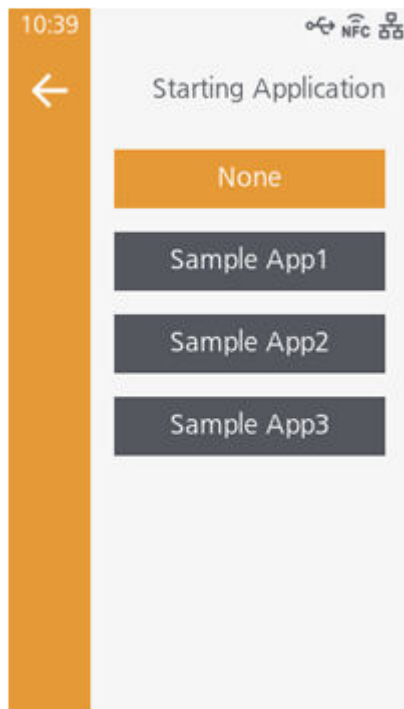
[Label Rotation](#)

[Divider Label](#)

[On-Screen Keyboard](#)

Setting Startup Applications

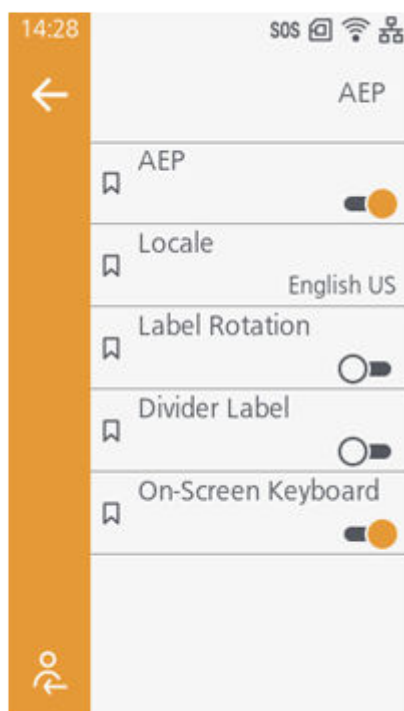
[Applications] > [Starting Application]



Select the applications that automatically start up when the product is powered on.

Setting the Functions for AEP

[Applications] > [AEP]



Set for using the AEP (Application Enabled Printing) function.

When using the AEP function, you can run applications in the product.

For details about the AEP, contact your SATO sales representative.

[AEP]

Use the functions for AEP.



- If you press and hold the  button or connect a USB memory while an application is running, the screen will switch to the product's screen. Closing the screen will return you to the application you were viewing.

Initial value: Disabled

[Locale]

Set the language.

Initial value: [English US]

[Label Rotation]

Set whether the print layout is rotated for printing.

Initial value: Disabled

[Divider Label]

Set whether slashes are printed on labels.

Initial value: Disabled

[On-Screen Keyboard]

Set whether to use the on-screen keyboard.

[Cloud Services] Menu

List of Cloud Services Menus

Cloud Services

SATO Online Services

[Mode](#)

[Interface](#)

[Allow Remote Control](#)

[MQTT Protocol](#)

[Add Device](#)

[Contact](#)

[Periodic Notification](#)

[Type](#)

[Notification Count](#)

[Time 1](#)

[Time 2](#)

[Time 3](#)

[Weekday](#)

[Day](#)

[Time](#)

[Counter](#)

[Printhead](#)

[Mileage](#)

[Last Update](#)

[Next Update](#)

[Current Value](#)

[Cutter](#)

[Cuts](#)

[Last Update](#)

[Next Update](#)

[Current Value](#)

[QR code offset](#)

[Vertical](#)

[Horizontal](#)

[Daily Checkup](#)

[Restore SOS Agent](#)

[Supply Order](#)

[Supply Order](#)

[Registered Count](#)

[Current Profile](#)

[Supply Profile](#)

[Last Updated](#)

[Label Data](#)

[Product Code](#)

[Product Name](#)

[Design Name](#)

[Media Type](#)

[Ribbon](#)

[Label Length](#)

[Label Width](#)

[Liner Length](#)

[Liner Width](#)

[Ribbon Data](#)

[Product Code](#)

[Product Name](#)

[Design Name](#)

[Ribbon Length](#)

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[Optimal Print Settings](#)

[Optimal Print Settings](#)

[Speed](#)

[Darkness Range](#)

[Darkness](#)

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SATO App Storage

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[Company ID](#)

[Login ID](#)

[Password](#)

[Firmware Update](#)

[Firmware Update](#)

[Periodic Update](#)

[Update at Startup](#)

SOTI Connect

[SOTI Connect](#)

[Broker Settings](#)

[Broker Address](#)

[Broker Port](#)

[Authentication](#)

[User](#)

[Password](#)

[Client Key Passphrase](#)

[QOS](#)

[SOTI Tenant ID](#)

[Alerts](#)

[Error](#)

[Warning](#)

[Notice](#)

[Log Level](#)

[Install Certificates](#)

[File Store](#)

[MQTT Root CA](#)

[MQTT Client Certificate](#)

[MQTT Private Key](#)

[Delete Certificates](#)

[File Store](#)

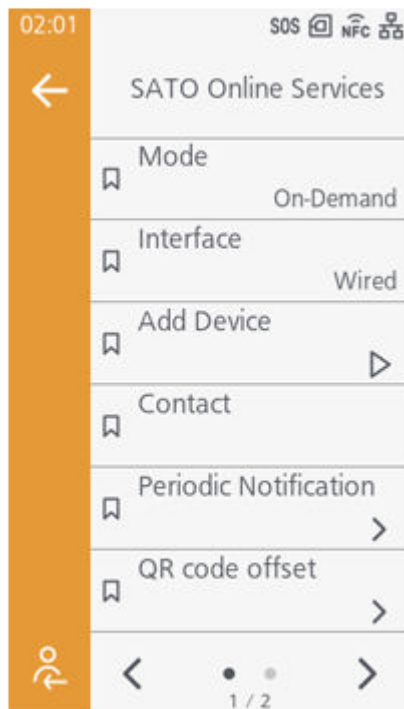
[MQTT Root CA](#)

[MQTT Client Certificate](#)

[MQTT Private Key](#)

Setting SOS (SATO Online Services)

[Cloud Services] > [SATO Online Services]



Set the functions for SOS (SATO Online Services).

SOS (SATO Online Services) is a service that monitors printer operational status via the cloud and supports parts replacement and troubleshooting. It is necessary to register an account and register the product to be used. For details, refer to the SOS portal site.

 <https://www.sato-sos.com/>

 <https://www.sato-sos.com/en/>



- A specialized application is required to scan QR codes and to read data via NFC.

[Mode]

Select the SOS connection method or disable SOS function.

- [Disabled]
- [On-Demand]

Use one of the following methods to obtain the product information and send it to the SOS Cloud.

- Scan the QR code displayed on the product's screen
- NFC connection

- [Real-Time]
Sends the product information to the SOS cloud in real time using the wired LAN or wireless LAN connection.
- [Light]
Sends the product information to the SOS cloud in real time using the wired LAN or wireless LAN connection.



- When connecting to SOS via [On-Demand] or [Light], you will be able to check the product's operating information via SOS Web. (Settings cannot be changed from SOS Web.)
- When connecting to SOS via [Real-Time], you will be able to check the product's operating information, as well as to check and change the settings, via SOS Web.
- The following settings appear if you select an option other than [Disabled].

Initial value:

-  [On-Demand]
-  [Disabled]

[Interface]

Set the communication method for connecting to the SOS cloud.

- [Wired]
- [Wi-Fi]
- [Cellular] 

Initial value:

-  [Cellular]
-  [Wired]

*: The initial value differs depending on the interface settings.

[Allow Remote Control]

Set whether to allow setting the product (remote control) from SOS.

Appears if you select [Real-Time] for [Mode].

- [Deny]
Does not allow remote control from SOS.
- [Until Reboot]
Allows remote control from SOS until the product reboots.
- [Allow]
Always allows remote control from SOS.

Initial value: [Allow]

[MQTT Protocol]

Set the communication protocol of MQTT.

Appears if you select [Real-Time] for [Mode].



- ☒ When using a SIM connection (cellular) for SOS communication, we recommend setting it to [MQTT].

Initial value: [MQTT over WebSocket]

[Add Device]

Shows the serial number and association code that are necessary when adding the product to SOS.



- Regarding the procedure to add a product to SOS, refer to the printer setup manual.
☒ https://www.sato-sos.com/support/#print_preparation_manual
☐ https://www.sato-sos.com/en/support/#print_preparation_manual

[Contact]

SOS contact information that appears when an error occurs is displayed.

Initial value: ☒ 0120-951301

[Periodic Notification]

Set the frequency and timing for displaying periodic notifications from SOS.

Scan the displayed QR code shown in the notification, and send product information to the SOS cloud.

Appears if you select [On-Demand] for [Mode].

[Periodic Notification] > [Type]

- [Disabled]
Disable the periodic SOS notifications.
- [Daily]
Displays the notifications every day for specified number of times, at the specified time.
- [Weekly]
Displays the notifications every week at the specified time and day of the week.
- [Monthly]
Displays the notifications every month at the specified time and day.
- [Counter]
Displays the notifications when the counter of a consumable part reaches the specified value.
- [Offline]
Displays the notifications when the product is changed to Offline mode.

Initial value: [Disabled]

[Periodic Notification] > [Notification Count]

Specifies the number of notifications to be displayed per day.

Appears if you select [Daily] for [Type].

Initial value: 1

[Periodic Notification] > [Time 1] to [Time 3]

Set the times to display notifications.

The settings will be applied for the number of times specified in [Notification Count].

Appears if you select [Daily] for [Type].

[Periodic Notification] > [Weekday]

Specify the day of the week that notifications are displayed.

Appears if you select [Weekly] for [Type].

Initial value: Monday

[Periodic Notification] > [Day]

Set the dates to display notifications.

Appears if you select [Monthly] for [Type].

Initial value: 1

[Periodic Notification] > [Time]

Set the times to display notifications.

Appears if you select [Weekly] or [Monthly] for [Type].

[Periodic Notification] > [Counter]

Select the consumable parts to be the basis for notifications.

Appears if you select [Counter] for [Type].

- [Printhead]
- [Cutter]
- [Printhead+Cutter]



• [Cutter] and [Printhead+Cutter] are displayed when using a cutter, rotary cutter, or linerless cutter.

Initial value: [Printhead]

[Periodic Notification] > [Printhead]

Set when to display notifications based on the distance the print head has printed.

Appears if you set [Counter] in [Type], and [Printhead] or [Printhead+Cutter] is set in [Periodic Notification] > [Counter].

- [Mileage]
Specify the distances that will be printed by the print head. A notification is displayed at each print distance you specify.
Initial value: 1,000 m (3,280.84 ft)
- [Last Update]
Shows the print distance of the print head for the last periodic notification.
- [Next Update]
Shows the print distance of the print head for the next periodic notification.
Initial value: 1,000 m (3,280.84 ft)
- [Current Value]
Shows the current print distance of the print head.

[Periodic Notification] > [Cutter]

Set when to display notifications based on the number of cuts by the cutter.

Appears if you set [Counter] in [Type], and [Cutter] or [Printhead+Cutter] is set in [Periodic Notification] > [Counter].

- [Cuts]
Specify the number of times the cutter cuts. Displays a notification at each number of times specified.
Initial value: 10,000
- [Last Update]
Shows the number of cuts by the cutter for the last notification.
- [Next Update]
Shows the number of cuts by the cutter for the next notification.
Initial value: 0
- [Current Value]
Shows the current number of cuts by the cutter.

[QR code offset]

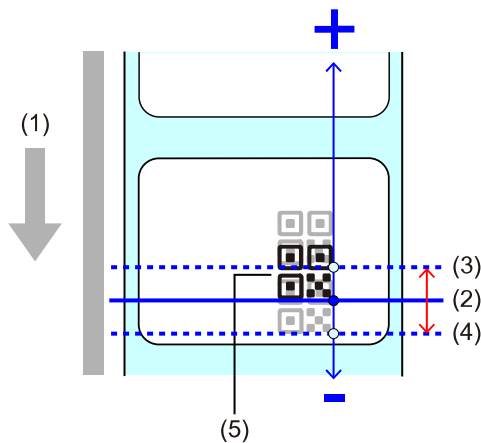
Correct the print position of the QR code displayed in scheduled notifications by SOS.

Appears if you select [On-Demand] for [Mode].

[QR code offset] > [Vertical]

Adjust the vertical position of the QR Code by setting '+' to move the print position in the direction opposite to the feed direction and '-' to move it in the feed direction.

-792 to 792 dots (initial value: 0)

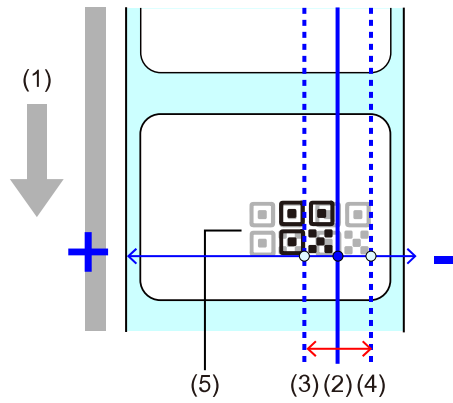


- (1) Media feed direction
- (2) Position before adjustment
- (3) Position after adjustment in the plus direction
- (4) Position after adjustment in the minus direction
- (5) QR Code

[QR code offset] > [Horizontal]

Adjust the horizontal position of the QR Code by using "+" to adjust to the left side and "-" to adjust to the right side while facing the front of the product.

-792 to 792 dots (initial value: 0)



- (1) Media feed direction
- (2) Position before adjustment
- (3) Position after adjustment in the plus direction
- (4) Position after adjustment in the minus direction
- (5) QR Code

[Daily Checkup]

The current product information is displayed by the QR code. Scan the QR code and send it to the SOS cloud.

Appears if you select [On-Demand] for [Mode].



- Instead of scanning a QR code, product information can be retrieved using an NFC connection and sent to the SOS cloud.
- To print a QR code, tap .

To print a QR code, use media of the following sizes.

- **CL4-SXR** More than 41 mm (1.61") in length and more than 33 mm (1.30") in width (not including the liner)
- **CL6-SXR** More than 41 mm (1.61") in length and more than 55 mm (2.17") in width (not including the liner)

[Restore SOS Agent]

Restore the SOS agent to the factory default state.

[Supply Order] > [Supply Order]

When using the Supply Order function, information about the media and ribbon used by the product is periodically sent to the SOS cloud.

When the inventory managed on the cloud runs low, you will be notified by email when it is time to reorder.

To use this function, it must be enabled on the SOS web app.

When the function is enabled, information from the SOS web app will be displayed in this menu. Settings cannot be changed from the product.

Appears if you select [Real-Time] or [Light] for [Mode].

[Supply Order] > [Registered Count]

The number of profiles registered on the SOS web app is displayed.

[Supply Order] > [Current Profile]

Select the number of the profile to display in [Supply Profile].

[Supply Order] > [Supply Profile] > [Last Updated]

The last updated date and time of the profile selected in [Current Profile] is displayed.

[Supply Order] > [Supply Profile] > [Label Data]

The label information registered in the profile on the SOS Web app is displayed.

[Supply Order] > [Supply Profile] > [Ribbon Data]

The ribbon information registered in the profile on the SOS Web app is displayed.

[Supply Order] > [Supply Profile] > [Optimal Print Settings]

When enabled, printing will be performed using the optimal print settings for each profile.

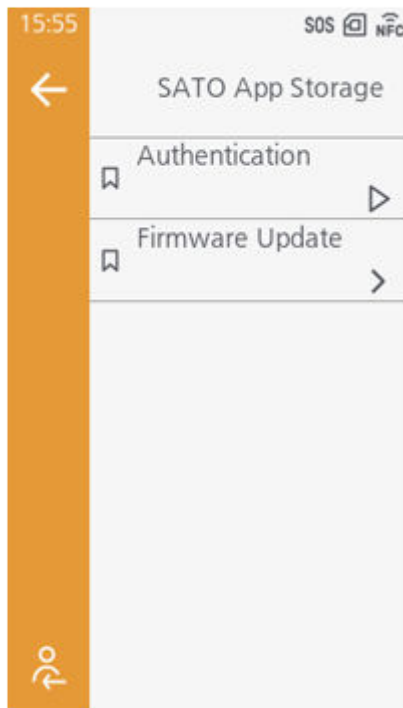
The settings will be applied to the corresponding item in the [Printing] menu.

[Version]

Shows the version of the SOS agent.

Setting SATO App Storage

[Cloud Services] > [SATO App Storage]



SATO App Storage is a service that stores and distributes printer settings and label data in the cloud. Data sharing and backup enable smooth product replacement. To use this service, a separate contract is necessary.

[Authentication]

Enter the company ID, login ID, and password for the SATO App Storage.

[Firmware Update] > [Firmware Update]

The firmware is updated manually.

[Firmware Update] > [Periodic Update]

The firmware is updated periodically.

Initial value: Disabled

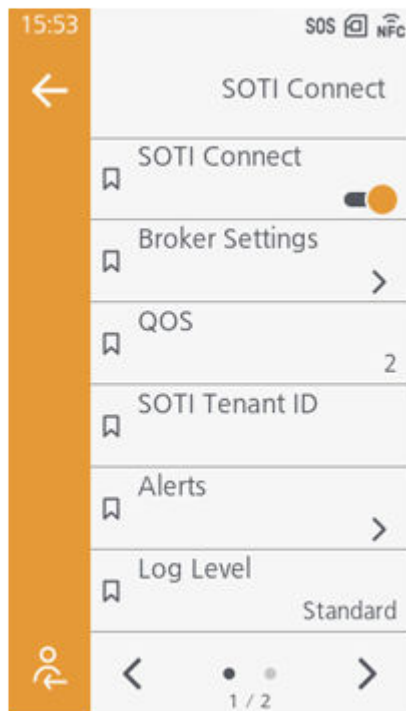
[Firmware Update] > [Update at Startup]

The firmware is updated automatically when the product is started up.

Initial value: Disabled

Setting SOTI Connect

[Cloud Services] > [SOTI Connect]



Set up the SOTI Connect services.

For detailed information about the SOTI Connect services, contact your SATO sales representative.

[SOTI Connect]

Enable SOTI Connect services.

Initial value: Disabled

[Broker Settings] > [Broker Address]

Set the broker address.

[Broker Settings] > [Broker Port]

Set the broker port number.

Initial value: 1883

[Broker Settings] > [Authentication]

Set the authentication method.

- [None]
- [User And Password]
- [User/Password and TLS]
- [TLS]

Initial value: [None]

[Broker Settings] > [User] / [Password] / [Client Key Passphrase]

Set the user name, password, and client key passphrase.

You can enter 0 to 63 characters. You can use alphabet (capital and small letters), numbers and symbols.

[QOS]

Set the QOS.

Initial value: 2

[SOTI Tenant ID]

Set the SOTI tenant ID.

You can enter 0 to 36 characters. You can use the alphabet (capital and small letters), numbers and hyphens (-).

[Alerts] > [Error] / [Warning] / [Notice]

Set whether to issue notifications of errors, warnings, and notices.

Initial value: Disabled

[Log Level]

Enhance the log level for debugging when errors occur.

Initial Value: [Standard]

[Install Certificates]

Register certificates used for SOTI Connect services.

[Delete Certificates]

Delete the certificates.

[RFID] Menu

List of RFID Menus

RFID

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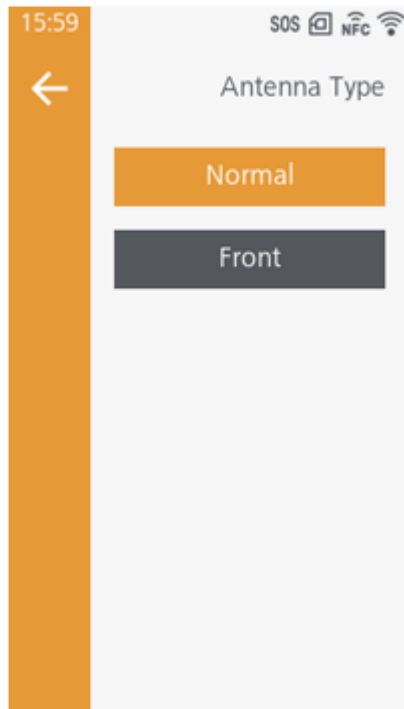
Setting Read/Write Information

Configure settings for reading or writing information from the inlay, such as the antenna used, signal output power, and print position.



- To set [Antenna Type], [Antenna Position], [Write Power], [Read Power], and [Tag Offset], consult your SATO representative.

[RFID] > [Antenna Type] **UHF**

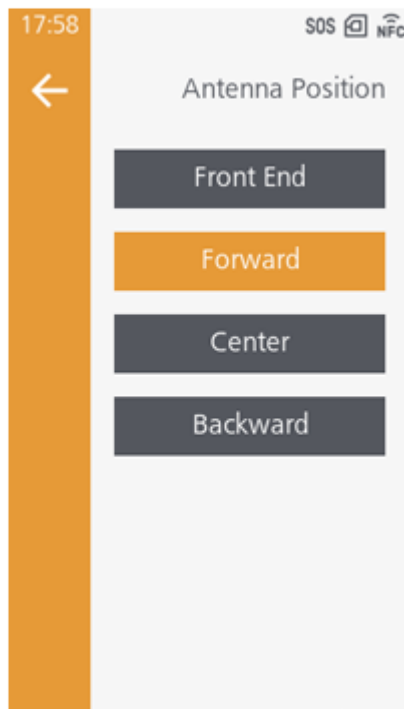


Select the RFID antenna to be used.

- [Normal]
Use a standard antenna (adjustable).
- [Front]
Use a short pitch antenna (fixed position).

Initial value: [Normal]

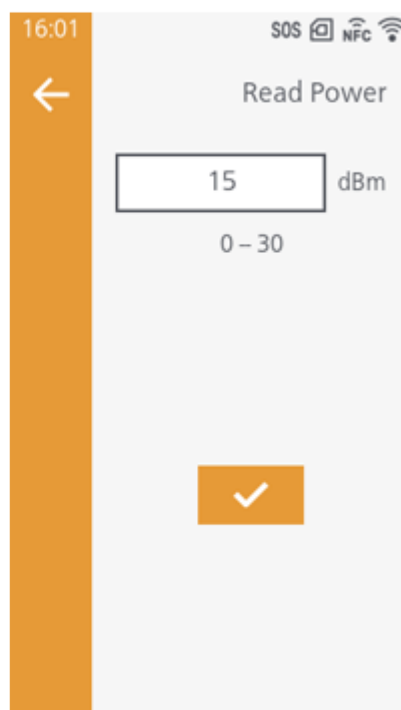
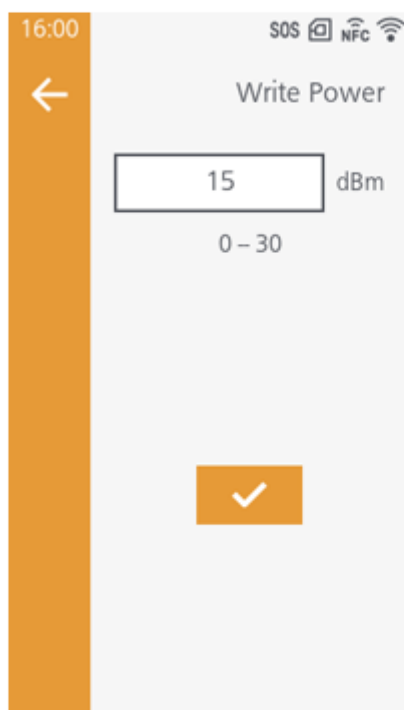
[RFID] > [Antenna Position] **HF**



Use a standard antenna. You can specify the vertical position of the standard antenna.

Initial value: [Forward]

[RFID] > [Write Power] / [Read Power] **UHF**

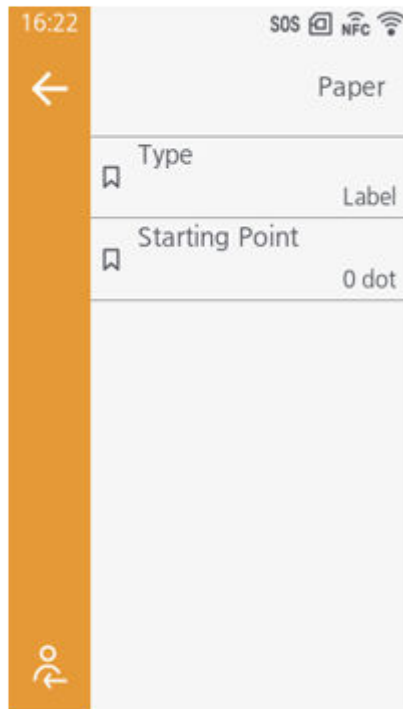


Set the radio wave output power when writing or reading data to the inlay.

The setting range varies depending on the country and region in which the device is being used.

Initial value: 15 dBm

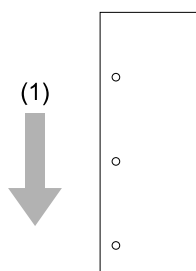
[RFID] > [Paper]



[Type]

Set the media type of the RFID tag.

- [Label]
Use the normal RFID tag.
- [Side Hole Tag]
Use the side hole tag.

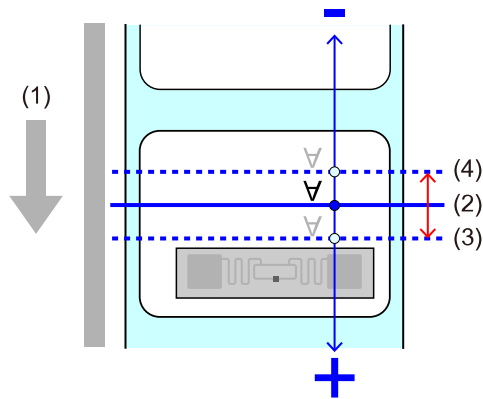


(1) Media feed direction

Initial value: [Label]

[Starting Point]

Adjust the print start position for the RFID tag by setting '+' to move the print position in the direction opposite to the feed direction and '-' to move it in the feed direction.



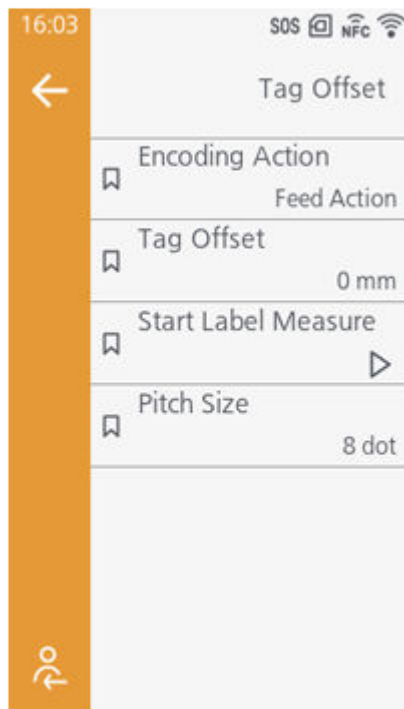
- (1) Media feed direction
- (2) Print position before adjustment
- (3) Print position after adjustment in the plus direction
- (4) Print position after adjustment in the minus direction

-600 to 600 dots (initial value: 0)



- When setting the media feed direction to a positive value, do not set the total value of other print position adjustment values to 25 mm (0.98") or more. If you set the value to 25 mm (0.98") or more, the printing operation may not stop normally.

[RFID] > [Tag Offset]



[Encoding Action]

Set the product's operations when writing data to an inlay in the position specified in [Tag Offset].

- [Normal Action]

Temporarily stops printing in the position specified in [Tag Offset], and then writes data to the inlay.

Be careful of the print layout because white streaks may occur in the stopped position.

- [Feed Action]

Media is fed to the position specified in [Tag Offset], data is written to the inlay, and then the media is returned to the position before it was fed, and printing is done.

Initial value: [Normal Action]

[Tag Offset]

Set the position at which to start writing data to the inlay. Printing is paused and data is written to an inlay on each tag at the point where the inlay passes over the product's RFID antenna, which is at the distance, from the antenna position, specified in this setting.

This setting is used when the inlay does not correspond to the product's antenna position.

The setting range varies depending on the setting for [Encoding Action].

- When [Encoding Action] is set to [Normal Action]
 - 203 dpi/305 dpi: -30 to 240 mm (-1.18 to 9.45")
 - 609 dpi: -30 to 108 mm (-1.18 to 4.25")
- When [Encoding Action] is set to [Feed Action]
-30 to 30 mm (-1.18 to 1.18")

When anything other than [Continuous] is selected under [Printing] > [Print Mode], the minimum value is 0 mm (0").



- The range of negative values differ according to the print speed or the media sensor type. If a negative value is set, when the media position is not fixed due to reasons such as the print head lock being released during media replacement, one tag will be fed before the negative offset operation is executed.

Initial value: 0 mm (0")

[Start Label Measure]

Automatically measures and sets the length of the RFID tag including the liner.

[Pitch Size]

Set the length of the RFID tag including the liner.

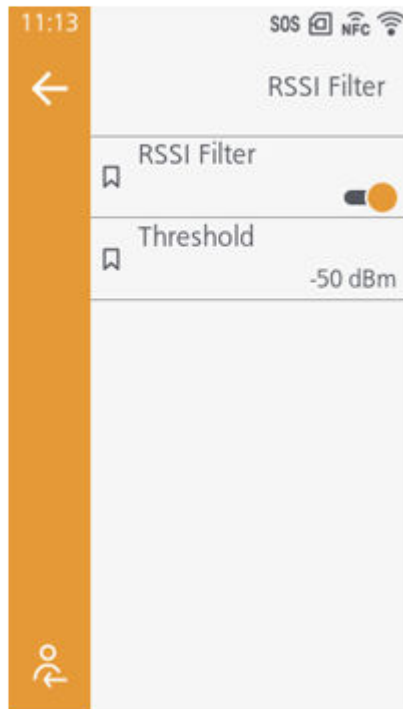
CL4-SXR

- 203 dpi: 8 to 1,920 dots (initial value: 8)
- 305 dpi: 12 to 2,880 dots (initial value: 12)
- 609 dpi: 24 to 5,760 dots (initial value: 24)

CL6-SXR

- 203 dpi: 8 to 1,920 dots (initial value: 8)
- 305 dpi: 12 to 2,880 dots (initial value: 12)

[RFID] > [RSSI Filter] UHF



[RSSI Filter] **UHF**

If the RSSI value (Received Signal Strength Indication) that is read while printing an RFID tag is lower than the specified threshold value, an RFID tag error is displayed.

An error message is printed on the inlay/RFID tag that caused the error.

Initial value: Disabled

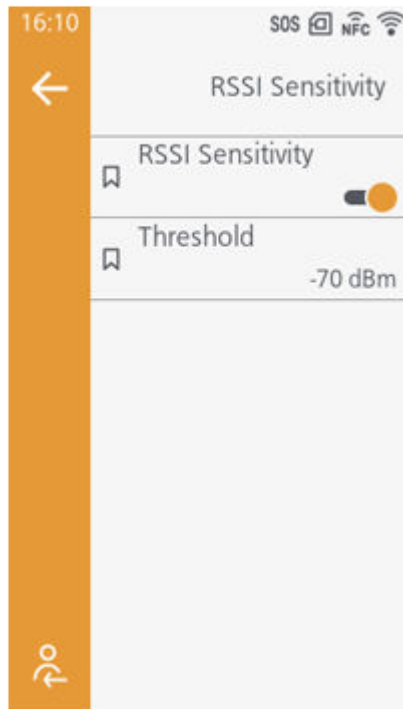
[Threshold] **UHF**

Set the threshold of the RSSI filter.

Appears if you enabled [RSSI Filter].

Initial value: -50 dBm

[RFID] > [RSSI Sensitivity] **UHF**



[RSSI Sensitivity] **UHF**

If the RSSI value that is read while printing an RFID tag is lower than the specified threshold value, the inlay is not read.

Initial value: Disabled

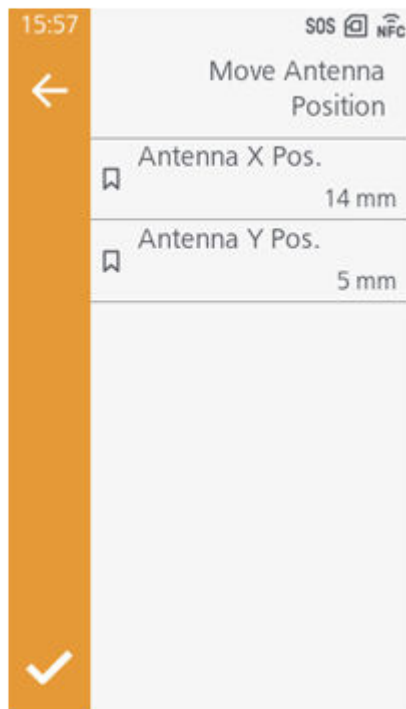
[Threshold] **UHF**

Set the threshold of the RSSI sensitivity.

Appears if you enabled [RSSI Sensitivity].

Initial value: -70 dBm

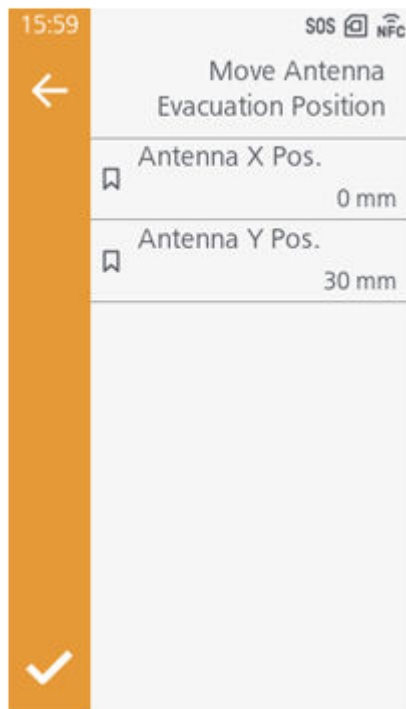
[RFID] > [Move Antenna Position] **UHF**



Move the position of standard antenna (adjustable).
Appears if you select [Normal] for [Antenna Type].

- [Antenna X Pos.]
0 to 36 mm (0.00 to 1.42") (initial value: 14)
- [Antenna Y Pos.]
0 to 30 mm (0.00 to 1.18") (initial value: 5)

[RFID] > [Move Antenna Evacuation Position] **UHF**

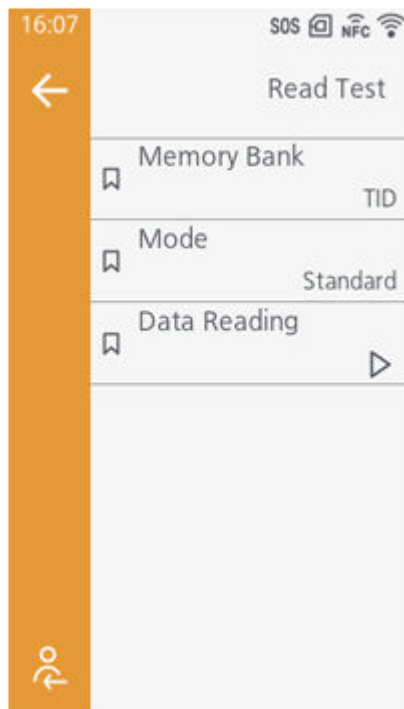


Set the position to stow the normal antenna while using the front antenna.

Appears if you select [Front] for [Antenna Type].

- [Antenna X Pos.]
0 to 36 mm (0.00 to 1.42") (initial value: 0)
- [Antenna Y Pos.]
0 to 30 mm (0.00 to 1.18") (initial value: 30)

[RFID] > [Read Test]



[Memory Bank]

Set the memory area of the inlay to be read.

Initial value:

- If the installed module is UHF: [EPC]
- If the installed module is HF: [USER]

[Mode]

Select the mode for the read test.

- [Standard]
Displays 1 result of the latest reading results.
- [Continuous]
Displays multiple reading results from the most recent history.

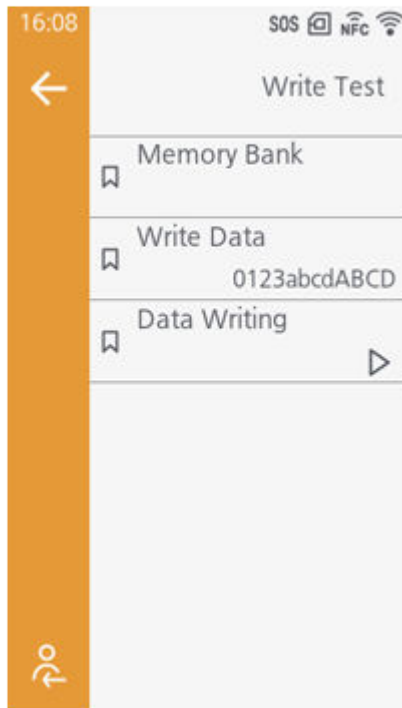
Initial value: [Standard]

[Data Reading]

Shows the read data.

If the inlay is not found, the message [Tag Not Found] appears. If multiple inlays are found, [Multiple tags are detected] appears.

[RFID] > [Write Test]



[Memory Bank]

Set the memory area of the inlay to be written.

Initial value:

- If the installed module is UHF: [EPC]
- If the installed module is HF: [USER]

[Write Data]

Enter the data to be written to the inlay.

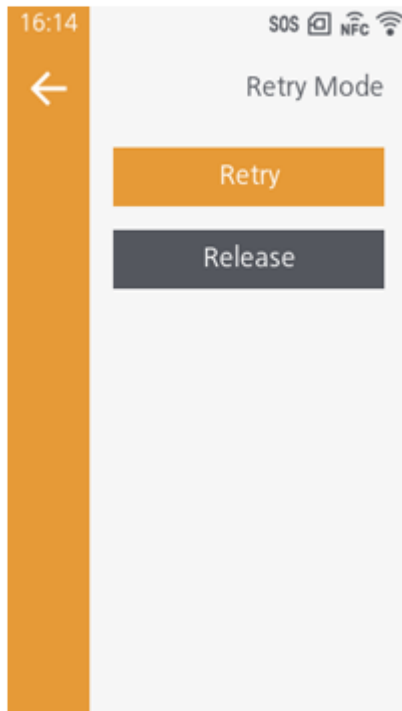
[Data Writing]

Display write data and write results.

Setting Action for When RFID Error Occurs

Configure screen operations and output signal settings when an RFID error occurs.

[RFID] > [Retry Mode]

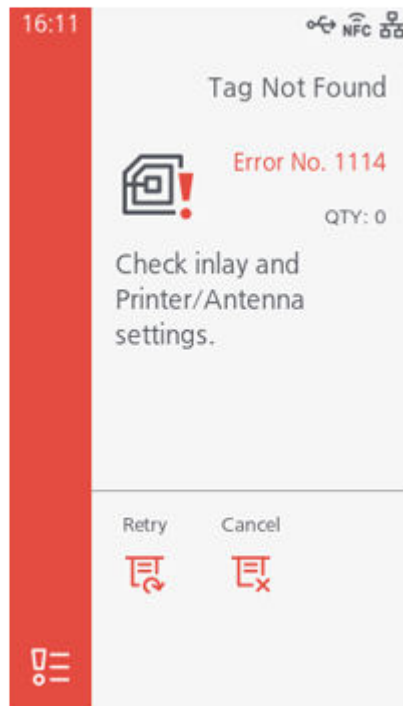


Set the action for when an RFID error occurs.

- [Retry]
If an RFID error occurs, the product will retry writing according to the number of times specified in [Retries]. If the RFID errors occur consecutively, printing stops after the number of retries in [Retries] plus one more retry occurs, and the RFID error screen opens.
- [Release]
If an RFID error occurs, the next data is written, without trying to write the same data again. If the RFID errors occur consecutively, printing stops after the number of retries in [Retries] occurs, and the RFID error screen opens.



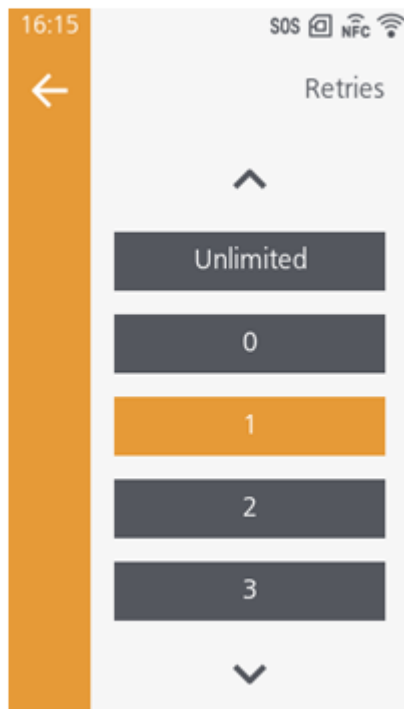
- Operations when an RFID error occurs are as follows.



- When [Retry] is selected in [Retry Mode]
[Retry]: Retries writing the number of times in [Retries].
[Cancel]: Deletes one item.
- When [Release] is selected in [Retry Mode]
[Retry]: Deletes one label of the print data, and then starts printing the next.
[Cancel]: Deletes one item, and then starts printing the next.
- To cancel an entire print job, switch the product to Offline mode, and then tap [Cancel].

Initial value: [Retry]

[RFID] > [Retries]



Set the number of times the retry/release operations as set in [Retry Mode] are repeated when an RFID error occurs.

When set to [Unlimited], the RFID error screen does not appear, and the retry or release is performed an unlimited number of times.

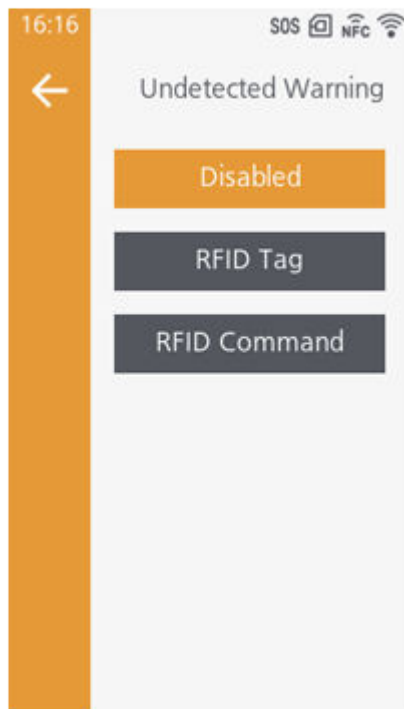
Initial value: 1

[RFID] > [Mark Bad Tags]

Set to print a diagonal line and the error factor on the defective tag when an RFID error occurs.

Initial value: Enabled

[RFID] > [Undetected Warning]



To prevent wasting of RFID tags, printing stops and an RFID undetected warning error is displayed if there is no RFID command in the print job.

The RFID commands that are detected by this function are EPC code write command ESC+IP0, RFID write command ESC+RK, and UID/EPC/IDm print command ESC+TU.

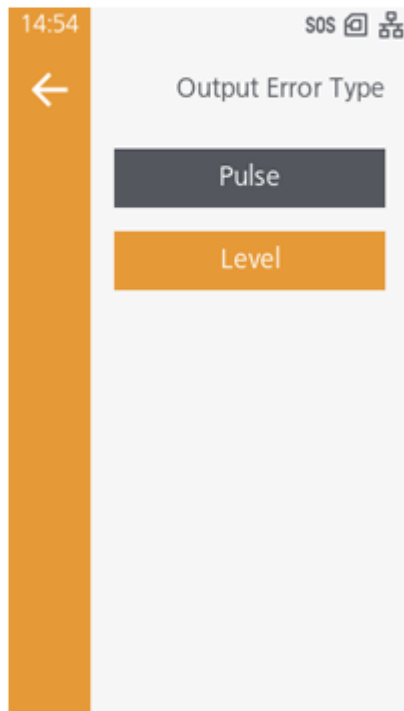
- [Disabled]
The RFID undetected warning error is not displayed. Printing continues.
- [RFID Tag]
Printing stops and an RFID undetected warning error is displayed if there is no RFID command in the print job when an RFID tag is loaded.
The error is no longer displayed if the media is replaced with normal labels.
- [RFID Command]
Printing stops and an RFID undetected warning error is displayed if there is no RFID command in the print job.



- An RFID undetected warning is displayed even when using an RFID command that is intended to be detected in the print job, if it is written in the data that caused the command error.

Initial value: [Disabled]

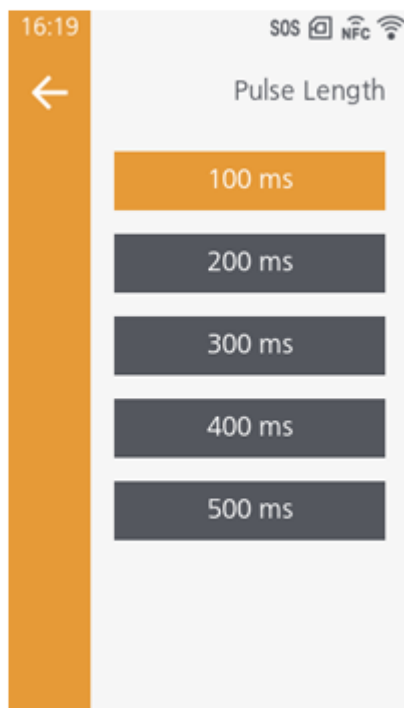
[RFID] > [Output Error Type]



Set the signal that is output when an RFID error occurs.

Initial value: [Level]

[RFID] > [Pulse Length]



Set the duration of the signal that is output when an RFID error occurs.

Available if you have selected [Pulse] in [Output Error Type].

Initial value: [100 ms]

Settings Related to RFID Logs

[RFID] > [Output Log]

Record the RFID data.

Record information for up to a maximum of 100 inlays. When the log file reaches its maximum size, the new log data overwrites the older log data.

All the log data will be lost if the product is powered off.



- UID data is recorded if the module is HF.

Initial value: Disabled

[RFID] > [Data To Record] **UHF**



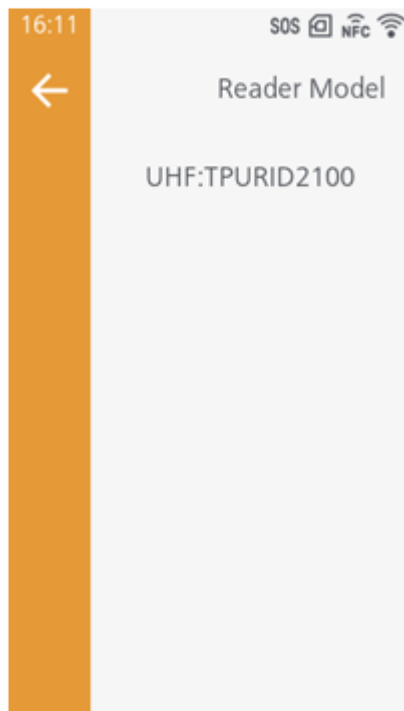
Set the log data to be saved when [Output Log] is enabled.

Initial value: [EPC+TID]

Confirming RFID Related Information

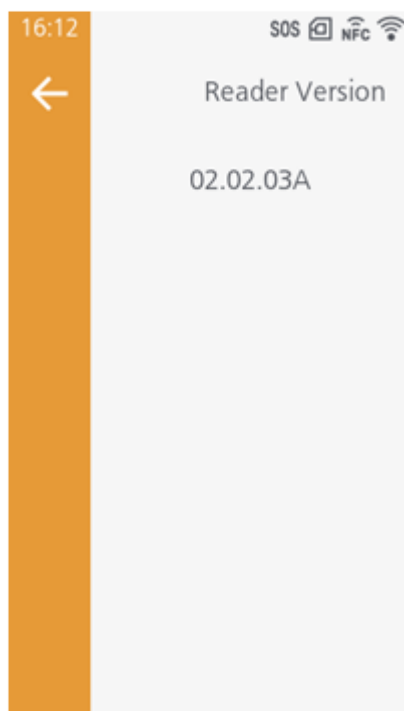
Check information related to the RFID module and the counters.

[RFID] > [Reader Model]

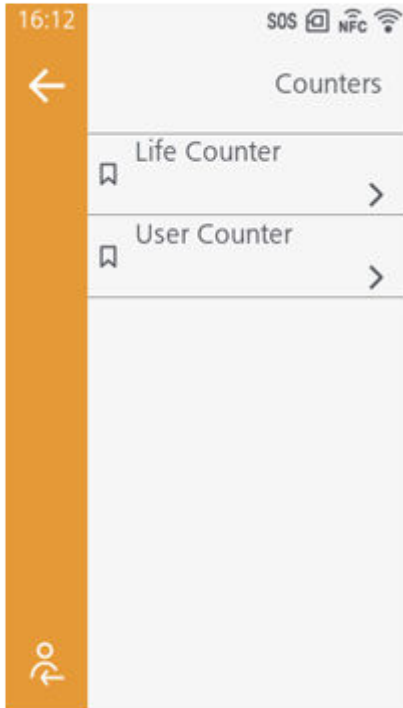


Shows the RFID module model.

[RFID] > [Reader Version]



Shows the RFID module firmware version.



Shows the number of RFID write operations by the following commands:

- RFID write: EPC code write command ESC+IP0 and RFID write command ESC+RK
- Tag data print: UID/EPC/IDm print command ESC+TU

However, writing that is not accompanied by printing and media feeding is not counted.

[Life Counter]

Shows the following number of RFID write operations:

- [Success Count]
Number of times an RFID tag has been successfully written
- [Failure Count]
Number of times an error occurred when writing an RFID tag
- [Total Count]
Total number of RFID tags printed (total of [Success Count] and [Failure Count])

[User Counter]

Shows the following number of RFID write operations after the counter was cleared:

- [Success Count]
Number of times an RFID tag has been successfully written
- [Failure Count]
Number of times an error occurred when writing an RFID tag
- [Total Count]
Total number of RFID tags printed (total of [Success Count] and [Failure Count])



- You can reset the counter by tapping [Clear] when the counter is 1 or higher.

Setting RFID Profiles

You can register combinations of values, such as optimal antenna position, writing/reading power, and tag offset for each type of RFID tag.

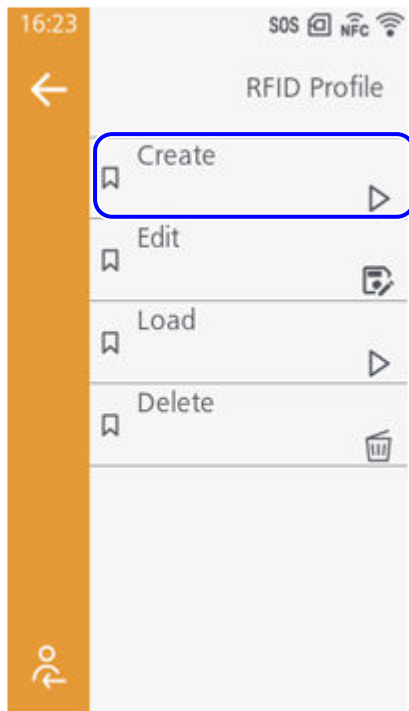
So, if you are using multiple RFID tags, you can easily switch the product's settings.

You can register a maximum of 10 RFID profiles.

For information required for these settings, consult your SATO sales representative.

The procedure to create RFID profiles is as follows.

1. From the settings screen, tap [RFID] > [RFID Profile] > [Create].



2. Set the following setting items according to the screen.

- [Antenna Type] **UHF**
- [Antenna Position] **Hf**
- [Antenna X Pos.] **UHF**
- [Antenna Y Pos.] **UHF**
- [Write Power] **UHF**
- [Read Power] **UHF**
- [Encoding Action]
- [Tag Offset]
- [Pitch Size]

3. Tap  to the lower left on the menu bar to save the setting value.

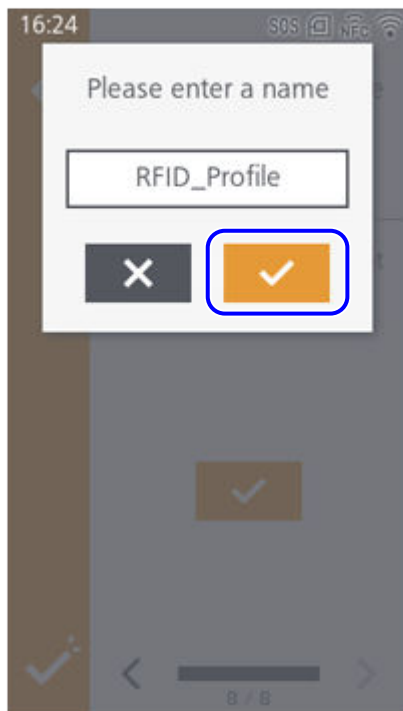
4. Tap  on the confirmation screen.

5. Enter the name of the profile, and tap .

You can enter 1 to 32 characters. You can use alphabet (capital and small letters), numbers and symbols.

A period cannot be input as the first character. If you input any other invalid characters or

symbols, the name cannot be confirmed.



- To cancel the settings you are currently doing, tap . Tap on the message to confirm you want to cancel the settings.
- To read a registered RFID profile and apply the settings, tap [Load]. Tap the RFID profile to be applied and tap on the confirmation screen.



- To edit a registered RFID profile, tap [Edit], then select the RFID profile to edit.
- To delete a registered RFID profile, tap [Delete], then select the RFID profile to delete.

Executing SATO RF Analyze (For International Use Only)

Automatically moves the RFID standard antenna to measure RFID tags, and determine the conditions to write and read them consistently. The results of the measurement are applied immediately.



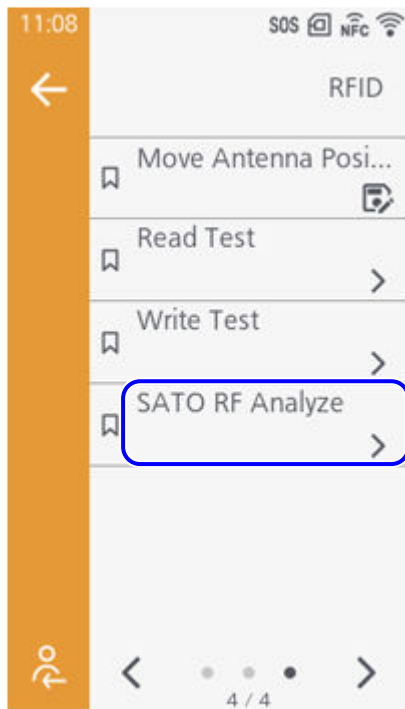
- Appears only if the module is UHF.
- The length from the leading edge of the tag or the trailing edge of the I-mark to the inlay must be at least 3 mm (0.12").
- The distance from inlay to inlay must be at least 15 mm (0.59").

Setting Measurement Conditions

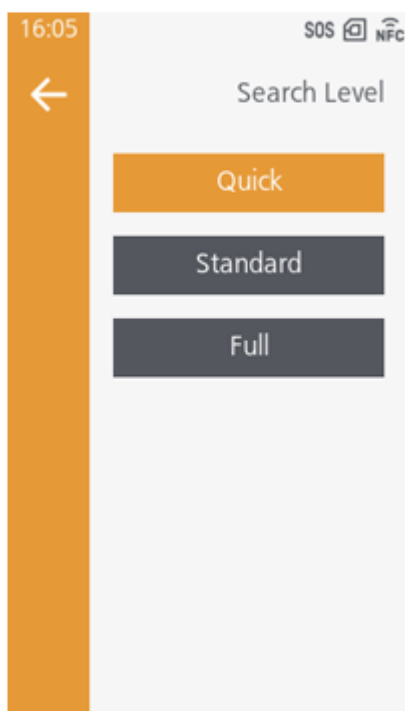
Before using this function, configure the RFID tag write/read radio output power.

For information required for these settings, consult your SATO sales representative.

1. From the settings screen, tap [RFID] > [SATO RF Analyze].



2. Tap [Search Level], then tap the search level to execute.

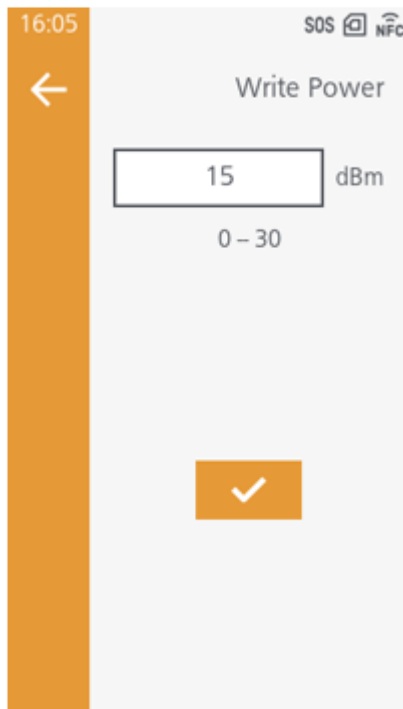


Initial value: [Quick]



- If the measurement is not successful using [Quick], which is the initial setting, try [Standard] and [Full], which require more time and are more precise measurements.

3. Tap [Write Power], then set a value and tap .

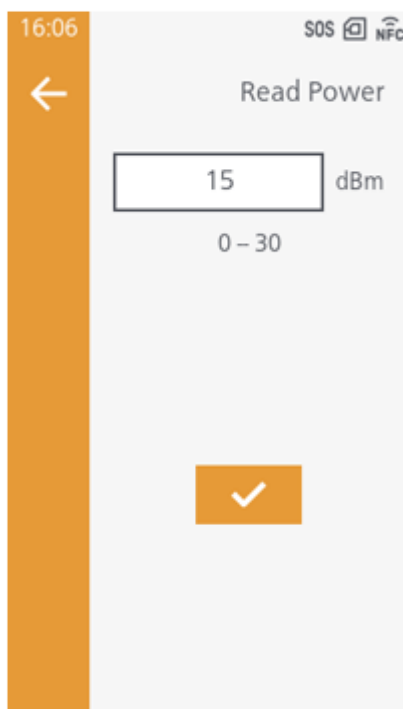


Initial value: 15 dbm



- The set value should be less than 24 dBm.
- This setting changes in conjunction with the [RFID] > [Write Power] setting.

4. Tap [Read Power], then set a value and tap .



Initial value: 15 dbm

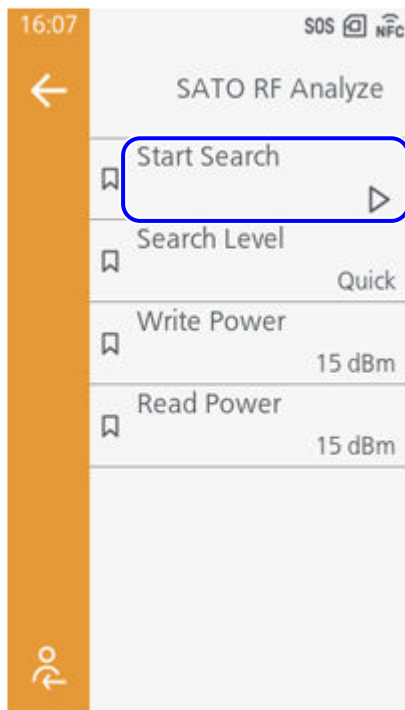


- The set value should be less than 24 dBm.

Executing SATO RF Analyze

Execute SATO RF Analyze using the measurement conditions that you set.

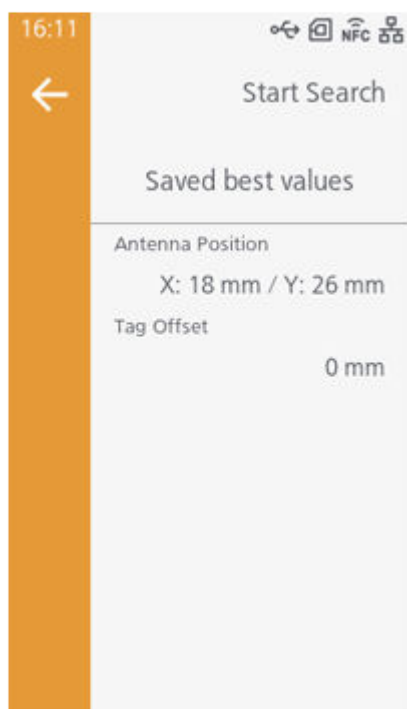
- 1. Set the RFID tag to the product.**
- 2. In the [SATO RF Analyze] screen, tap [Start Search].**



The measurement starts.



When the measurement is complete, the message "Saved best values" is displayed.



- If a measurement fails, a message appears prompting you to adjust the [Write Power] and [Read Power] values depending on the cause. Tap  to execute adjustment, and then do the measurement again.
- Once the [Write Power] and [Read Power] settings reach their maximum or minimum values, the message prompting adjustment will no longer appear.

- Do not open the head assembly while measuring. If you open the head assembly before you close the message asking you whether to save the settings, you will need to do the measurement again.
- Do not send a DC2 command to the product while measuring. If a wireless power setting command or a reset command is received, the measurement will not finish correctly.
- Continuous measurement may cause the RFID module to heat up, resulting in an overheat error of the RFID module. In such cases, wait until the heat of the RFID module cools down before taking measurements.

SATO RF Analyze Related Errors

- Error Message 1019 (RFID Module Error)

This occurs when the SRA board is not installed or the SRA board settings are incorrect.

The SRA board needs to be installed or the settings need to be changed, so contact your SATO technical support.

[Contact Information](#)

- Error Message 1133 (SRA Motor Unit Error)

This occurs when the SRA motor unit is not operating correctly.

The RFID board needs to be replaced, so contact your SATO technical support.

[Contact Information](#)



- When the above error occurs,  is shown in the status bar.

[System] Menu

List of System Menus

System

Language & Region

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[Language Shortcut](#)

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[Password](#)

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[Change Password](#)

[Install Security](#)

[Common Command Authentication](#)

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[CODE128\(C\) Zero Fill](#)

[Kanji Command](#)

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[A3 Command Save](#) 

[PDF417 ECC Level fixed](#)

[Human Readable Overwrite](#)

[OCR Font](#)

[Interface](#)

[Wired](#)

[Socket Cancel](#)

[Wi-Fi](#)

Settings Related to Language and Region

Configure settings related to the display language, time zone, date and time, and units.

Changing the Display Language

[System] > [Language & Region] > [Language]

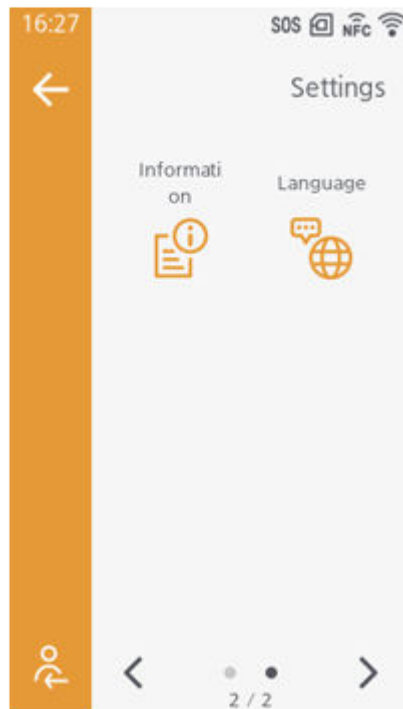


Initial value:

-  [日本語]
-  [English]

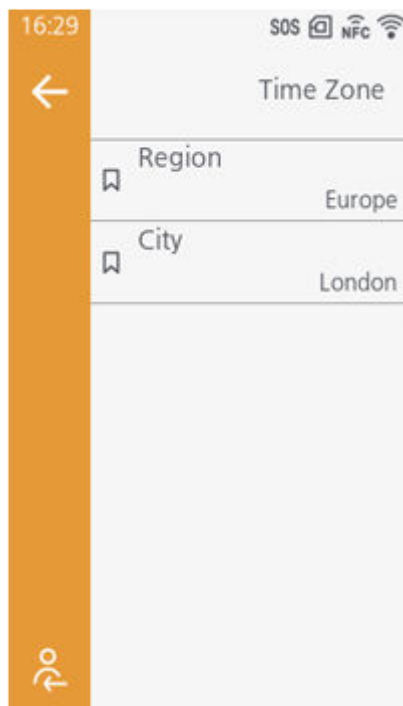


- Enabling [Language & Region] > [Language Shortcut] will display the [Language] menu in the [Settings] screen, allowing you to access the language settings directly.



Changing the Time Zone

[System] > [Language & Region] > [Time Zone]



Select the region and city where the product will be used.

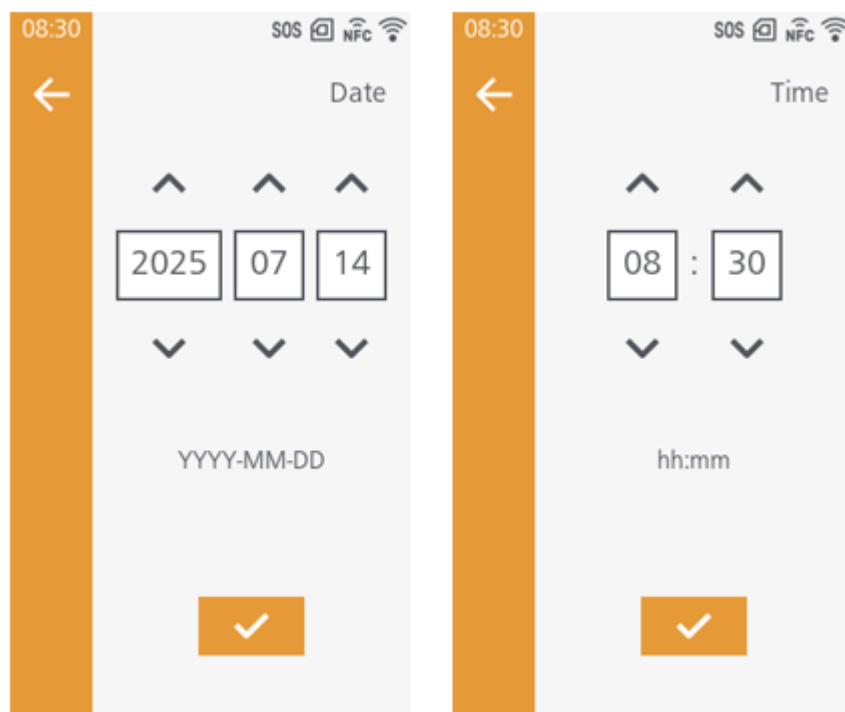
Initial value:

- [Region]:  [Asia],  [Europe]
- [City]:  [Tokyo],  [London]

Setting the Date and Time

[System] > [Language & Region] > [Date]

[System] > [Language & Region] > [Time]



Changing the Display Units

[System] > [Language & Region] > [Unit]

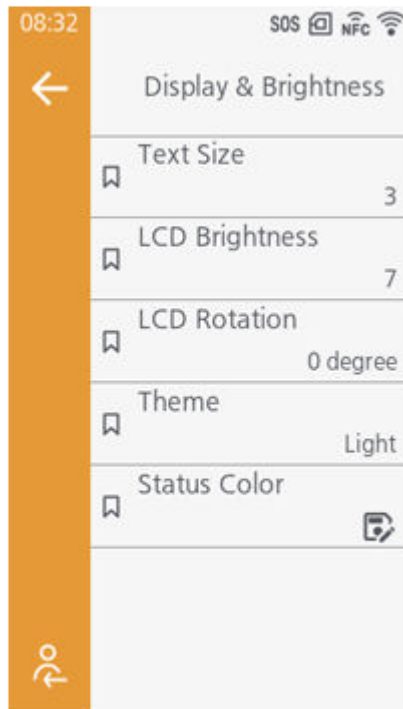


Initial value: dot

Customizing the Display

Changing Text Size, Screen Color, and Brightness

[System] > [Display & Brightness]



[Text Size]

Set the size of the text on the display.

1 is the smallest and 5 is the largest.

Initial value: 3

[LCD Brightness]

Set the brightness of the screen.

1 is the darkest and 10 is the brightest.

Initial value: 7

[LCD Rotation]

Set the orientation of the display.

- [0 degree]: Shows the display in normal orientation.
- [180 degree]: Shows the display upside down.

Initial value: [0 degree]

[Theme]

Set the theme of the display.

Initial value: [Light]

[Status Color]

Set the color of the display when the product is Online, Offline, or error state.

Initial value:

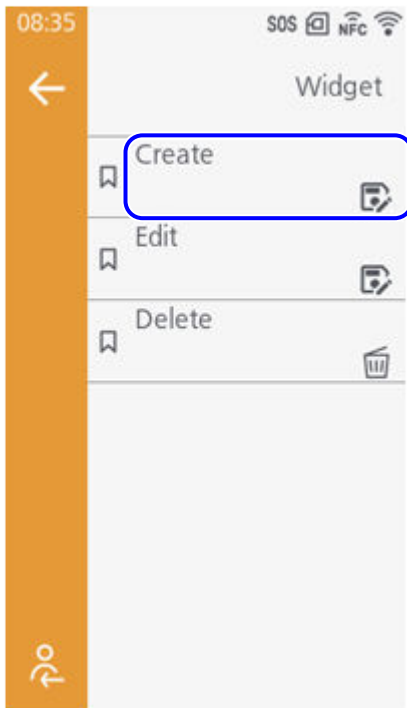
- [Online]: [Light Blue]
- [Offline]: [Orange]
- [Error]: [Red]

Displaying Widgets

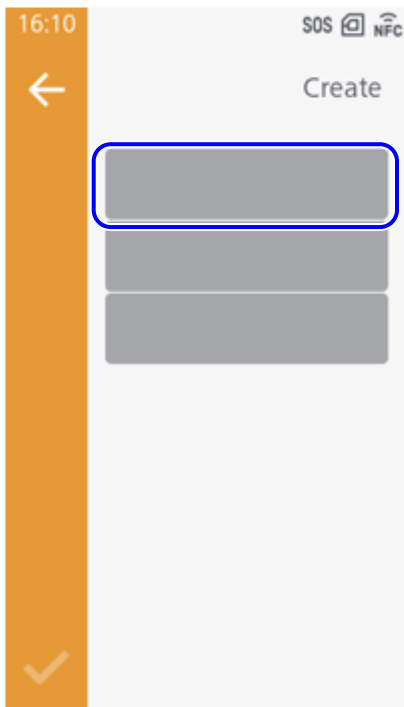
The values of the product's current settings, any messages, and more can be displayed on the Home screen.

The procedure to create a widget is as follows:

1. From the settings screen, open [System] > [Home Screen] > [Widget] > [Create].



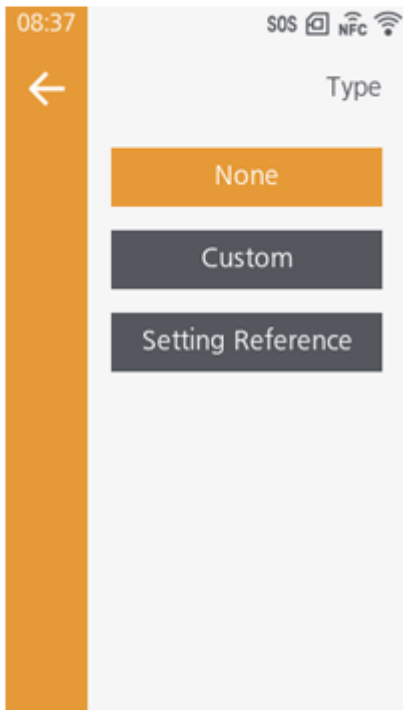
2. Tap 1 of the gray boxes.



3. Tap [Type] and set the type of item you want to be displayed.

If you want a message to be displayed, select [Custom] and register the title of the widget and any message.

If you want the value of a setting to be displayed, select [Setting Reference] and select the setting name you want to display from the list.

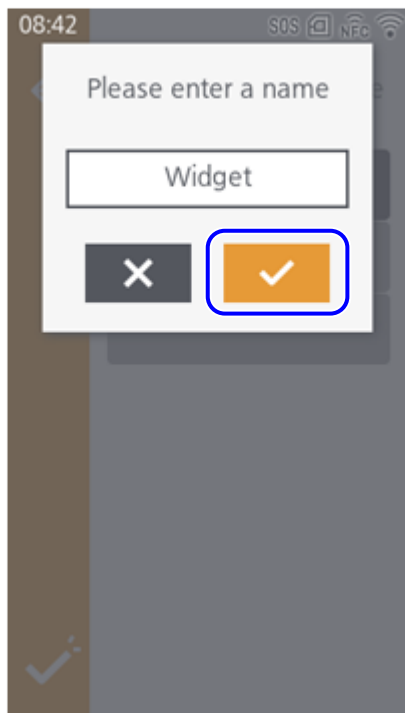


- A maximum of 3 widgets can be registered as one group.

4. Tap  to return to the previous screen and tap , on the lower left of the menu bar, to save the settings.
5. Tap  on the confirmation screen.
6. Enter the name of the widget, then tap .

The name of the widget will not appear on the Home screen. In addition, names that have

already been registered cannot be used.





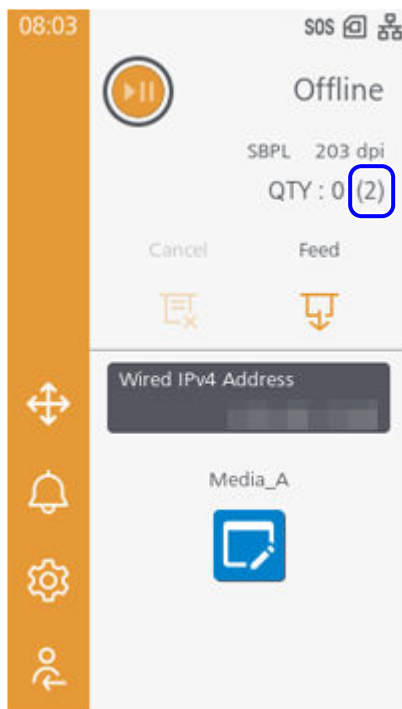
- To edit a widget, tap [Edit] and select the name of the widget to be edited.
- To delete a widget, tap [Delete] and select the name of the widget to be deleted.
- You can also delete widgets from the menu bar on the Home screen. Additionally, you can move widgets on the Home screen from the menu bar. For more information, see [Menu Bar](#).

Showing Counts on Screen

[System] > [Show Total Count]

The total print count from the time the product is turned on until it is turned off is displayed on the screen.

The number of pages printed is shown in parentheses to the right of [QTY] on both the Online and Offline screens.

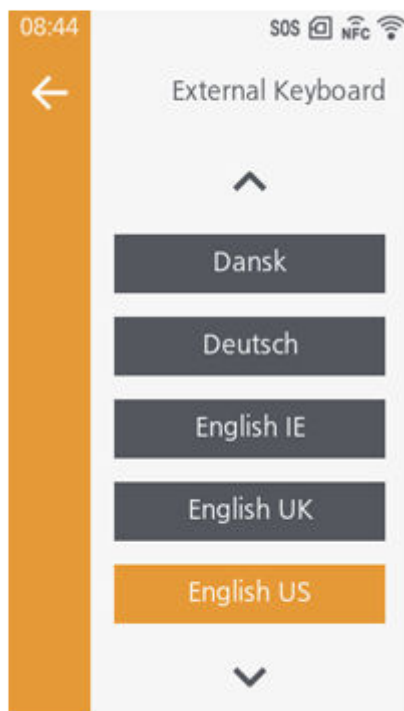


- When you turn off the product, the count is reset to [0].

Initial value: Disabled

Changing the Language for the External Keyboard

[System] > [Keyboard] > [External Keyboard]



Set the language for the external keyboard to be connected to the product.

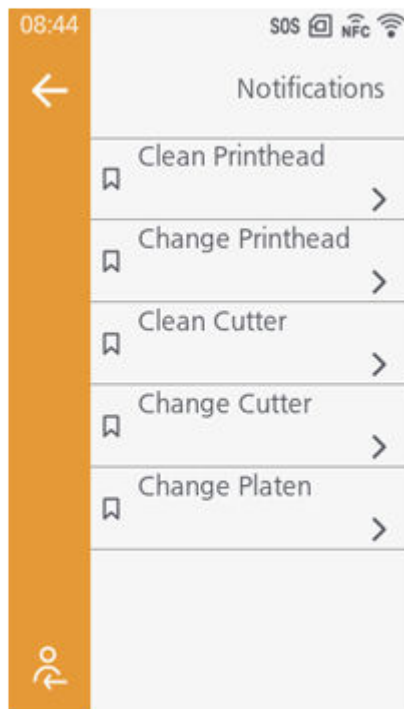


- Japanese, Chinese, and Korean only support a change in the layout of the keyboard. The IME (Input Method Editor) is not compatible, so you cannot input hiragana, katakana, or kanji.

Initial value: [English US]

Setting Notifications for When to Clean and Replace Parts

[System] > [Notifications]

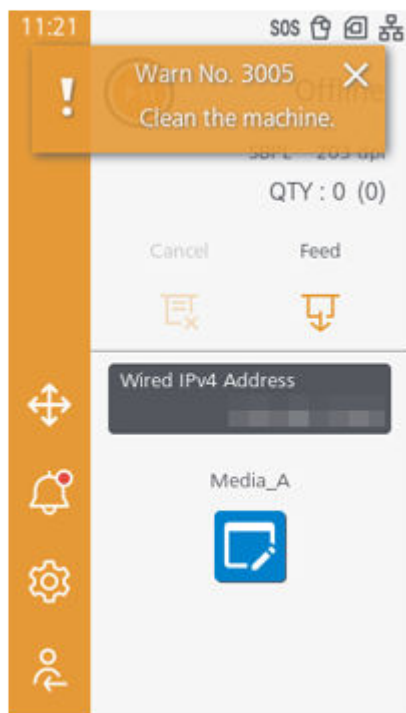


A status icon and notification banner will appear to inform the user that cleaning or replacement time is approaching for a consumable part (print head, cutter unit, platen roller).

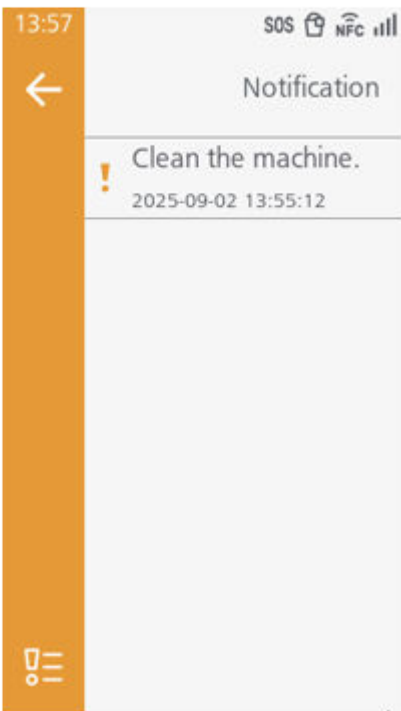
Enter the following values in the [Interval] field for each item to set the notification timing.

- [Clean Printhead]/[Change Printhead]: Distance printed
- [Clean Cutter]/[Change Cutter]: Number of cuts
- [Change Platen]: Distance media was fed

Example: When the print distance set in [Clean Printhead] is reached



- The notification banner will disappear after a certain period of time, but can also be viewed from the notification screen by tapping  on the Online or Offline screen.



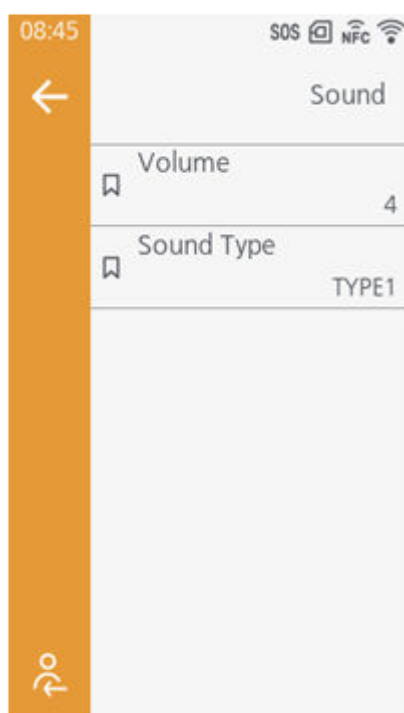
- See [Checking the Product's Status \(Status Icon\)](#) for more information on the status icons that appear.
- [Current Value] displays the distance printed, number of cuts, and the distance that media has been fed to date. Pressing [Clear] resets the counters.
- [Interval], [Current Value], and [Clear] are displayed when each notification setting is enabled.

Initial value:

- [Clean Printhead]: Disabled
- [Interval]: 400 m (1,312.34 ft)
- [Change Printhead]: Disabled
- [Interval]: 100 km (62.14 mi)
- [Clean Cutter]: Disabled
- [Interval]: 1,000 k cuts
- [Change Cutter]: Disabled
- [Interval]: 1,000 k cuts
- [Change Platen]: Disabled
- [Interval]: 100 km (62.14 mi)

Setting Sounds for Errors

[System] > [Sound]



[Volume]

Set the volume of the buzzer when an error occurs.

0 is the lowest and 8 is the highest. (0 is mute)

Initial value: 4

[Sound Type]

Set the type of sound for the buzzer when an error occurs.

Initial value: [TYPE1]

Settings Related to the Power Supply

Setting the Time to Transition to Sleep Mode

[System] > [Energy Saving] > [Sleep Timeout]



Set the time before transitioning to sleep mode.



- During sleep mode, the LED indicator will blink blue.
- The sleep function is disabled in the following cases.
 - When [External I/O] > [Print Start Signal] or [External I/O] > [Reprint Signal] > [Reprint Signal] is enabled in the [Interface] menu
 - When [Network] > [Network Services] > [Remote Desktop] is enabled in the [Interface] menu
 - When using RFID models
- In the following cases, the product does not comply with the ENERGY STAR[®] program.
 - When the sleep function is disabled
 -   When the SIM communication unit is installed

Initial value: 1800 seconds

Setting to Power On/Off from the Main Power Supply

[System] > [Start on AC]

Turn on/off the main power source to power on/off the product.

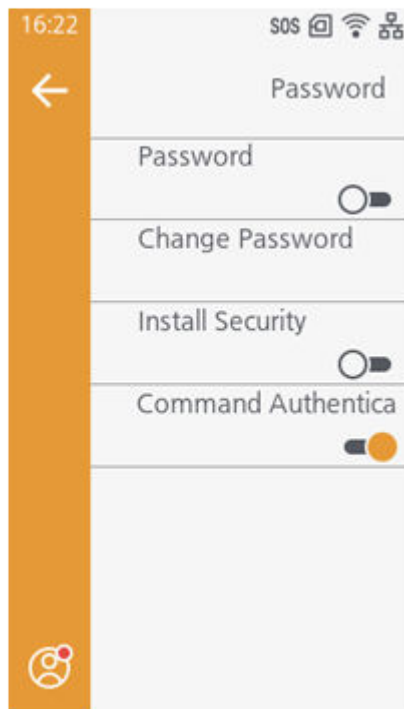


- If you power the main power source off and then on again quickly, the product may not be powered on because it is still in the powering off process. In such a case, press the  button to power on the product.

Initial value: Disabled

Setting a Password

[System] > [Password]



[Password] appears if you log in as the administrator.
For the login procedure, see [\(5\) Login](#).

[Password]

You must log in to the product as an administrator to enter the settings screen and move or delete items on the Home screen.

Initial value: Disabled

[Change Password]

Change the password.

You can enter 4 to 64 characters. You can use alphabet (capital and small letters), numbers, and symbols except ",".

[Install Security]

Use the password set in [Change Password] to install a pkg file from a USB memory.



- Contact your SATO reseller or technical support for more information on pkg files.

Initial value: Disabled

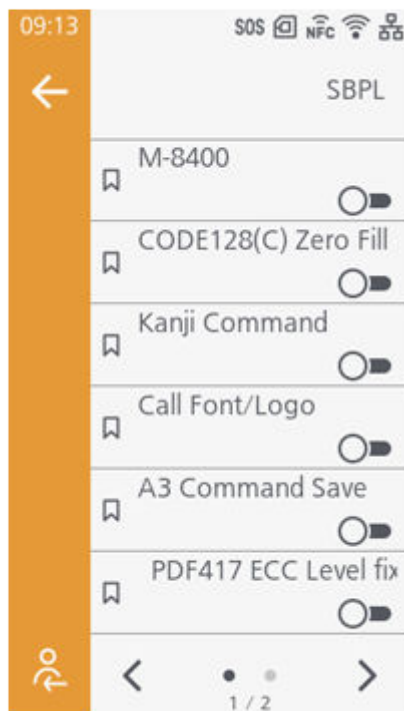
[Common Command Authentication]

Before using common commands, perform user authentication with the authenticate user passwords command DC2+PS.

Initial value: Enabled

Configuring Compatibility Settings

[System] > [Compatible] > [SBPL]



[M-8400]

Set functions compatible with the M-8400 printer.

Initial value: Disabled

[CODE128(C) Zero Fill]

Allow odd digits and print the barcode with zero-filling after the print data when start code C is used in CODE128 Barcode Specified Command ESC+BG.

If this setting is disabled, Error No. 1017 is displayed, and the barcode is not printed.

When [M-8400] is enabled, this setting is automatically enabled and not displayed.

Initial value: Disabled

[Kanji Command]

It changes the Kanji commands ESC+K5, ESC+K6, and ESC+K7 in the received data to the proper commands, and then prints.

- ESC+K5: 16 x 16 dots, specified mix of one-byte and two-byte characters
- ESC+K6: 24 x 24 dots, specified mix of one-byte and two-byte characters
- ESC+K7: 22 x 22 dots with two-byte characters specified

When disabled, the operations are as follows.

- ESC+K5 : Prints 40 x 40 dots with two-byte characters specified.
- ESC+K6: Error No. 1017 ([SBPL Command Error]) is displayed, and the data is not printed.
- ESC+K7: Error No. 1017 ([SBPL Command Error]) is displayed, and the data is not printed.

Initial value: Disabled

[Call Font/Logo]

When the font/logo call print specified command ESC+RF is specified, processing uses little-endian if enabled and big-endian if disabled.

Initial value: Disabled

[A3 Command Save]

All values specified by the ESC+A3 base reference point correction command (regardless of +/- sign) are saved to [Imaging].

If the setting is disabled, only values without +/- signs are saved.

Initial value: Disabled

[PDF417 ECC Level fixed]

Prints PDF417 codes at the security level specified by the PDF417 print command ESC+2D10.

If the setting is disabled, the print prints at or above the specified security level.

Initial value: Disabled

[Human Readable Overwrite]

When enabled, the explanatory text for the barcode is printed directly over the graphic.

When disabled, the explanatory text is printed so each character has a white background.

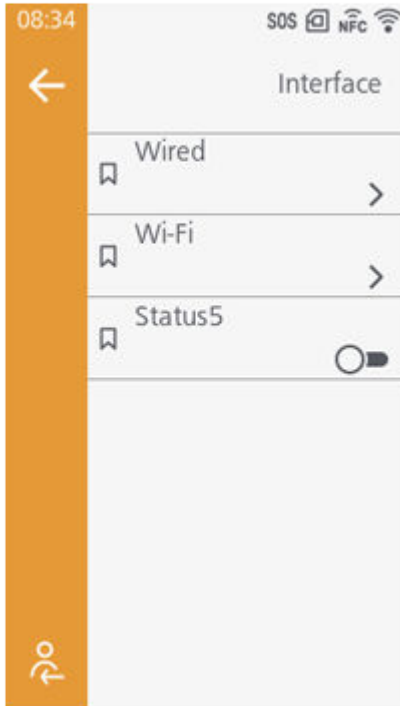
Initial value: Disabled

[OCR Font]

When enabled, prints in the old OCR-B font; when disabled, prints in the new OCR-B font.

Initial value: Disabled

[System] > [Compatible] > [Interface]



[Wired] > [Socket Cancel]

[Wi-Fi] > [Socket Cancel]

Cancels any other connection requests when the product has been connected by the socket.

Initial value: Disabled

[Status5]

[Status 5] can be selected for the [Communication Protocol] under [Wired], [Wi-Fi], [USB], and [RS-232C] in the [Interface] menu.

Initial value: Disabled

[Tools] Menu

List of Tools Menus

Tools

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[Label Width](#)

[Pitch](#)

[Offset](#)

[Darkness Adjust](#)

Configure List

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[Label Length](#)

[Pitch](#)

[Offset](#)

[Darkness Adjust](#)

Paper Sensor

[Printing](#)

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Reset

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[Format USB drive](#)

[Startup Guide](#)

Test Printing

[Tools] > [Test Print]

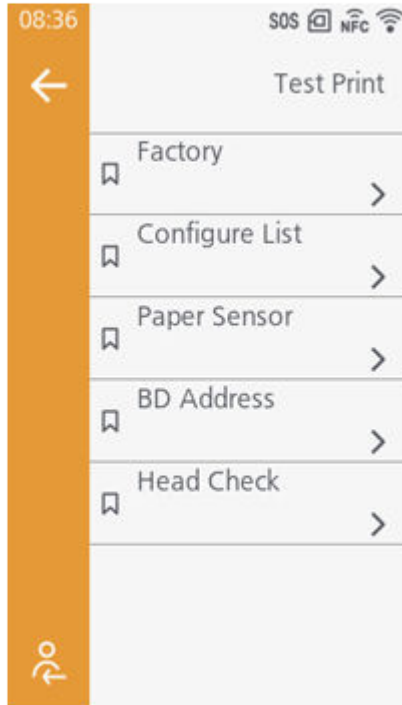
You can print a list of current settings, the media sensor level detection results, the BD address, and the head check results.

Set the items and tap  to execute the test print.



- Tap  to pause printing.
- To stop the test print, first pause printing, and then tap .

The test print settings are as follows:



[Configure List] > [Category]

Select the category of settings for printing from the following.

- [All]
- [Printing]
- [Interface]
- [Print Command]
- [Cloud Services]
- [RFID]
- [System]
- [Tools]
- [Information]

Initial value: [All]

[Factory] / [Configure List] / [Paper Sensor] / [BD Address] / [Head Check] > [Label Width]

Shows the necessary media widths for test prints.

The necessary media width is 50.8 mm (2.00") for [Small], and 101.6 mm (4.00") for [Large].

If [Factory] is selected, choose the media width for printing from [Large] or [Small]. (Initial value: [Large])

If you select [Head Check], set the media width for the media on which the head check results will be printed.

CL4-SXR

- 203 dpi: 320 to 832 dots (initial value: 832)
- 305 dpi: 480 to 1,248 dots (initial value: 1248)
- 609 dpi: 960 to 2,496 dots (initial value: 2496)

CL6-SXR

- 203 dpi: 320 to 1,216 dots (initial value: 1216)
- 305 dpi: 480 to 1,984 dots (initial value: 1984)

[Configure List] / [Paper Sensor] / [Head Check] > [Label Length]

Set the length of one piece of the media used for the test print.

When [Configure List] / [Paper Sensor] is selected

CL4-SXR

- 203 dpi: 400 to 1,600 dots (initial value: 800)
- 305 dpi: 600 to 2,400 dots (initial value: 1200)
- 609 dpi: 1,200 to 4,800 dots (initial value: 2400)

CL6-SXR

- 203 dpi: 400 to 1,600 dots (initial value: 800)
- 305 dpi: 600 to 2,400 dots (initial value: 1200)

When [Head Check] is selected

CL4-SXR

- 203 dpi: 40 to 280 dots (initial value: 160)
- 305 dpi: 60 to 420 dots (initial value: 240)
- 609 dpi: 120 to 840 dots (initial value: 480)

CL6-SXR

- 203 dpi: 40 to 280 dots (initial value: 160)

- 305 dpi: 60 to 420 dots (initial value: 240)

[Factory] / [Configure List] / [BD Address] / [Head Check] > [Pitch]

Adjust the print start position and the position of the entire print layout by setting '+' to move the print position in the direction opposite to the feed direction and '-' to move it in the feed direction.

CL4-SXR

- 203 dpi: -30 to 30 dots (initial value: 0)
- 305 dpi: -45 to 45 dots (initial value: 0)
- 609 dpi: -90 to 90 dots (initial value: 0)

CL6-SXR

- 203 dpi: -30 to 30 dots (initial value: 0)
- 305 dpi: -45 to 45 dots (initial value: 0)

[Factory] / [Configure List] / [BD Address] / [Head Check] > [Offset]

Set the tear-off position, cut position, and dispense position.

CL4-SXR

- 203 dpi: -30 to 30 dots (initial value: 0)
- 305 dpi: -45 to 45 dots (initial value: 0)
- 609 dpi: -90 to 90 dots (initial value: 0)

CL6-SXR

- 203 dpi: -30 to 30 dots (initial value: 0)
- 305 dpi: -45 to 45 dots (initial value: 0)

[Factory] / [Configure List] / [Paper Sensor] / [BD Address] / [Head Check] > [Darkness Adjust]

Fine tune the print darkness of the test print. (0 is lightest and 99 is darkest)

Initial value: 50



- The settings for [Pitch], [Offset], and [Darkness Adjust] are changed in conjunction with the settings for each test print and the settings in [Print Adjustment] in the [Printing] menu.

Backing Up/Copying Settings

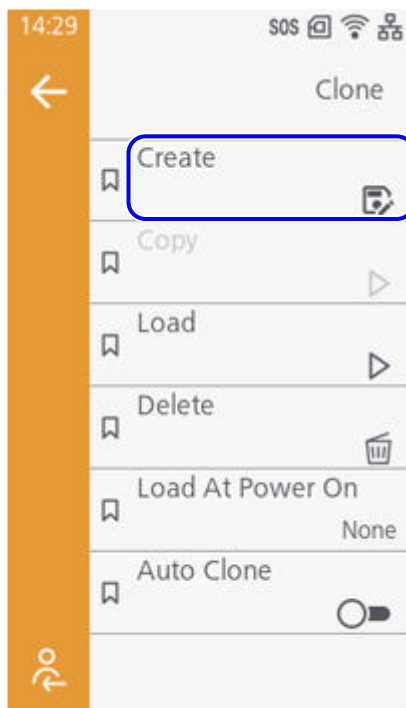
The Clone function allows you to copy the product settings and data to a USB memory.

Use this when copying settings to other printers.

Manually Copying Settings

1. Creating Clone Data

1. From the settings screen, tap [Tools] > [Clone] > [Create].



2. Tap the content to include in the clone data.

You can select from each settings menu and [Contents].



When [With IP] is selected, the interface settings, including the following items, are copied.

- [Mode]
- [IP Address]
- [Prefix Length]
- [Netmask]
- [Gateway]

When [With BD Name] is selected, [Bluetooth] > [Device Name] and the interface settings are copied.

When [Contents] is selected, the following content is copied.

- App data: user apps, AEP apps, AEP settings
- User data: Favorites, widgets, passwords, media profiles, RFID profiles, images, videos, and audio data
- System data: Third-party command data, time zone information
- Certificates

The following items are not copied.

In [Printing] menu

- [GAP Levels]
- [GAP Slice Level]
- [GAP2 Levels]
- [GAP2 Slice Level]
- [I-Mark Levels]

- [I-Mark Slice Level]

In [Interface] menu

- [sysContact]
- [sysName]
- [sysLocation]
- [Engine ID]
- [Remote Desktop]
- [USB Serial]
- [Device Name]
- [BD Address]
- [Cellular]

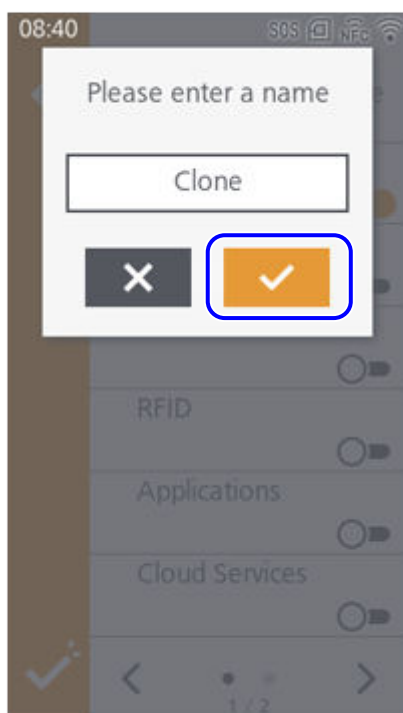
In [System] menu

- [Date]
- [Time]
- [Change Password]

3. Tap  to the lower left on the menu bar to save the setting value.

4. Tap  on the confirmation screen.

5. Enter the name of the data being created, then tap .



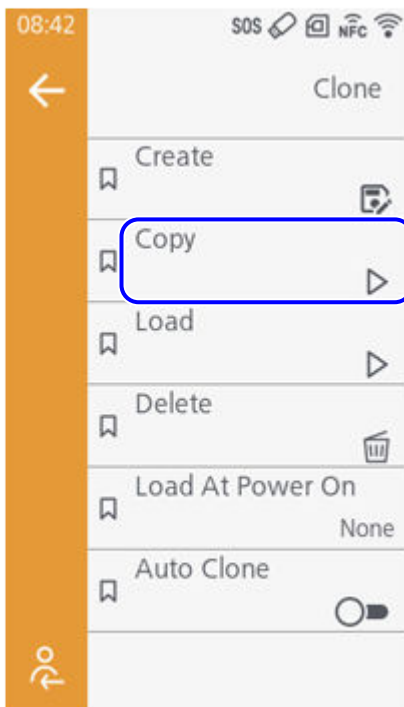
The clone data is created.



- To apply the clone data that was created, tap [Load] and select the created clone data.
- The created clone data will be displayed in [Load At Power On]. The selected clone data will be applied next time the product is powered on.
- To delete the clone data, tap [Delete] and select the clone data to be deleted.

2. Copying Clone Data to a USB Memory

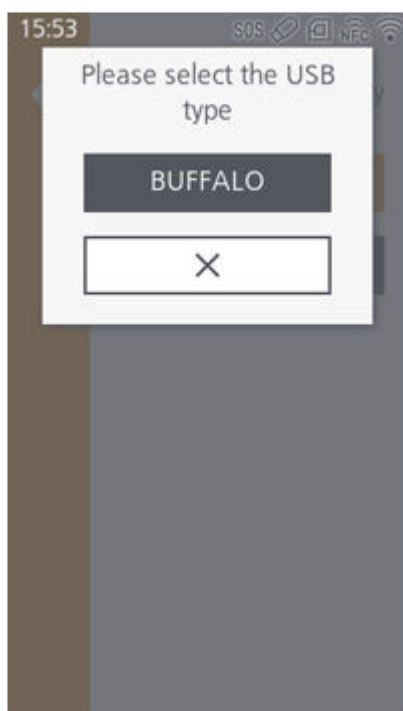
1. Insert the USB memory into the USB connector (Type A) on the product.
2. From the settings screen, tap [Tools] > [Clone] > [Copy].



3. Tap the data you want to copy.



4. Select a USB memory in which to save data.

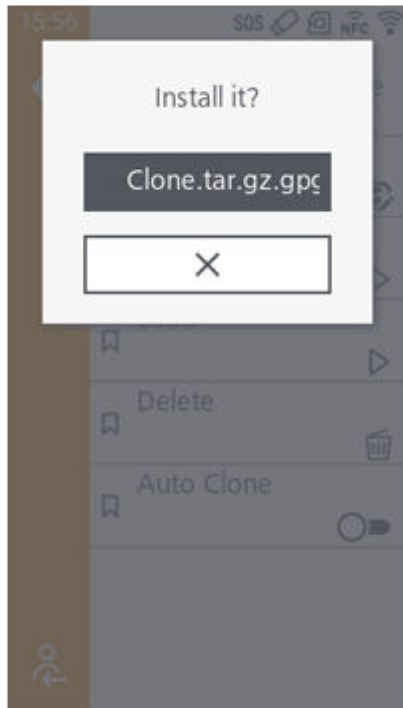


5. Tap on the confirmation screen.

3. Applying Clone Data in a USB Memory to a Separate Device

This topic explains how to apply settings by attaching a USB memory, containing clone data created in the product, to a separate device.

1. **Insert the USB memory on which the clone data has been saved into the USB connector (Type A) on the separate device.**
2. **Tap the clone data you want to install.**



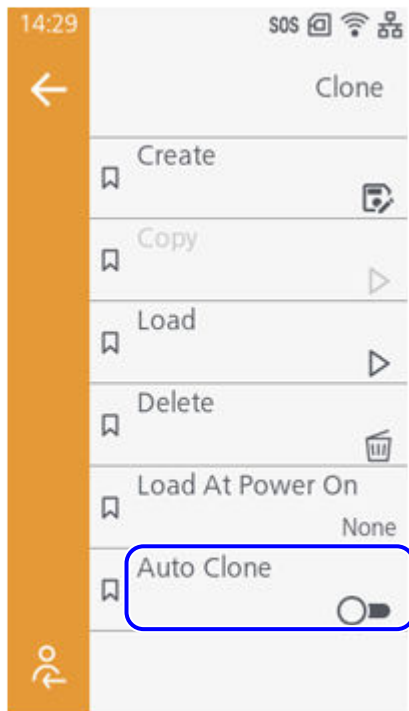
3. **Tap  on the confirmation screen.**

The separate device will reboot automatically.

Automatically Backing Up Settings

By enabling the Auto Clone function, the settings and data are automatically saved to the product, whenever the settings are changed.

1. Tap [Tools] > [Clone] > [Auto Clone] to enable it.



Initial value: Disabled



- To apply clone data saved in the product, tap [Load] and then select the saved clone data.

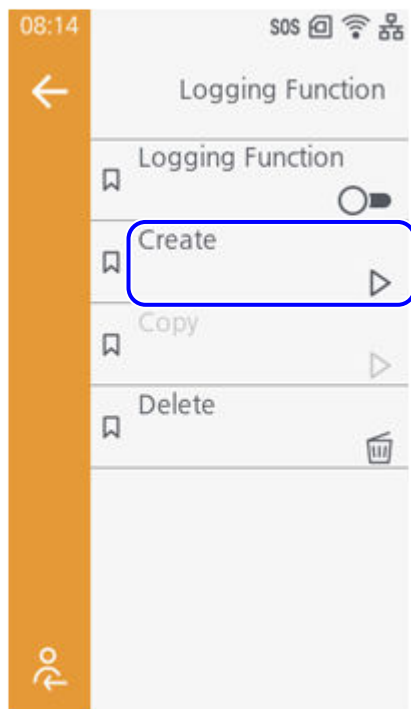
Acquiring Log Data

The product's system log, log data of settings, etc. can be obtained for analysis, such as when errors occur.

The saved log data can be used only by SATO authorized service personnel.

Follow the steps below to save log data.

1. From the settings screen, tap [Tools] > [Logging Function] > [Create].





- When the power is turned off while [Logging Function] is enabled, log data will be created in the same manner. (Initial value: Disabled) In this case, reboot the product, tap [Tools] > [Log Collection] > [Create], and proceed with the subsequent steps starting from this procedure.

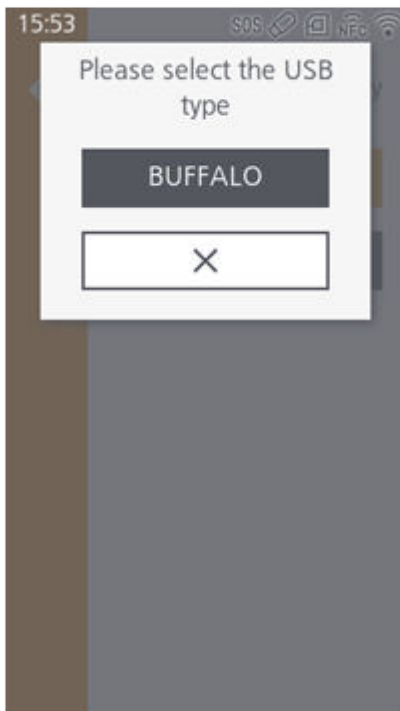
2. Tap on the confirmation screen.

The log data is created.

3. Insert the USB memory into the USB connector (Type A) on the product.

4. Tap [Copy].

5. Select a USB memory in which to save data.



6. Tap on the confirmation screen.

Copies log data to a USB memory.

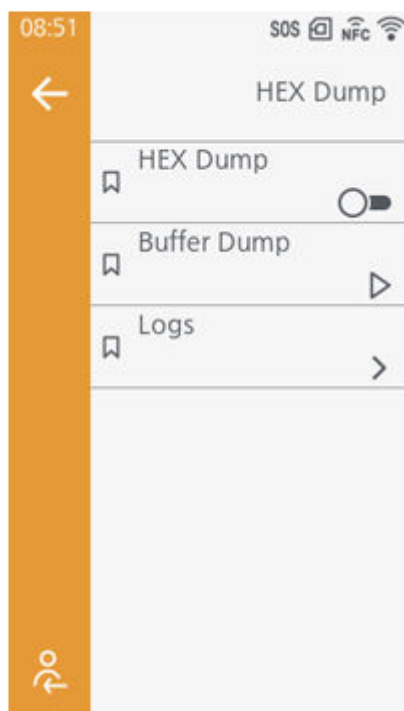


- To delete log data, tap [Delete].

Dumping Data in Hex Format/Saving Receiving Buffer

[Tools] > [HEX Dump]

Data received by the product can be output in hexadecimal format for data analysis and debugging.



[HEX Dump]

The product prints the received data and at the same time creates a file of the received data in the product.



- You can save a maximum of 10 received data files for each type of interface. Depending on the file size, the number of files you can save will be less than 10.
- Even if it is enabled, it will be disabled when you reboot the product.

Initial value: Disabled

[Buffer Dump]

Save the receive buffer data to the product.

You can use this if you have disabled [HEX Dump].



- The data files of the receive buffer are created for each type of interface.
- If you execute [Buffer Dump] again, the existing file will be overwritten.

[Logs]

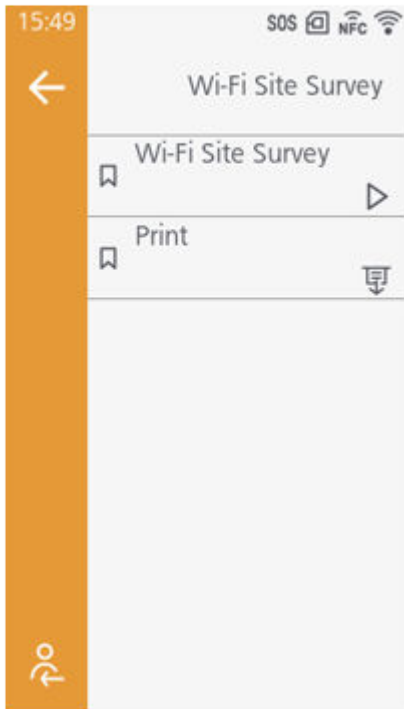
Copy, delete, or print files saved in the product using HEX dump and buffer dump.



- You can tap [Copy] to copy a file to a USB memory if you have connected a USB memory.

Checking the Wireless LAN Signal Status

[Tools] > [Wi-Fi Site Survey]



The wave strength for each network can be measured and displayed on the screen or printed.

The results of the Wi-Fi site survey are listed in order of signal strength, from strongest to weakest.

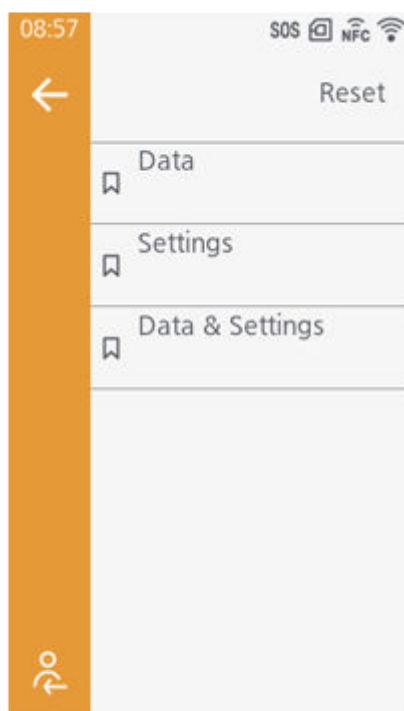
This information is shown when the wireless LAN/Bluetooth unit is being used and is connected to a wireless LAN.

Does not appear when connected via Wi-Fi Direct.

Initializing Data and Settings

[Tools] > [Reset]

The settings and data saved to the product can be initialized.



[Data]

The data (fonts and graphics) registered to the product is initialized.

[Settings]

The product's setting values are initialized.

[Data & Settings]

Both the product's settings and registered data (fonts and graphics) are initialized.

Select the type of reset when [Settings] or [Data & Settings] is selected.

- [User Reset]
Initialize the setting values and data.
- [User Reset (-Interface)]
Initialize the setting values and data, except for the [Interface] menu.

- [Factory Reset]
Initialize to the factory default settings.
- [Factory Reset (-Interface)]
Initialize the setting values and data, except the [Interface] menu, to the factory default settings.
- [Interface]
Initialize the setting values and data in the [Interface] menu.
- [Printing]
Initialize the setting values and data in the [Printing] menu.



- Some items cannot be initialized.

Formatting the USB Memory

[Tools] > [Format USB drive]

Format a USB memory.

Displayed if you have connected a USB memory.

Setting the Startup Guide to Be Displayed

[Tools] > [Startup Guide]

The startup guide is a function to help you through the initial product settings (date settings, time settings, loading media, ribbon, etc.).

Display the startup guide when the product is powered on.

Initial value: Enabled

[Information] Menu

List of Information Menus

The menus displayed vary depending on the options being used or the connected interface.

Information

Help
Install Media
Roll
Standard
Cutter
Rotary Cutter
Dispenser
Linerless Cutter
Dispenser with Rewinder
Fanfold
Standard
Cutter
Rotary Cutter
Label Waste Prevention
Ribbon
Replace Media
Roll
Standard
Cutter
Rotary Cutter
Dispenser
Linerless Cutter
Dispenser with Rewinder
Fanfold
Standard
Cutter
Rotary Cutter
Ribbon
Cleaning
Cleaning
Replace Parts

Printhead
Platen Roller

Build Version

Version
Release Date
Kernel Version
Printer Serial
Printhead No.
Temperature
Humidity

Counter

Printhead
Life
Printhead 1
Printhead 2
Printhead 3
Cutter

Wired

Wired IPv4 Address
Wired IPv6 Address
Wired MAC Address

Wi-Fi

Wi-Fi IPv4 Address
Wi-Fi IPv6 Address
Wi-Fi MAC Address
Region
Wi-Fi Status

Wi-Fi Versions
cfg80211
Driver
Firmware

Wi-Fi Direct

SSID
Role
IP Address
Wi-Fi MAC Address

Passphrase

Channel

Region

Cellular

Carrier

IMEI

Phone Number

Power

Connection Status

Access Technology

Mode

Signal Strength

Usage Tx

Usage Rx

Lock

Bluetooth

Device Name

BD Address

System Module

Print Module

FPGA Version

CONT Board

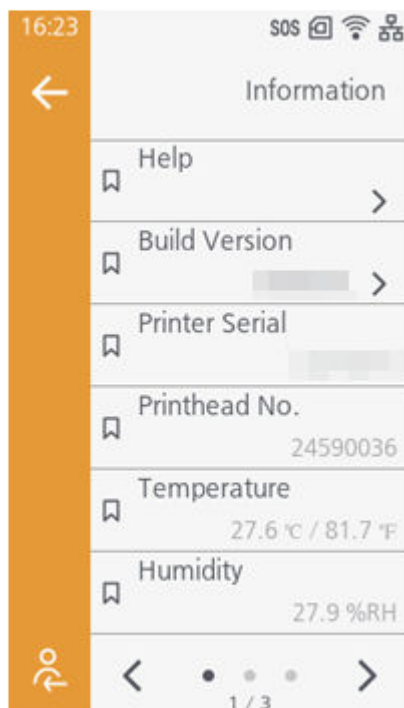
Update History

Error Log

Confirming Product Information

In the [Information] menu, you can confirm information about the product you are using.

In addition, you can also play videos on how to load media and ribbons and clean.



Web Configuration Screen

How to Access the Web Configuration Screen

Access the product from your browser to configure the product settings from a remote location.



- To access the web configuration screen, the product must be connected to a wired LAN or wireless LAN.
- If the Firewall function is enabled, enable [Network] > [Advanced] > [Firewall] > [Allow Services And Ports] > [WebConfig] in the [Interface] menu.

1. Enter "https://product IP address" in the browser's address bar.

If the product IP address is 192.168.143.123, enter the following URL: https://192.168.143.123.



- The product IP address can be found in either [Wired] or [Wi-Fi] in the [Information] menu.
- When a security certificate is prompted, you must acknowledge and click Continue.

2. Enter your username and password.

WebConfig

User Name

Password

Login



- The initial password is assigned uniquely for each product. Check the labels included with the product.

3. Click [Login].

The Dashboard screen appears.

Model name: CL4-SXR TT203
Resolution: 203 dpi
Wired MAC Address: [redacted]
Wi-Fi MAC Address: [redacted]
Dashboard
Tools

Dashboard

Printing

Speed: 6 ips

Darkness: 5

Sensor Type: Gap

Print Mode: Tear-Off

Backfeed: Before

Darkness Range: A

Information

Model name: CL4-SXR TT203

Resolution: 203 dpi

Version: [redacted]

Network

Wired IPv4 Address: [redacted]

Wired IPv6 Address: ::

Wired MAC Address: [redacted]

Wi-Fi IPv4 Address: [redacted]

Wi-Fi IPv6 Address: ::

Wi-Fi MAC Address: [redacted]

Certificates

HTTPS: Not Installed

Wi-Fi Root CA: Not Installed

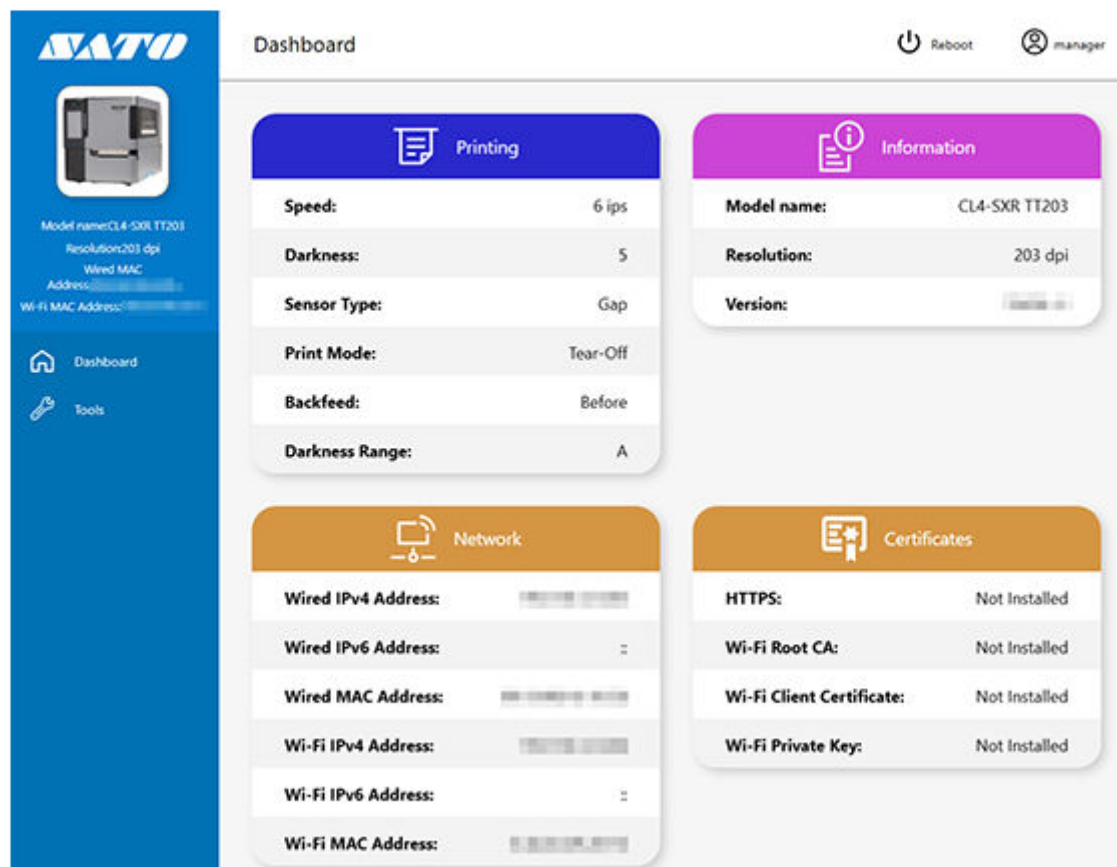
Wi-Fi Client Certificate: Not Installed

Wi-Fi Private Key: Not Installed

Reboot manager >

Dashboard

You can check the product's print settings, network information, hardware information, certificate installation status, and more on the Dashboard screen.



Remote Desktop

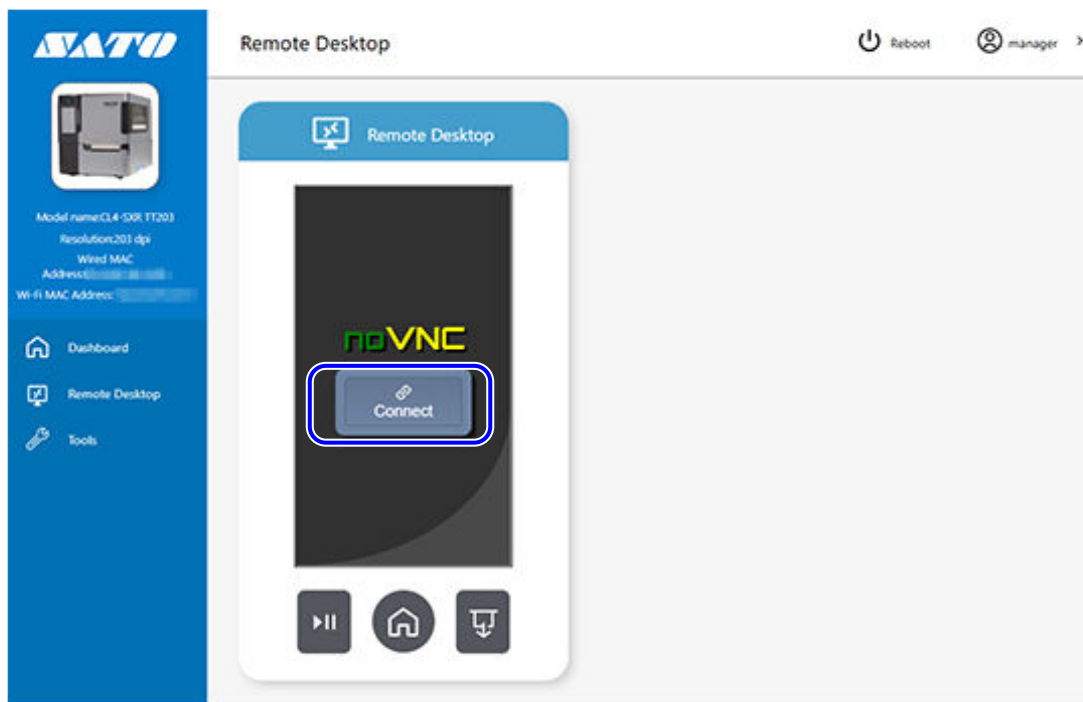
Display the screens of the product on your browser to be able to operate the product remotely.



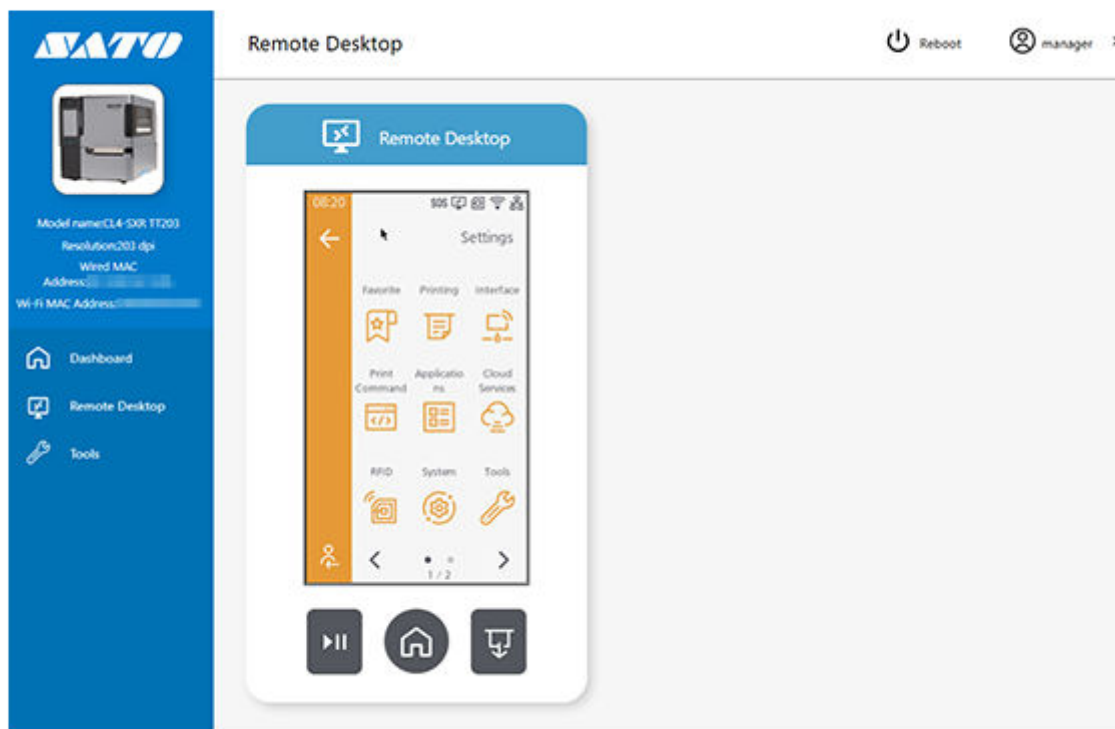
- To use the remote desktop function, you must enable [Remote Desktop] in the [Interface] menu. For more information, see [Setting the Remote Desktop Function](#).

Follow the steps below to connect to the product.

1. Click [Connect].

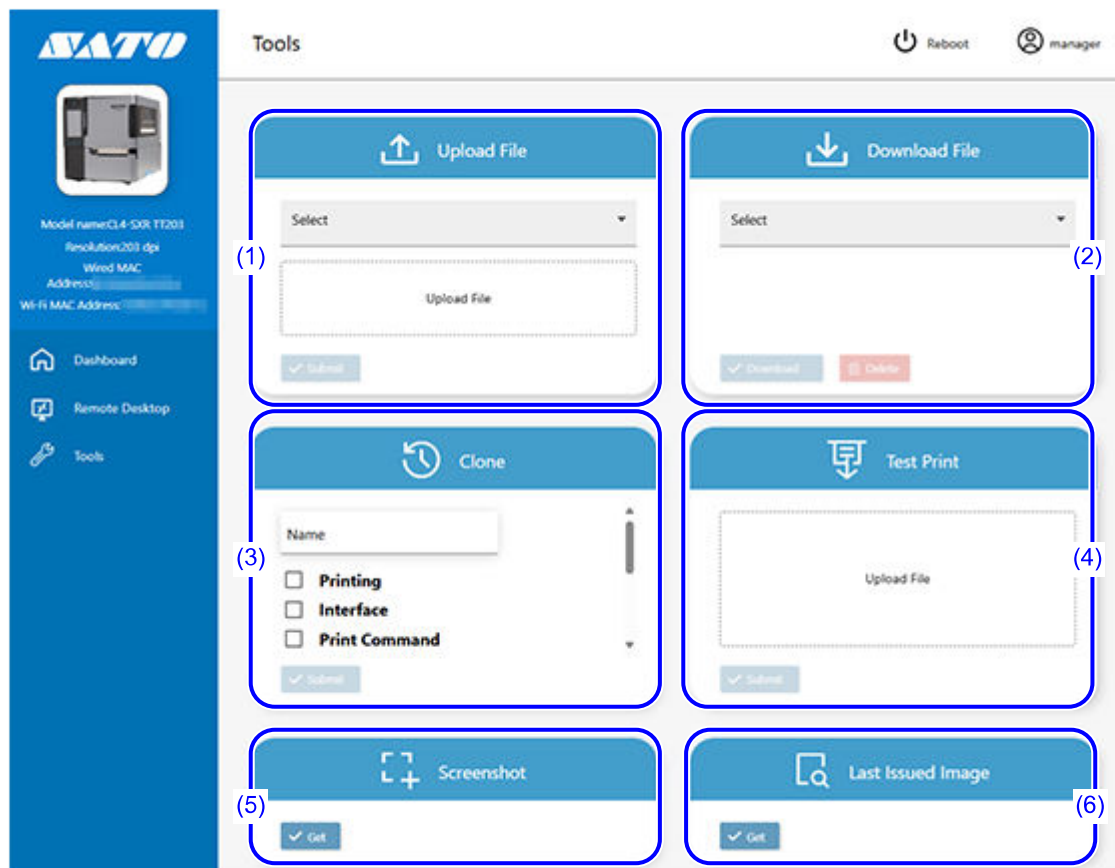


The screen of the product is displayed.



Tools

You can perform the following things on the Tools screen.



(1) [Upload File]

You can upload firmware, applications, clone data, and certificates.

Select a file type from the pull-down menu, drag and drop the file into the [Upload File] area, and then click [Submit].

(2) [Download File]

You can download and delete buffer dumps, HEX dumps, and support log files.

Select the file type from the pull-down menu, and then click [Download] or [Delete].

(3) [Clone]

You can create a copy of the product's settings.

Select the categories of settings you want to include, enter a name in [Name], and then click [Submit]. The created clone data is downloaded. Then, it is saved in the product at [Tools] > [Clone] > [Load].

(4) [Test Print]

You can print the uploaded files.

Drag and drop the file into the [Upload File] area, and then click [Submit].

(5) [Screenshot]

You can get the current screen of the product.

(6) [Last Issued Image]

You can get an image of the last label printed.

If you power off the product, images obtained before powering off cannot be retrieved again.

Cleaning

Precautions When Cleaning

To ensure the product operates properly and maintains print quality, clean the interior of the product using the cleaning schedule as a reference.

When cleaning, make sure that the product is powered off, and disconnect the power cord from the outlet.



- Do not operate the power supply, or connect or disconnect the power cord while your hands are wet. Doing so could cause an electric shock.



- Do not use cleaning fluids other than the ones supplied with the product or recommended by us. Also, never use organic solvents, such as thinner and benzine to clean the product.



- Contact your SATO reseller or technical support to purchase the cleaning kit, cleaning sheets, and other of our cleaning products.

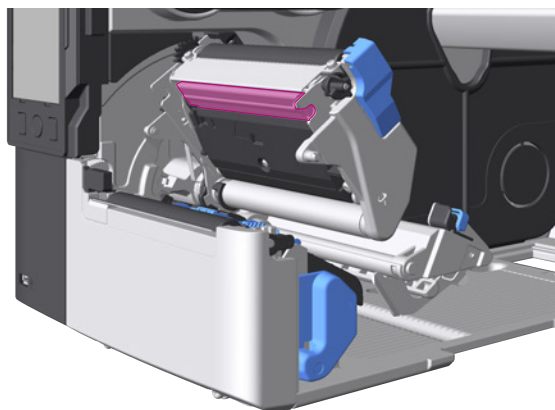
Cleaning When Using Standard/Cutter

Wipe the following parts with a cloth dipped in cleaning solution.

You can also check the cleaning procedure in the video. ([Cleaning](#))

Print Head

Cleaning recommendation: Every 1 media roll or 150 m (492.13 ft) printed





- The print head and its surroundings are hot after printing. Wait until the product cools down.
- Touching the edge of the print head with your bare hand could cause injury.

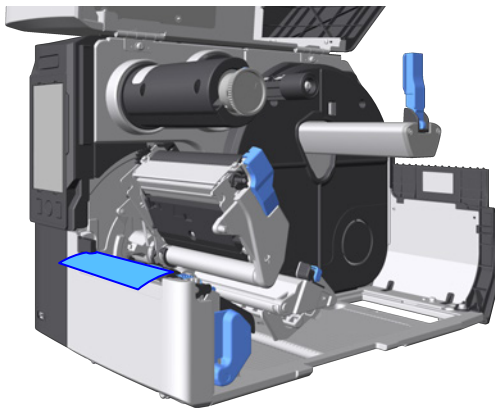
Using Cleaning Sheets to Clean the Print head

Cleaning sheets are used when there is persistent dirt on the print head.



- Clean with cleaning sheets every time 6 rolls of media roll are used or every time 900 meters (2,952.76 ft) is printed.

- 1. Insert the rough side of the cleaning sheet adjacent to the print head, and insert it between the print head and the platen roller.**

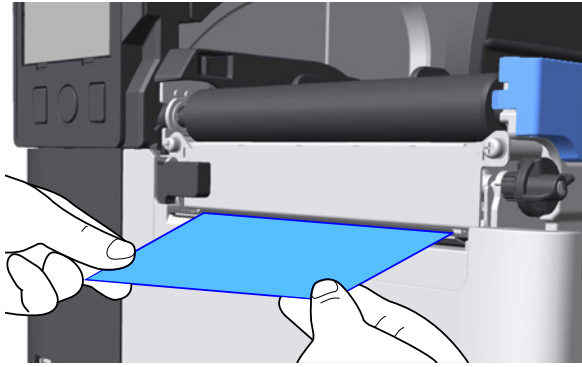


- 2. Push the head assembly downward until it "clicks" into place.**



- When pushing the head assembly downward, be careful not to pinch your fingers.

3. Using both hands, pull the cleaning sheet from the discharge outlet.



4. Repeat steps 1 through 3, two or three more times.

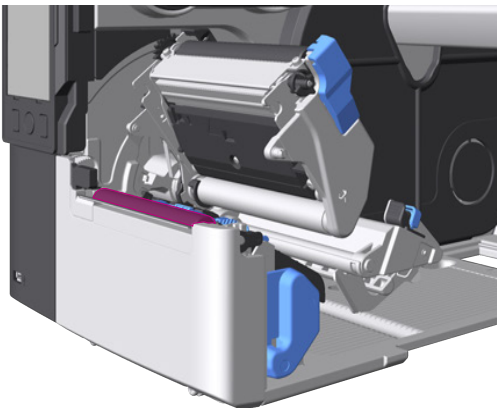
When no dirt appears on the cleaning sheet after you have pulled it out, stop repeating these steps.

5. Press the head lock lever backward.

6. Wipe dirt off the print head with a cloth dipped in cleaning solution.

Platen Roller

Cleaning recommendation: Every 1 media roll or 150 m (492.13 ft) printed

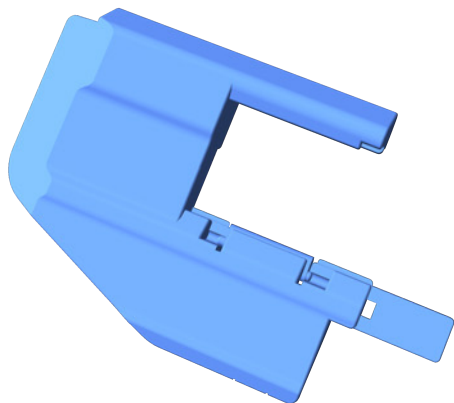


- For instructions on how to remove and install the platen roller, see [Replacing the Platen Roller](#).

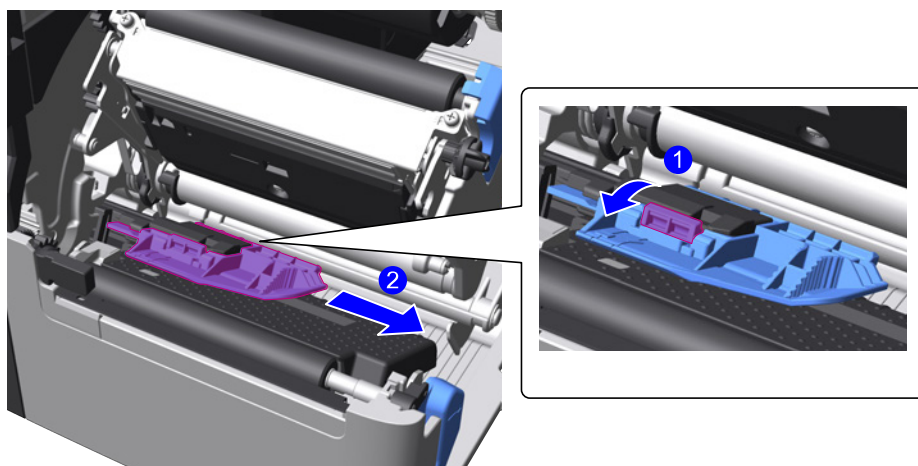
Media Sensors

Cleaning recommendation: Every 1 media roll or 150 m (492.13 ft) printed

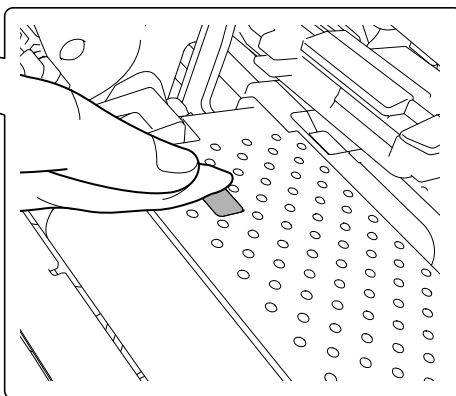
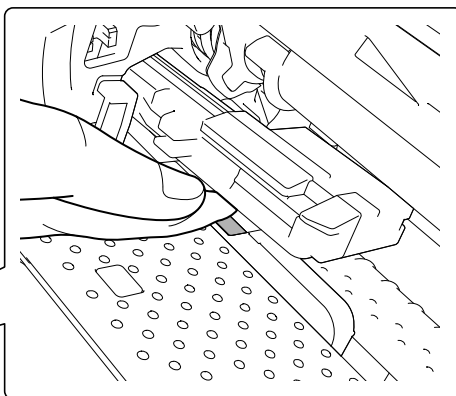
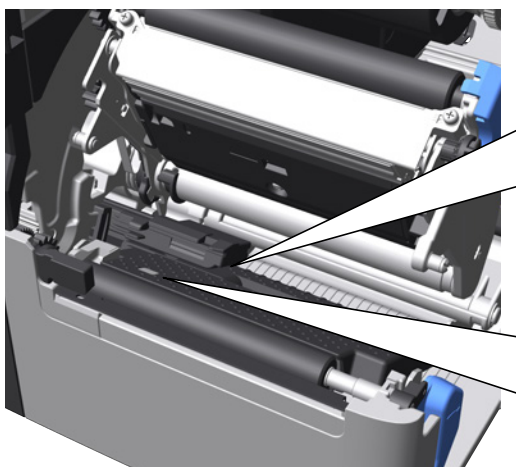
- **Bottom of media sensor guide**



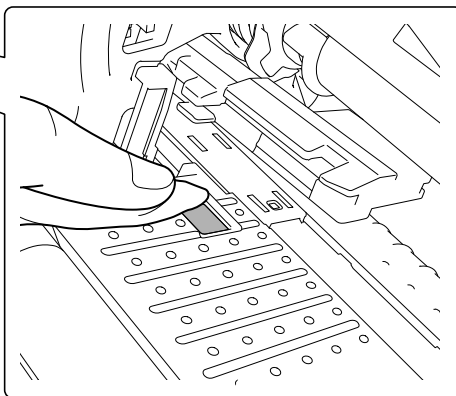
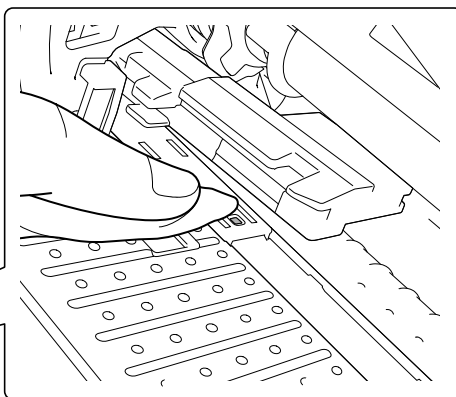
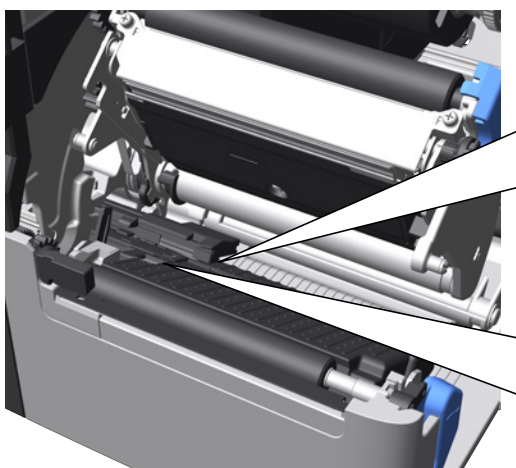
The media sensor guide is removed by pulling the lock toward you to release it, then pulling it out.



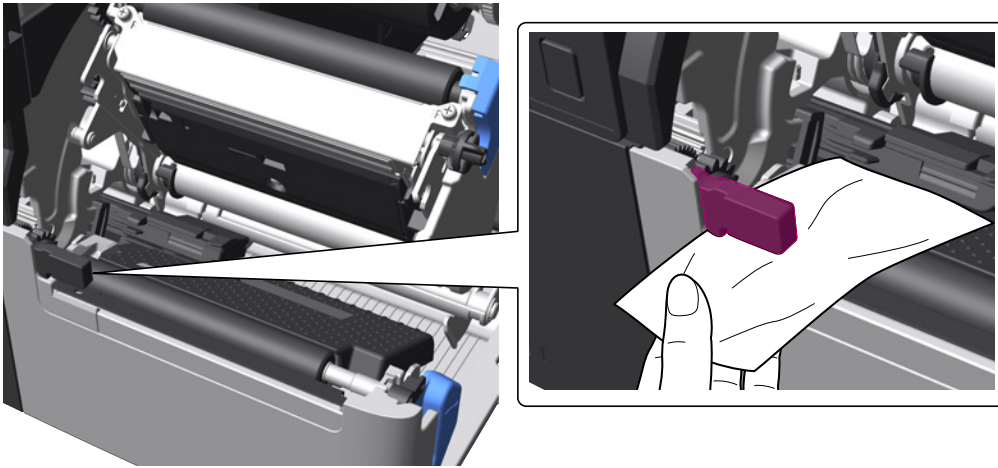
- Media sensor



For RFID models:

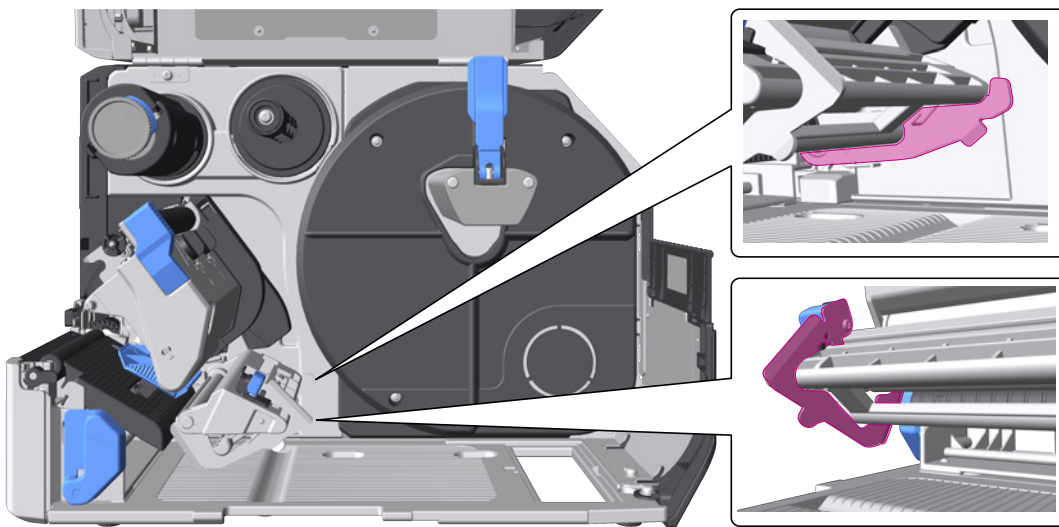


- Label top sensor



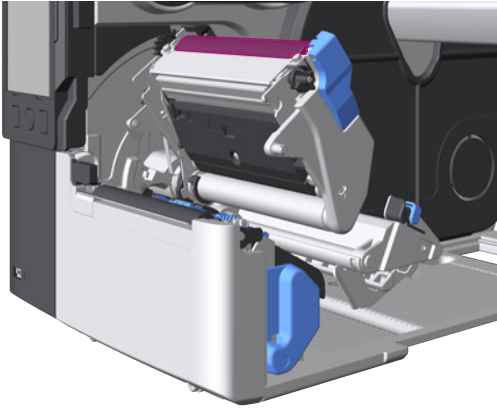
Media Guide

Cleaning recommendation: Every 1 media roll or 150 m (492.13 ft) printed



Ribbon Roller

Cleaning recommendation: Every 1 media roll or 150 m (492.13 ft) printed

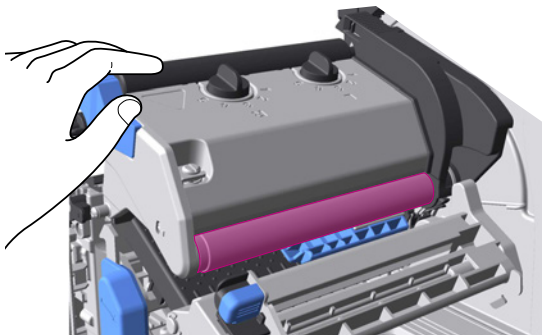


Ribbon Path

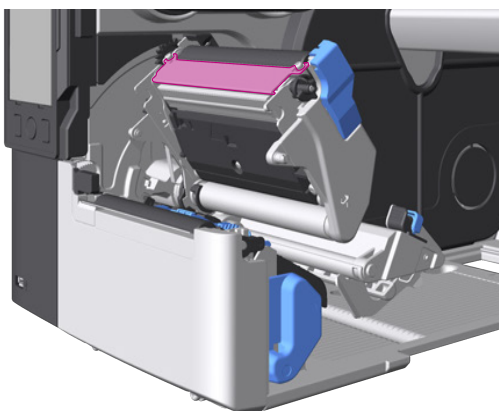
Cleaning recommendation: Every 6 media rolls or 900 m (2,952.76 ft) of media printed

- **Shaft**

Hold the head assembly in your hand as you clean it.



- **Plate**



Media Path

Cleaning recommendation: Every 6 media rolls or 900 m (2,952.76 ft) of media printed

Wipe off any dirt on the path the media takes.

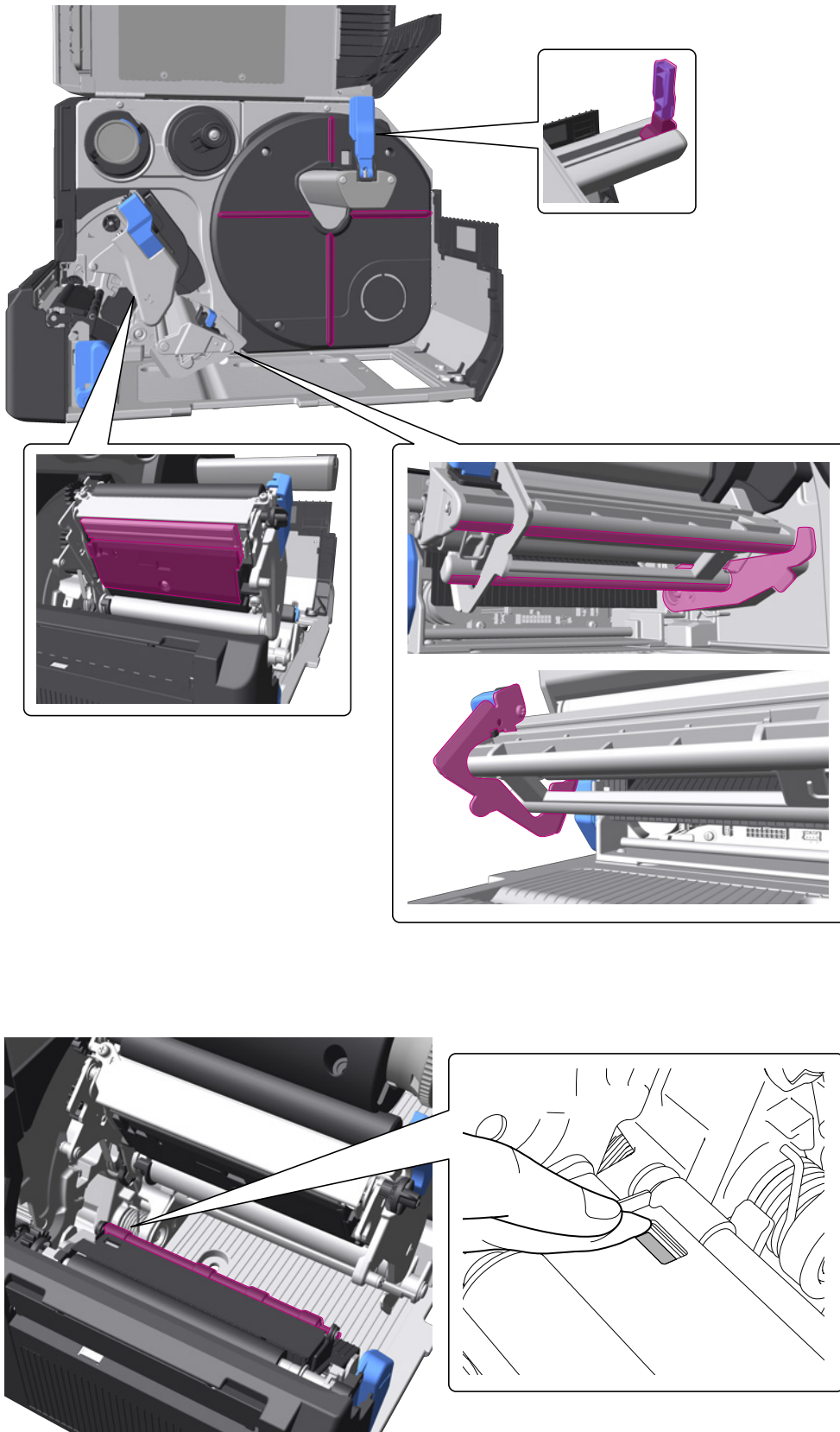
Cleaning When Using the Linerless Cutter

Label glue may adhere to the media feed path. If dirt accumulates, it can affect media feed, so clean the product regularly.

Wipe the following colored areas with a cloth dipped in cleaning solution.

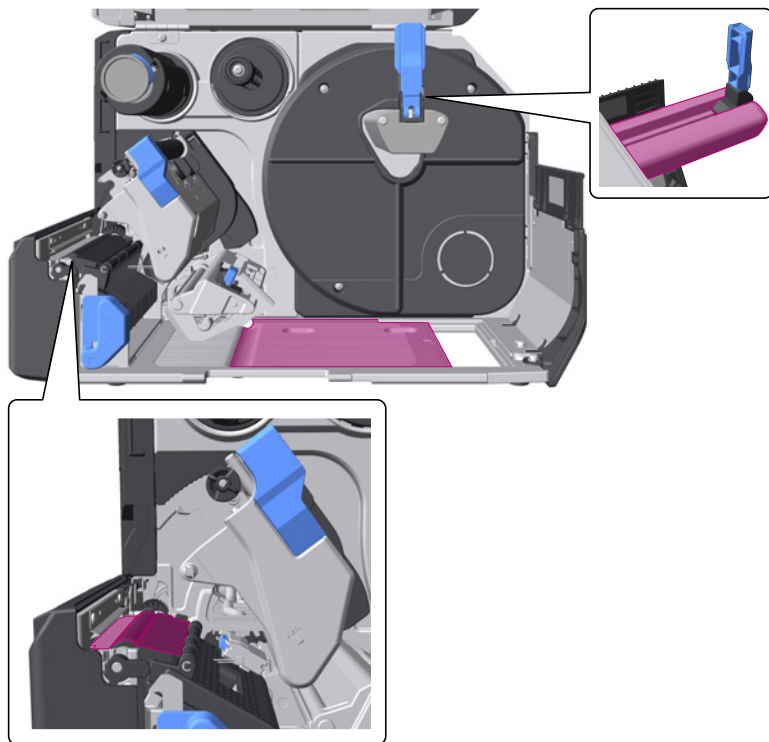
Regular Cleaning

Cleaning recommendation: Every 1 media roll



Cleaning When Dirty

Cleaning recommendation: Whenever there is any glue residue or paper dust on the media path



Cleaning When Using the Dispenser

Label glue may adhere to the inside of the dispenser unit, and if dirt accumulates, it can affect media feed.

Wipe the following areas with a cloth dipped in cleaning solution.



- The inside of the dispenser unit as well as the inside of the product must be cleaned. For parts other than for the dispenser unit, see [Cleaning When Using Standard/Cutter](#).

Dispenser Unit

Cleaning recommendation: Every 1 media roll or whenever there is any glue residue or paper dust on the media path

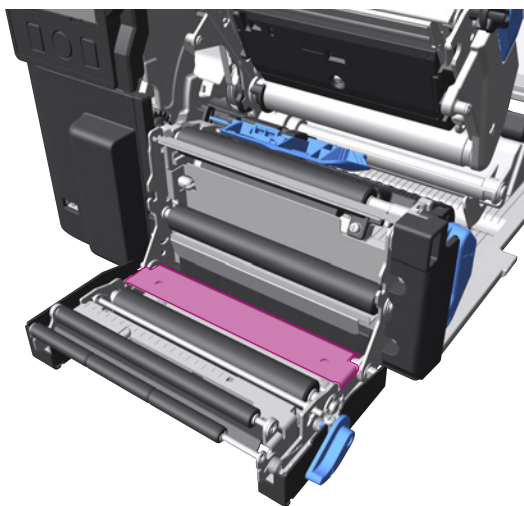


- When opening or closing the cover of the dispenser unit, be careful not to pinch your fingers.

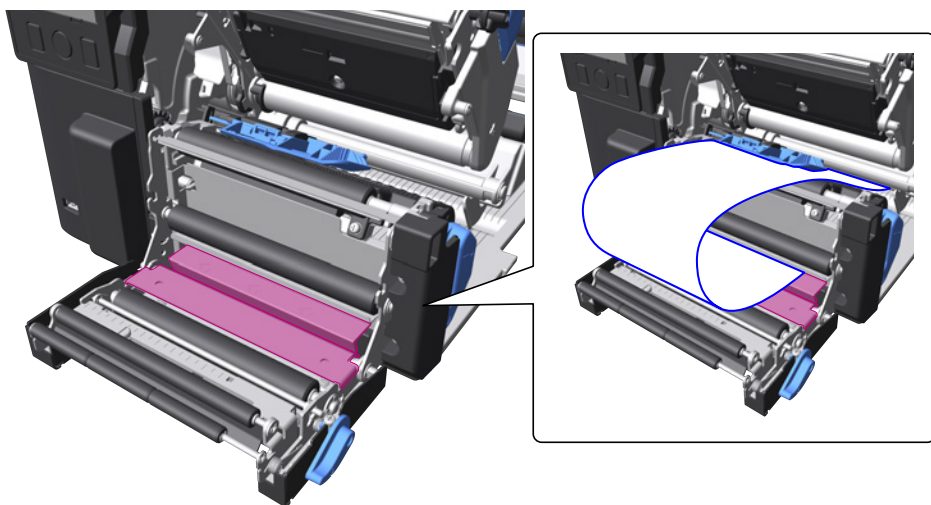
- Rollers in 4 locations



- Plate

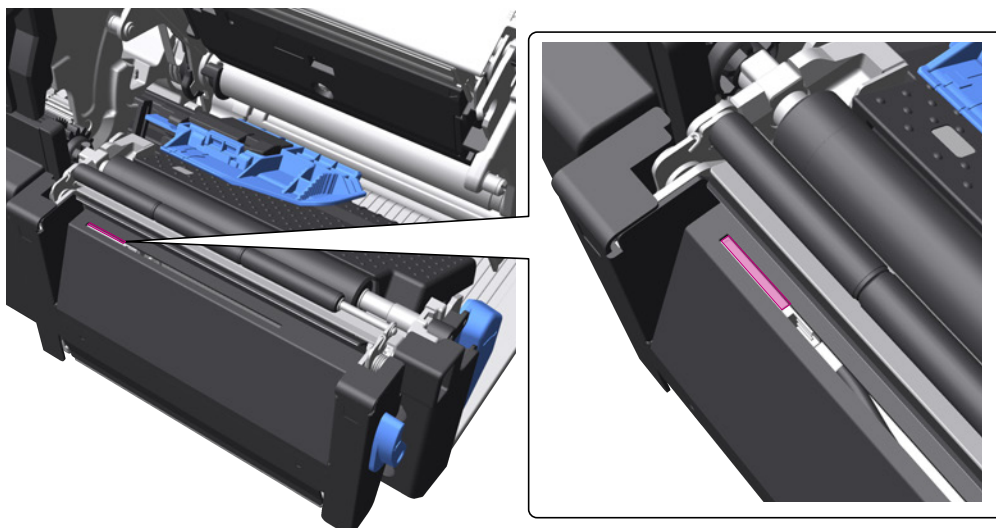


When using the liner rewinder, wipe off the top of the plate across which the liner passes.



- **Dispenser sensor**

Remove any paper dust on the sensor.



Replacing Consumable Parts

Replacing the Print Head

If printing is not possible because the print head is worn or damaged, replace it according to the following procedure:

You can also check the procedure in the video.

- **CL4-SXR** [Print head replacement](#)
- **CL6-SXR** [Print head replacement](#)



- Wear gloves when touching the print head. Touching the edge of the print head with your bare hand could cause injury or damage the print head.

When replacing the print head, make sure that the product is powered off, and disconnect the power cord from the outlet.



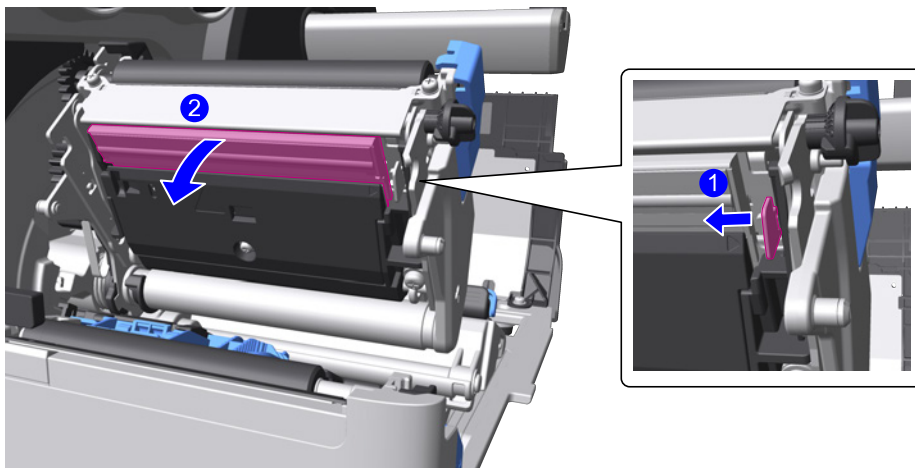
- Do not operate the power supply, or connect or disconnect the power cord while your hands are wet. Doing so could cause an electric shock.

- 1. Press the head lock lever backward, then open the head assembly.**

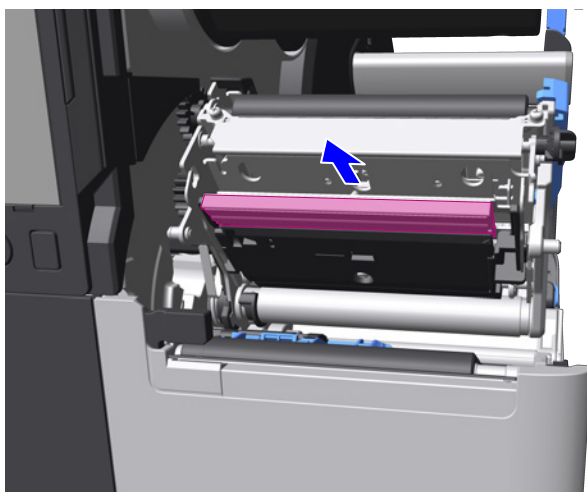


- The print head and its surroundings are hot after printing. Wait until the product cools down.

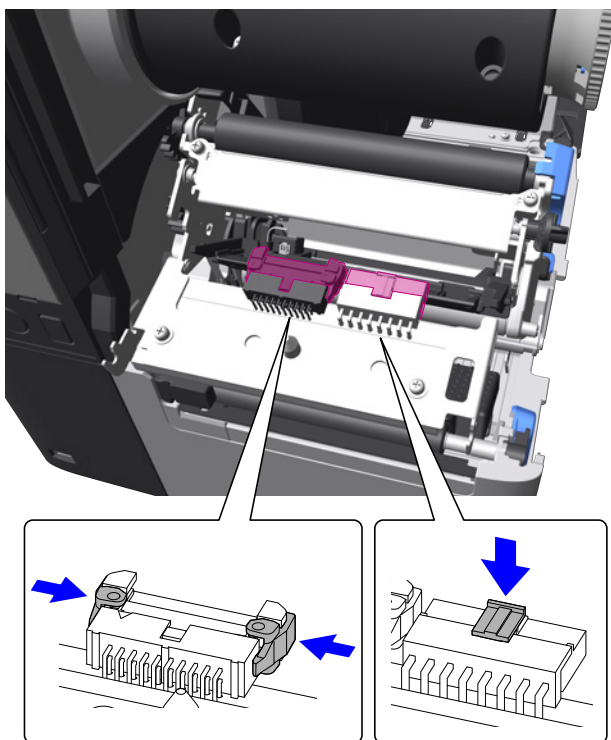
2. Press the lever to the left to unlock the print head.



3. Take out the print head.



4. Remove the connectors from the print head.



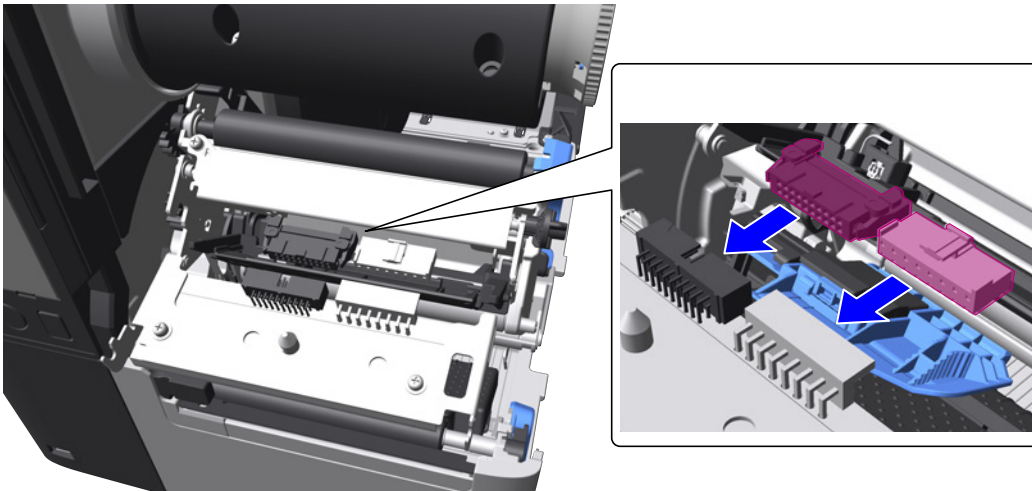


- There are two connectors on the CL4-SXR and three connectors on the CL6-SXR.

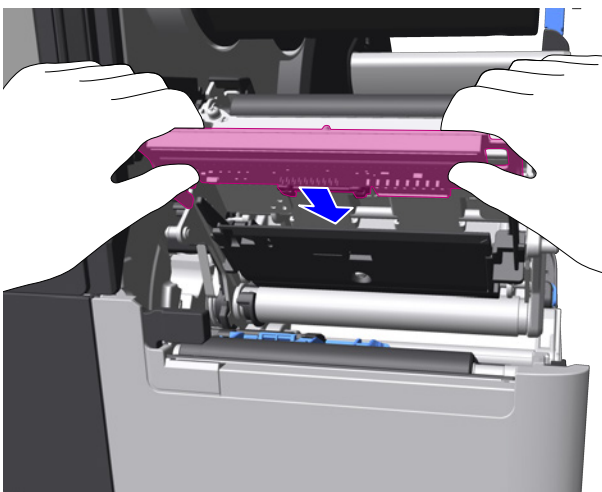
5. Insert the connectors on the product into the new print head connectors until they "click" into place.



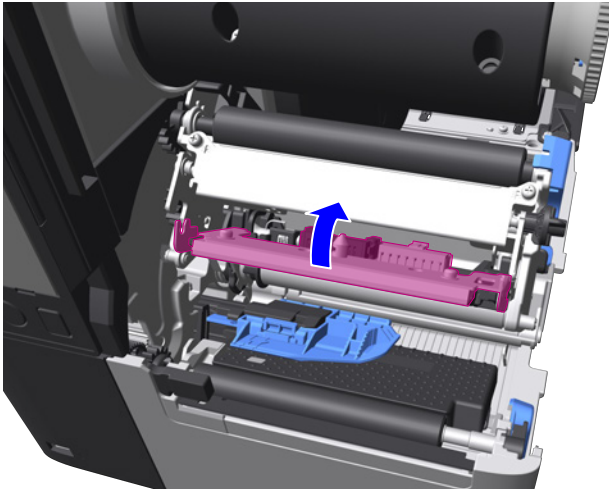
- Be careful not to damage the surface of the print head.



6. Insert the print head along the left and right guides all the way in.



7. Press the print head in until it "clicks" and locks into place.



Replacing the Platen Roller

If the platen roller is worn or damaged, replace it according to the following procedure:

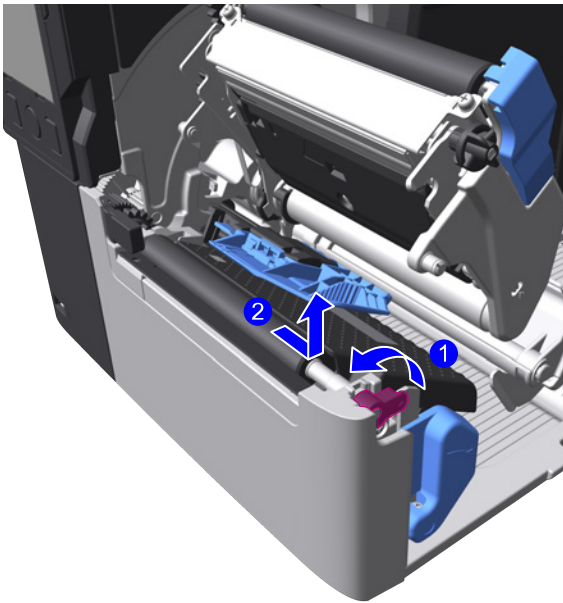
You can also check the procedure in the video. ([Platen roller replacement](#))

When replacing the platen roller, make sure that the product is powered off, and disconnect the power cord from the outlet.

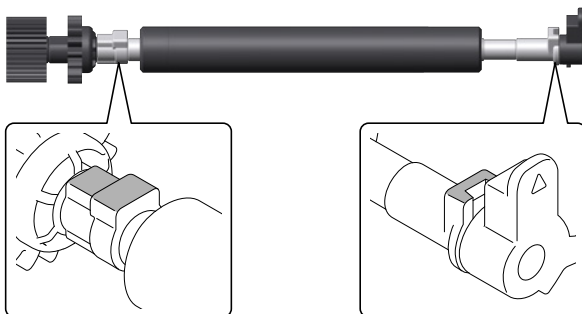


- Do not operate the power supply, or connect or disconnect the power cord while your hands are wet. Doing so could cause an electric shock.

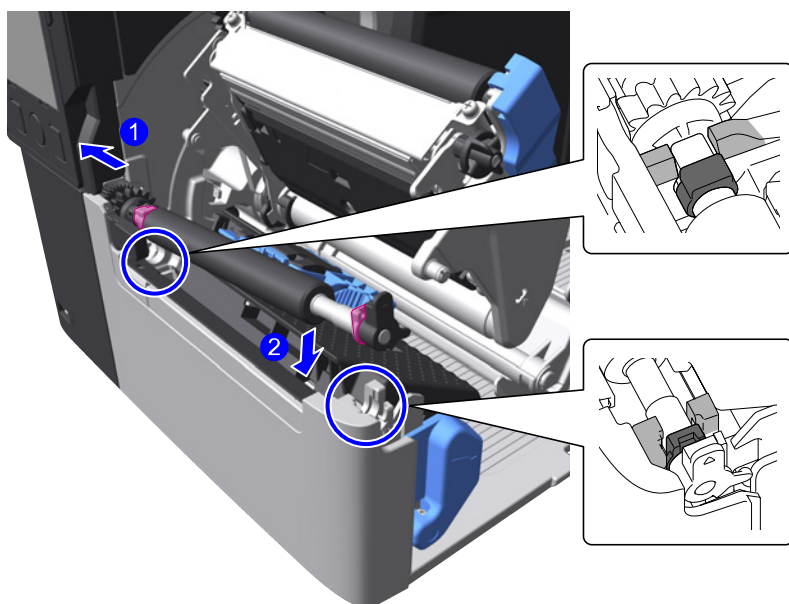
- 1. Raise the lever toward you and pull the platen roller out to the right and remove it.**



- 2. Confirm that the flat surfaces of the metal components at both ends of the new platen roller are facing upward.**

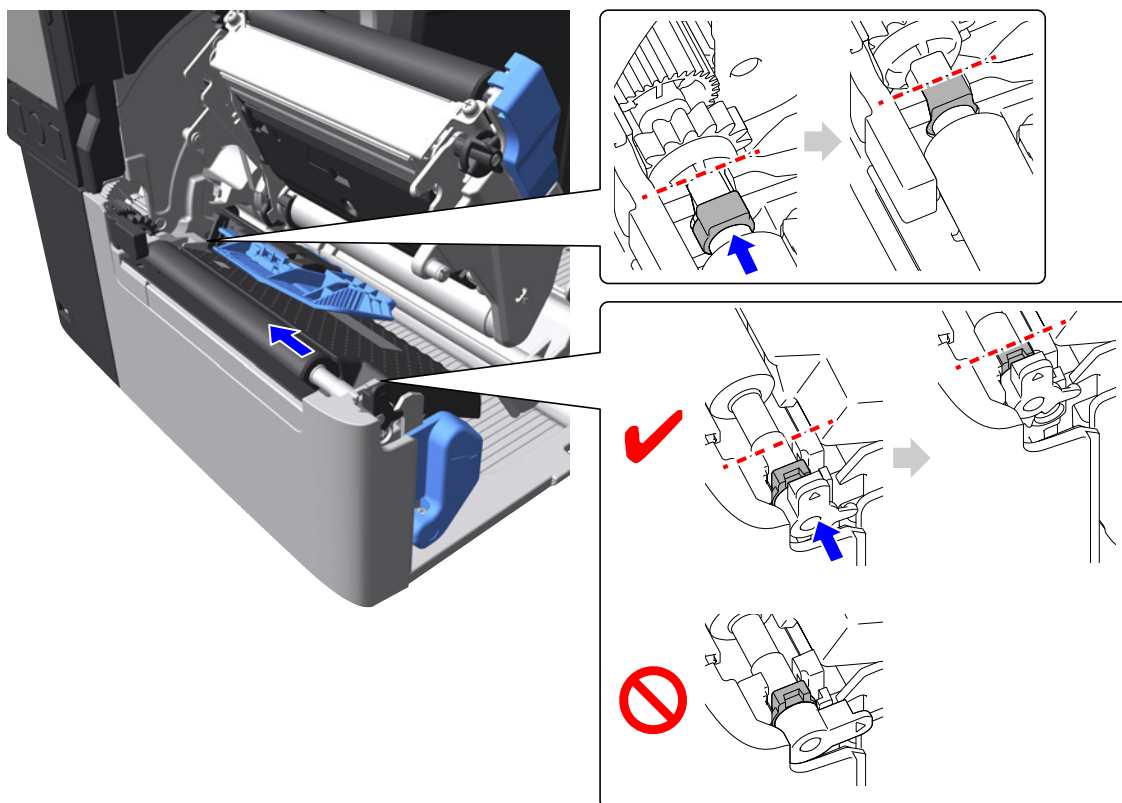


- 3. Install the platen roller so the metal components align with the bearings as shown in the diagram.**

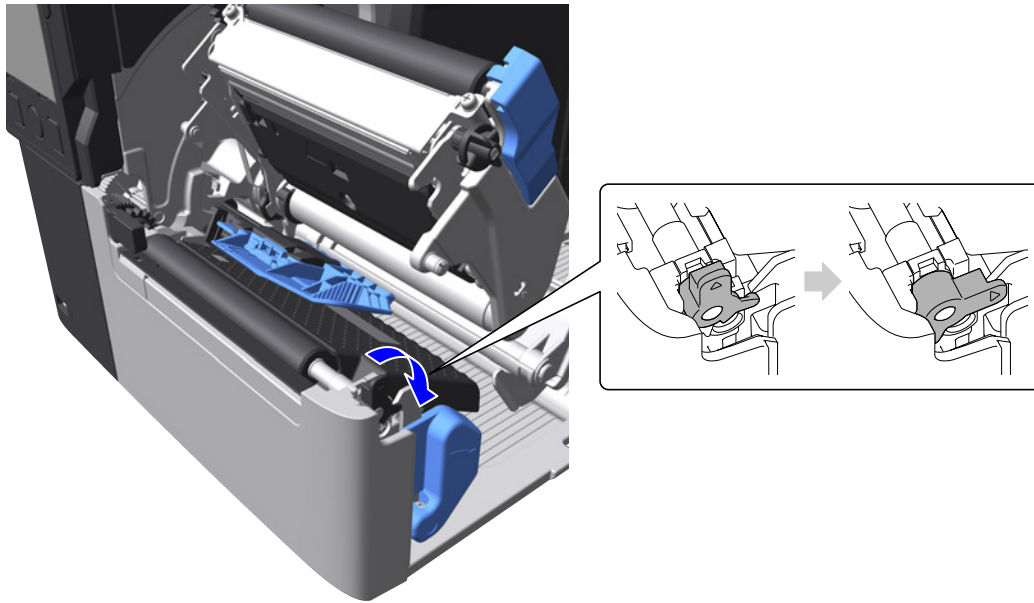


- 4. Slide the platen roller to the left to seat the metal components into the bearing.**

The $\triangle$ mark on the black lever on the right side should point up. The platen roller cannot slide if the lever is rotated.



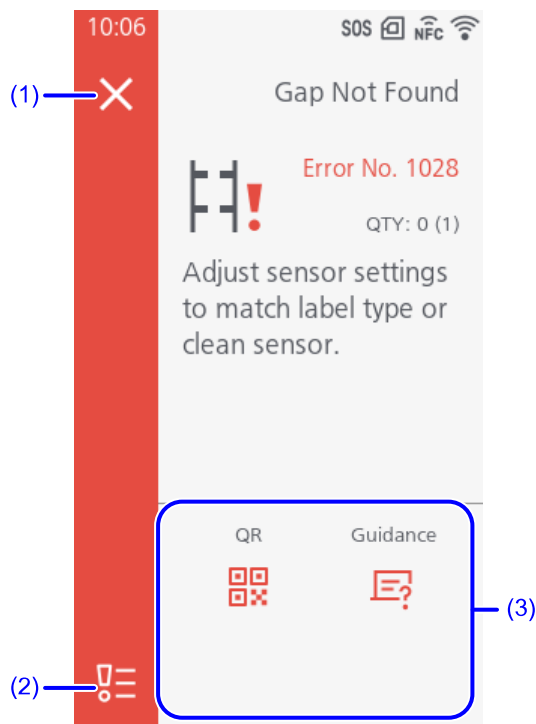
5. Return the lever to its original position to lock the platen roller.



When You Are in Trouble

Operations in the Error Screen

When an error occurs on the product, the LED indicator lights red and messages and operation buttons corresponding to the error appear on the display.



(1) Closes the Error Screen. Switch to Offline mode while leaving the print job as is.



- Depending on the nature of the error, it may not be displayed.

(2) Displays a list of errors that have occurred.

(3) Operation buttons that can be executed during the displayed error appear.

You can perform the following operations by using the operation buttons.

- [Settings]: Display the settings menu
- [Video]: Play a guidance video
- [QR]: Display QR codes (when SOS (SATO Online Services) is enabled)
For more information, see [QR Code](#).

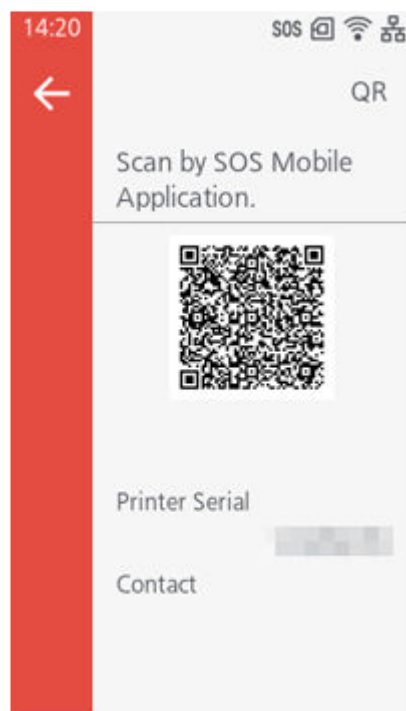
- [Guidance]: Display error guidance
Provides detailed animated instructions on how to resolve issues.
- [Cancel]: Cancel print jobs
- [Retry]: Execute the retry/release operation set in [Retry Mode]
- [Apply]: Apply settings
- [Cutter]: Move cutter blade to the specified position



- The available operations vary, depending on the situation and the errors that appear.

QR Code

Tap [QR] on the error screen to display a QR code that can be scanned by the specialized SOS app.



When you open the specialized app on a tablet or smartphone and scan the QR code, the error information will be sent to the SOS cloud, allowing you to receive support.

 (Japan only)

The initial phone number that is displayed is a direct line to the SOS technical support. To find out how to resolve the error over the phone, tell the operator the printer serial and error number that appears on the screen.

List of Error Messages

If an error occurs on the product, confirm the cause and countermeasures, and then take appropriate action.

Contact your SATO technical support if the error cannot be resolved.

[Contact Information](#)



- You cannot use an RFID tag that has caused an RFID tag error.

1001 Machine Error

Cause

A defect has occurred in the product.

Countermeasures

Power on the product again.

1003 Parity Error

Cause (1)

RS-232C settings are incorrect.

Countermeasures (1)

Set the interface settings of the product again.

[Setting Up an RS-232C Connection](#)

Cause (2)

The RS-232C cable is not connected correctly.

Countermeasures (2)

Power off the product, connect the RS-232C cable correctly, and then power on the product again.

1004 **Overrun Error**

Cause (1)

RS-232C settings are incorrect.

Countermeasures (1)

Set the interface settings of the product again.

[Setting Up an RS-232C Connection](#)

Cause (2)

The RS-232C cable is not connected correctly.

Countermeasures (2)

Power off the product, connect the RS-232C cable correctly, and then power on the product again.

1005 **Framing Error**

Cause (1)

RS-232C settings are incorrect.

Countermeasures (1)

Set the interface settings of the product again.

[Setting Up an RS-232C Connection](#)

Cause (2)

The RS-232C cable is not connected correctly.

Countermeasures (2)

Power off the product, connect the RS-232C cable correctly, and then power on the product again.

1006 Buffer Overflow

Cause

- The size of the received data from the host exceeds the size of the receive buffer.
- The interface settings between the product and the host are incorrect.

Countermeasures

Change the settings on the host so that data that exceeds the size of the receive buffer cannot be sent.

1007 Head Open

Cause

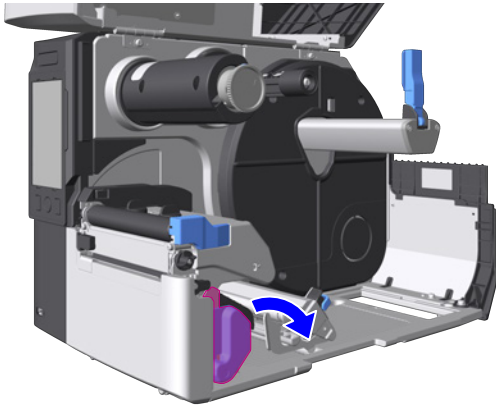
- The head assembly is not locked.
- The sensor for detecting the open/close status of the head assembly is defective.

Countermeasures

Lock the head assembly.

If the head assembly is already locked, unlock it and then lock it again.

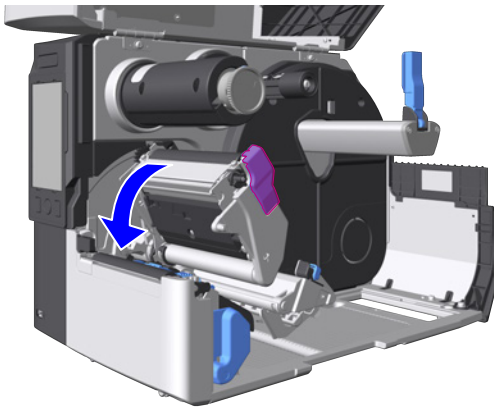
1. Press the head lock lever backward.



2. Push the head assembly downward until it "clicks" into place.



- When pushing the head assembly downward, be careful not to pinch your fingers.
- The print head and its surroundings are hot after printing. Be careful not to touch it, to avoid being burned.



1008 Out of Paper

Cause (1)

- The media is not loaded.
- The media is not loaded correctly.

Countermeasures (1)

Load the media correctly.

[Loading Media](#)

Cause (2)

The media sensor level is not set correctly.

Countermeasures (2)

Adjust the media sensor level.

[Adjusting the Media Sensor Automatically](#)

1009 Ribbon End

Cause (1)

- The ribbon is not loaded.
- The ribbon is not loaded correctly.

Countermeasures (1)

Load the ribbon correctly.

[Load the Ribbon \(When Printing by Using a Ribbon\)](#)

Cause (2)

The ribbon is ripped.

Countermeasures (2)

Clean the ribbon's route and load the ribbon correctly.

[Cleaning When Using Standard/Cutter](#)

[Load the Ribbon \(When Printing by Using a Ribbon\)](#)

1010 Media Error

Cause (1)

The media size of the print data is longer than the actual media size.

Countermeasures (1)

- Check the media size of the print data and the actual media size again.
- Specify different print data.

Cause (2)

The media is fed a longer distance due to the incorrect sensor level.

Countermeasures (2)

Adjust the media sensor level.

[Adjusting the Media Sensor Automatically](#)

1012 Head Error

Cause

- A malfunction has occurred at the print head.
- The print head is worn or damaged.

Countermeasures

- Change the setting of [Advanced] > [Head Check] > [Head Check] in the [Printing] menu to [Barcode]. Adjust the settings so that the areas that cannot be printed are the white lines of the barcode.

[Checking for Broken Elements in the Print Head](#)

- Replace the print head.

[Replacing the Print Head](#)



- For labels output after this error occurred, use a scanner or other device to read and confirm the printed barcodes.



- To force this error to clear and resume printing, tap  in the upper-left, confirm the displayed message, and then tap [Unlock].

1015 Cutter Error

Cause (1)

A media jam has occurred in the cutter.

Countermeasures (1)

Remove the jammed media from the cutter.

Refer to the video for loading the media, for the media path, and for the operation of each part inside the product.

[List of the Guidance Videos](#)



- Be careful not to cause injury with the cutter blade when removing the media.

Cause (2)

The cutter blade does not return to the specified position.

Countermeasures (2)

Tap [Cutter] and return the cutter blade back to the specified position.

1017 SBPL Command Error

Cause

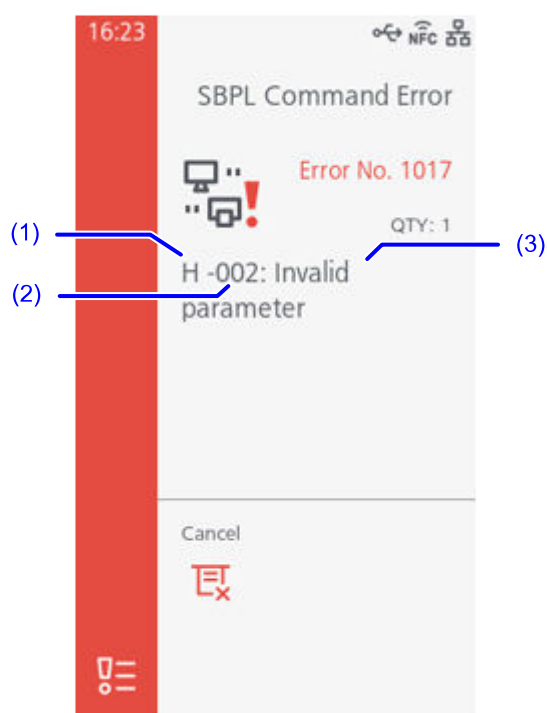
Incorrect command or parameter in the print data.

Countermeasures

Check the print data.

How to Read the Errors

Error details are displayed in the format "aa-bbb: cc".



(1) aa: Error command name

(2) bbb: Location of error occurrence

Indicates the number of ESC commands (up to 999 are shown) from the data transmission start code command ESC+A. (Note that the start code command ESC+A is not included in the number.)

Example: When a command error is detected by the horizontal print position command ESC+H.

-----: [ESC]A

001: [ESC]V100

002: [ESC]H999999

003: [ESC]L0202

004: [ESC]M,ABCDEF

005: [ESC]Q1

006: [ESC]Z

In this case, 002 is the location of the error.

(3) cc: error content

- Invalid command
- Invalid parameter
- Command table read error
- Invalid graphic data/custom designed data
- Invalid registration area
- This number is already registered
- Over registration area limit
- Data is not registered
- Printing position is out of printable area
- Barcode image is out of printable area
- PDF417 is specified incorrectly
- Error in generating QR code
- ETX not detected

1019

RFID System Error

Cause

RFID module is not operating correctly.

Countermeasures

Repair or replacement of the RFID module is required. Contact your SATO technical support.

[Contact Information](#)



- The RFID module is not functioning properly, so data cannot be written to or read from the inlay, but printing on the surface of the tag is possible.

1020 Calendar Error

Cause (1)

The date and time of the calendar are incorrect.

Countermeasures (1)

Set the calendar again.

Set the date and time again.

[Setting the Date and Time](#)

Cause (2)

The battery for the calendar is running low.

Countermeasures (2)

The battery for the calendar needs to be changed. Contact your SATO technical support.

[Contact Information](#)

1021 BCC Check Error

Cause

The BCC code of the transmitted data (one item) is incorrect.

Countermeasures

Check transmitted data and interface settings.



- Send the CAN command to cancel the print data where this error occurred and continue printing from the next item.

1022 Print Head Overheated

Cause

The temperature of the print head has exceeded its tolerance value.

Countermeasures

Stop the operation of the product to let the temperature decrease.

1023 NTP Error

Cause (1)

Could not connect to the time server and set the clock.

Countermeasures (1)

Confirm that the address of the time server is correct.

[Setting the Functions for NTP](#)

Cause (2)

The network settings are incorrect.

Countermeasures (2)

Check the interface settings.

[Setting Up Connections](#)

Cause (3)

There is a network failure.

Countermeasures (3)

- Check the communication environment.
- Disable the NTP function and then in the [System] menu set the date & time manually.

[Setting the Date and Time](#)

1024 Head Density Changed

Cause (1)

The print head is not installed.

Countermeasures (1)

Install the print head.

[Replacing the Print Head](#)

Cause (2)

A new print head with a different resolution has been installed.

Countermeasures (2)

- After a new print head with a different resolution has been installed, tap [Apply].
[Replacing the Print Head](#)
- Install a print head with the same resolution as the old print head.
[Replacing the Print Head](#)

1028 Gap Not Found

Cause (1)

Meandering media.

Countermeasures (1)

Clean the media path and reload the media correctly.

[Cleaning When Using Standard/Cutter](#)

[Cleaning When Using the Linerless Cutter](#)

[Loading Media](#)

Cause (2)

The media sensor type is incorrect.

Countermeasures (2)

Set the media sensor type which is compatible with the media you use.

[Change the Media Sensor Being Used](#)

Cause (3)

The media sensor level is incorrect.

Countermeasures (3)

Adjust the media sensor level.

[Adjusting the Media Sensor Automatically](#)

1035 I-mark Not Found

Cause (1)

Meandering media.

Countermeasures (1)

Clean the media path and reload the media correctly.

[Cleaning When Using Standard/Cutter](#)

[Cleaning When Using the Linerless Cutter](#)

[Loading Media](#)

Cause (2)

The media sensor type is incorrect.

Countermeasures (2)

Set the media sensor type which is compatible with the media you use.

[Change the Media Sensor Being Used](#)

Cause (3)

The media sensor level is incorrect.

Countermeasures (3)

Adjust the media sensor level.

[Adjusting the Media Sensor Automatically](#)

1046 EAP Authentication Error (EAP Failure)

Cause

- EAP Authentication failure.
- Wi-Fi settings are incorrect.

Countermeasures

Confirm and set the Wi-Fi settings again.

[Setting Wireless LAN Connections Manually](#)

1047 EAP Authentication Error (EAP Timeout)

Cause

Accesspoint and authentication server settings do not match.

Countermeasures

Use the correct accesspoint and authentication server settings.

[Setting Wireless LAN Connections Manually](#)

1050 Bluetooth Error

Cause (1)

Failed to communicate with Bluetooth module.

Countermeasures (1)

Confirm and set the Bluetooth settings again.

[Setting Up a Bluetooth Connection](#)

Cause (2)

A malfunction was detected in the Bluetooth module.

Countermeasures (2)

The Bluetooth module needs to be repaired. Contact your SATO technical support.

[Contact Information](#)

1058 CRC Check Error

Cause

- CRC has not been added to the data.
- CRC does not match.

Countermeasures

Check transmitted data and interface settings.

1066 Paper Jam

Cause (1)

- Media is wrapped around the platen roller.
- Media jam occurred during linerless operation.

Countermeasures (1)

- Remove the jammed media.

Refer to the video for loading the media, for the media path, and for the operation of each part inside the product.

[Loading Media](#)

- Clean the media path and reload the media correctly.

[Cleaning When Using Standard/Cutter](#)

[Cleaning When Using the Linerless Cutter](#)

[Loading Media](#)

Cause (2)

The media is not loaded correctly.

Countermeasures (2)

Confirm how to load the media and then reload it correctly. Load the media so its leading edge is further forward than the cutter blade.

[Loading Media](#)

1068 Wi-Fi Error

Cause

The wireless LAN module is damaged.

Countermeasures

- Confirm and set the Wi-Fi settings again.

[Setting Wireless LAN Connections Manually](#)

- The wireless LAN module needs to be replaced. Contact your SATO technical support.

[Contact Information](#)



- If this error occurs when starting up, please reboot the product.

1073 RFID Undetected Warning

Cause

A print job that does not have an RFID command was transmitted when RFID tags were loaded and [Undetected Warning] was enabled.

Countermeasures

- Add an RFID issue command to the print job.
- Disable [Undetected Warning].
[\[RFID\] > \[Undetected Warning\]](#)
- Replace with normal media.

1075 NFC Error

Cause

The NFC module is not operating correctly.

Countermeasures

A replacement of the NFC module is required. Contact your SATO technical support.

[Contact Information](#)

1076 Invalid command in NFC

Cause

A command error occurs and the settings are not saved correctly.

Countermeasures

Check the command.

1077 Barcode Reader Connection Error

Cause

- The scanner connection could not be confirmed.
- Communication between the scanner and the product failed.

Countermeasures

Check the state of connections with the scanner and product.

For RS-232C connections, do the following procedure to reconnect the scanner:

1. Tap  in the upper left.
2. In the [Printing] menu, set [Advanced] > [Barcode Checker] > [Mode] to [Disabled], then set either [Comparison] or [Readable].



- If you do not want to use the barcode check function, then tap  in the upper left, and in the [Printing] menu, set [Advanced] > [Barcode Checker] > [Mode] to [Disabled].

[Settings to Check Reading of Barcodes](#)

1078 Barcode Reading Error

Cause

- A barcode could not be read normally.
- The result of reading a barcode does not match the print data.

Countermeasures

- Check the print layout.
- Check the position and settings of the scanner.

[Settings to Check Reading of Barcodes](#)

1079 Barcode Reading Error (Check Start Position Fault)

Cause

A value greater than the length of the loaded media is set for the check start position.

Countermeasures

- Check the print layout.
- Set the check start position to a value smaller than the length of the loaded media.

[Start Position](#)

1080 Barcode Comparison Error

Cause

- A barcode could not be read normally.
- The result of reading a barcode does not match the print data.

Countermeasures

- Check the print layout.
- Check the position and settings of the scanner.

[Settings to Check Reading of Barcodes](#)

1111 Label Waste Prevention Error

Cause (1)

The position in which the media is loaded is incorrect.

Countermeasures (1)

Check the position in which the media is loaded.

[Precautions](#)

Cause (2)

The correct media that match the settings is not set.

Countermeasures (2)

Adjust the media sensor level.

[Adjusting the Media Sensor Automatically](#)

Cause (3)

The label top sensor is malfunctioning.

Countermeasures (3)

Contact your SATO technical support.

Cause (4)

The media sensor is dirty or the sensor level does not match the media.

Countermeasures (4)

- Clean the media sensor.
[Cleaning When Using Standard/Cutter](#)
- Adjust the media sensor level.
[Adjusting the Media Sensor Automatically](#)
- Replace the media sensor. Contact your SATO technical support.
[Contact Information](#)

1114 Tag Not Found

Cause

Did not find the tag, or failed to read the tag.

Countermeasures

Check the product and antenna settings, and the inlay.

[Setting Read/Write Information](#)

1115 Write operation failed

Cause

Failed to write the inlay.

Countermeasures

Check the product and antenna settings, and the inlay.

[Setting Read/Write Information](#)

1116 Failed to read the tag data.

Cause (1)

Failed to read the tag by using the tag data print command ESC+TU.

Countermeasures (1)

Check the product and antenna settings, and the inlay.

[Setting Read/Write Information](#)

Cause (2)

Failed to replace the read tags.

Countermeasures (2)

Confirm that an address that exceeds the inlay volume has not been specified.

1117 Write operation failed

Cause (only ISO/IEC 15693, FeliCa)

- Tried to write to a write-locked inlay.
- Tried to write to an address to which writing is impossible.

Countermeasures

Use tags that are not locked.

1118 Write/Read values are not consistent

Cause (except FeliCa)

The written value and read value do not match.

Countermeasures

Check the product and antenna settings, and the inlay.

[Setting Read/Write Information](#)

Cause (only FeliCa)

The written value and read value do not match. A value greater than original data was written to subtraction register.

Countermeasures

Write an appropriate value to subtraction register.

1119 Failed to lock the data

Cause

Failed to lock the inlay.

Countermeasures

Check the inlay.

1120 Wrong tag UID is read

Cause (only ISO/IEC 15693, ISO/IEC 14443 Type A)

Read the UID of a tag other than the specified tag.

Countermeasures

Check that the tags that were set are being used.

1121 Multiple tags are detected.

Cause (except FeliCa)

Multiple inlays captured at same time.

Countermeasures

Check the product and antenna settings, and the inlay.

[Setting Read/Write Information](#)

Cause (only FeliCa)

The IDms of the cards captured between processes are not the same (tried to write unintended card).

Countermeasures

Check the product and antenna settings, and the inlay.

[Setting Read/Write Information](#)

1123 Write operation failed

Cause (1)

Tried to write to a write-locked inlay.

Countermeasures (1)

Use tags that are not locked.

Cause (2)

Tried to write to an inlay when the writing power is low.

Countermeasures (2)

Adjust [Write Power]/[Read Power].

[\[RFID\]](#) > [\[Write Power\]](#) / [\[Read Power\]](#)

1124 Wrong Tag type

Cause (only ISO/IEC 15693, ISO/IEC 14443 Type A)

Incorrect tag type is specified.

Countermeasures

Check the tag type, and specify the correct tag type.

1125 Internal Error

Cause (only ISO/IEC 15693, ISO/IEC 14443 Type A, FeliCa)

Failed to acquire the ID.

Countermeasures

Check state of the signal.

1126 Not enough power

Cause

The [RSSI Filter] is enabled, and the RSSI value of the inlay is lower than the value set in [Threshold].

Countermeasures

- Check the tags. Or, check the [Threshold] settings.
- Adjust [Write Power]/[Read Power].
[\[RFID\] > \[Write Power\] / \[Read Power\]](#)

1129 Unsupported tag error

Cause (only ISO/IEC 15693, ISO/IEC 14443 Type A, FeliCa)

Unsupported tag types or non-writable encoded tags are being used.

Countermeasures

Check the manufacturer and model of the inlay.

1131 Exceed address error

Cause (only ISO/IEC 15693)

Tried to write to an address that was outside the range of the enabled memory bank.

Countermeasures

- Confirm that an address that exceeds the inlay volume has not been specified.
- Check the data size.

1132 RTC module error

Cause

The RTC module or the RTC module's connection port is damaged.

Countermeasures

The RTC module or some part of the product needs to be replaced. Contact your SATO technical support.

[Contact Information](#)

1134 RFID Module Overheated UHF

Cause

The temperature of the RFID module has exceeded its tolerance value.

Countermeasures

Stop the operation of the product to let the temperature decrease.

1142 Host Receive Error

Cause

The host failed to receive data.

Countermeasures

Power off the product and check the host's receiving settings.

1144 RFID Label Pitch Size Error

Cause (1)

A value exceeding the RFID tag size was set for the tag offset and printed.

Countermeasures (1)

- Open the head assembly and check the RFID tag.
- Correctly reset the RFID tag pitch size and tag offset.

Cause (2)

A value exceeding the tag offset setting was set in [Pitch] and printed.

Countermeasures (2)

- Open the head assembly and check the RFID tag.
- Correctly adjust [Pitch] and reset the tag offset.

Cause (3)

Printing was performed using an RFID command without the first media being fed.

Countermeasures (3)

Feed the first media before printing.

1147 EXT Connector Error

Cause

- There is a shorted connection at the EXT connector.
- There is a problem with the external device connected to the EXT connector.

Countermeasures

- Power off the product and check the connection of the EXT connector.
- Remove any dirt from the EXT connector connections.
- Connect a different external device.

1148 Cutter Connector Error

Cause

There is a shorted connection at the cutter unit power supply connector.

Countermeasures

- Remove any dirt from the cutter unit connections.
- Replace the cutter unit. Contact your SATO technical support.

[Contact Information](#)

1151 Printhead Error

Cause

The print head is not installed correctly.

Countermeasures

Power off the product, and install the print head correctly.

[Replacing the Print Head](#)



- If this error occurs when starting up, please reboot the product.

1152 USB Overcurrent Error

Cause

An overcurrent has been detected at the USB port.

Countermeasures

- Power off the product, disconnect and then reconnect the USB connector.
- Remove any dirt from the USB port.

1153 RFID Print Settings Error

Cause

The print settings are such that RFID printing cannot be executed.

Countermeasures

Change the print settings and RFID settings.

Troubleshooting

For frequently asked questions about related software, such as printers, printer drivers, label printing tools, and supplies, refer to the following pages.



<https://www.sato.co.jp/support/faq/>



<https://helpcenter.sato-global.com/>

Contact your SATO technical support if the error cannot be resolved.

[Contact Information](#)

How Can I Print Using Thermal Media Without Using a Ribbon? (Such as When the Ribbon Runs Out)

Change the ribbon setting to disabled.

[Changing the Print Method](#)

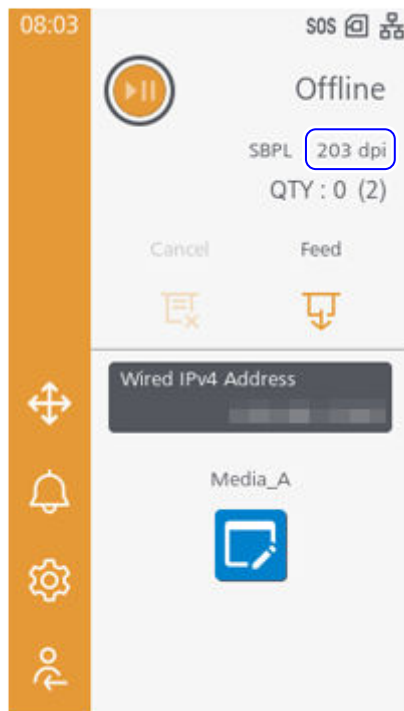
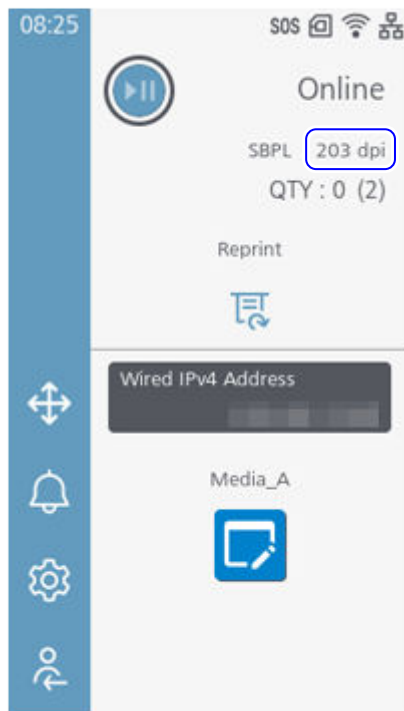
How Can I Stop Cutting Even Though the Cutter Unit Is Installed?

Change the print mode in the Settings menu.

[Manually Set Printing Operations](#)

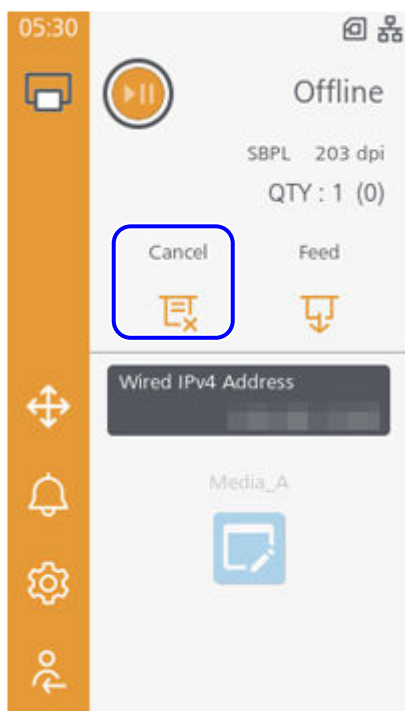
How Can I Confirm the Resolution of the Product?

You can confirm it from the Online/Offline screen.



How Can I Cancel a Print Job?

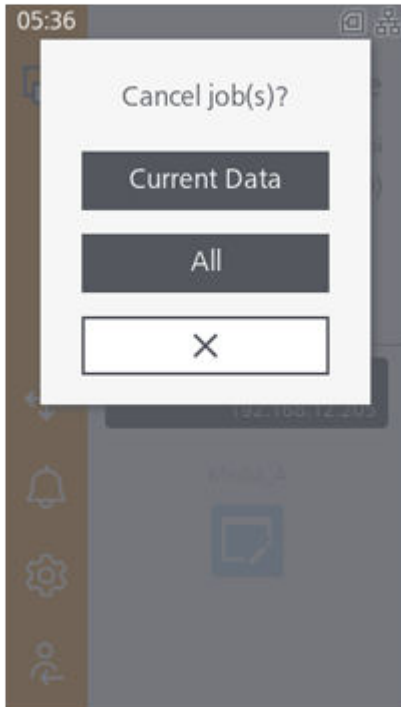
1. While printing, press the  button.
2. Tap [Cancel] when printing has stopped.





- If you are printing multiple sheets in succession, printing stops when the job currently being printed is completed.

3. Tap [Current Data] or [All].



- Tap [Current Data] to cancel printing of only the job currently printing, or tap [All] to cancel printing of all jobs received by the product.

Trouble with Printing Results

The Overall Printout Is Too Light or Too Dark

- Load the media and ribbon correctly.
[Loading Media](#)
[Load the Ribbon \(When Printing by Using a Ribbon\)](#)
- Clean the print head and media sensor.
[Cleaning When Using Standard/Cutter](#)
[Cleaning When Using the Linerless Cutter](#)
- Set the print darkness and print speed correctly.
[Adjusting Print Darkness](#)
[Adjusting Print Speed](#)

Part of One Side of the Printout Is Light

- Correctly set the head pressure balance.
[Adjusting the Head Pressure Balance](#)
- Load the media and ribbon correctly.
[Loading Media](#)
[Load the Ribbon \(When Printing by Using a Ribbon\)](#)
- Clean the print head and media sensor.
[Cleaning When Using Standard/Cutter](#)
[Cleaning When Using the Linerless Cutter](#)
- Set the print darkness and print speed correctly.
[Adjusting Print Darkness](#)
[Adjusting Print Speed](#)

The Printout Is Shifted to One Side

- Correctly set the head pressure balance.
[Adjusting the Head Pressure Balance](#)
- Load the media and ribbon correctly.
[Loading Media](#)
[Load the Ribbon \(When Printing by Using a Ribbon\)](#)
- Clean the print head and media sensor.
[Cleaning When Using Standard/Cutter](#)
[Cleaning When Using the Linerless Cutter](#)

Part of the Printout Is Dirty and Black Streaks Appear

- Clean the print head and media sensor.
[Cleaning When Using Standard/Cutter](#)
[Cleaning When Using the Linerless Cutter](#)
- Load the media and ribbon correctly.
[Loading Media](#)
[Load the Ribbon \(When Printing by Using a Ribbon\)](#)
- Correctly set the head pressure balance.
[Adjusting the Head Pressure Balance](#)

Incorrect Print Position

- Load the media and ribbon correctly.

[Loading Media](#)

[Load the Ribbon \(When Printing by Using a Ribbon\)](#)

- Set the media sensor type which is compatible with the media you use.

[Change the Media Sensor Being Used](#)

- Adjust the print position. (Base reference point correction)

[Adjusting Printing Positions](#)

- Correctly set the head pressure balance.

[Adjusting the Head Pressure Balance](#)

- Clean the platen roller and media sensor.

[Cleaning When Using Standard/Cutter](#)

[Cleaning When Using the Linerless Cutter](#)

After Replacing the Ribbon, the Print Is Skewed (White Lines Appear)

Load the ribbon correctly.

[Load the Ribbon \(When Printing by Using a Ribbon\)](#)

Cannot Read the Barcode

- Clean the print head.

[Cleaning When Using Standard/Cutter](#)

[Cleaning When Using the Linerless Cutter](#)

- Load the media and ribbon correctly.

[Loading Media](#)

[Load the Ribbon \(When Printing by Using a Ribbon\)](#)

If it is not resolved, the print head may be broken. Contact your SATO technical support.

[Contact Information](#)

Trouble with Printing Operations

Media Does Not Feed

- Load the media and ribbon correctly.

[Loading Media](#)

[Load the Ribbon \(When Printing by Using a Ribbon\)](#)

- If media has jammed, check the part where the media has jammed, and then remove the media. Refer to the video for loading the media, for the media path, and for the operation of each part inside the product.

[List of the Guidance Videos](#)

The Media Has Jammed

Check the part where the media has jammed, and then remove the media.

Refer to the video for loading the media, for the media path, and for the operation of each part inside the product.

[List of the Guidance Videos](#)



- If the cutter unit or linerless cutter unit is being used, be careful not to injure yourself or others with the cutter blade when removing the media.

Media Is Fed According to the Specified Number, but Not Printed

- Load the media and ribbon correctly.

[Loading Media](#)

[Load the Ribbon \(When Printing by Using a Ribbon\)](#)

- Clean the print head and media sensor.

[Cleaning When Using Standard/Cutter](#)

[Cleaning When Using the Linerless Cutter](#)

- Install the print head correctly.

[Replacing the Print Head](#)

The Label Does Not Stop at the Specified Position/The Label Does Not Stop

- Load the media and ribbon correctly.

[Loading Media](#)

[Load the Ribbon \(When Printing by Using a Ribbon\)](#)

- Set the media sensor type which is compatible with the media you use.

[Change the Media Sensor Being Used](#)

- Perform auto calibration of media sensor.

[Adjusting the Media Sensor Automatically](#)

- Clean the media sensor.

[Cleaning When Using Standard/Cutter](#)

[Cleaning When Using the Linerless Cutter](#)

Print End Position and Cut Position Are Shifted

- Load the media and ribbon correctly.

[Loading Media](#)

[Load the Ribbon \(When Printing by Using a Ribbon\)](#)

- Set the media sensor type which is compatible with the media you use.

[Change the Media Sensor Being Used](#)

- Adjust the offset position.

[Offset](#)

- Clean the platen roller and media sensor.

[Cleaning When Using Standard/Cutter](#)

[Cleaning When Using the Linerless Cutter](#)

The Media Is Not Cut

- Press the  button in Offline mode.

[Displays and Operations in the Home Screen](#)

- Power on the product again.

- Change the print mode in the Settings menu.

[Manually Set Printing Operations](#)

Trouble with Communications

Cannot Output After Data Is Sent

- Connect the interface cable correctly.

[Connecting Interfaces](#)

- Set the interface settings again according to the computer and network to which the product is connected.

[Setting Up Connections](#)

Cannot Communicate via Wired LAN

- Connect the LAN cable correctly.
- Set the port and protocol again in the interface settings of the product.

[Configuring Network Settings](#)

[Setting Network Services](#)

- Check the settings, such as the IP address and subnet mask, in the interface settings of the product.

[Setting the IP Address](#)

Also, check that the power of the hub is on, and that it is not defective.

If the error is not solved, power on the product again.

Cannot Communicate via Wireless LAN/Bluetooth

- Enable the wireless LAN or Bluetooth connections on the product.

[Setting the Wired LAN/Wireless LAN](#)

[Setting Up a Bluetooth Connection](#)

- Install the product in a location away from any devices that use the same frequency band, such as wireless LAN enabled devices or microwave ovens.
- Make sure there are no obstacles, such as metal racks, between the product and the host.
- Set the interface settings of the product again.

[Setting the Wired LAN/Wireless LAN](#)

[Setting Up a Bluetooth Connection](#)

If the error is not solved, power on the product again.

Cannot Communicate via USB/RS-232C

- Connect the cable correctly.
- Set the interface settings of the product again.
[Setting Up a USB Connection](#)
[Setting Up an RS-232C Connection](#)
- Confirm that the port on the computer to which the product is connected is enabled.
 - If there are multiple USB ports on the computer, connect to another port
 - Disconnect other USB devices from the computer

If the error is not solved, power on the product and computer again.

Cannot Communicate via NFC

- Enable the NFC function of the product.
[Setting Up a NFC Connection](#)
- Touch the NFC antenna of the product with the NFC mark on the device.

Cannot Communicate via External Signal (EXT)

- Connect the cable correctly.
- Check that the power of the external device is on.
- Set the interface settings of the product again.
[Setting Up an External Signal Connection](#)

If the error is not solved, turn the product and the external device off and then on again.

Other Troubles

No Power/Nothing on the Display

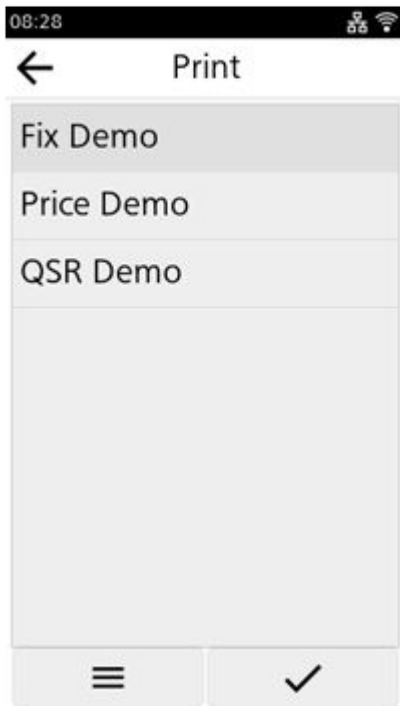
- Power on the product again.

(Press and hold the  button until the LED indicator lights blue)

- Confirm that the power cord is securely connected to the product and outlet.
- Connect to another outlet.

If Fix Demo, Price Demo, or QSR Demo Is Displayed

When you turn on the power to the product and switch it to Online mode, if the following screen appears, follow the steps below to resolve the issue.



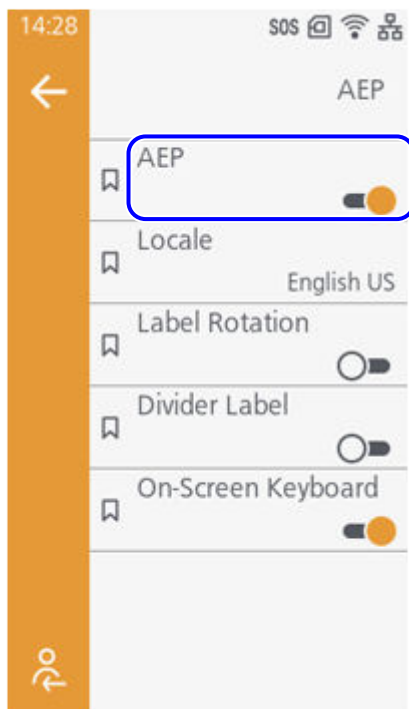
This screen appears when the AEP (Application Enabled Printing) function is enabled.

Disable AEP and return to normal mode.

1. Press the  button to show the Home screen.



2. Tap  to show the settings menu.
3. From the settings screen, tap [Applications] > [AEP] > [AEP] to disable the AEP function.



Exclamation Mark Icon Appears at the Top of the Screen

An icon with an exclamation mark will appear when printing or communication errors occur, or when notifying you to replace consumables.

Check the following page regarding the icons that appear on the screen.

[Checking the Product's Status \(Status Icon\)](#)

Sensor Auto Calibration Failure

- When performing auto calibration of the sensor, confirm that the following points are observed.
 - Remove the label
 - Load the liner so that the I-mark does not cover the media sensor
- Clean the media sensor and try auto calibration of the sensor again.

[Cleaning When Using Standard/Cutter](#)

[Adjusting the Media Sensor Automatically](#)

Contact Information



Technical support

Inquiries about products

0120-226310

Business hours: 24 hours a day, 365 days a year

Inquiries about maintenance and support

0120-696310

Business hours: 24 hours a day, 365 days a year

Technical support (dedicated SOS contact)

Contact page on the SATO website

<https://www.sato.co.jp/contact/>



Contact technical support in your region.

Contact page on the SATO website

<https://www.sato-global.com/contact/>

Appendix

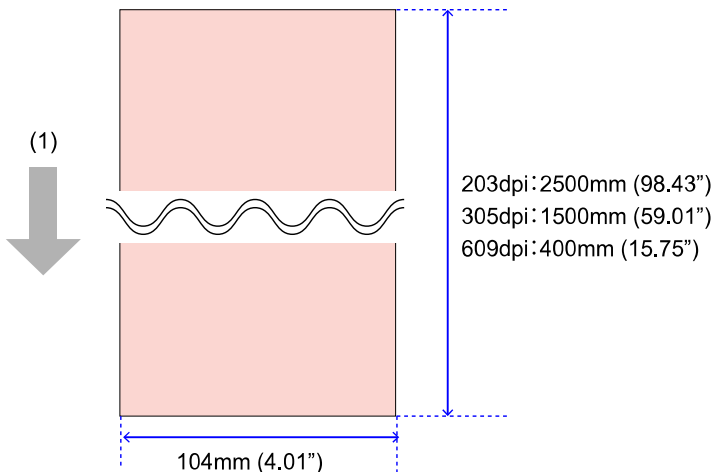
Product Specifications

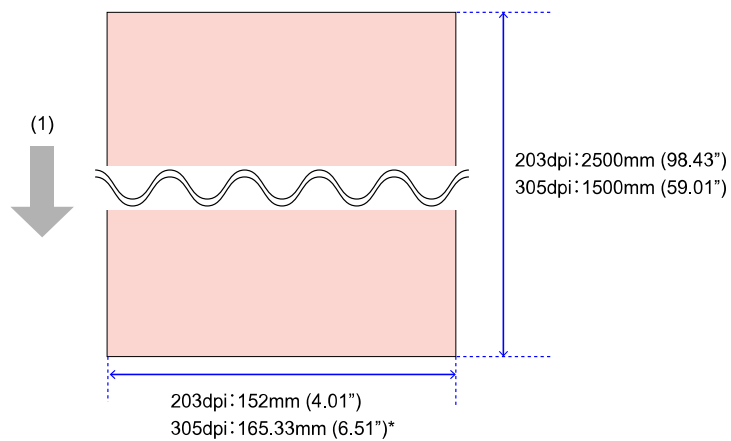
Hardware

Dimensions	Width	CL4-SXR 275 mm (10.83") (excluding protrusions) CL6-SXR 338 mm (13.31") (excluding protrusions)
	Height	321 mm (12.64") (excluding protrusions)
	Depth	457 mm (17.99") (excluding protrusions)
Weight		CL4-SXR Approximately 15.5 kg (34.17 lbs.) (excludes media, ribbon, and options) CL6-SXR

		Approximately 19.4 kg (42.77 lbs.) (excludes media, ribbon, and options)
Power Supply	Input Voltage	AC 100 to 240 V $\pm$ 10% (full range)
	Frequency	50 / 60 Hz
	Power Consumption	Input voltage conditions: AC 100 V, 50 Hz (dispenser specifications) CL4-SXR • At peak 234 VA/232 W (30% printing) • Standby 23 VA/21 W CL6-SXR • At peak 305 VA/302 W (30% printing) • Standby 24 VA/22 W Input voltage conditions: AC 230 V, 50 Hz (dispenser specifications) CL4-SXR • At peak 247 VA/226 W (30% printing) • Standby 40 VA/20 W CL6-SXR • At peak 306 VA/293 W (30% printing) • Standby 36 VA/21 W
Product Memory		• ROM 8GB • RAM 2GB

Touch Panel		TFT color LCD, 4.3 inch, 480 x 272 dots (RGB)
Environmental Conditions	Operating Temperature	- When using Continuous/Tear-Off/Cutter/Cut & Print 0 to 40 °C (32 to 104 °F) - When Using the Dispenser 5 to 35 °C (41 to 95 °F) CL4-SXR When using the linerless cutter 5 to 35 °C (41 to 95 °F)
	Storage temperature (without supply products)	-20 to 60 °C (-4 to 140 °F)
	Operating Humidity	- When using Continuous/Tear-Off/Cutter/Cut & Print 20 to 85% RH (Non-condensing) - When Using the Dispenser 30 to 80% RH (Non-condensing) CL4-SXR When using the linerless cutter 30 to 75% RH (Non-condensing)
	Storage humidity (without supply products)	5 to 90% RH (Non-condensing)
Print	Print Method	Combined direct thermal/thermal transfer
	Resolution (Head Density)	CL4-SXR 203 dpi (8 dots/mm) 305 dpi (12 dots/mm) 609 dpi (24 dots/mm) CL6-SXR 203 dpi (8 dots/mm)

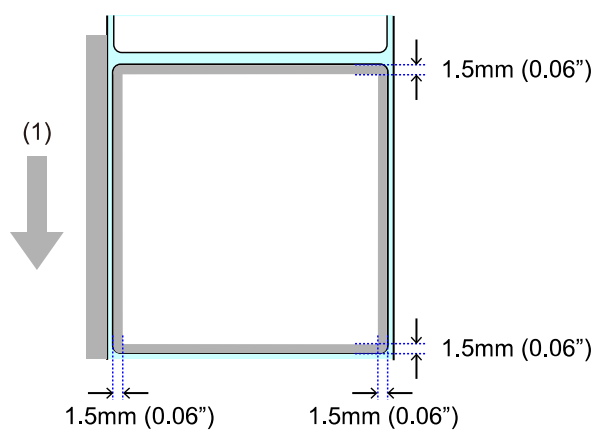
		• 305 dpi (12 dots/mm)
	Print Speed	CL4-SXR • 203dpi 2 to 18 inches/seconds (50.8 to 457.2 mm/seconds) • 305 dpi 2 to 16 inches/seconds (50.8 to 406.4 mm/seconds) • 609 dpi 2 to 6 inches/seconds (50.8 to 152.4 mm/seconds) CL6-SXR 2 to 14 inches/seconds (50.8 to 355.6 mm/seconds)  • Print speed differs depending on the options and print mode being used. For more information, see Adjusting Print Speed.
	Printable Area	CL4-SXR  CL6-SXR



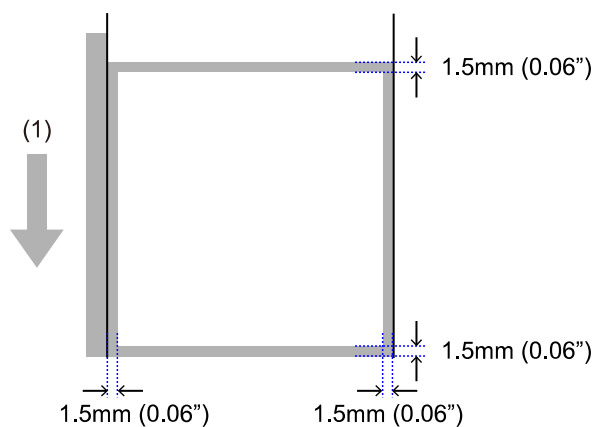
*: When [Head Base Position] is [Left-justify], the maximum print width is 167.5 mm (6.59").

(1) Media feed direction

Media with liner



Linerless label



(1) Media feed direction

**Non-printable
Area**



- With the RFID models, printing around the chip or on the antenna may be restricted depending on the layout.

Software

Printer Languages		SBPL (including XML support)/SZPL
Font	Bitmap Fonts	XU (5×9 dots), XS (17×17 dots), XM (24×24 dots), XB (48×48 dots), XL (48×48 dots), U (5×9 dots), S (8×15 dots), M (13×20 dots), WB (18×30 dots), WL (28×52 dots), X20 (5×9 dots), X21 (17×17 dots), X22 (24×24 dots), X23 (48×48 dots), X24 (48×48 dots) OCR-A (203 dpi: 15×22 dots), OCR-A (305 dpi: 22×33 dots), OCR-A (609 dpi: 44×66 dots) OCR-B (203 dpi: 20×24 dots), OCR-B (203 dpi: 30×36 dots), OCR-B (203 dpi: 60×72 dots) JIS0208 Kanji Fonts (16×16 dots, 24×24 dots, 22×22 dots, 32×32 dots, 40×40 dots) JIS0213 Kanji Fonts (16×16 dots, 24×24 dots, 22×22 dots, 32×32 dots, 40×40 dots), compatible Kanji Fonts (16×16 dots, 24×24 dots) Simplified Chinese (16×16 dots, 24×24 dot), Traditional Chinese (24×24 dots) Korean (16×16 dots, 24×24 dots)
	Scalable Fonts	Rasterizer Fonts SATO CG Sleek, SATO CG Stream, SATO 0, SATO Alpha Bold Condensed, SATO Beta Bold Italic, SATO Folio Bold, SATO Futura Medium Condensed, SATO Gamma, SATO OCR-A, SATO OCR-B, SATO Sans, SATO Serif, SATO Symbol Set, SATO Vica, SATO WingBats Rasterizer Fonts (Multilingual) SATO UD (Mincho Japanese, Gothic Japanese, Song Simplified Chinese, Hei Simplified Chinese, Ming Traditional Chinese, Hei Traditional Chinese, Batang Korean, Dotum Korean, Serif, Sans,

		Naskh Arabic, Kufic Arabic, Serif Hebrew, Sans Hebrew, Serif Thai, Sans Thai, Serif Hindi, Sans Hindi) SATO Hebe Sans (Arabic, Thai, Hindi, Hebrew) SATO Gothic (Traditional Chinese, Japanese, Simplified Chinese, Korean) SATO Silver Serif SATO Mincho (Traditional Chinese, Japanese, Simplified Chinese, Korean) SATO Roman Arabic Outline Fonts SATO Outline Font JIS0208 Kanji Outline Fonts
Barcodes	Barcodes	UPC-A/UPC-E JAN/EAN CODE39, CODE93, CODE128 GS1-128(UCC/EAN128) CODABAR(NW-7) ITF Industrial 2 of 5 NEC Matrix 2 of 5  Matrix 2 of 5  MSI  Customer Barcode POSTNET UPC add-on code BOOKLAND USPS code GS1 DataBar Omnidirectional GS1 DataBar Truncated GS1 DataBar Stacked GS1 DataBar Stacked Omnidirectional GS1 DataBar Limited GS1 DataBar Expanded GS1 DataBar Expanded Stacked
	2D Codes	QR Code Micro QR Code Security QR 

		GS1QR Code PDF417 Micro PDF Maxi Code GS1 Data Matrix Data Matrix (ECC200) Aztec Code rMQR
	Composite Symbols	EAN-13 Composite (CC-A/CC-B) EAN-8 Composite (CC-A/CC-B) UPC-A Composite (CC-A/CC-B) UPC-E Composite (CC-A/CC-B) GS1 DataBar Composite (CC-A/CC-B) GS1 DataBar Truncated Composite (CC-A/CC-B) GS1 DataBar Stacked Composite (CC-A/CC-B) GS1 DataBar Expanded Stacked Composite (CC-A/CC-B) GS1 DataBar Expanded Composite (CC-A/CC-B) GS1 DataBar Stacked Omnidirectional Composite (CC-A/CC-B) GS1 DataBar Limited Composite (CC-A/CC-B) GS1-128 Composite (CC-A/CC-B/CC-C)

Interface

LAN		10BASE-T / 100BASE-TX / 1000BASE-T
	Network Protocol	ICMP, ARP, TCP/IP, LPR, FTP, FTPS, SNMPv3, NTP, HTTP, HTTPS, DHCPv4, SCP, mDNS, stateless auto settings, stateful auto settings (DHCPv6), DHCP Option81, DHCP Option12, DHCP Option77
USB		USB 2.0 A type connector × 2 USB 2.0 B type connector × 1
RS-232C		D-Sub 9-pin (female)
	Baudrate	2400 to 115200

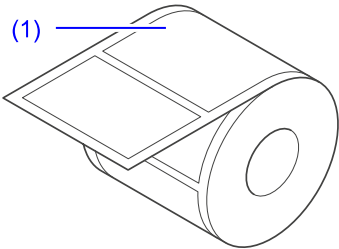
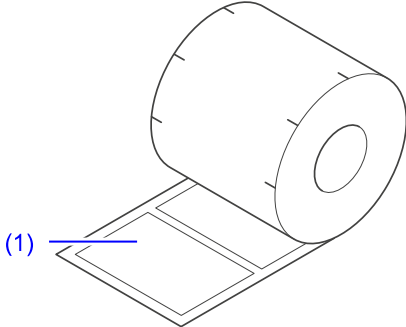
External Signal		D-Sub 15-pin (female)
Wireless LAN	Supported Standards	802.11a/b/g/n/ac/ax
	Security	WEP, WPA1, WPA2, WPA3
	Encryption	None WEP (64 bits/128 bits) AES (WPA+WPA2 mix mode-PSK, WPA2-PSK, WPA3-SAE) TKIP (WPA+WPA2 mix mode, WPA2-PSK, WPA3-SAE) CNSA (WPA3)
Bluetooth		Bluetooth Ver.5.2 + BR/EDR/BLE

Media Specifications

Media

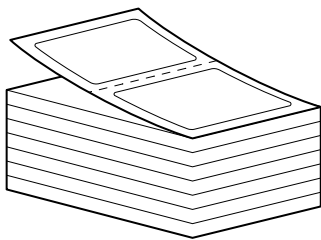
Type

- Media roll

Face-out	Face-in
	

Media with the print side (1) facing outward is face-out, and media with the print side facing inward is face-in.

- Fan-fold media



- Some RFID tags are prone to media jams caused by label lifting during backfeed. Be especially careful when using RFID tags of 27 mm (1.06") or smaller in low-temperature environments.

Size



- When using media without a liner, such as tags, refer to the value for "with liner".

Continuous	Media Length CL4-SXR 203 dpi 6 to 2497 mm (0.24 to 98.31") 305 dpi 6 to 1497 mm (0.24 to 58.94") 609 dpi 6 to 397 mm (0.24 to 15.63") CL6-SXR 203 dpi 6 to 2497 mm (0.24 to 98.31") 305 dpi 6 to 1497 mm (0.24 to 58.94")	Media Length (With Liner) CL4-SXR 203 dpi 9 to 2500 mm (0.35 to 98.43") 305 dpi 9 to 1500 mm (0.35 to 59.06") 609 dpi 9 to 400 mm (0.35 to 15.75") CL6-SXR 203 dpi 9 to 2500 mm (0.35 to 98.43") 305 dpi 9 to 1500 mm (0.35 to 59.06")
	Media Width	Media Width (With Liner)

	CL4-SXR 22 to 128 mm (0.87 to 5.04") CL6-SXR 47 to 177 mm (1.85 to 6.97")	CL4-SXR 25 to 131 mm (0.98 to 5.16") CL6-SXR 50 to 180 mm (1.97 to 7.09")
Tear-Off/ Cutter	Media Length CL4-SXR 203 dpi 17 to 2497 mm (0.67 to 98.31") 305 dpi 17 to 1497 mm (0.67 to 58.94") 609 dpi 17 to 397 mm (0.67 to 15.63") CL6-SXR 203 dpi 17 to 2497 mm (0.67 to 98.31") 305 dpi 17 to 1497 mm (0.67 to 58.94")  - The minimum media length is 30 mm (1.18") when the print mode is set to [Cut & Print] mode.	Media Length (With Liner) CL4-SXR 203 dpi 20 to 2500 mm (0.98 to 98.43") 305 dpi 20 to 1500 mm (0.98 to 59.06") 609 dpi 20 to 400 mm (0.98 to 15.75") CL6-SXR 203 dpi 20 to 2500 mm (0.98 to 98.43") 305 dpi 20 to 1500 mm (0.98 to 59.06")
	Media Width CL4-SXR 22 to 128 mm (0.87 to 5.04") CL6-SXR 47 to 177 mm (1.85 to 6.97")	Media Width (With Liner) CL4-SXR 25 to 131 mm (0.98 to 5.16") CL6-SXR 50 to 180 mm (1.97 to 7.09")
CL4-SXR Rotary Cutter	Media Length 203 dpi 30 to 2497 mm (1.18 to 98.31") 305 dpi 30 to 1497 mm (1.18 to 58.94")	Media Length (With Liner) 203 dpi 33 to 2500 mm (1.30 to 98.43") 305 dpi 33 to 1500 mm (1.30 to 59.06")

	• 609 dpi 30 to 397 mm (1.18 to 15.63")	• 609 dpi 33 to 400 mm (1.30 to 15.75")
	Media Width 22 to 128 mm (0.87 to 5.04")	Media Width (With Liner) 25 to 131 mm (0.98 to 5.16")
Dispenser	Media Length 10 to 397 mm (0.39 to 15.63")	Media Length (With Liner) 13 to 400 mm (0.51 to 15.75")
	 • 10 to 27 mm (0.39 to 1.06") can only be used with the use ribbon method.	 • 13 to 30 mm (0.51 to 1.18") can only be used with the use ribbon method.
	Media Width CL4-SXR 22 to 128 mm (0.87 to 5.04") CL6-SXR 47 to 177 mm (1.85 to 6.97")	Media Width (With Liner) CL4-SXR 25 to 131 mm (0.98 to 5.16") CL6-SXR 50 to 180 mm (1.97 to 7.09")
	Maximum Diameter of Liner Rewinder $\varnothing$ 120 mm (4.72")	
CL4-SXR Linerless Cutter	Media Length 30 to 120 mm (1.18 to 4.72")	
	Media Width 60 to 118 mm (2.36 to 4.65")	



- RFID tags must be at least 15.8 mm (0.62") long.
- The usable label sizes and print quality vary depending on the output speed, media, ribbon combination, product settings, and operating environment.

Roll Diameter (Media Roll)

- When using the standard specifications, cutter, rotary cutter, or dispenser
Maximum $\varnothing 220$ mm ($\varnothing 8.66$ ")



- **CL4-SXR** The maximum outer diameter when using the media roll holder for large diameter is as follows:
 - For $\phi 76$ -mm ($\phi 2.99$ ") cores: Maximum $\phi 265$ mm ($\phi 10.43$ ")
 - For $\phi 101$ -mm ($\phi 3.98$ ") cores: Maximum $\phi 240$ mm ($\phi 9.45$ ")

- When using the dispenser and the internal liner rewinder spindle at the same time
Maximum $\phi 220$ mm ($\phi 8.66$ ")
- **CL4-SXR** When using the linerless cutter
Maximum $\phi 200$ mm ($\phi 7.87$ ")

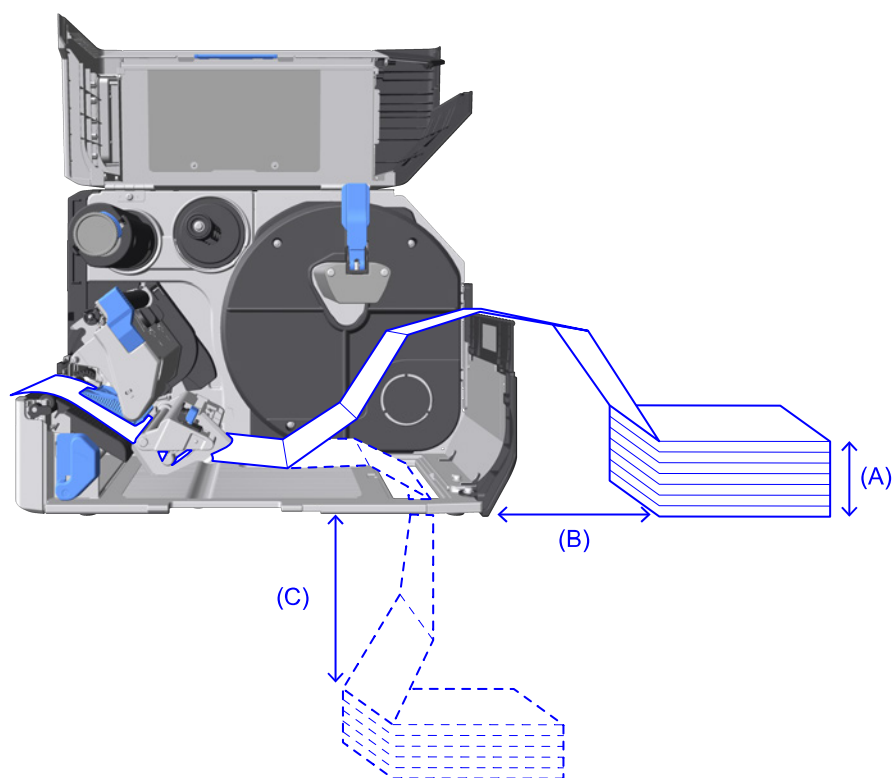
Core Diameter (Media Roll)

- When using the standard specifications, cutter, rotary cutter, or dispenser
 $\phi 76$ mm ($\phi 2.99$ "), $\phi 101$ mm ($\phi 3.98$ ")
- When using the dispenser and the liner rewinder spindle at the same time
 $\phi 76$ mm ($\phi 2.99$ ")
- **CL4-SXR** When using the linerless cutter
 $\phi 76$ mm ($\phi 2.99$ ")



- For thick media (more than 150 μ m thick), unglued media, and RFID tags, we recommend using $\phi 101$ mm ($\phi 3.98$ ") cores.

Loading Position for Fan-fold Media

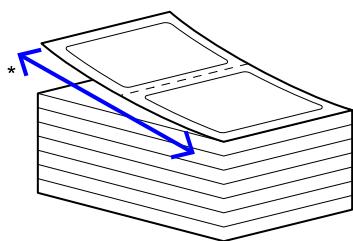


(A) Height from desktop to fan-fold media: Within 200 mm (7.87")

(B) Distance from the rear of the product to the fan-fold media: More than 1 fold ^{*}

(C) Distance from the bottom of the product to the fan-fold media: More than 2 folds

^{*} Refer to the figure below.



- Depending on the installation location, the media may not be stackable to the height shown above.
- When drawing the media from a location other than the same desk surface as the product is placed on, such as from under the desk, place the media so as not to obstruct the printing operation.

Thickness

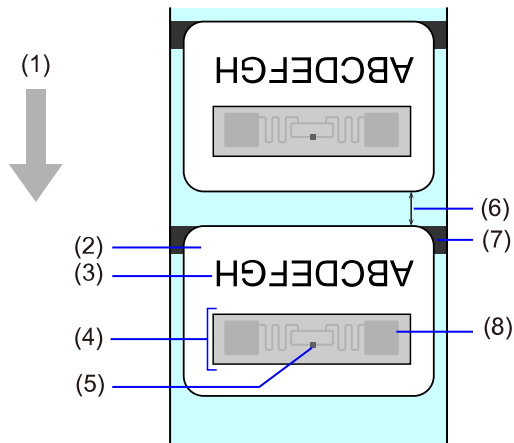
60 to 268 µm (0.060 to 0.268 mm) (0.002 to 0.01")

Ribbon

Size	- Length Maximum 600 m (1,968.50 ft) Maximum 300 m (984.25 ft) (when Micro Label Print is enabled) - Width CL4-SXR 39.5 to 128 mm (1.56 to 5.04") CL6-SXR 59 to 177 mm (2.32 to 6.97")  - If the ribbon is 39.5 mm (1.56") wide, then the maximum ribbon length is 450 m (1,476.38 ft). - The maximum length of the ribbon varies depending on the ribbon type. - Use the ribbon that is wider than the media.
Wind Direction	Face out/Face in
Winding Method	Coreless

Function Specifications

Names of Parts of RFID Tags



- (1) Media feed direction
- (2) RFID tag/label
- (3) Print object
- (4) Inlay
- (5) IC chip



- Avoid printing barcodes or characters directly on top of an IC chip. The uneven surface will negatively affect the print quality.

- (6) Gap
- (7) I-mark
- (8) Antenna

Supported Standards

- ISO/IEC 18000-6 Type C Gen2 **U_{HF}**

The following are supported only for CL4-SXR

- ISO/IEC 15693 **H_F**
 - ICODE SLI/SLIX/SLIX-S
 - Tag-it HF-I

- my-d
- FM13HF01/FM13HF02N
- ISO/IEC 14443 Type A **Hf**
 - NTAG203
 - NTAG210/213/215/216
 - MIFARE UltraLight
 - MIFARE UltraLight C
 - my-d move NFC
 - FM11NT021/FM11NT081
- ISO/IEC18092 **Hf**
 - FeliCa Lite-S

Barcode Check **CL4-SXR**

The basic specifications of the barcode check function are as follows:

Supported Scanners

- IDEC products/DATALOGIC products (USB connection)
 - WB1F-100S1S (for barcodes)
 - GFS4170 (for barcodes)
 - GFS4520 (for barcodes/2D codes)
- Keyence products (RS-232C connection)
 - BL-1301 (for barcodes)
 - SR-710 (for barcodes/2D codes)

Supported Commands

SBPL/SZPL



- AEP is not supported.

Print Speed/Print Darkness

The print speed and print darkness required to achieve stable reading vary depending on various conditions such as barcode type and label layout.

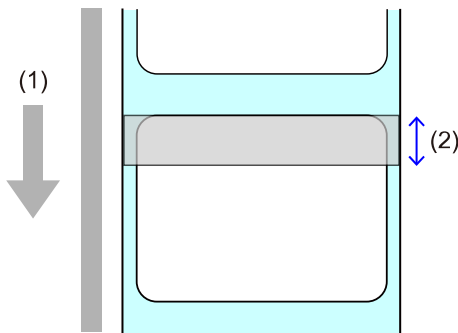
Supported Print Modes

Continuous/Cutter/Cut & Print/Dispenser/Linerless Cutter

Barcode Reading Range

Barcodes within the distance at (2) from the rear edge of the label cannot be read.

The unreadable range depends on the print mode.



(1) Media feed direction

(2) Continuous: 11 mm (0.43")

Cutter (Always): 25 mm (0.98")

Cutter (Every Page): 44 mm (1.73")

Cut & Print: 44 mm (1.73")

Linerless cutter: 25 mm (0.98")

In Cut & Print mode, do not print 2D codes or serial barcodes (oriented at 90° or 270° to the media feed direction) in the following areas because white voids can occur.

- 18 to 23 mm (0.71 to 0.91") from label tip (cut position)

Usable Media Sizes

The longest value for label width and label length, complies with the specifications of the product.

The minimum values for label length are as follows:

- Continuous: 20 mm (0.79") (including liner 23 mm (0.91"))
- Cutter (Always): 38 mm (1.38") (including liner 38 mm (1.5"))
- Cutter (Every Page)/Cut & Print: 54 mm (2.13") (including liner 57 mm (2.24"))
- Dispenser: 17 mm (0.67") (including liner 20 mm (0.79"))
 - *17 to 27 mm (0.67 to 1.06") is available only when using thermal transfer method
- Linerless cutter: 38 mm (1.5")

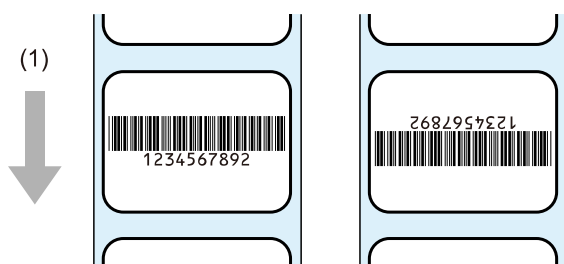
Usable Types of Media

Complies with the specifications of the product. However, if the label is silver or laminated, the light from the scanner will cause mirror-like reflection on the label surface, making it difficult to read.

Readable Barcode Orientation

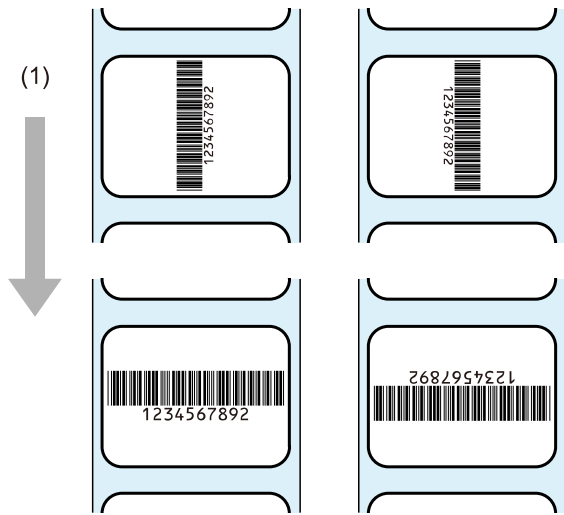
Place the barcode within the field of view and perform sufficient reading tests in advance.

Barcode scanner



(1) Media feed direction

2D code scanner



(1) Media feed direction

Recommended Barcode Sizes

Comply with the specifications of each scanner.

Barcodes

Narrow bar 0.25 mm (0.01") or more

- 203 dpi: 2 dots or more
- 305 dpi: 3 dots or more
- 609 dpi: 6 dots or more

2D code

Cell size 0.25 mm (0.01") or more

- 203 dpi: 2 dots or more
- 305 dpi: 3 dots or more
- 609 dpi: 6 dots or more

Optional Devices

The optional devices for the product are as follows:

In addition to those that can be installed by the customer themselves, there are items that require factory installation and items that require installation by a customer engineer after purchase.

For details, contact your SATO sales representative.

Cutter unit

Can automatically cut the media in the designated number of pages.

Rotary cutter unit

Capable of cutting hard materials such as stainless steel, as well as thick labels and tags.

Heat-proof rotary cutter unit

Can cut special heat-resistant labels and tags.

Simple dispenser unit

Peels printed labels from the liner.
The liner is ejected out of the product.

Dispenser unit (with internal liner rewinder)

Peels printed labels from the liner.
The liner can be ejected from the product or wound up inside the product.

Linerless cutter unit

Allows use of environmentally friendly linerless labels.

External unwinder UW480

Allows an external media roll to feed labels to the product for printing.

External rewinder RWG500

Allows labels to be rewound automatically as they are printed.



-  A 6-inch extension option kit is required to rewind media wider than 131 mm (5.16").
- An EXT connector and EXT conversion cable are required to connect to this product.

Simple stacker STM400

Simple stacker STM600

Stacks printed labels.

Media roll holder for large diameter

Media rolls with an outer diameter of $\phi 265$ mm (10.43") can be loaded.

External print button

Labels can be issued one at a time at the push of a button.



- An EXT connector and EXT conversion cable are required to connect to this product.

Interface extension board

Allows use of RS-232C and external signal (EXT) interfaces.

EXT conversion cable

Converts the EXT connector from D-Sub 15-pin (type of connector on this product) to Amphenol 14-pin.

Wireless LAN/Bluetooth unit

Allows use of wireless LAN and Bluetooth connection.

By installing a SIM communication module, it allows SIM connections (cellular) for the SOS (SATO Online Services) function.

SIM communication unit

SIM communication module

Allows SIM connections (cellular) for the SOS (SATO Online Services) function.

The SIM communication module can also be attached to and used with a wireless LAN/Bluetooth unit with a board and antenna mounted on the unit.

UHF RFID kit

Allows reading and writing of UHF-band RFID tags.

HF RFID kit

Allows reading and writing of HF-band RFID tags.

Barcode checker mount kit

A scanner can be installed to check that printed barcodes can be read.

External cover kit

Covers the label supply port to prevent dust from getting in.



- When the wireless LAN/Bluetooth unit, SIM communication unit, or interface extension board is removed from the product and then reinstalled, the settings with these options (Wi-Fi, Bluetooth, cellular, RS-232C) will be disabled. Enable the settings again to configure the settings using these options.

List of the Guidance Videos

You can check the guidance video from [Help] in the [Information] menu.

The product's onboard guidance videos are as follows:

Loading media/ribbon

- Media roll loading (standard)
 - <https://youtu.be/5yaXNvQQZS4>
 - <https://youtu.be/RnpCjpgdBBA> (When Label Waste Prevention is enabled)
 - <https://youtu.be/p9cuhTqJLNs> (Position of leading edge of the loaded media when Label Waste Prevention is enabled)
- Media roll loading (cutter)
 - <https://youtu.be/0d0YF8CrI9I>
 - <https://youtu.be/4DJ105Pv0ho> (When Label Waste Prevention is enabled)
 - <https://youtu.be/WeVtiaMTePY> (Position of leading edge of the loaded media when Label Waste Prevention is enabled)
- Media roll loading (rotary cutter) **CL4-SXR**
<https://youtu.be/acfEUBtTk5w>
- Media roll loading (linerless cutter) **CL4-SXR**
<https://youtu.be/MtFjrF16NcM>
- Media roll loading (dispenser)
https://youtu.be/pz-SXhJ-q_w
- Media roll loading (dispenser with rewinder)
<https://youtu.be/ve8tGcL9PUI>
- Fan-fold media loading (standard)
 - <https://youtu.be/-RAIAo6ni4A>
 - <https://youtu.be/xeO0r5SC0sg> (When Label Waste Prevention is enabled)
- Fan-fold media loading (cutter)

- <https://youtu.be/U22ffxelSJE>
- <https://youtu.be/-8idaF2yyAc> (When Label Waste Prevention is enabled)
- Fan-fold media loading (rotary cutter) **CL4-SXR**
<https://youtu.be/2GCvZGDWaAw>
- Ribbon loading
<https://youtu.be/--t05d2pAlg>

Media/ribbon replacement

- Media roll replacement (standard)
<https://youtu.be/3xyJfYFtDg>
- Media roll replacement (cutter)
<https://youtu.be/3z2Lo3Uxb4g>
- Media roll replacement (rotary cutter) **CL4-SXR**
<https://youtu.be/pZgLijR7uyc>
- Media roll replacement (linerless cutter) **CL4-SXR**
<https://youtu.be/WvMCjn16kqg>
- Media roll replacement (dispenser)
<https://youtu.be/rbp8HLRCq7Q>
- Media roll replacement (dispenser with rewinder)
<https://youtu.be/gT81HDWQbWE>
- Fan-fold media replacement (standard)
<https://youtu.be/tg0JrSF1k8>
- Fan-fold media replacement (cutter)
<https://youtu.be/G1QKlGfZqsc>
- Fan-fold media replacement (rotary cutter) **CL4-SXR**
<https://youtu.be/Hn0nZCfl4Xo>
- Ribbon replacement
https://youtu.be/u_gpEtMzdkc

Cleaning and replacing consumable parts

- Cleaning
<https://youtu.be/CqawFIKCsOs>
- Print head replacement
CL4-SXR https://youtu.be/TcEuRt7S_g8
CL6-SXR <https://youtu.be/x7vzogWbzmA>
- Platen roller replacement
https://youtu.be/4dt1flj_76U

Introduction to Printing Methods and Setting Tools

The product supports a variety of methods to print labels, and tools are available to assist with the settings.

Printer Driver

A printer driver is software that sends documents and images created on a computer to a printer to be printed on labels.

Download one from the following pages and use it.

 <https://www.sato.co.jp/support/>

 <https://www.sato-global.com/drivers/redirect.html>

Label Printing Tools

Tools are available to design label layouts with simple operations and to efficiently print and manage labels.

For details, contact your SATO sales representative.

Printer Setting Tools

- All-In-One Tool V2

This tool allows you to apply the same settings to multiple printers over a network and manage them collectively.

 <https://www.sato.co.jp/support/>

 <https://www.sato-global.com/drivers/redirect.html>

SBPL Command Reference

SBPL commands can be sent to print labels, change printer settings, and control operations.

The SBPL Command Reference provides a way to write commands.

For details, contact your SATO sales representative or technical support.

Support and Warranty

Maintenance Support

SATO provides maintenance support to ensure reliable operation of your product.

Refer to the following page for details.

<https://www.sato-global.com/about/support.html>

SATO Global Warranty Program

For the warranty period of the product and its consumable parts (printhead, platen roller, cutter, etc.), refer to the SATO Global Warranty Program.

<https://www.sato-global.com/warranty/>

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