
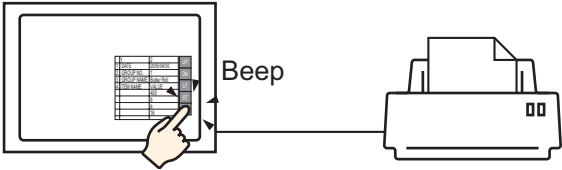
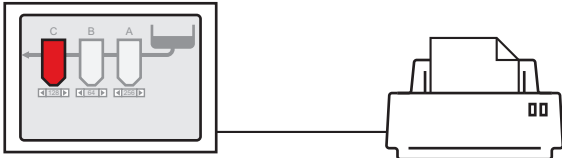
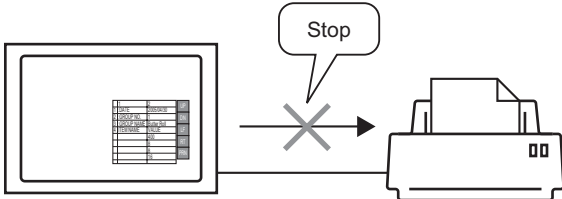


28 | Printing

This chapter explains ways of printing the created screens and settings in GP-Pro EX and connecting a printer to the GP to print the GP's data and display screens. Please start by reading "28.1 Settings Menu" (page 28-2) and then turn to the corresponding page.

28.1	Settings Menu	28-2
28.2	Printing the Project Settings.....	28-3
28.3	Connecting a Printer to the GP	28-8
28.4	Printing the Displayed Screen (Screen Hard Copy).....	28-13
28.5	Canceling a Print.....	28-23
28.6	Settings Guide.....	28-33
28.7	Restrictions	28-48

28.1 Settings Menu

Printing the Project Settings	
<p>Prints the project contents set with GP-Pro EX from a PC.</p>  <p>NOTE</p> <ul style="list-style-type: none"> You can output the project settings to a file. 	<ul style="list-style-type: none"> Setup Procedure (page 28-4) Details (page 28-3)
Connecting a Printer to the GP	
<p>You can print various data (Alarm History data, Sampling data, etc.) by connecting the GP and a printer.</p> 	<ul style="list-style-type: none"> Setup Procedure (page 28-11) Details (page 28-8)
Printing the Displayed Screen (Screen Hard Copy)	
<p>Prints the displayed screen on the GP as it appears.</p> 	<ul style="list-style-type: none"> Setup Procedure (page 28-16) Details (page 28-13)
Canceling a Print	
<p>You can cancel the printing of data and display screens. If you cancel, all the print processes being performed are canceled.</p> 	<ul style="list-style-type: none"> Setup Procedure (page 28-26) Details (page 28-23)

28.2 Printing the Project Settings

28.2.1 Details

Prints the setting information of project files created with GP-Pro EX. This feature is useful for debugging and creating documents.

Also, you can output them into a rich text file (*.rtf).



Print Example

```

Project Setting(Summary)
2005/10/28 11:31 test.prx

Summary
Project Name          test.prx
Last Saved Date and Time  Fri Oct 28 11:24:41 2005
Creator              Pro-face
Title
Send Data Size        75843 Bytes
Model                AGP-3500T
Device/PLC 1

Printer
Bar Code 1
Bar Code 2
Script 1
Script 2

Common Setting(Sampling)
2005/10/28 11:33 test.prx


Sampling Settings
Language Settings/Font Type      ASCII Standard Font
Sampling Settings (Detail)
Group                            Group
Addressing                       Sequential
Sampling Top Address             [PLC1]D00100
No. of Sampling Words           1
Bit Length                       16Bit
Execution Condition              Time Specification
Sampling Permit Bit Address      [PLC1]M000100
Start Time                       00:00
End Time                         00:00:00
Sampling Cycle                   00:00:00
No. of Times                     1 Times
Data Full Bit Address            Disable
Data Clear Bit Address          [PLC1]M000050
Backup to SRAM                  Enable
Overwrite from the oldest data  Enable
No. of Days                     1
Time Data                       Enable
Data Valid/Invalid Flag        Enable
Display/Save in CSV Settings    Disable
Print Settings                  Disable
Write Data Settings             Disable
    
```

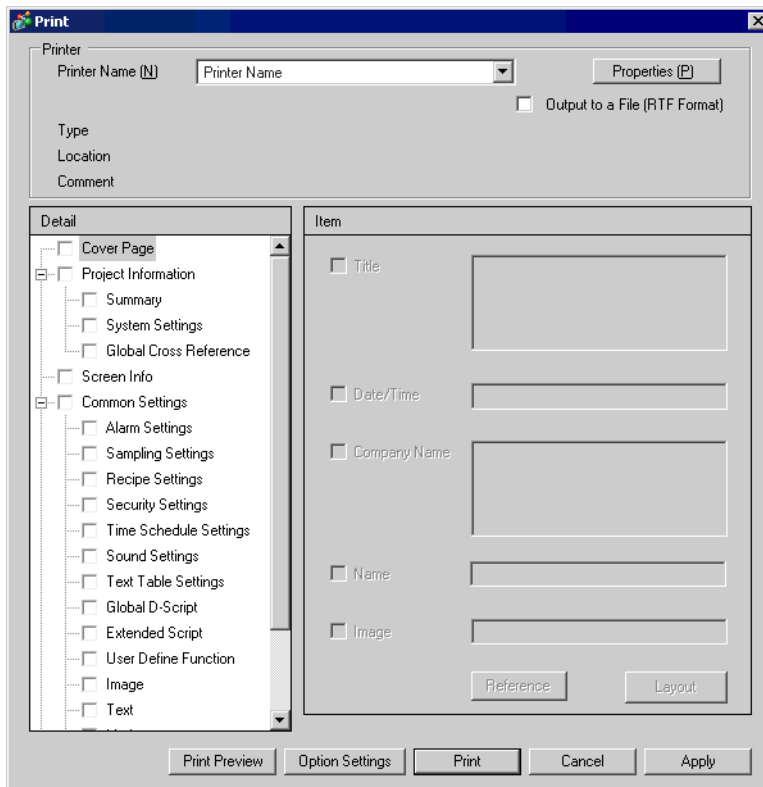
28.2.2 Setup Procedure

- NOTE** • Please refer to the settings guide for details.
👉 “28.6.1 [Print] Settings Guide” (page 28-33)

Output the Project Information and the Common Settings’ Alarm Settings and Sampling Settings from a PC to a printer.

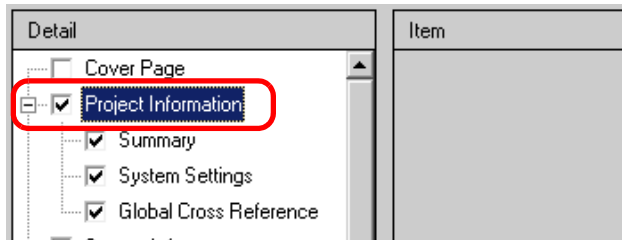


- 1 Select the [Project (F)] menu - [Print (P)] command or click  to open the [Print] dialog box.

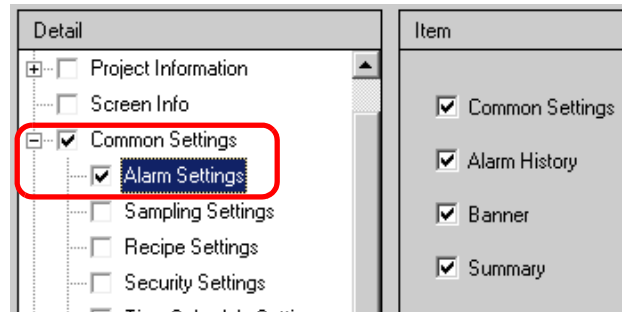


- 2 Select a printer to use in [Printer Name (N)].

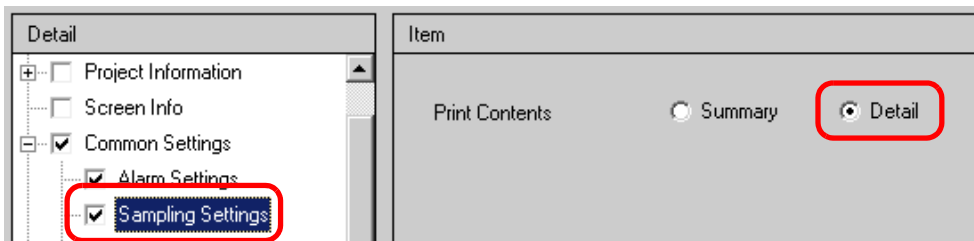
- 3 Put a check mark next to the [Project Information] box and a check mark appears next to all the sub items. (e.g.: [Summary], [System Settings], [Global Cross Reference])



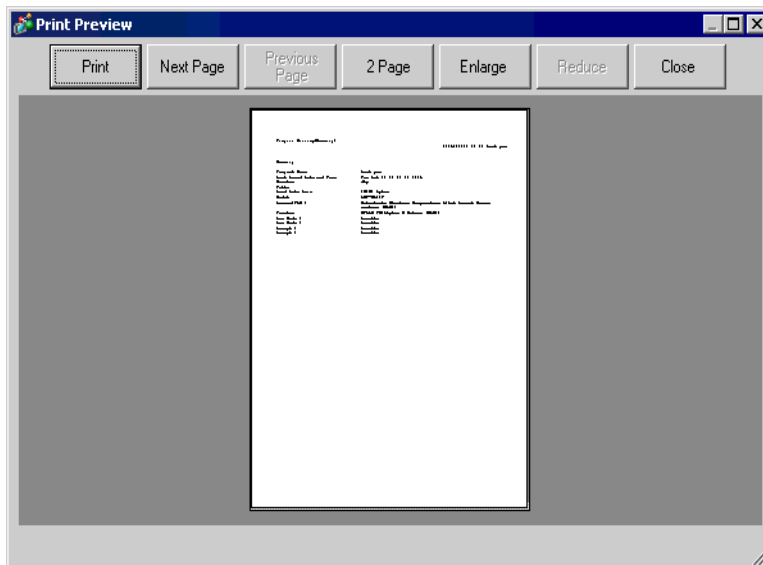
- 4 Put a check mark next to the [Alarm Settings] box under [Common Settings]. Put a check mark next to all the Alarm Settings boxes to print in [Item]. (e.g.: [Common Settings], [Alarm History])



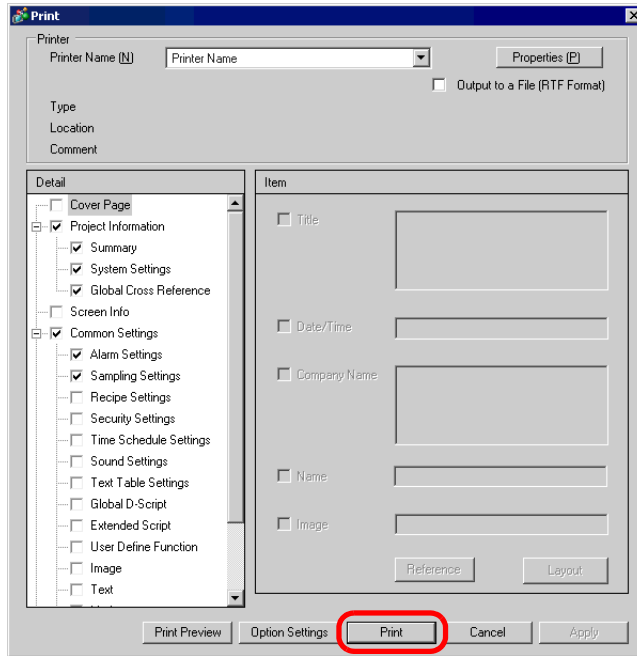
- 5 Put a check mark next to the [Sampling Settings] box as well under [Common Settings]. Select [Detail] for the Sampling Settings' [Print Contents].



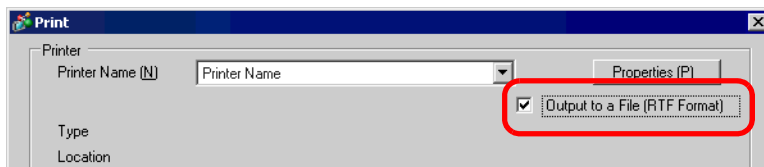
- 6 Click [Print Preview] and check the print status.



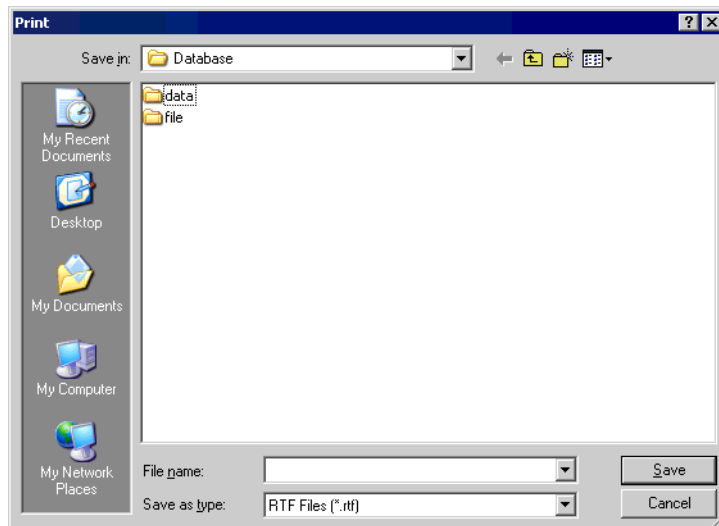
7 Click [Print] and the [Print] dialog box appears again. Click [Print] and the printing will start.



To output to a rich text file without printing, put a check mark next to the [Output to a File (RTF Format)] box.

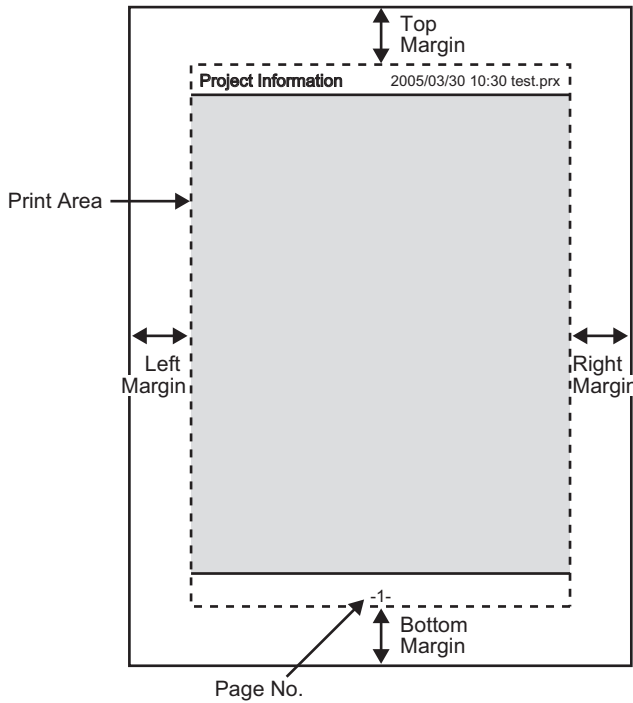


Click [Print] and the following dialog box will be displayed. Designate the [Save in] and [File name] and click [Save].



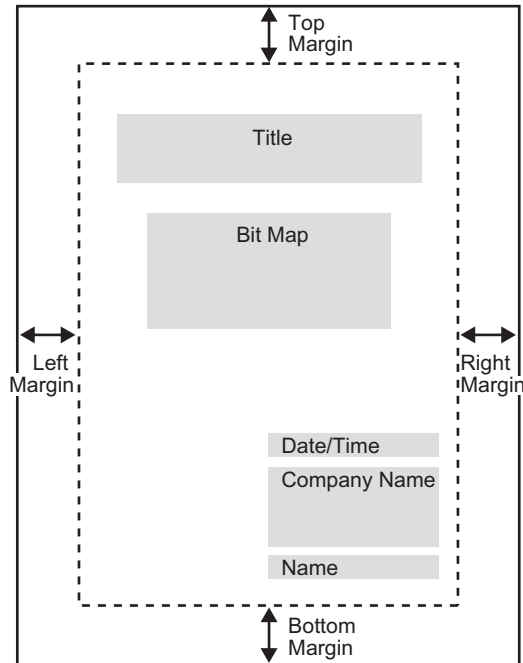
28.2.3 Print Layout

e.g.) Project Settings



- The print item name is printed on the top left corner, and the printout date/time and the project file name on the top right corner.
- A page number can be set in Option Settings.

e.g.) Cover Page

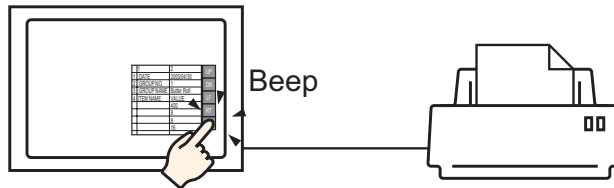


- Image files can be placed from the line after Title to two lines before Date/Time. When printing an image that exceeds this area, the image is automatically reduced to fit into the area.
- Bit map image alignment can be moved within the print area.

28.3 Connecting a Printer to the GP

28.3.1 Details

You can print various data (Alarm History data, Sampling data, etc.) by connecting a printer to the GP. Only one printer can be connected to the entire system.



You can print the following data from the GP.

Feature	Print Contents
Screen Hard Copy	Prints the displayed screen on the GP as it appears. ☞ “28.4 Printing the Displayed Screen (Screen Hard Copy)” (page 28-13)
Alarm Banner	Prints an alarm message in the displayed language (table) when it triggers or recovers.
Alarm History	<ul style="list-style-type: none"> • Real Time Print Prints when an alarm triggers, is confirmed, or recovers. • Batch Print Prints all the alarm history in a specified format when a specified [Print Word Address]’s Bit 0 is turned ON.
Sampling	<ul style="list-style-type: none"> • Real Time Print Prints in the print format specified in [Sampling Settings] each time it collects data. • Block Print You can print in [Block Unit] when [Overwrite old data after finishing the specified no. of times] is not set for the [Extended Settings] on the [Sampling Settings]’s [Action Settings] tab. Prints the collected data in block unit in a specified print format when a specified [Print Word Address]’s Bit 0 is turned ON.
CSV Data Print	Prints the displayed CSV data when you touch the print key on a special data display [Show CSV]. You can select whether to print only the displayed portion or to print the whole data. ☞ “25.6 Displaying/Editing CSV Data on the Screen” (page 25-30)
Script Printer Output	Outputs a specified bytes of data when the printer operation function in the return sentence for D-script, global D-script, and extended script is executed.

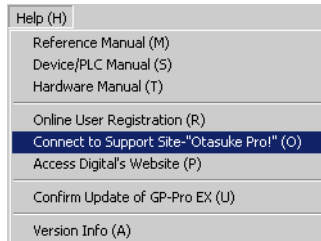
■ Types of Printers that can be Connected to the GP

You can use the following printers.

- NEC PC-PR201/PL command compatible
- EPSON ESC/P24-J84 (C) command compatible
- HP Laser Jet PCL 4 command compatible
- Some models of EPSON PM/Stylus (6 Colors) and Stylus (4 Colors)

For supported printer models, refer to Digital Electronics Corporation's support site "Otasuke Pro!" (<http://www.pro-face.com/otasuke/>).

You can easily connect to this site by clicking the [Help (H)] menu - [Connect to Support Site - "Otasuke Pro!" (O)] command.



IMPORTANT

- Supported models may change due to GP upgrades.
- If you use a printer other than the supported models, printing may not function normally. Confirm in advance that the printer operates normally.

NOTE

- You cannot use Windows dedicated printers. Use the above-mentioned command compatibles or the corresponding printers.
-

■ Printer and Interface

Connect a printer using COM1 (RS-232C), USB, or LAN.

The USB connection supports USB direct and USB-PIO conversion.

The following interface corresponds to each printer.

		Interface			
		COM1	USB Direct	USB-PIO	LAN (LPR/IPP)
Printer	NEC PR Series	OK	Invalid	OK	OK
	EPSON ESC/P (High Speed)	OK	Invalid	OK	OK
	EPSON ESC/P (High Quality)	OK	Invalid	OK	OK
	HP LASERJET Series	OK	Invalid	OK	OK
	EPSON PM/Stylus (6 Colors)	Invalid	OK	OK	OK
	EPSON Stylus (4 Colors)	Invalid	OK	OK	OK
	Text ASCII	OK	Invalid	OK	Invalid

NOTE

- COM2 cannot be used to connect a printer.
- Use a USB/PIO converter to connect a Centronics parallel interface printer. For supported USB-PIO converters, refer to Digital Electronics Corporation's support site "Otasuke Pro!" (<http://www.pro-face.com/otasuke/>).
- For USB direct connection, confirm the supported models. A complex machine with a scanner and storage cannot be used for USB direct print.
 - ☞ "■ Types of Printers that can be Connected to the GP" (page 28-9)
- When printing with LAN connection, it takes approximately one minute before the print starts.

◆ Output Port and Print Feature

Print Feature	COM1	USB	LAN*1
Screen Hard Copy	OK	OK	OK
Alarm (Banner) Print	OK	OK	Invalid
Alarm (History) Real Time Print	OK	OK	Invalid
Alarm (History) Batch Print	OK	OK	Invalid
Sampling Data Real Time Print	OK	OK	Invalid
Sampling Data Block Print	OK	OK	Invalid
CSV Data Print	OK	OK	Invalid
Script Printer Output	OK	OK*2	Invalid

*1 LAN connection (network printer) does not support Alarm (Banner) Print, Alarm (History) Real Time Print, Alarm (History) Batch Print, Sampling Data Real Time Print, Sampling Data Block Print, CSV Data Print, or Script Printer Output.

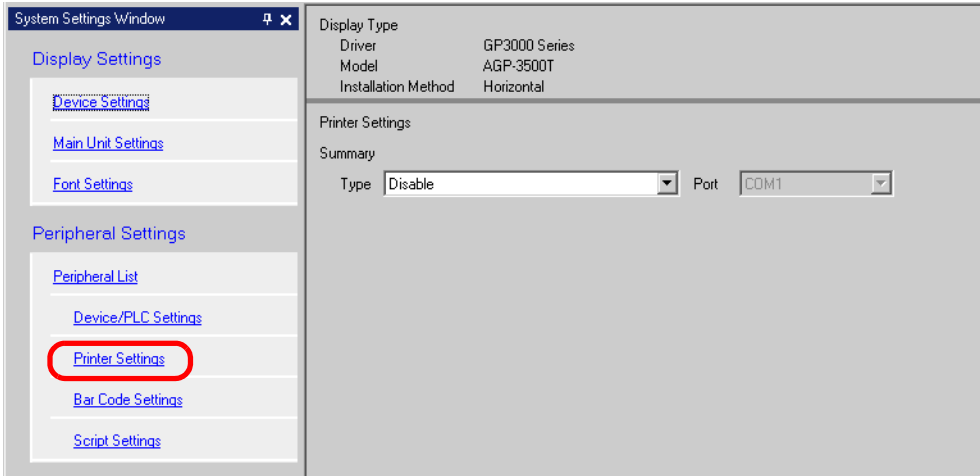
*2 Script printer output with USB connection supports only USB-PIO conversion.

28.3.2 Printer Setup Procedure

- NOTE** • Please refer to the settings guide for details.
 ☞ “28.6.2 System Settings [Printer Settings] Guide” (page 28-45)

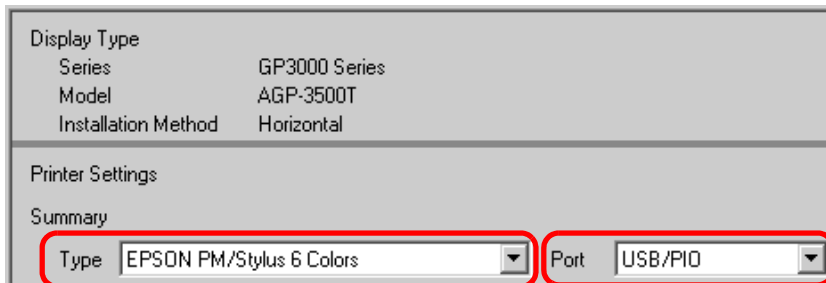
Configure settings to connect the GP and a printer using a USB-PIO converter.


1 Select [Printer Settings] from the System Settings Window.



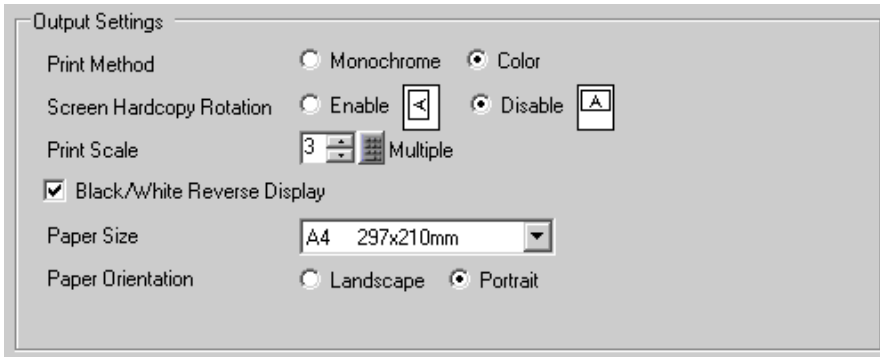
- NOTE** • If the [System Settings Window] tab is not displayed in the Work Space, select the [View (V)] menu - [Work Space (W)] option - [System Settings Window (S)] command.

2 Designate the printer type to use and the output port. (e.g.: [Type] EPSON PM/Stylus 6 Color, [Port] USB/PIO)



- NOTE** • If the port is being used by another device, the  mark is displayed next to the box. Select a port that is not used by another device/PLC.

- 3 Configure output settings. Set [Print Method], [Screen Hardcopy Rotation], [Print Scale], [Black/White Reverse Display], [Paper Size], and [Paper Orientation].



The screenshot shows a dialog box titled "Output Settings" with the following configuration:

- Print Method:** Monochrome, Color
- Screen Hardcopy Rotation:** Enable (with a left arrow icon), Disable (with a right arrow icon)
- Print Scale:** A numeric spinner set to "3" and a "Multiple" button.
- Black/White Reverse Display:**
- Paper Size:** A dropdown menu showing "A4 297x210mm".
- Paper Orientation:** Landscape, Portrait

The printer connection settings are complete.

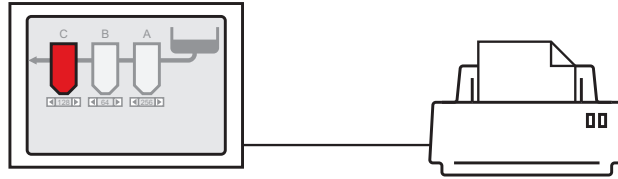
Connect the printer to the GP with a specified output port (USB/PIO) and configure print settings for each feature. The print will start.

-
- NOTE** • For a monochrome GP model, the print will be monochrome even if [Color] is selected for the [Print Method].
-

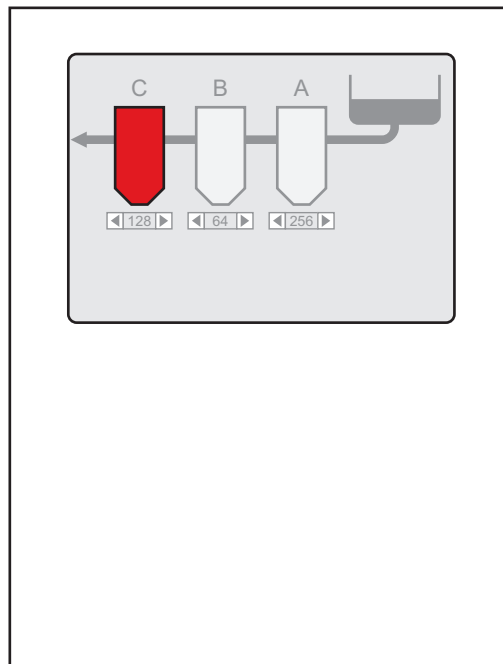
28.4 Printing the Displayed Screen (Screen Hard Copy)

28.4.1 Details

Prints what is displayed on the GP screen as an image.



Print Example



NOTE

- The start method of screen hard copy differs depending on whether the communication method is direct access method or memory link method.
 - You can save the displayed screen into the CF-card as a JPEG file.
- ☞ “12.6 Saving the Displayed Screen” (page 12-18)
-

28.4.2 Operation Method

The following methods are used to start screen hard copy. The operation method differs depending on the communication method (direct access method/memory link method).

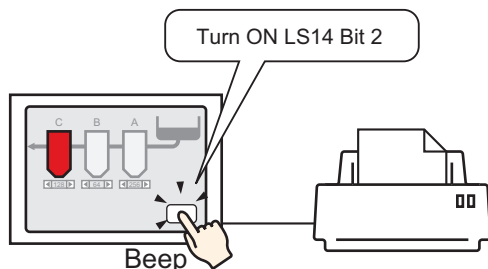
IMPORTANT

- For more details on the communication method, refer to:
 - ☞ “A.1.2 Communicating with a Device/PLC without Burdening it (Direct Access Method)” (page A-3)
 - ☞ “A.1.3 Communicating with Unsupported Devices/PLCs (Memory Link Method)” (page A-5)

■ Direct Access Method

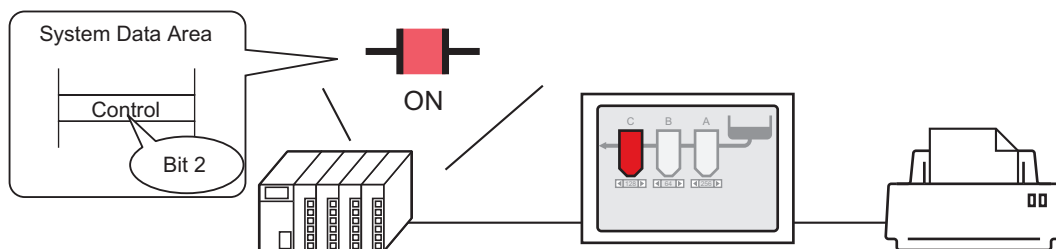
Operating by touch on the screen ☞ (page 28-16)

If you turn ON the GP internal device’s LS14 (control address) Bit 2 (print start bit) using a switch, screen hard copy will start.




Operating from a device (PLC) ☞ (page 28-18)

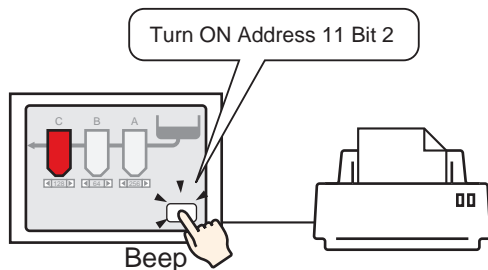
If you turn ON the control address’ Bit 2 in the system data area allocated to a device/PLC, screen hard copy will start.




■ Memory Link Method

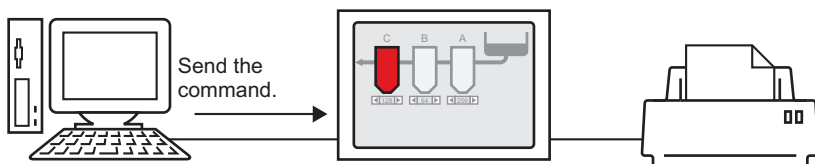
Operating by touch on the screen  (page 28-20)

If you turn ON “0011” (control address) Bit 2 (print start bit) in the GP internal device (#MEMLINK) using a switch, screen hard copy will start.



Operating from a host (PC)  (page 28-22)

If you send the command to write “0004h” to “0011” (control address) from a host (PC), screen hard copy will start.



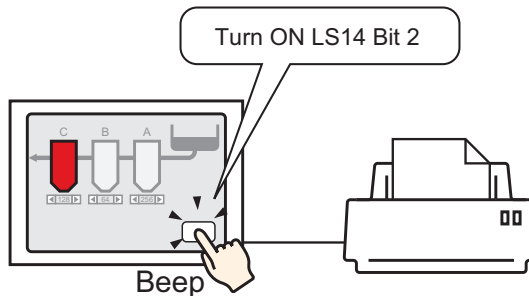
28.4.3 Setup Procedure

■ Direct Access Method

◆ To start screen hard copy by touch:


NOTE • For details about placing Parts or setting addresses, shapes, colors, and labels, please refer to the “Part Editing Procedure”.
 ☞ “9.6.1 Procedure for Editing a Part” (page 9-36)

Create a switch to operate the internal device LS14 bit 2.

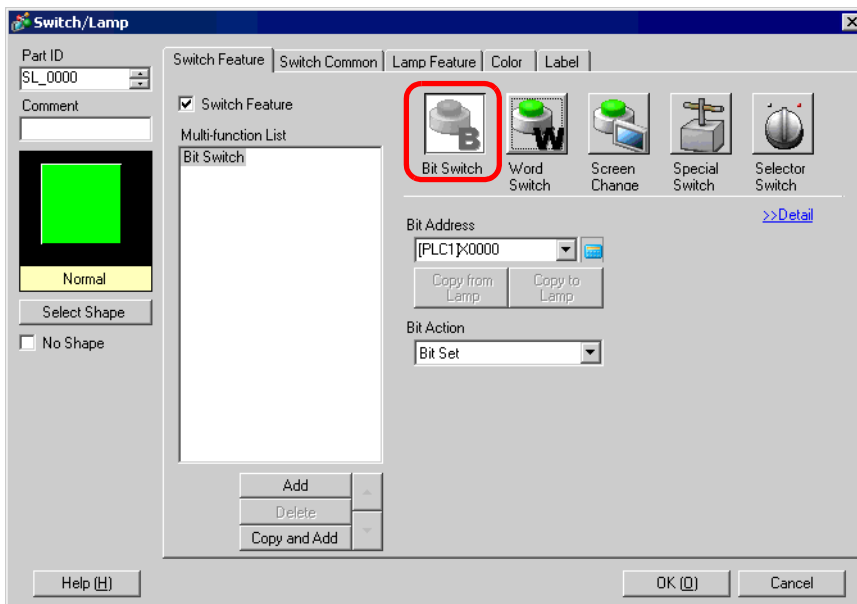


1 Configure connection settings for the printer.

☞ “28.3.2 Printer Setup Procedure” (page 28-11)

2 Select the [Part (P)] menu - [Switch Lamp (C)] option - [Bit Switch (B)] command, or click , and place the Switch Part on the screen.

3 Double-click the placed Switch and the settings dialog box opens.

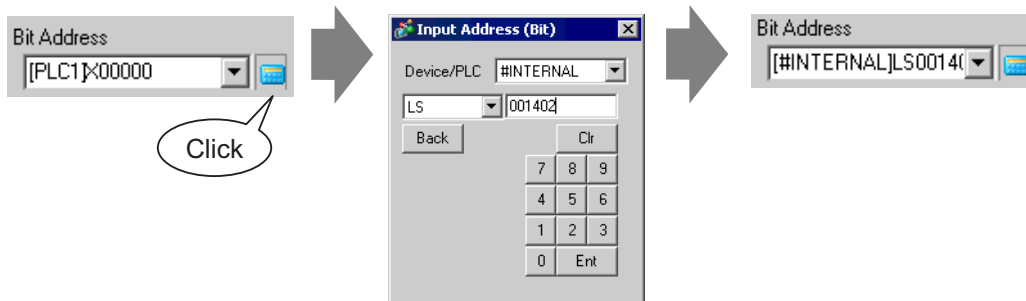


4 Select the Switch’s shape from [Select Shape].

5 Designate the GP internal device's LS14 Bit 2 (print start bit) in [Bit Address].

Click on the icon and an address input keypad is displayed.

Select "#INTERNAL" from the Device/PLC and device "LS", input "001402" for the address, and click [OK].



6 Choose [Bit Invert] from [Bit Action].

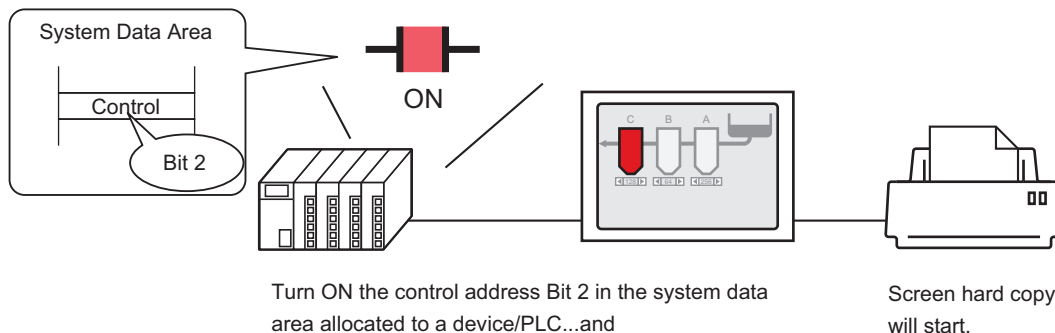


7 As needed, set the Switch's color and display text on the [Color] tab and [Label] tab, and click [OK].

A switch used to start screen hard copy has been created.

NOTE • During screen hard copy, LS6 (status address) Bit 2 (printing bit) in the GP internal device is ON. After printing, this bit automatically turns OFF. Confirm this bit OFF and then turn OFF LS14 Bit 2 (print start bit).

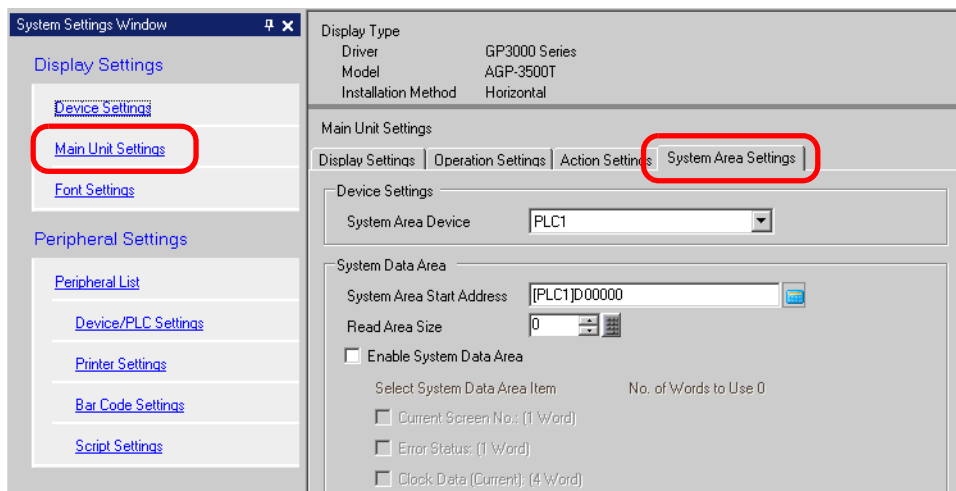
◆ To operate the start of screen hard copy from a device (PLC):



1 Configure connection settings for the printer.

☞ “28.3.2 Printer Setup Procedure” (page 28-11)

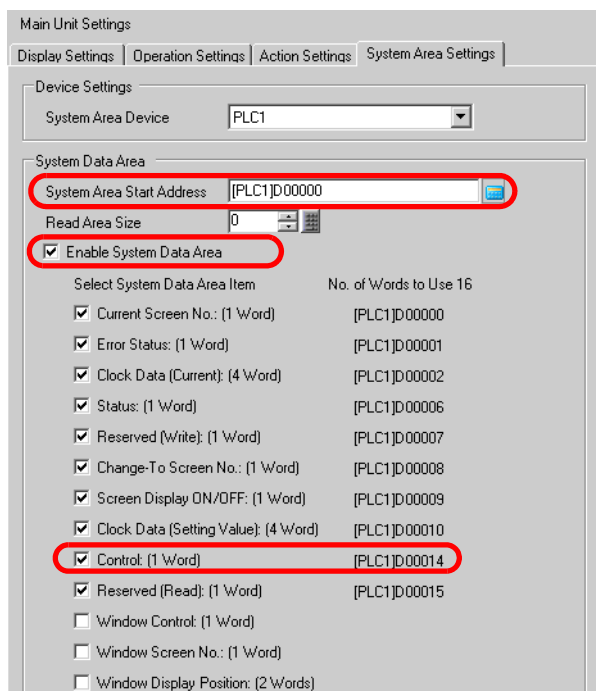
2 Click the System Settings Window’s [Main Unit Settings] to open the [System Area Settings] tab.



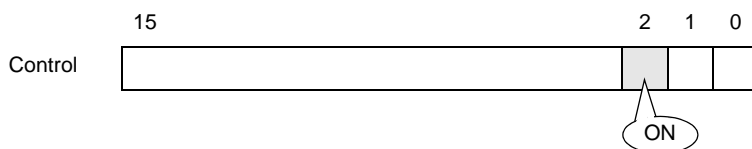
NOTE • If the [System Settings Window] tab is not displayed in the Work Space, select the [View (V)] menu - [Work Space (W)] option - [System Settings Window (S)] command.

3 Select a device/PLC to which to allocate the system data area in [System Area Device]. The system data area can be set to only one device/PLC.

4 Designate the start address of the system area in [System Area Start Address] and put a check mark next to the [Enable System Data Area] box. (e.g.: D00000)



5 Confirm that there is a check mark next to the [Control: (1 Word)] box. If you turn ON Bit 2 in the address displayed on the right side (“D00014” in the above example), screen hard copy will start.



NOTE

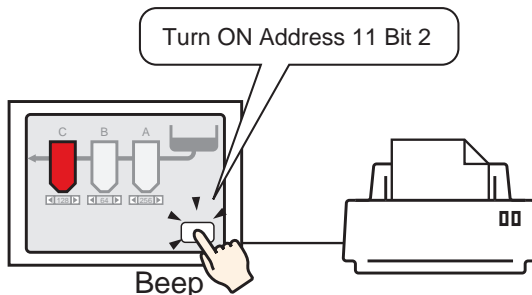
- When a [Status] address (“[Status: (1 Word)] D00006” in the above example) is allocated to the device/PLC, this address’ bit 2 (printing bit) is ON during screen hard copy. After printing, this bit automatically turns OFF. Create the [Script] to turn OFF the control address ([Control: (1 Word)] D00014) bit 2 after making sure this bit has turned OFF.

■ Memory Link Method

◆ To start screen hard copy by touch:


- NOTE**
- For details about placing parts or setting addresses, shapes, colors, and labels, please refer to the “Part Editing Procedure”.
 ☞ “9.6.1 Procedure for Editing a Part” (page 9-36)

Create a switch to operate the internal device address “0011” Bit 2.

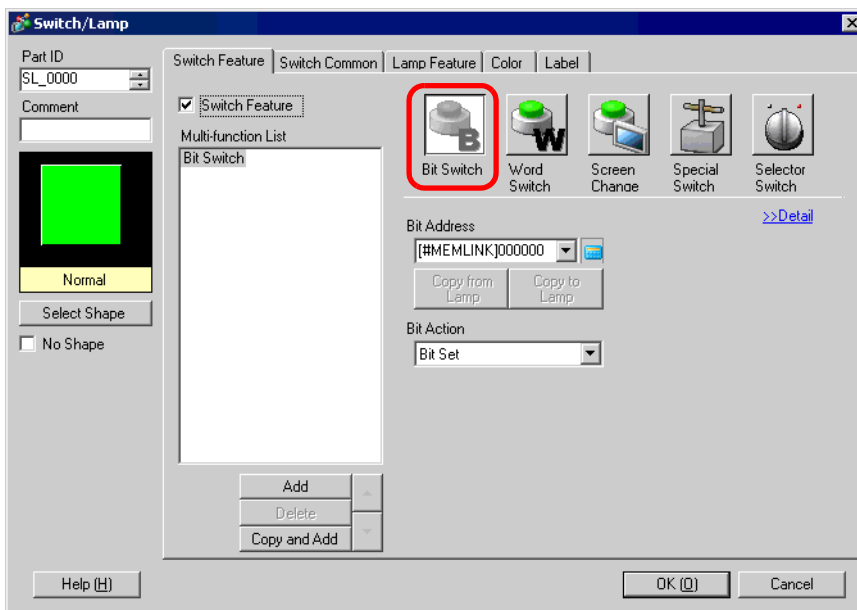


1 Configure connection settings for the printer.

☞ “28.3.2 Printer Setup Procedure” (page 28-11)

2 Select the [Part (P)] menu - [Switch Lamp (C)] option - [Bit Switch (B)] command, or click  , and place the Switch Part on the screen.

3 Double-click the placed Switch and the settings dialog box opens.

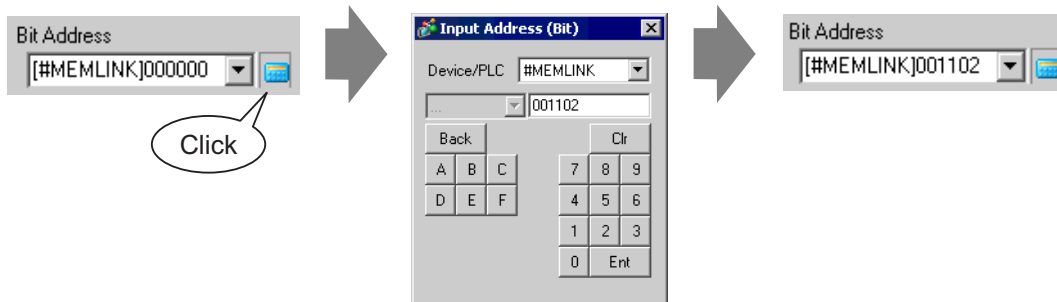


4 Select the Switch's shape from [Select Shape].

5 Designate the GP internal device address "0011" Bit 2 (print start bit) in [Bit Address].

Click on the icon and an address input keypad is displayed.

Select "#MEMLINK" from Device/PLC, input "001102" as the address, and click the "Ent" key.



6 Choose [Bit Invert] from [Bit Action].

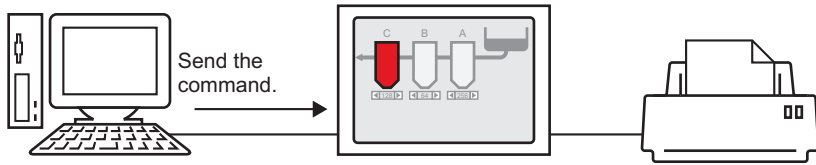


7 As needed, set the Switch's color and display text on the [Color] tab and [Label] tab, and click [OK].

A switch used to start screen hard copy has been created.

-
- NOTE** • During screen hard copy, "0001" (status address) Bit 2 (printing bit) in the GP internal device (#MEMLINK) is ON. After printing, this bit automatically turns OFF. Confirm this bit OFF and then turn OFF the address "0011" Bit 2 (print start bit).
-

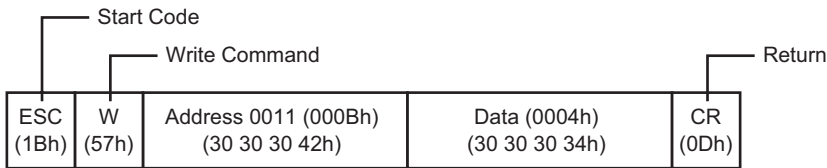
◆ To operate the start of screen hard copy from a host (PC):



1 Configure connection settings for the printer.

☞ "28.3.2 Printer Setup Procedure" (page 28-11)

2 Send the write command to turn ON the internal device address "0011" Bit 2 (print start bit). For all inputs, use the ASCII code.



NOTE

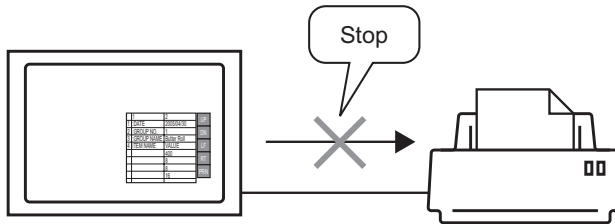
- If you write the above commands, all bits except Bit 2 in the address "0011" will turn OFF. To turn ON only Bit 2 without changing the other bits, read out the address "0011" data with the readout command and then send the write command to change only Bit 2 of the readout data.
- If write commands are sent continuously without intervals, GP may not update displays.
- During screen hard copy, "0001" (status address) Bit 2 (printing bit) in the GP internal device (#MEMLINK) is ON. After printing, this bit automatically turns OFF. Create the [Script] to turn OFF the address "0011" Bit 2 after making sure this bit has turned OFF.

28.5 Canceling a Print

28.5.1 Details

You can cancel data print or screen hard copy.

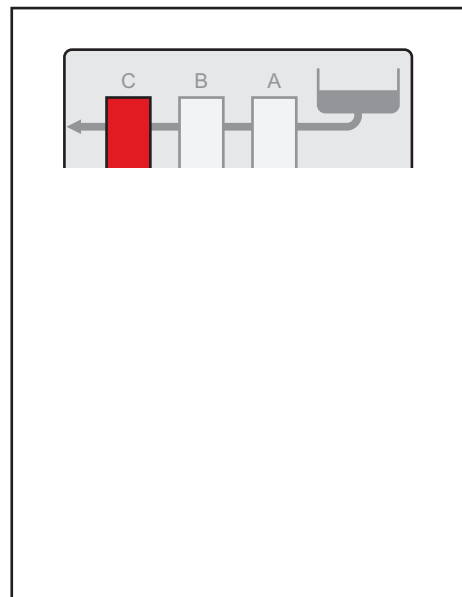
If you cancel, the print processes for all features that have been set will be canceled.



e.g. 1) Canceling the print of recipe (CSV data)

e.g. 2) Canceling the print of screen hard copy

ITEM NAME	VALUE
DATE	30.04.05 10:30:00
GROUP No.	0
GROUP NAME	Bread
ITEM NAME	VALUE
	150
	230
	300



NOTE

- The method of canceling print differs depending on whether the communication method is direct access method or memory link method.

28.5.2 How to Cancel Printing

The following methods are used to cancel printing. The operation method differs depending on the communication method (direct access method/memory link method).

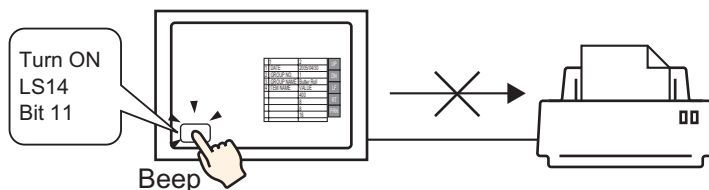
IMPORTANT

- For more details on the communication method, refer to:
 - ☞ “A.1.2 Communicating with a Device/PLC without Burdening it (Direct Access Method)” (page A-3)
 - ☞ “A.1.3 Communicating with Unsupported Devices/PLCs (Memory Link Method)” (page A-5)

■ Direct Access Method

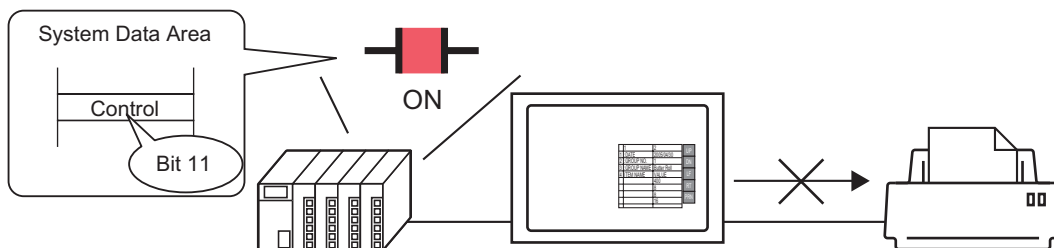
Operating by touch on the screen ☞ (page 28-26)

If you turn ON LS14 (control address) Bit 11 (print cancel bit) in the GP internal device using a switch, printing will be canceled.



Operating from a device (PLC) ☞ (page 28-28)


If you turn ON the [Control] address Bit 11 in the system data area allocated to a device (PLC), printing will be canceled.



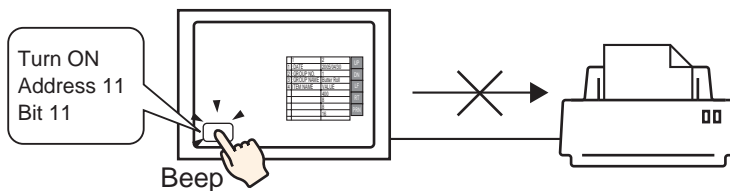
NOTE


- The internal device LS14 or the device/PLC (control address) Bit 11 does not automatically turn OFF. While Bit 11 is ON, none of the print features will operate. Be sure to turn it OFF after canceling the print.

■ Memory Link Method

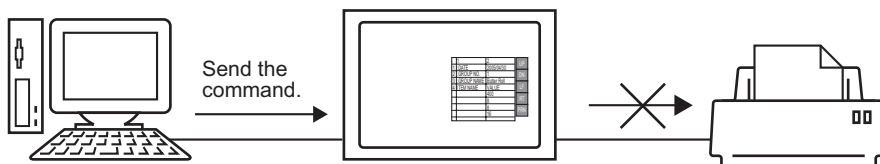
Operating by touch on the screen  (page 28-30)

If you turn ON Address 11 (control address) Bit 11 (print cancel bit) in the GP internal device (#MEMLINK) using a switch, printing will be canceled.



Operating from a host (PC)  (page 28-32)

If you send the command to write “0800h” to Address 11 (control address) from a host (PC), printing will be canceled.



-
- NOTE** • “0011” (control address) bit 11 in the GP internal device (#MEMLINK) does not automatically turn OFF. While Bit 11 is ON, none of the print features will operate. Be sure to turn it OFF after canceling the print.
-

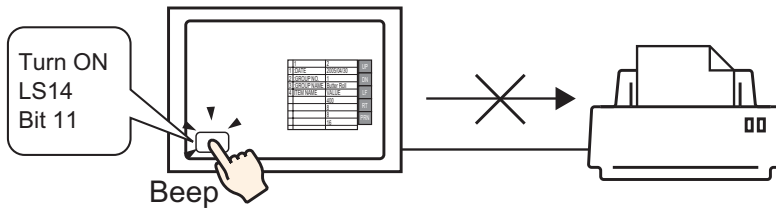
28.5.3 Setup Procedure


■ Direct Access Method

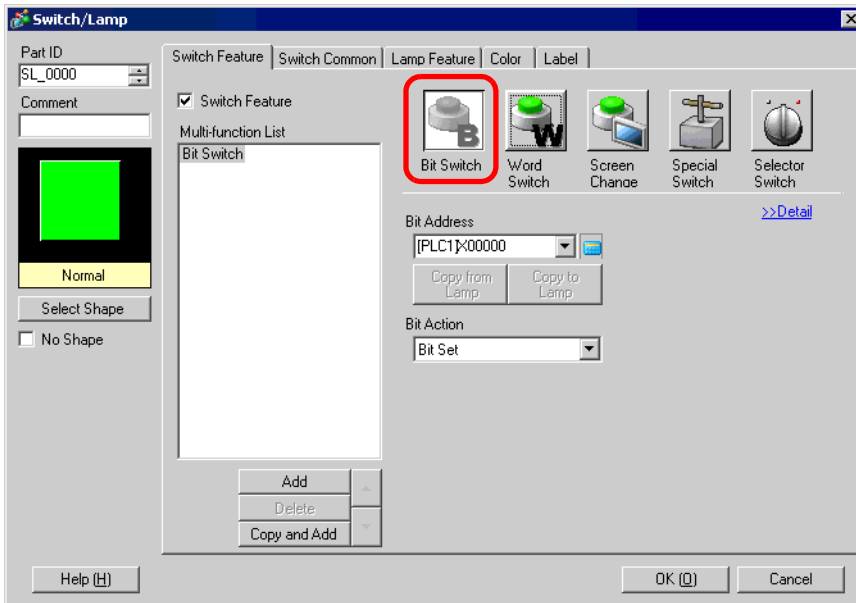
◆ To cancel the print by touch:

NOTE • For details about placing parts or setting addresses, shapes, colors, and labels, please refer to the “Part Editing Procedure”.
 ☞ “9.6.1 Procedure for Editing a Part” (page 9-36)

Create a switch to turn ON the internal device LS14 Bit 11.



- 1 Select the [Part (P)] menu - [Switch Lamp (C)] option - [Bit Switch (B)] command, or click , and place the Switch Part on the screen.
- 2 Double-click the placed Switch and the settings dialog box opens.

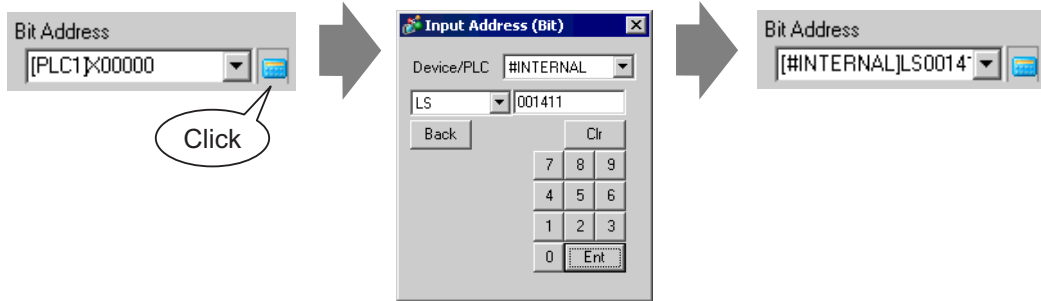


- 3 Select the Switch's shape from [Select Shape].

4 Designate the GP internal device LS14 Bit 11 (print cancel bit) in [Bit Address].

Click on the icon and an address input keypad is displayed.

Select "#INTERNAL" from the Device/PLC, select the device "LS", input "001411" for the address, and click [OK].



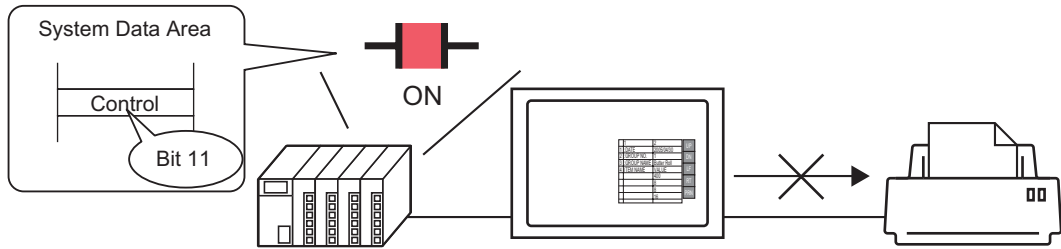
5 Choose [Bit Momentary] from [Bit Action].



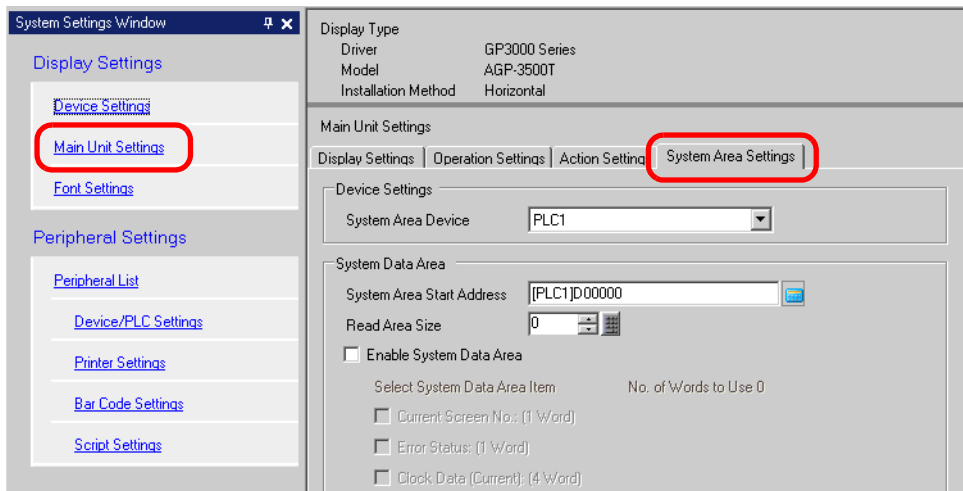
6 As needed, set the Switch's color and display text on the [Color] tab and [Label] tab, and click [OK].

A momentary switch to cancel the print has been created.

◆ To cancel the print from a device(PLC):



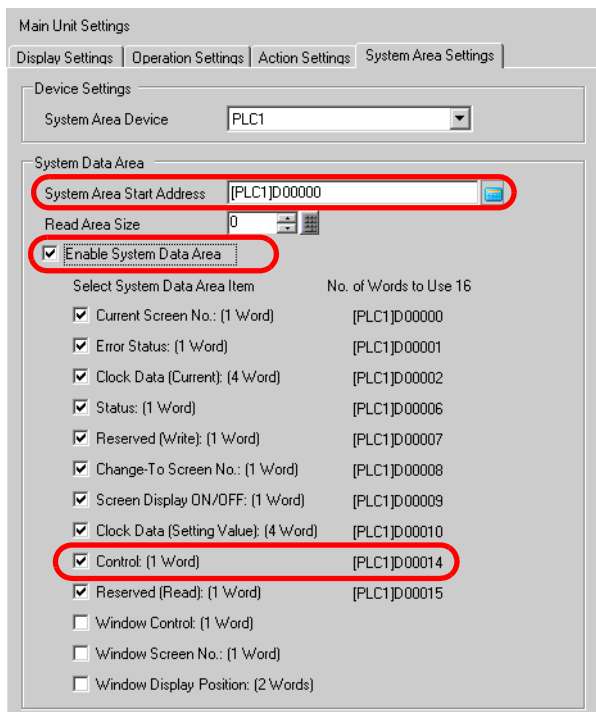
1 Click the System Settings Window's [Main Unit Settings] to open the [System Area Settings] tab.



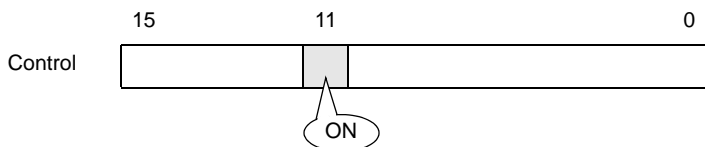
NOTE • If the [System Settings Window] tab is not displayed in the Work Space, select the [View (V)] menu - [Work Space (W)] option - [System Settings Window (S)] command.

2 Select a device/PLC to which to allocate the system data area in [System Area Device]. The system data area can be set to only one device/PLC.

- 3 Designate the start address of the system area in [System Area Start Address] and put a check mark next to the [Enable System Data Area] box. (e.g.: D00000)



- 4 Confirm that there is a check mark next to the [Control: (1 Word)] box. If you turn ON Bit 11 in the address displayed on the right side (“D00014” in the above example), printing will be cancelled.



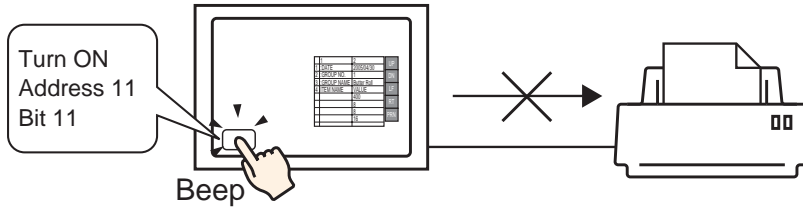
- NOTE** • [Control: (1 Word)] address Bit 11 does not automatically turn OFF. While Bit 11 is ON, none of the print features will operate. Be sure to turn it OFF after canceling the print.


■ Memory Link Method

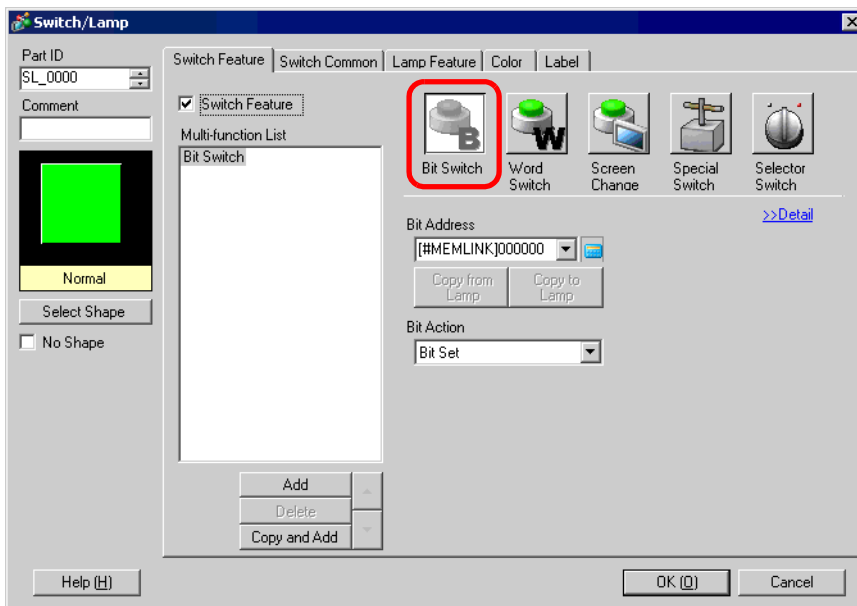
◆ To cancel the print by touch:

- NOTE** • For details about placing parts or setting addresses, shapes, colors, and labels, please refer to the “Part Editing Procedure”.
- ☞ “9.6.1 Procedure for Editing a Part” (page 9-36)

Create a switch to turn ON the internal device address “0011” Bit 11.



- 1 Select the [Part (P)] menu - [Switch Lamp (C)] option - [Bit Switch (B)] command, or click , and place the Switch Part on the screen.
- 2 Double-click the placed Switch and the settings dialog box opens.

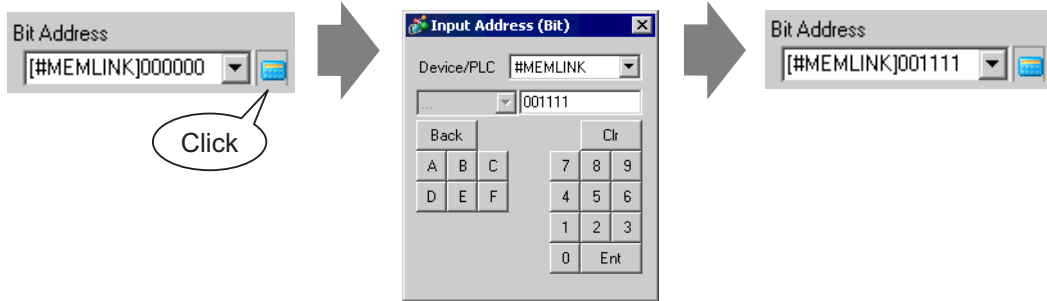


- 3 Select the Switch’s shape from [Select Shape].

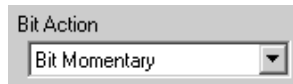
4 Designate the GP internal device “0011” Bit 11 (print cancel bit) in [Bit Address].

Click on the icon and an address input keypad is displayed.

Select “#MEMLINK” from Device/PLC, input “001111” as the address, and click the “Ent” key.



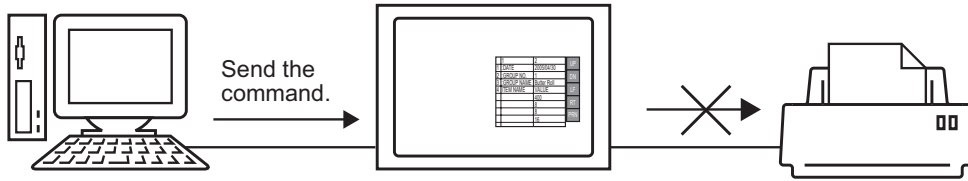
5 Choose [Bit Momentary] from [Bit Action].



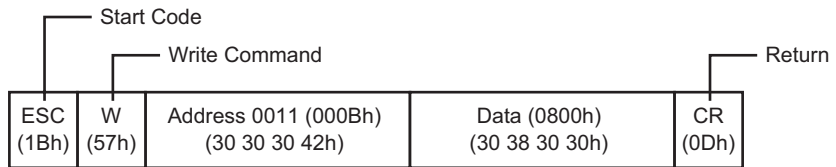
6 As needed, set the Switch’s color and display text on the [Color] tab and [Label] tab, and click [OK].

A momentary switch to cancel the print has been created.

◆ To cancel the print from a host (PC):



1 Send the write command to turn ON the internal device address “0011” Bit 11 (print cancel bit). For all inputs, use the ASCII code.



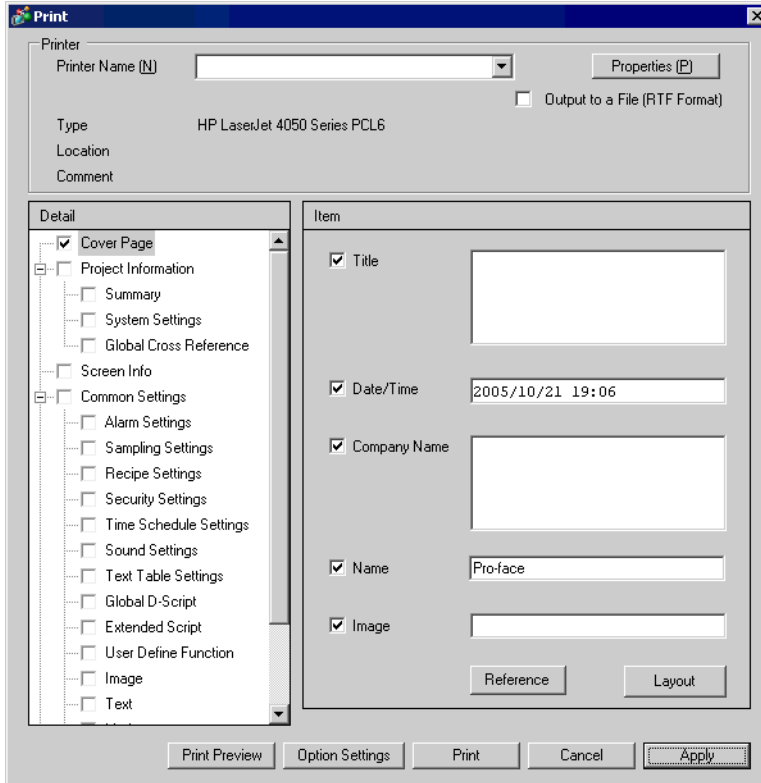
NOTE

- If you write the above commands, all bits except Bit 11 in the address “0011” will turn OFF. To turn ON only Bit 11 without changing the other bits, read out the address “0011” data with the readout command and then send the write command to change only Bit 11 of the readout data.
- If write commands are sent continuously without intervals, GP may not update displays.
- The address “0011” Bit 11 does not automatically turn OFF. While Bit 11 is ON, none of the print features will operate. Be sure to turn it OFF after canceling the print.

28.6 Settings Guide

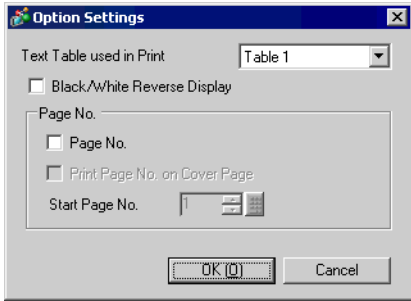
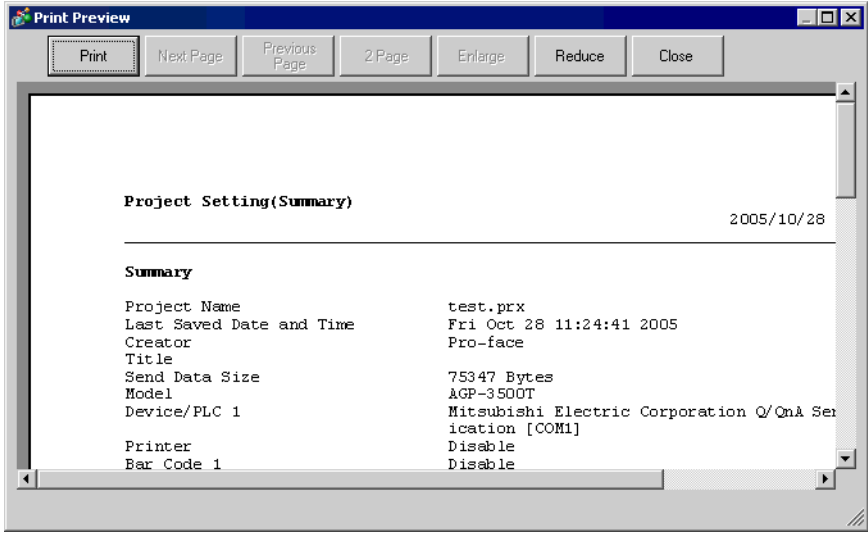
28.6.1 [Print] Settings Guide

Prints the settings for the project file currently opened on GP-Pro EX.

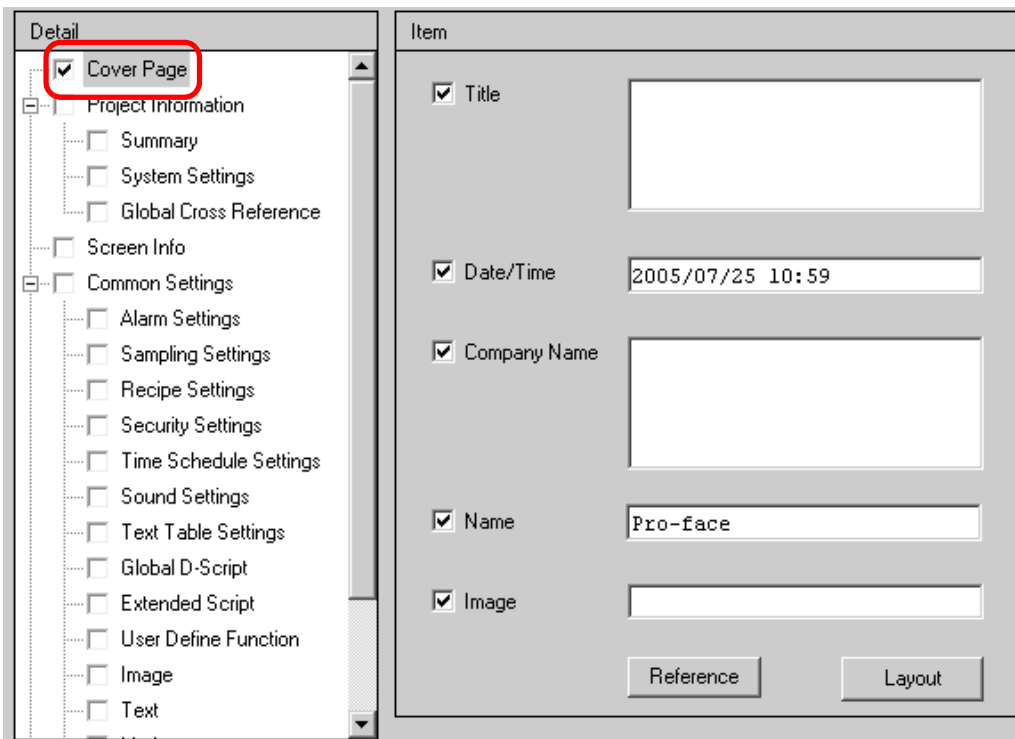


Setting	Description
Printer Name	Select the printer to use.
Properties	The print setting dialog box opens for the printer selected in [Printer Name]. Configure settings for the paper size, direction, layout etc.
Output to a File (RTF format)	Put a check mark here for direct output to a file (*.rtf), not to a printer. The file output is in the same layout as for printing. NOTE <ul style="list-style-type: none"> Reduced bit map images are outputted.
Detail	Select the items to print. Put a check mark next to all the items you want to print in [Cover Page], [Project Information], [Screen Info], [Common Settings] and [Comment]. [Project Information] and [Common Settings] have small items for print settings.
Item	Detailed printing of the print contents selected in [Detail].
Apply	Saves the settings.
Cancel	Closes the [Print] dialog box.
Print	Starts the print. Starts the file output when [Output to a File (RTF Format)] is designated.

Continued

Setting	Description
Option Settings	<p>The [Option Settings] dialog box opens and you can set the page number, margin, black/white reverse display and other settings.</p> 
Text Table used in Print	Designate the text table used for printing.
Black/White Reverse Display	Put a check mark to print the screen display colors with black and white reversed.
Page No.	Put a check mark to print the page number.
Print Page No. on Cover Page	Put a check mark to print the page number on the cover page. Otherwise the page number starts with “1” sequentially from the page following the cover page.
Start Page No.	Designate the start page number for printing. The setting range is from 1 to 65,535.
Print Preview	<p>Opens the preview screen.</p> 
Print	Returns to the [Print] dialog box.
Next Page	Previews the page following the currently displayed page.
Previous Page	Previews the page preceding the currently displayed page.
2 Page	Previews 2 pages per screen.
Enlarge/Reduce	Enlarges or reduces the display.
Close	Closes the preview screen.

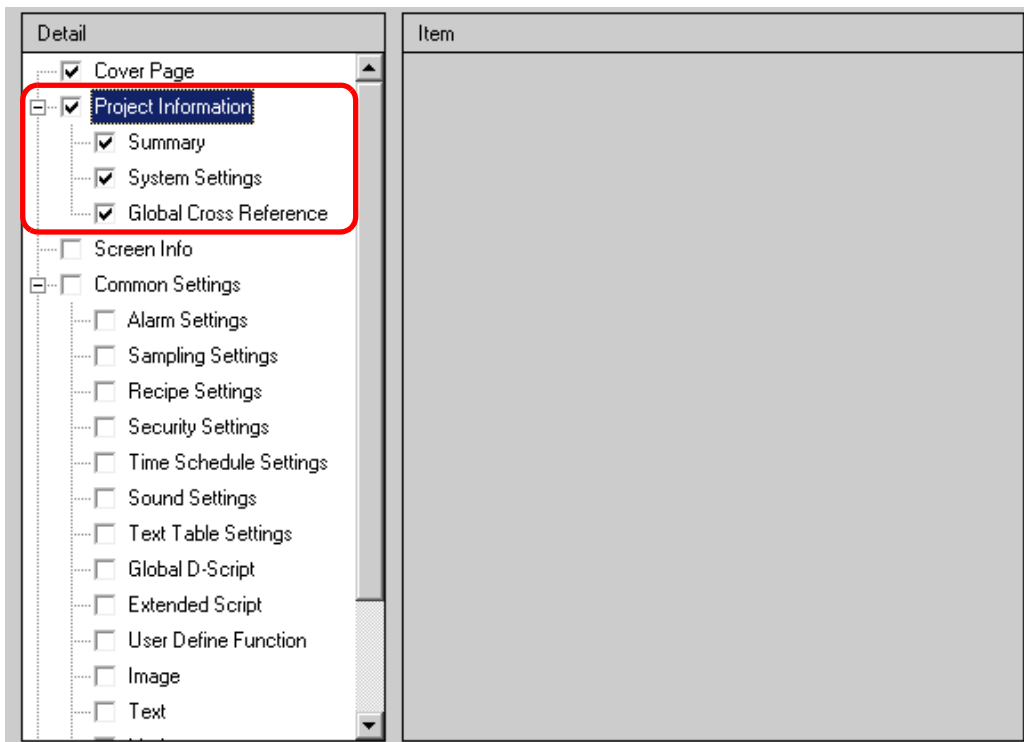
■ Cover Page



Setting	Description
Title	Put a check mark to print the Title. Then input the title with up to 60 single-byte or two-byte characters.
Date/Time	Put a check mark to print the Date/Time. Then the date and time is automatically displayed in the “yyyy/mm/dd hh:mm” form. You can change the form by inputting up to 40 single-byte or 20 two-byte characters if necessary.
Company Name	Put a check mark to print the Company Name. Then input the company name with up to 60 single-byte or 30 two-byte characters.
Name	Put a check mark to print the Name. Then the project file creator’s name will be automatically displayed. You can change the form by inputting up to 30 single-byte or two-byte characters if necessary.
Image	Put a check mark to print an image file on the cover page. Then the storage location and name of the file selected in [Reference] will be displayed.
Reference	The [Open File] dialog box is displayed. Select an image file you want to print. You can use two types of files: [Bitmap (*.bmp)] and [JPEG (*.jpg, *.jpeg)].
Layout	The [Cover Page Bit Map Layout] dialog is displayed. You can change the layout alignment with the mouse.

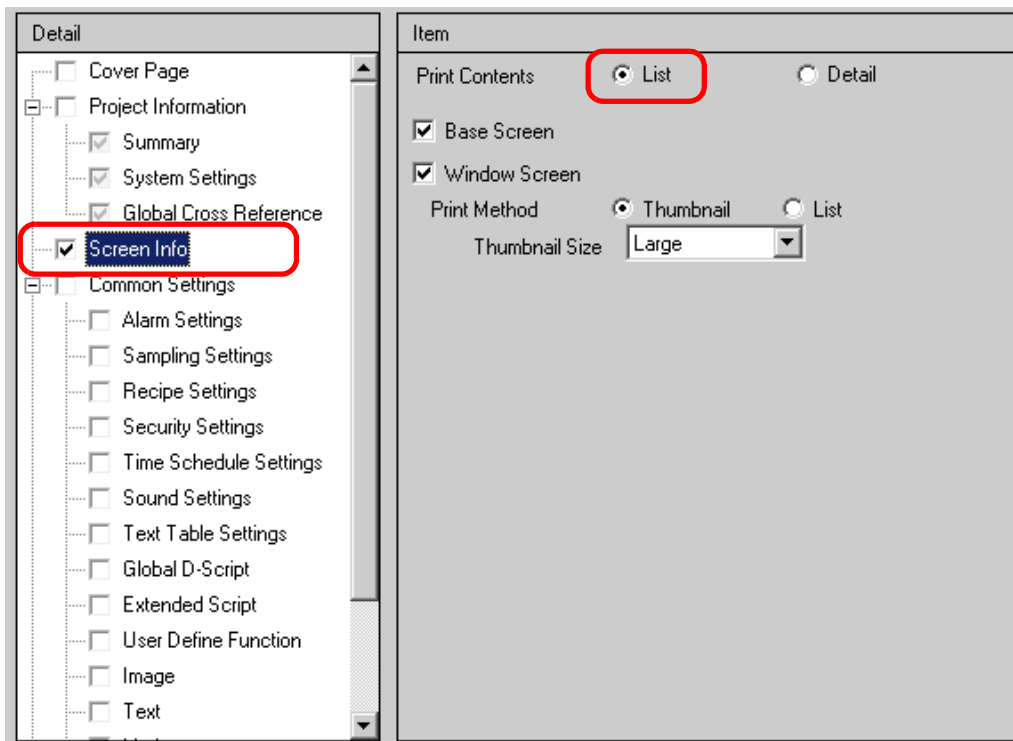
■ Project Information

Put a check mark next to the items you want to print: [Summary], [System Settings], and [Global Cross Reference].



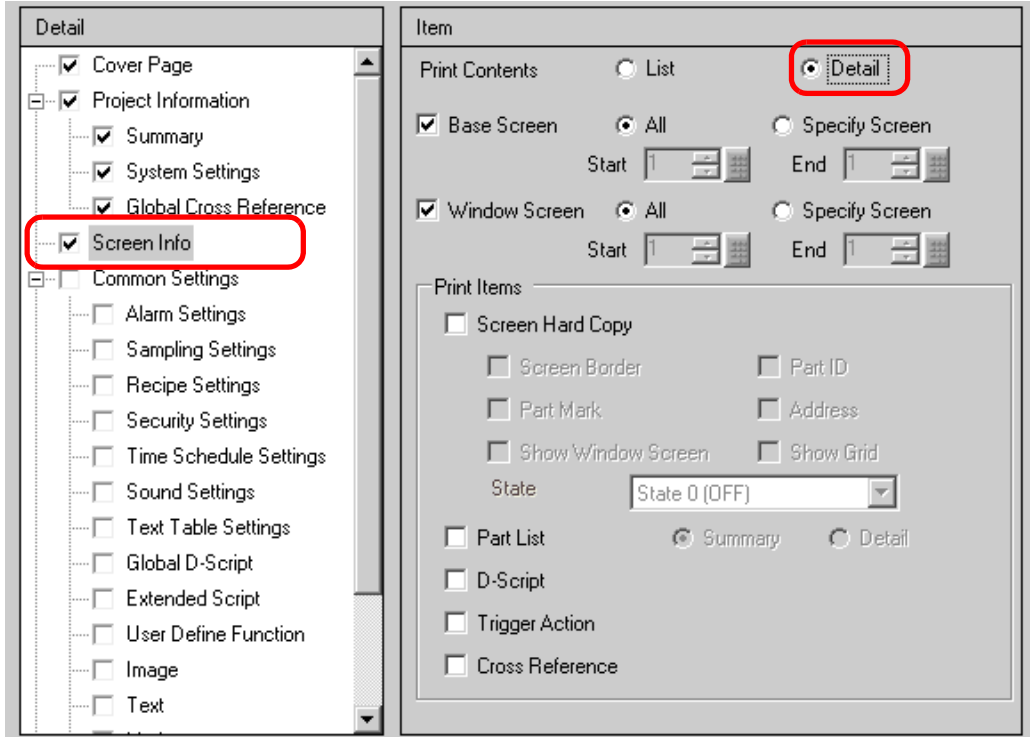
Setting	Description
Summary	Prints the project information, such as a project file name, a file's last saved date and time, main unit model name, device/PLC, etc.
System Settings	Prints the contents of the [Main Unit Settings] and [Font Settings] in the [System Settings] Window. 🖱️ "6.13.6 [System Settings Window] Setting Guide" (page 6-89)
Global Cross Reference	Prints the addressing for the whole project. The addressing for all the screens is printed.

■ Screen Info (List)



Setting	Description
Print Contents	Select the Print Contents from [List] or [Detail].
Base Screen	Put a check mark to print all the [Base Screen] information set for the project file.
Window Screen	Put a check mark to print all the [Window Screen] information set for the project file.
Print Method	Select the Print Method. <ul style="list-style-type: none"> • Thumbnail Prints multiple screens in reduced images. • List Prints the screen information list in text.
Thumbnail Size	For [Thumbnail] in [Print Method], select the size from [Large], [Middle] or [Minor]. Large: Prints 6 reduced images per A4 sheet. Middle: Prints 12 reduced images per A4 sheet. Minor: Prints 20 reduced images per A4 sheet.

■ Screen Info (Detail)



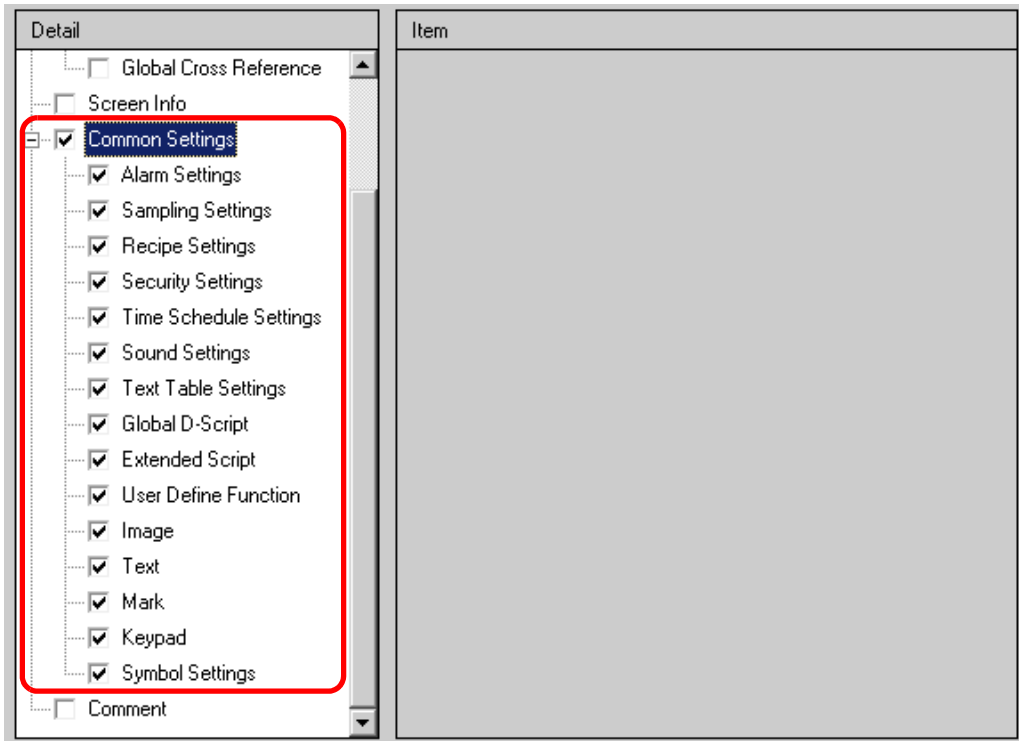
Setting	Description
Print Contents	Select the print contents from [List] or [Detail].
Base Screen	Put a check mark to print the [Base Screen] information in the project file.
All/ Specify Screen	To print base screen information, select [All] or [Specify Screen]. For [Specify Screen], specify the print range with screen numbers in [Start] and [End]. The setting range of screen numbers is from 1 to 9,999.
Window Screen	Put a check mark to print the Window Screen information in the project file.
All/ Specify Screen	To print window screen information, select [All] or [Specify Screen]. For [Specify Screen], specify the print range with screen numbers in [Start] and [End]. The setting range of screen numbers is from 1 to 2,000.

Continued

Setting	Description																
Print Items	Select the items to print.																
<table border="1"> <tr> <td data-bbox="148 204 375 517">Screen Hard Copy</td> <td data-bbox="375 204 1252 517"> Put a check mark to print the drawing screen. Then you can set the following items. <div data-bbox="540 285 1100 506" style="border: 1px solid gray; padding: 5px; margin: 10px 0;"> <input checked="" type="checkbox"/> Screen Hard Copy <input type="checkbox"/> Screen Border <input type="checkbox"/> Part ID <input type="checkbox"/> Part Mark <input type="checkbox"/> Address <input type="checkbox"/> Show Window Screen <input type="checkbox"/> Show Grid State <input type="text" value="State 0 (OFF)"/> </div> </td> </tr> <tr> <td data-bbox="148 517 375 591">Screen Border</td> <td data-bbox="375 517 1252 591">Put a check mark to print the Screen Border.</td> </tr> <tr> <td data-bbox="148 591 375 629">Part Mark</td> <td data-bbox="375 591 1252 629">Put a check mark to print the Part Mark.</td> </tr> <tr> <td data-bbox="148 629 375 703">Show Window Screen</td> <td data-bbox="375 629 1252 703">Put a check mark to print the Window Screen.</td> </tr> <tr> <td data-bbox="148 703 375 741">Part ID</td> <td data-bbox="375 703 1252 741">Put a check mark to print the Part ID.</td> </tr> <tr> <td data-bbox="148 741 375 780">Address</td> <td data-bbox="375 741 1252 780">Put a check mark to print the setting address.</td> </tr> <tr> <td data-bbox="148 780 375 819">Show Grid</td> <td data-bbox="375 780 1252 819">Put a check mark to print the Grid.</td> </tr> <tr> <td data-bbox="148 819 375 865">State</td> <td data-bbox="375 819 1252 865">Designate the State of the part to print.</td> </tr> </table>	Screen Hard Copy	Put a check mark to print the drawing screen. Then you can set the following items. <div data-bbox="540 285 1100 506" style="border: 1px solid gray; padding: 5px; margin: 10px 0;"> <input checked="" type="checkbox"/> Screen Hard Copy <input type="checkbox"/> Screen Border <input type="checkbox"/> Part ID <input type="checkbox"/> Part Mark <input type="checkbox"/> Address <input type="checkbox"/> Show Window Screen <input type="checkbox"/> Show Grid State <input type="text" value="State 0 (OFF)"/> </div>	Screen Border	Put a check mark to print the Screen Border.	Part Mark	Put a check mark to print the Part Mark.	Show Window Screen	Put a check mark to print the Window Screen.	Part ID	Put a check mark to print the Part ID.	Address	Put a check mark to print the setting address.	Show Grid	Put a check mark to print the Grid.	State	Designate the State of the part to print.	
Screen Hard Copy	Put a check mark to print the drawing screen. Then you can set the following items. <div data-bbox="540 285 1100 506" style="border: 1px solid gray; padding: 5px; margin: 10px 0;"> <input checked="" type="checkbox"/> Screen Hard Copy <input type="checkbox"/> Screen Border <input type="checkbox"/> Part ID <input type="checkbox"/> Part Mark <input type="checkbox"/> Address <input type="checkbox"/> Show Window Screen <input type="checkbox"/> Show Grid State <input type="text" value="State 0 (OFF)"/> </div>																
Screen Border	Put a check mark to print the Screen Border.																
Part Mark	Put a check mark to print the Part Mark.																
Show Window Screen	Put a check mark to print the Window Screen.																
Part ID	Put a check mark to print the Part ID.																
Address	Put a check mark to print the setting address.																
Show Grid	Put a check mark to print the Grid.																
State	Designate the State of the part to print.																
Part List	Put a check mark to print the information list of the placed part. Select the Print Contents from [List] or [Detail].																
D-Script	Put a check mark to print the settings for D-Script.																
Trigger Action	Put a check mark to print the settings for Trigger Action.																
Cross Reference	Put a check mark to print the addressing for the screen.																

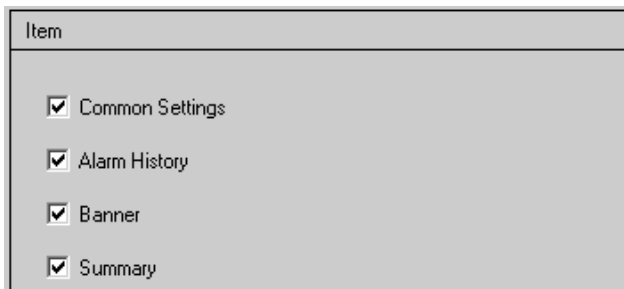
■ Common Settings

Select all the items you want to print in the [Common Settings].

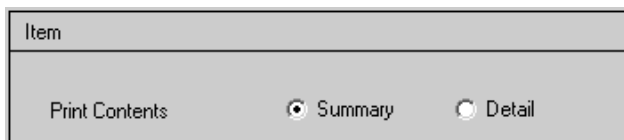


◆ Alarm Settings

Select all the settings you want to print from [Common Settings], [Alarm History], [Banner], and [Summary].



◆ Sampling Settings/Recipe Settings



Setting	Description
Print Contents	Select the print contents from [Summary] or [Detail]. e.g.) For Sampling Settings Summary: Prints a summary list of settings for each group. Detail: Prints the settings for all the items in each group.

◆ Global D-Script/User Define Function

Item
Print Contents <input checked="" type="radio"/> List <input type="radio"/> Detail

Setting	Description
Print Contents	Select the print contents from [List] or [Detail]. e.g.) For Global D-Script List: Prints a list of each ID's [ID], [Comment], [Trigger Condition], and [Debug Function]. Detail: Prints the settings for all the items in each ID.

◆ Image

Item
Print Method <input checked="" type="radio"/> Thumbnail <input type="radio"/> List
Thumbnail Size Large
Print Range <input checked="" type="radio"/> All <input type="radio"/> No. Specification
Start 1 End 1

Setting	Description
Print Method	Select the print method. <ul style="list-style-type: none"> Thumbnail Prints multiple [Image] screens in reduced images. List Prints a list of each [Image] screen's [No.] and [Comment].
Thumbnail Size	For [Thumbnail] in [Print Method], select the size from [Large], [Middle] or [Minor]. Large: Prints 6 reduced images per A4 sheet. Middle: Prints 12 reduced images per A4 sheet. Minor: Prints 20 reduced images per A4 sheet.
Print Range	For [Thumbnail] in [Print Method], select the Print Range from [All] or [No. Specification]. For [No. Specification], specify the Range with image numbers in [Start] and [End].

◆ Text

Item	
Print Contents	<input type="radio"/> List <input checked="" type="radio"/> Detail
Print Range	<input checked="" type="radio"/> All <input type="radio"/> No. Specification
	Start <input type="text" value="1"/> <input type="button" value="←"/> <input type="button" value="→"/> End <input type="text" value="1"/> <input type="button" value="←"/> <input type="button" value="→"/>
Table to print	<input checked="" type="radio"/> Table specified in Option Settings only <input type="radio"/> All

Setting	Description
Print Contents	Select the print contents from [List] or [Detail]. <ul style="list-style-type: none"> • List Prints a list of each text's [No.], [Comment], [Language], [Max No. of Chars], [Max No. of Rows], etc. • Detail Prints the input contents of each text.
Print Range	Select the Print Range from [All] or [No. Specification]. For [No. Specification], specify the Range with text numbers in [Start] and [End].
Table to print	Select whether to print text with the text table specified in [Option Settings] in the [Print] dialog box or with all the text tables.

◆ Mark

Item	
Print Method	<input checked="" type="radio"/> Thumbnail <input type="radio"/> List
Print Range	<input checked="" type="radio"/> All <input type="radio"/> No. Specification
	Start <input type="text" value="1"/> <input type="button" value="←"/> <input type="button" value="→"/> End <input type="text" value="1"/> <input type="button" value="←"/> <input type="button" value="→"/>

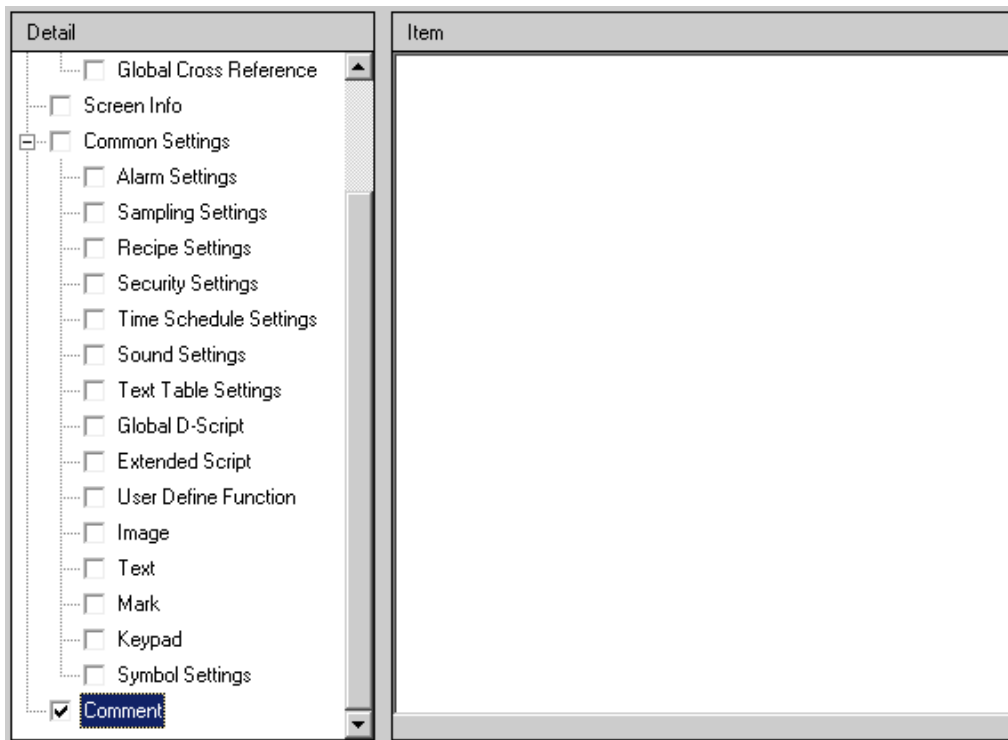
Setting	Description
Print Method	Select the print method. <ul style="list-style-type: none"> • Thumbnail Prints multiple [Mark] screens in reduced images. • List Prints a list of each [Mark] screen's [No.] and [Comment].
Print Range	For [Thumbnail] in [Print Method], select the Print Range from [All] or [No. Specification]. For [No. Specification], specify the Range with mark numbers in [Start] and [End].

◆ Keypad

Setting		Description
Print Contents		Select the print contents from [Summary] or [Detail].
Sum- mary	Print Method	Select the print method. <ul style="list-style-type: none"> • Thumbnail Prints multiple [Keypad] screens in reduced images. • List Prints a list of each [Keypad] screen's [No.] and [Comment].
	Thumbnail Size	For [Thumbnail] in [Print Method], select the size from [Large], [Middle] or [Minor]. Large: Prints 6 reduced images per A4 sheet. Middle: Prints 12 reduced images per A4 sheet. Minor: Prints 20 reduced images per A4 sheet.
Detail	Screen Hard Copy	Put a check mark to print a [Keypad]'s screen hard copy.
	Part List	Put a check mark to print a list of parts with keypad settings.
	Print Range	For [Detail] in [Print Contents], select the Print Range from [All] or [No. Specification]. For [No. Specification], specify the Range in [Start] and [End]. NOTE <ul style="list-style-type: none"> • This can only be specified when the print range is "Screen Hard Copy" or "Part List" or when both are set.

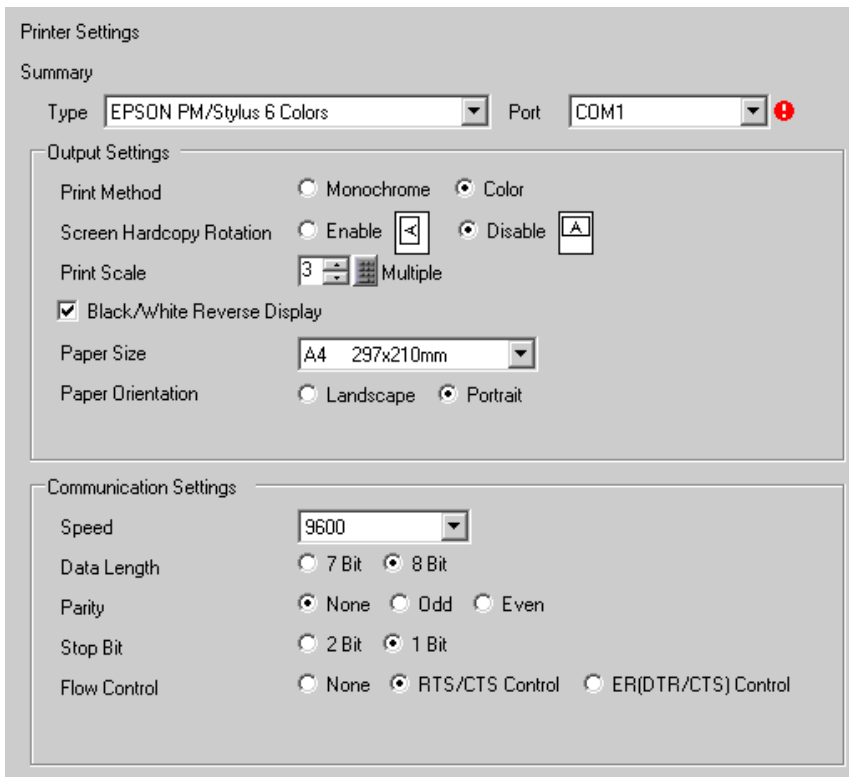
■ Comment


Input a comment for the print contents. The comment can be up to 80 single-byte characters (40 two-byte characters) × 40 rows.



28.6.2 System Settings [Printer Settings] Guide

Set a printer connected to GP.



Setting	Description
Type	<p>Select the printer type to connect from [Do Not Use], [NEC PR201], [EPSON ESC/P High Speed], [EPSON ESC/P High Quality], [HP Laser Jet], [EPSON PM/Stylus 6 Colors], [EPSON PM/Stylus 4 Colors] or [Text ASCII].</p> <p>NOTE</p> <ul style="list-style-type: none"> For [Text ASCII], the text's shape may be different, because the print method is different.
Port	<p>Select the output port of the printer to connect from [COM1], [Ethernet], [USB], or [USB/PIO].</p> <p>NOTE</p> <ul style="list-style-type: none"> If the port is being used by another device, the  mark is displayed next to the box.

Continued

Setting		Description
Output Settings	Print Method	Select the print method from [Monochrome] or [Color]. NOTE • For a monochrome GP model, the print will be monochrome even if [Color] is selected for the [Print Method].
	Screen Hard-copy Rotation	Select the print direction for screen hard copy from [Horizontal] or [Vertical].
	Print Scale	Set the print scale to 1-4 only if the [Type] is [EPSON PM/Stylus 6 Colors] or [EPSON PM/Stylus 4 Colors].
	Black/White Reverse Display	Select whether or not to print with black and white reversed.
	Connection Method	Select the LAN printer connection method from [LPR] or [IPP] only if the [Port] is [Ethernet].
	Paper Size	Select the paper size from [A3], [A4], [B4], [B5], or [Letter] only if the [Type] is [EPSON PM/Stylus 6 Colors] or [EPSON Stylus 4 Colors].
	Paper Orientation	Select the output paper orientation from [Landscape] or [Portrait] only if the [Type] is [EPSON PM/Stylus 6 Colors] or [EPSON Stylus 4 Colors].

Communication Settings (for COM1)

Communication Settings

Speed: 9600

Data Length: 7 Bit 8 Bit

Parity: None Odd Even

Stop Bit: 2 Bit 1 Bit

Flow Control: None RTS/CTS Control ER(DTR/CTS) Control

Setting	Description
Speed	Select a communication speed to the printer from [2400], [4800], [9600], [19200], [38400], [57600] or [115200].
Data Length	Choose the communication data length to the printer from [7 Bit] or [8 Bit].
Parity	Select the communication parity bit to the printer from [None], [Odd], or [Even].
Stop Bit	Choose the communication stop bit length to the printer from [2 Bit] or [1 Bit].
Flow Control	Select the communication control method to the printer from [None], [RTS/CTS Control], or [ER (DTR/CTS) Control].

NOTE • Basically suit to the printer settings.

Communication Settings (for Ethernet)

The screenshot shows a 'Communication Settings' dialog box with the following fields and values:

- IP Address: 0 . 0 . 0 . 0
- Port No.: 1024
- Timeout: 90
- User Name: noname
- Printer Name: noname

Setting	Description
IP Address	Designate the printer server IP address.
Port No.	Designate the printer server port number from 0 to 65,535.
Timeout	Set the output timeout from 0 to 300 ms (millisecond).
User Name	Input the name of the user who requests a printing job only if the [Connection Method] is [LPR]. The name specified here will be displayed in the owner field on the queue display. (e.g.: "Guest")
Printer Name	Set the shared name of the printer server only if the [Connection Method] is [LPR]. (e.g.: "EPSONStyC61")
Printer URI	This item is displayed only if the [Connection Method] is [IPP]. Set part of the printer's network name. (e.g.: "/printers/StyC61/.printer")

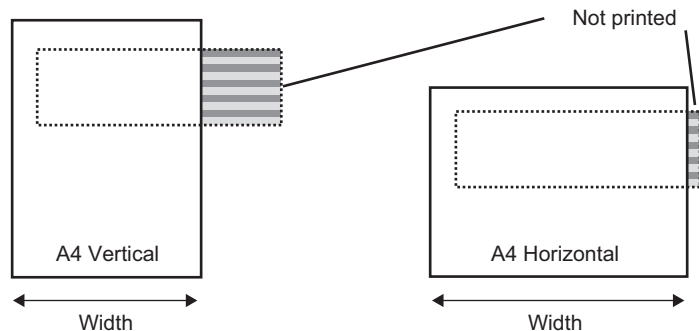
NOTE

- When printing with LAN connection, it takes approximately one minute before the print starts.

28.7 Restrictions

28.7.1 Restrictions for Printing from the GP

- Only one printer can be connected to the GP.
- The print is canceled if you switch to the offline screen or transfer screens during printing.
- Any portion that exceeds an A4 width is not printed.



- Because the print processing load is heavy, especially in printing with PM/Stylus (6 Colors) or Stylus (4 colors), GP screen updates (parts and screen switching processing) will become slower.
- When printing screen hard copy in monochrome tone, the print results differ between PM/Stylus (6 Colors) or Stylus (4 Colors) and with other printers (such as NEC PC-PR201). This is because the color data is identified not by its density but as levels of shading.
- If the printer type is [Text ASCII], the text's shape may be different, because the print method is different.
- If you cancel, all the print processing features that have been set will be canceled.
- When the communication method is direct access, use the system data area (the area that links to the system data area in the GP internal device) to control screen hard copy or print cancel from a device (PLC). If multiple devices (PLCs) are connected, the system data area can be set to only one device (PLC).
- When the communication method is memory link, if write commands are sent continuously without intervals, GP may not update displays.
- When printing with LAN connection, it takes approximately one minute before the print starts.
- If you print from the GP when the printer is not connected to the GP with a cable or when the printer is OFF, the GP temporarily saves the print data. When the connection with the printer recovers or when the printer turns ON, the GP outputs the temporarily saved print data to the printer.
- LAN connection (network printer) does not support Alarm (Banner) Print, Alarm (History) Real Time Print, Alarm (History) Batch Print, Sampling Data Real Time Print, Sampling Data Block Print, CSV Data Print, or Script Printer Output.
- For a monochrome GP model, the print will be monochrome even if [Color] is selected for the [Print Method] in the [System Settings Window]'s [Printer Settings].
- Regardless of whether [Printer Settings] - [Print Method] is set with monochrome or color settings, an Alarm History is printed out in color. However, if you have selected the printer's [Type] as HP Laser Jet, an Alarm History will print out in monochrome if you select [Monochrome] for the [Print Method].