

# PDF Direct Print User Manual (PW208NX/PW208mNX)



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# About This Manual

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Thank you for using the SATO PDF Direct Print.

This document is intended for users who want to know how to configure SATO printers with PDF Direct Print function or system integrators who want to develop a solution that can send PDF data from their system and directly print the PDF data without graphics conversion on SATO printers with PDF Direct Print function.

This document describes only the information and instructions related to PDF Direct Print. For more details on other printer operations and settings, please refer to each printer's operator manual.







Click the link below for the PW208NX/PW208mNX operator manual.

<http://www.manual.sato-global.com/printer/pw208nx/en/main/index.html>

## Symbols

This document uses the following symbols:

Item	Description
 Warning	The Warning symbol indicates that you can cause death or serious injury if you do not follow the instructions or procedures.
 Caution	The Caution symbol indicates that you can cause injury or property damage if you do not follow the instructions or procedures.
 Note	The Note symbol indicates useful and supplemental information that you should know.
 Reference	The Reference symbol indicates the link of relevant information.



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- The contents of this document may be changed without prior notice.
- Great care has been taken in the preparation of this document, but if any problems, mistakes, or omissions are found, please contact your SATO reseller or technical support center.



- This manual uses the build version 3.3.2-u555\_r2 firmware in its descriptions.
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# Legal Information

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## Copyrights

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## Limitation of Liability

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## Software Updating Disclaimer

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While all efforts have been taken to ensure accuracy and currency of the information contained herein, there are instances where the contents of this document may be outdated. In that case, proceed to your local SATO regional website (<https://www.sato-global.com/drivers/redirect.html>) to check whether an updated document has been made available for your reference.

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# Introduction

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## Overview

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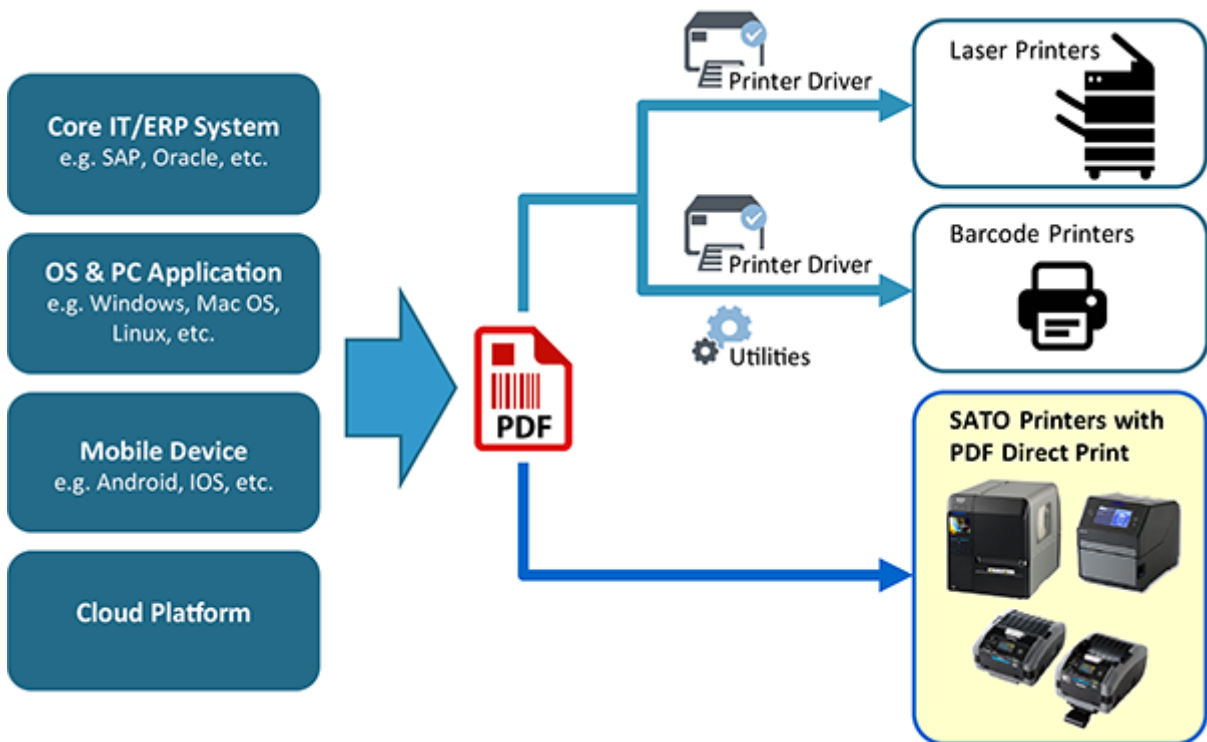
This document is intended for users who want to know how to configure SATO printers with PDF Direct Print function or system integrators who want to develop a solution that can send PDF data from their system and directly print the PDF data without graphics conversion on SATO printers with PDF Direct Print function.

### About PDF Direct Print

PDF data becomes a standard document format for most of the ERP system, OS and PC applications, etc. However, when printing PDF data on most of the barcode printers, it requires a printer driver or custom software that converts PDF to graphic for printing.

SATO PDF Direct Print is the solution implemented as a special firmware installed on the printer. It allows users to print PDF files directly to the SATO printers without using any printer driver, utilities, middleware or application installed to the system.

It provides a cost-effective, secure, simple and reliable direct printing solution.



### Supported Printers and Interfaces

The supported printer models of this function are CL4NX, CL6NX, CL4NX Plus, CL6NX Plus, CT4-LX, PW208NX and PW208mNX.

Users can send PDF data via any available interface of the supported printers, such as LAN, WLAN, USB, Bluetooth, etc.

## Features

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The features of SATO PDF Direct Print include:

### **Multilingual fonts and typefaces**

PDF Direct Print supports all languages available in PDF and uses fonts embedded in the PDF file to prevent text garbling.

### **PC-less printing**

PDF Direct Print resides in the printer memory and processes data internally. Thus, saving cost, space and time by eliminating the need to manage additional devices.

### **Layout Adjustment**

Enables quick and easy changes to the orientation of data and the avoidance of any blank spaces.

### **High Speed and Quality**

PDF Direct Print generates clear and precise fonts and barcodes and controls color density alongside a high-speed internal processor to ensure high and consistent throughput.

### **Multiple Interfaces**

PDF Direct Print supports every commonly used printer communication interface, including Wireless LAN, USB and Bluetooth, enabling flexible use across any business environment.

### **SATO AEP**

SATO AEP (Application Enabled Printing) enables more sophisticated operations through the use of API.

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# Getting Started

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## Installation

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There is no need for users to perform the firmware installation as the printer comes with the special firmware installed after purchasing the PDF Direct Print.

In the event of printer replacement, SATO technical support personnel will install the firmware and enable the PDF Direct Print function on the new printer.



- Installation of PDF direct print firmware should be performed by SATO technical support personnel.
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## License Activation

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The PDF Direct Print license is initially activated on the printer if the user has already purchased the license. A license activation key is required to perform the activation.

If the license is not activated, the PDF Direct Print will be running on Demo mode.



- The license activation should be performed by SATO technical support personnel.
- Due to the limitation of the PW208NX/PW208mNX printer, we cannot enter the activation key on the printer.

We can use the SATO All-In-One Tool application to send the file containing the activation key to the printer.




Alternatively, if the printer is installed with the WLAN module, we can enter the activation key via a web configuration page using any browser.

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The license activation procedure intended for SATO technical support personnel is as follows:

- 1. Obtain the file containing the activation key issued by the license management server.**
- 2. Connect the printer to a computer using the USB interface.**
- 3. Send the file containing the activation key to the printer using the SATO All-In-One Tool application.**
  - a. Connect the printer using the [Add Printer] function in the All-In-One Tool application. Select USB port as printer interface.
  - b. Use the [Send SBPL Command] function to send the file containing the activation key. Refer to the SATO All-In-One Tool User Manual for more details.

### Confirming the Activation Status

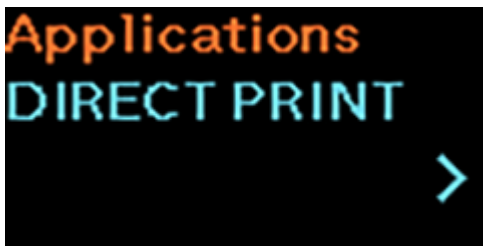
- 4. When the printer is in Online mode, press the  (Print/Select) button to change to Offline mode.**
- 5. Hold down the  and  buttons for more than 2 seconds to show the settings mode.**



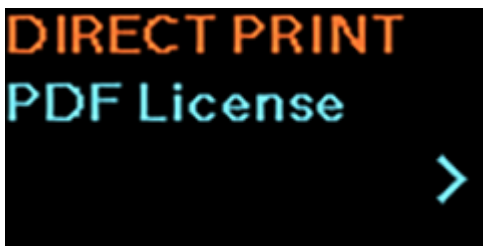
6. Select [Applications] using the ►||/→ button and press the □/← button.



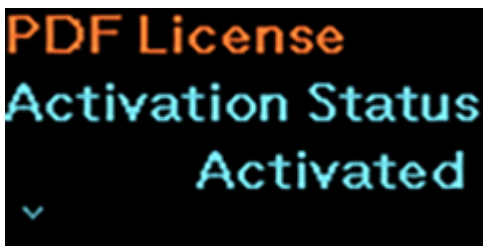
7. Select [DIRECT PRINT] using the ►||/→ button and press the □/← button.



8. Select [PDF License] using the ►||/→ button and press the □/← button.



9. Select [Activation Status] using the ►||/→ button.



The [Activation Status] will show [Activated] if the activation key matches.



- [License Type], [Product] and [Activation Status] are read-only.
  - The initial [License Type] is [Demo] and the [Activation Status] shows [Not Activated].
  - The [Activation Status] will show [Key Error] if the activation key does not match.
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## Initial Printer Settings

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To print the PDF data properly, you need to perform the following initial printer settings:

### 1. Make sure that the PDF direct print mode is enabled.

After the PDF Direct Print firmware is installed on the printer, the direct print mode is enabled by default.

The **DP** (Direct Print) status icon is shown on the status bar at the top of the display.

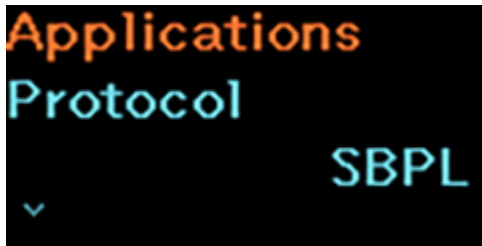


If the **DP** status icon is not shown, you can enable the direct print mode in the settings mode > [Applications] > [DIRECT PRINT] menu. Select [Enable] to show the [Enable] menu and select [Enabled].



## 2. Set the print language to SBPL.

PDF Direct Print only works on SBPL (SATO Barcode Printer Language) protocol. You need to set the printer language to SBPL in the settings mode > [Applications] > [Protocol] menu.



## 3. Set the label size.

Set the length and width of the label in the settings mode > [Printing] > [Label Length] and the settings mode > [Printing] > [Label Width] menus.



- The Auto Measure function is not recommended to be used for PDF direct print. Disable the [Auto Measure] and set the [Label Length] and [Label Width] of the label accordingly.
-

#### 4. Set other printer settings to match the label.

Set the following printer settings based on the label used.

- Settings mode > [Printing] > [Speed]
- Settings mode > [Printing] > [Sensor Type]
- Settings mode > [Printing] > [Darkness]



- Please refer to the PW208NX/PW208mNX operator manual for more detailed information.



Click the link below for the PW208NX/PW208mNX operator manual.

<http://www.manual.sato-global.com/printer/pw208nx/en/main/index.html>

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## Sending PDF Data to Printer

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You need to set up the connection between your source (i.e. core IT system, PC application, mobile device, cloud, etc.) and the printer via the supported connectivity. The available interfaces (LAN, WLAN, USB, Bluetooth, RS-232C, IEEE 1284 and others) are depending on the printer.

### Supported Print Data

- The PDF Direct Print function enables you to print documents and graphic data without using printer commands such as SBPL commands. The supported document format is PDF.
- Make sure that the font data is embedded in the PDF file. Otherwise, the data might not be printed correctly due to the printer will substitute the original font with its internal font.
- Do not use outlined PDF data as this will result in a larger file size. Recommended using PDF data (ISO 32000-1) that is not outlined.
- The maximum available file size that can be sent depends on the printer's memory. The recommended PDF file size is less than 50 MB.

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# Various Printout Settings

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## Rotating the Page Orientation

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You can specify the rotating angle of the page orientation for PDF direct printing.

The setting procedure for rotating the page orientation is as follows:

1. When the printer is in Online mode, press the **▶||/→** (Print/Select) button to change to Offline mode.
2. Hold down the **▶||/→** and **⏏/←** buttons for more than 2 seconds to show the settings mode.



3. Select [Applications] using the **▶||/→** button and press the **⏏/←** button.



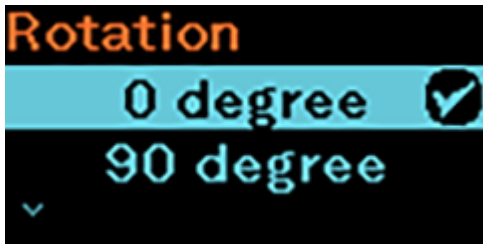
4. Select [DIRECT PRINT] using the **▶||/→** button and press the **⏏/←** button.



5. Select [Rotation] using the ►||/→ button and press the ◀/◀ button.



6. Select the rotating angle of the page orientation using the ►||/→ button.



The options are as follow:

**[0 degree]**

Prints the page without rotation.

**[90 degree]**

Rotates the page orientation 90 degrees clockwise.

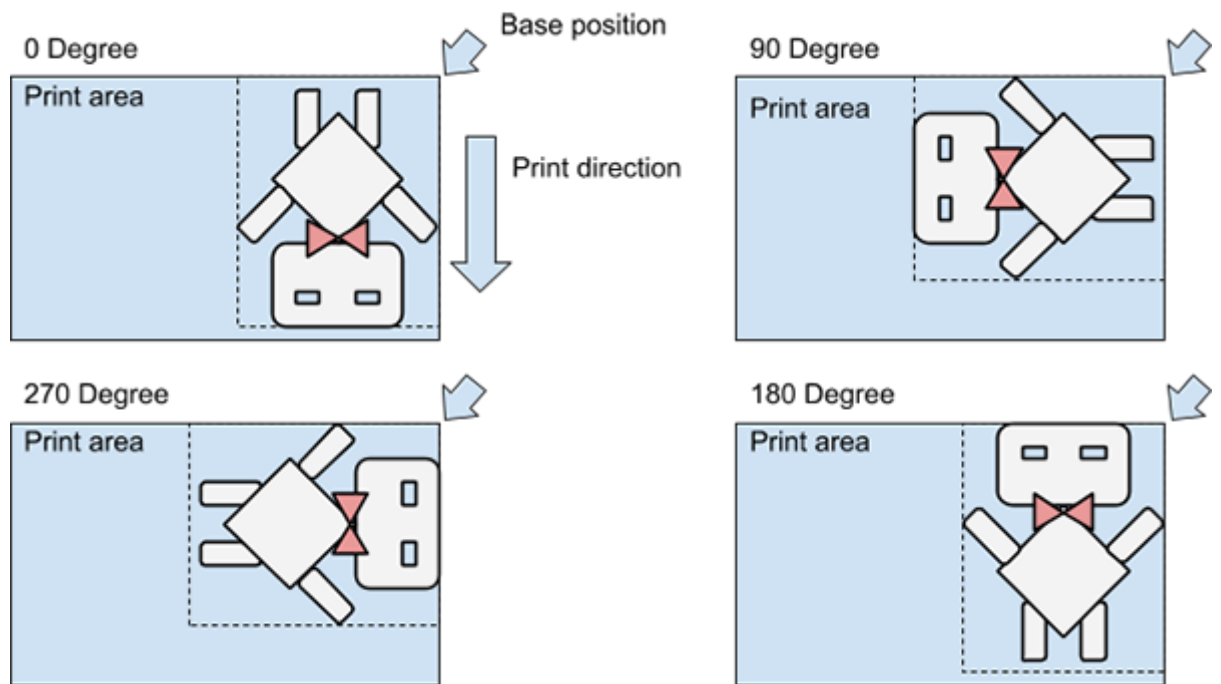
**[180 degree]**

Rotates the page orientation 180 degrees.

**[270 degree]**

Rotates the page orientation 270 degrees clockwise.





7. Once you have set the values, press the  button to save the setting.

The input values are confirmed and the next setting item is shown.

8. Press the  button repeatedly until the Offline mode is shown.

9. Press the  button to change to Online mode.

You can print to check the page orientation.

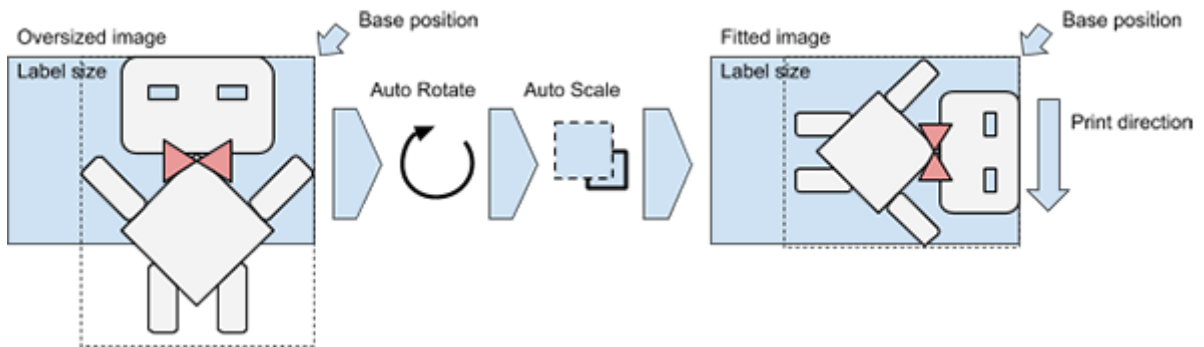


- The rotating angle cannot be set if the [Fit page sizing] is enabled.
  - The initial setting of [Rotation] is 0 degrees.
-

## Resizing the Image to Fit the Page

By enabling the [Fit page sizing] function, the printer automatically rotates, enlarges or reduces the print image to best fit the label page size.

This function is convenient for correcting the cropped printout if the print image is too big for the label size, or removing the whitespace if the print image is too small for the label size.



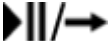

To enable this function, perform the following procedure.

1. When the printer is in Online mode, press the **▶||/→** (Print/Select) button to change to Offline mode.
2. Hold down the **▶||/→** and **⏏/←** buttons for more than 2 seconds to show the settings mode.

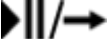



3. Select [Applications] using the **▶||/→** button and press the **⏏/←** button.



4. Select [DIRECT PRINT] using the  button and press the  button.

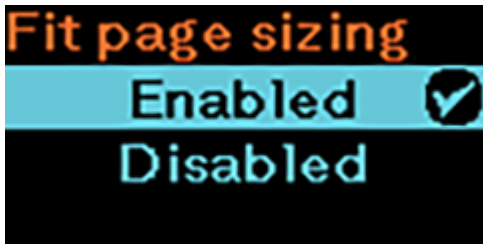




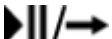
5. Select [Fit page sizing] using the  button and press the  button.



The [Fit page sizing] screen appears.

6. Select [Enabled] using the  button.



7. Press the  button to save the setting.
8. Press the  button repeatedly until the Offline mode is shown.
9. Press the  button to change to Online mode.

You can print to check the print image.



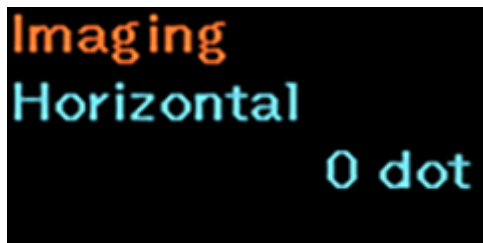
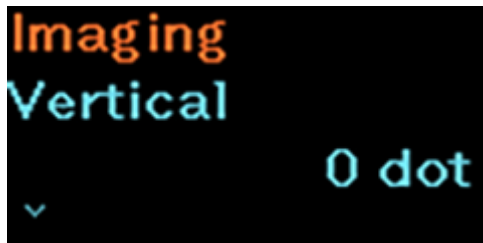
- When the [Fit page sizing] is enabled, the settings for the [Rotation] are invalid.
  - The initial setting of [Fit page sizing] is disabled.
-

## Adjusting the Print Image Position

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Depending on the PDF data, you may need to adjust the print image position.

You can adjust the print image position in the settings mode > [Printing] > [Imaging] menu.

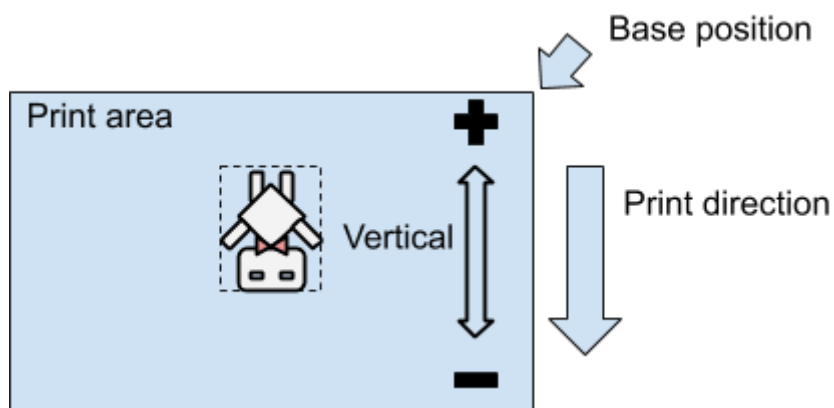


Set the print reference position in the vertical and horizontal directions.

### [Vertical]

Set the print position in the vertical direction.

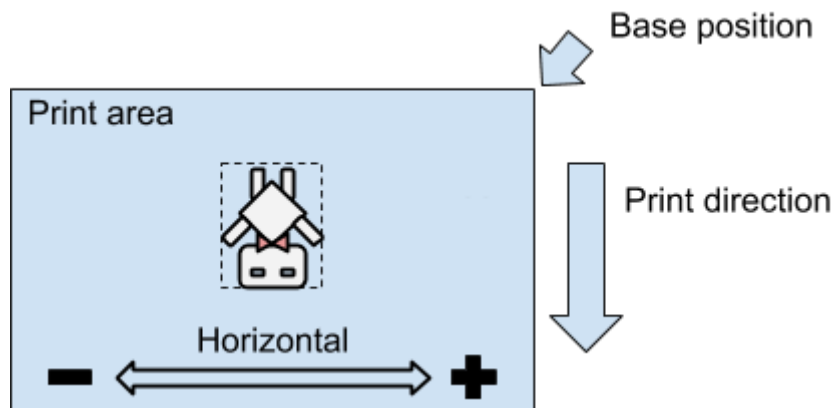
Set the correction value from the print reference position as "-" for the direction of the paper feed and "+" for the direction opposite to the paper feed.



### [Horizontal]

Set the print position in the horizontal direction.

Set the correction value from the print reference position when facing the product as "+" to adjust to the right side and "-" to adjust to the left side.



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# Frequently Asked Questions

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Below is some information that may be helpful when using the PDF Direct Print function:

**1. How to reset the printer after a firmware update?**

You can reset the printer in the settings mode > [Tools] menu. Select [Reset] to show the [Select] menu, then select the items to be initialized.

Please refer to the PW208NX/PW208mNX operator manual for more detailed information.



Click the link below for the PW208NX/PW208mNX operator manual.

<http://www.manual.sato-global.com/printer/pw208nx/en/main/index.html>

**2. How to set the application protocol to SBPL?**

Please refer to step 2 in [Initial Printer Settings](#).

**3. How to set the label size?**

Please refer to step 3 in [Initial Printer Settings](#).

**4. How to set the image rotation of the page orientation?**

Please refer to [Rotating the Page Orientation](#).

**5. How to set the Gap/I-mark sensor?**

You can set the Gap/I-mark sensor in the settings mode > [Printing] menu. Select [Sensor Type] to set the sensor type for detecting the label.

Please refer to the PW208NX/PW208mNX operator manual for more detailed information.



Click the link below for the PW208NX/PW208mNX operator manual.

<http://www.manual.sato-global.com/printer/pw208nx/en/main/index.html>

**6. How to activate the PDF Direct Print license?**

Please refer to [License Activation](#).

**7. Why is the size of the print image shrunk or enlarged?**

You have enabled the [Fit page sizing] function.

To disable the [Fit page sizing] function, refer to [Resizing the Image to Fit the Page](#) and select [Disabled] in step 6.

**8. Why is there extra space before the image?**

The setting of the label size may be incorrect.

Please refer to step 3 in [Initial Printer Settings](#).

9. **Why some of the texts printed out are different from the image?**

The font data may not be embedded in the PDF document.

Please make sure that the font data is embedded in the PDF document before being sent for printing.

10. **Why is the print image not printed out or shifted?**

The setting of the print reference position may be incorrect or the values are too large.

You can adjust the print image position in the [Settings] > [Printing] > [Imaging] menu.

Please refer to [Adjusting the Print Image Position](#).

11. **Why do PDF documents seem to print much slower?**

If the PDF document contains many objects such as fonts, images, lines and barcodes, the printers may need more time to process.



- The print result varies depending on the PDF document. If you need any further clarification, please contact your SATO technical support center for more information.
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# PDF Direct Print Menu

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This section describes the details of each item in the [DIRECT PRINT] menu.



- The operation using the [DIRECT PRINT] menu can also be performed via a Web configuration page using any browser.

For detailed information on accessing the Web configuration page, refer to each printer's operator manual.

Check out the *TOP > Various Settings of the Product > Configuring the Product Settings from a Web Browser* section of the operator manual.



Click the link below for the PW208NX/PW208mNX operator manual.

<http://www.manual.sato-global.com/printer/pw208nx/en/main/index.html>

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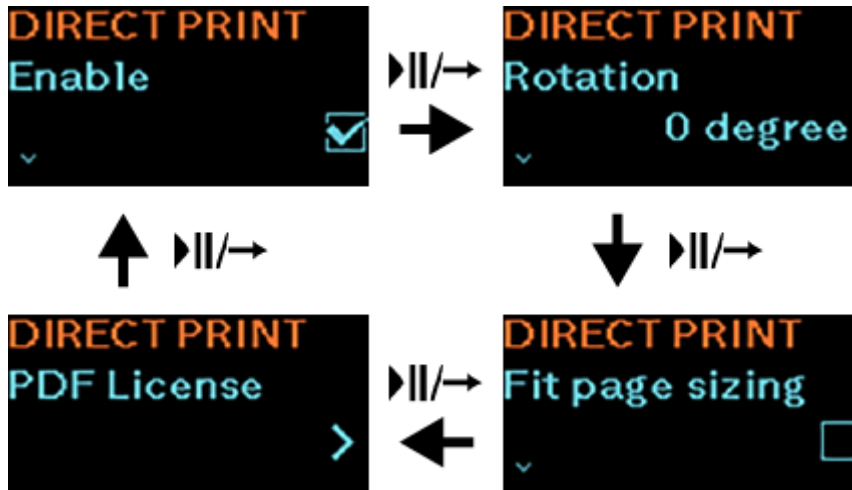


## The [DIRECT PRINT] Menu

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After you have the PDF Direct Print firmware installed in the printer, you can access the [DIRECT PRINT] menu.

In the settings mode, select [Applications] > [DIRECT PRINT] to show the [DIRECT PRINT] menu.



The following settings are available in the [DIRECT PRINT] menu:

### [Enable]

Enable or disable the direct print mode.

- When a check mark shows on the check box of [Enable], the direct print mode is enabled.  
The **DP** (Direct Print) status icon is shown on the status bar at the top of the display.
- When the check box of [Enable] is cleared, the direct print mode is disabled.  
The **DP** status icon is not shown on the status bar at the top of the display.



- After the PDF Direct Print firmware is installed on the printer, the direct print mode is enabled by default.
-

## [Rotation]

Set the rotating angle of the page orientation for PDF direct printing.

The options are as follow:

### [0 degree]

Prints the page without rotation.

### [90 degree]

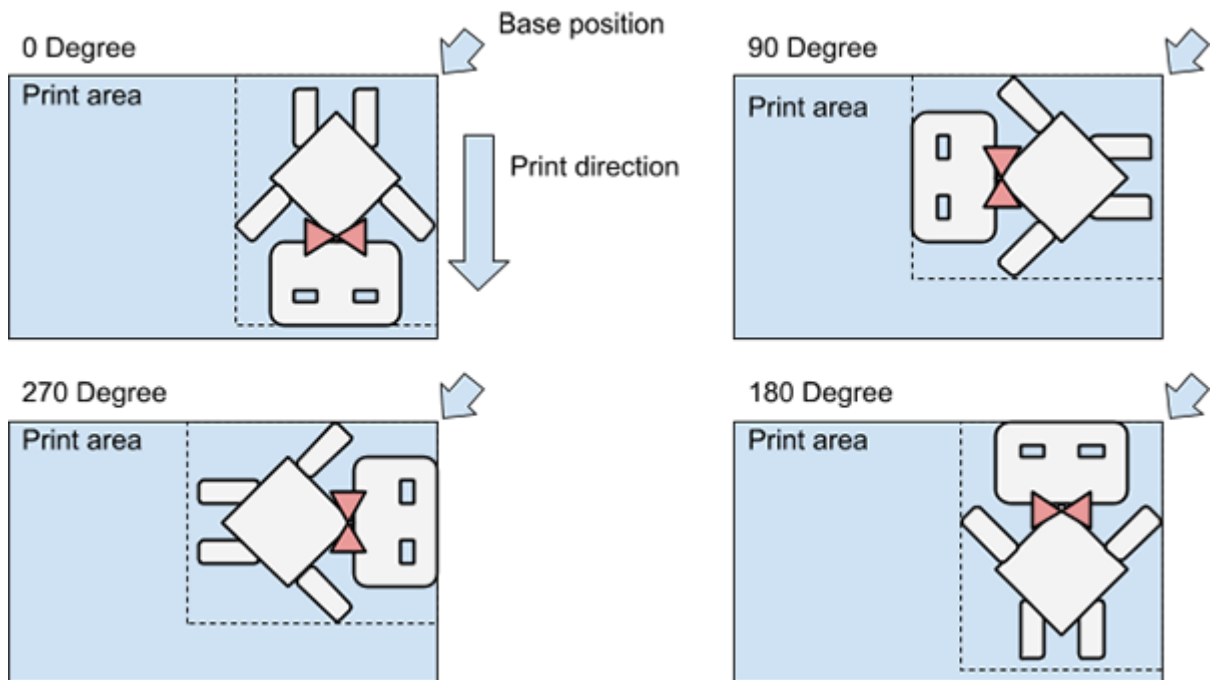
Rotates the page orientation 90 degrees clockwise.

### [180 degree]

Rotates the page orientation 180 degrees.

### [270 degree]

Rotates the page orientation 270 degrees clockwise.

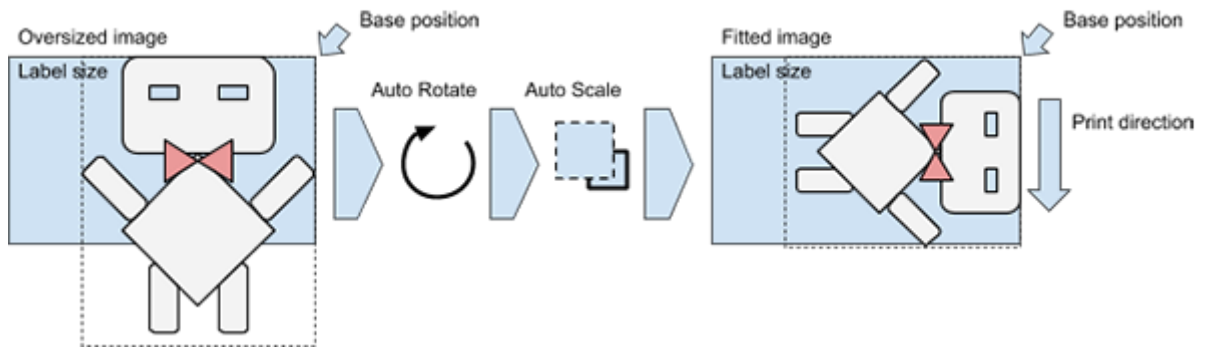


- The rotating angle cannot be set if the [Fit page sizing] is enabled.
- The initial setting of [Rotation] is 0 degrees.

## [Fit page sizing]

By enabling the [Fit page sizing] function, the printer automatically rotates, enlarges or reduces the print image to best fit the label page size.

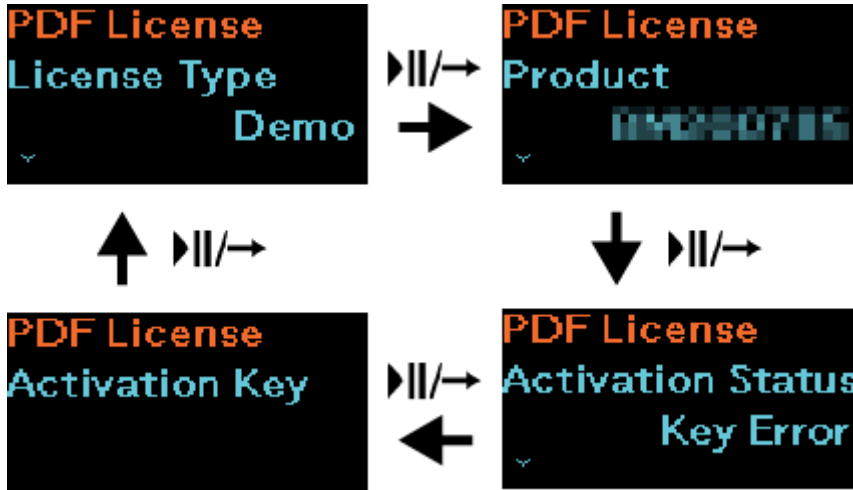
This function is convenient for correcting the cropped printout if the print image is too big for the label size, or removing the whitespace if the print image is too small for the label size.



- When the [Fit page sizing] is enabled, the settings for the [Rotation] are invalid.
  - The initial setting of [Fit page sizing] is disabled.
-

## [PDF License]

Select to show the [PDF License] management screens.



The following information and settings are available in the [PDF License] menu:

## [License Type]

Shows the type of PDF Direct Print license registered for this printer. Once the PDF Direct Print firmware is installed, the printer is initially set as demo mode.

There are three types of licenses available.

### [Demo]

If you have not activated the PDF Direct Print license, the printer will work in demo mode.

In the demo mode, PDF printing is possible but the printed content has SATO DEMO watermarks printed across the label.



### [Develop]

The development license is only used by SATO resellers and technical support for internal verification without sales. It is strictly not for commercial use.

To activate the license, you need an activation key issued by the license management server.

### [Commercial]

The commercial license is for users who purchased the PDF Direct Print.

To activate the license, you need an activation key issued by the license management server.

## [Product]

Shows the printer serial number. This serial number is used for registration and generating the license activation key at the license management server.

## [Activation Status]

Shows the activation status of the PDF Direct Print license.

There are three types of activation status.

### [Not Activated]

Shows when the license is not activated.

### [Key Error]

Shows when the entered activation key is wrong or is not registered for this printer serial number.

### [Activated]

Shows when the entered activation key is valid and is registered for this printer serial number. The PDF Direct Print license is activated.

## [Activation Key]

The [Activation Key] shows only when the PDF Direct Print license is not activated.



- The license activation should be performed by SATO technical support personnel.
- Due to the limitation of the PW208NX/PW208mNX printer, we cannot enter the activation key on the printer.

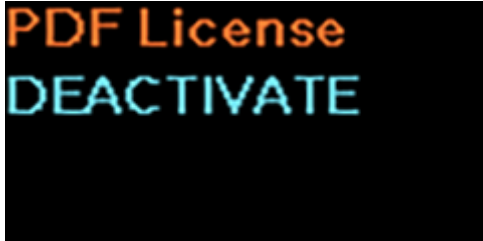
We can use the SATO All-In-One Tool application to send the file containing the activation key to the printer.

Alternatively, if the printer is installed with the WLAN module, we can enter the activation key via a web configuration page using any browser.

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## [DEACTIVATE]

This selection item shows only when the PDF Direct Print license is activated.



Select [DEACTIVATE] only if you want to deactivate the license.



- Make sure that you need to deactivate the license before doing it. Once deactivated, you need to contact SATO technical support personnel to activate the license again.
- 

After you deactivated the license, the [License Type] returns to [Demo] and the [Activation Status] shows [Key Error].

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# Maintenance Support

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SATO provides maintenance support to ensure the reliable operation of your product.

A separate printer maintenance contract bundle is highly recommended for users regardless of the license type of the PDF Direct Print function.

In the event of printer replacement, the user without a maintenance contract will need to purchase a new PDF Direct Print license for the new printer. Whereas, the user who has purchased a maintenance contract can continue using the new printer with the purchased license transferred to it.

SATO technical support personnel will assist to install the firmware, transfer the original license or activate the new license for users.

For details on the maintenance contract, contact your SATO reseller or technical support center for more information.

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# Contact Information for When You Are in Trouble

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Access the following site to send us your questions or comments.

 <https://www.sato-global.com/contact/>



**SAVO**