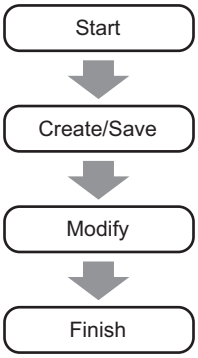
5 Start to Finish

This chapter covers the basics of GP-Pro EX from start to finish, including basic operations such as file management, project file backups, and address block conversion.
Start with "5.1 Settings Menu" (page 5-2) , and then turn to the corresponding page.

5.1 Settings Menu 5-2
5.2 Starting/Creating/Saving/Finishing 5-7
5.3 Backing Up a Project File 5-20
5.4 Entering a Password in a Project File 5-25
5.5 Confirming the Address List Used in a Project File 5-29
5.6 Converting Multiple Addresses 5-37
5.7 Viewing Project Information 5-41
5.8 Copying a Screen from Another Project 5-45
5.9 Registering Addresses with Comprehensive Names 5-49
5.10 Using Headers and Footers on a Screen 5-57
5.11 Changing the Screen Number/Title/Screen Color 5-63
5.12 Copying/Deleting a Screen 5-66
5.13 Searching/Replacing Parts Addresses, Labels, and Comments 5-71
5.14 Settings Guide 5-75
5.15 Restrictions 5-164

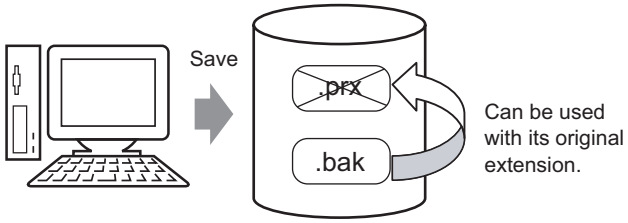
5.1 Settings Menu

Starting/Creating/Saving/Finishing



☞ Setup Procedure (page 5-8)
☞ Introduction (page 5-7)

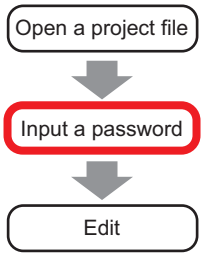
Backing Up a Project File



If a PRX file becomes corrupt, you can replace it with a backup BAK file.

☞ Setup Procedure (page 5-21)
☞ Introduction (page 5-20)

Entering a Password in a Project File

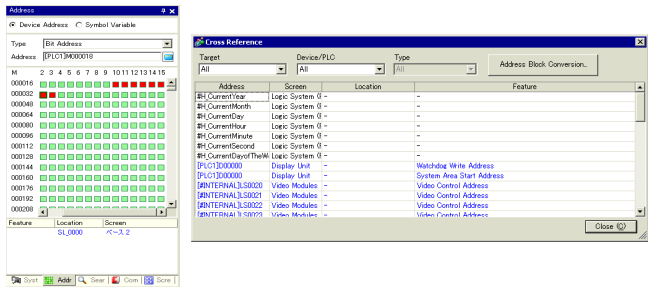


Password protecting the project file ensures no unauthorized personnel can edit the project.

☞ Setup Procedure (page 5-26)
☞ Introduction (page 5-25)

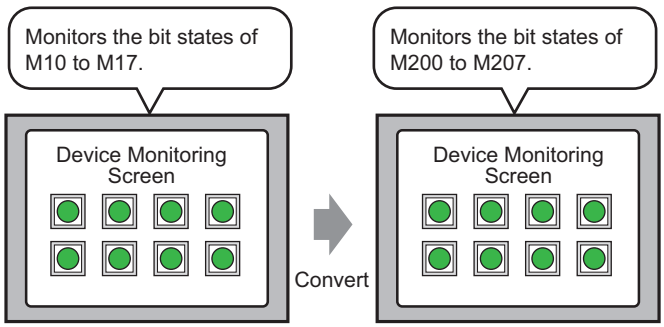
Confirming the Address List Used in a Project File

You can check the addresses specified in a project file using a map or list format.



☞ Setup Procedure (page 5-30)
☞ Introduction (page 5-29)

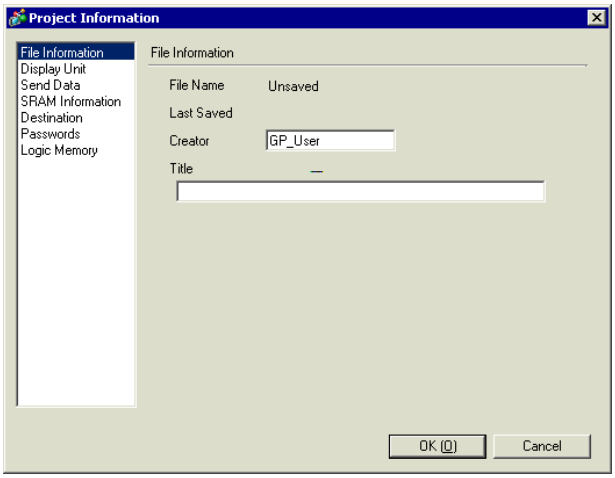
Converting Multiple Addresses



You can convert addresses by specifying the start/end addresses before conversion and the start address after conversion.

☞ Setup Procedure (page 5-38)
☞ Introduction (page 5-37)

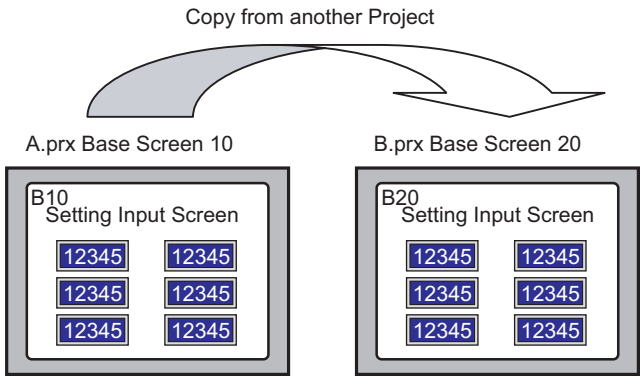
Viewing Project Information



You can check information on files, models, sent data, SRAM, and memory usage.

☞ Setup Procedure (page 5-42)
☞ Introduction (page 5-41)

Copying a Screen from Another Project

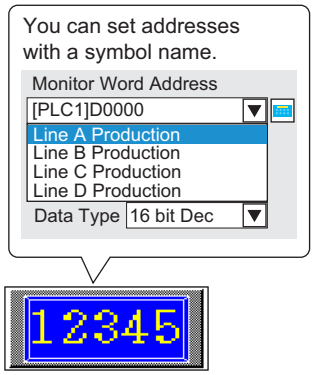


☞ Setup Procedure (page 5-46)
☞ Introduction (page 5-45)

Registering Addresses with Comprehensive Names

Name each address.

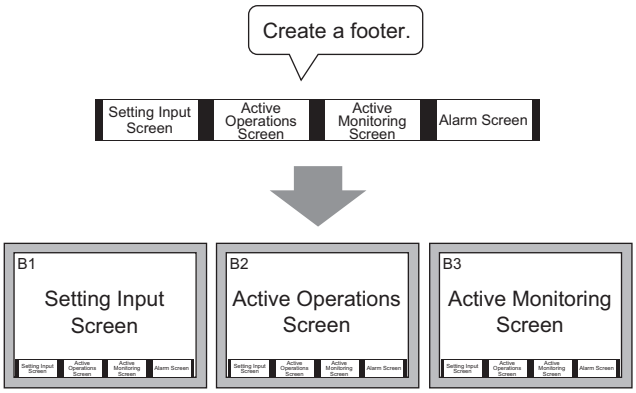
Address	Symbol Name
D100	Line A Production
D101	Line B Production
D102	Line C Production
D103	Line D Production



You can name an address by registering the address as a symbol.

☞ Setup Procedure (page 5-50)
☞ Introduction (page 5-49)

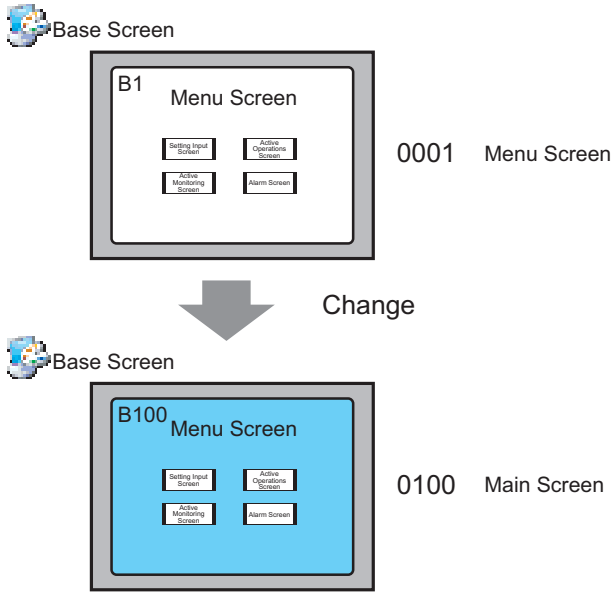
Using Headers and Footers on a Screen



You can display the same header or footer regardless of the active screen.

☞ Setup Procedure (page 5-58)
☞ Introduction (page 5-57)

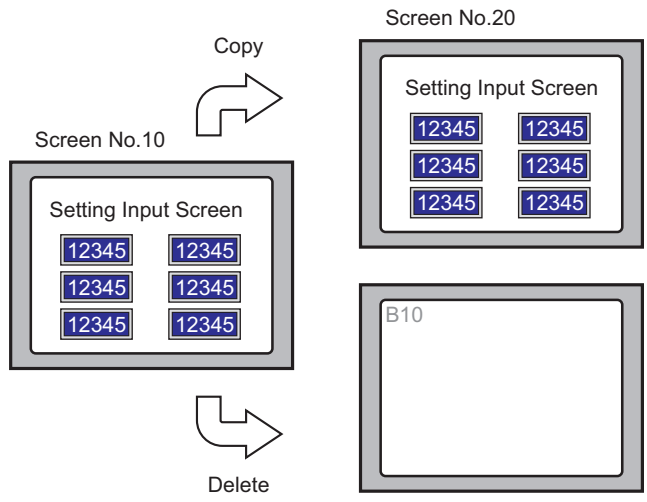
Changing the Screen Number/Title/Screen Color



You can change the specify screen number, screen title and screen color.

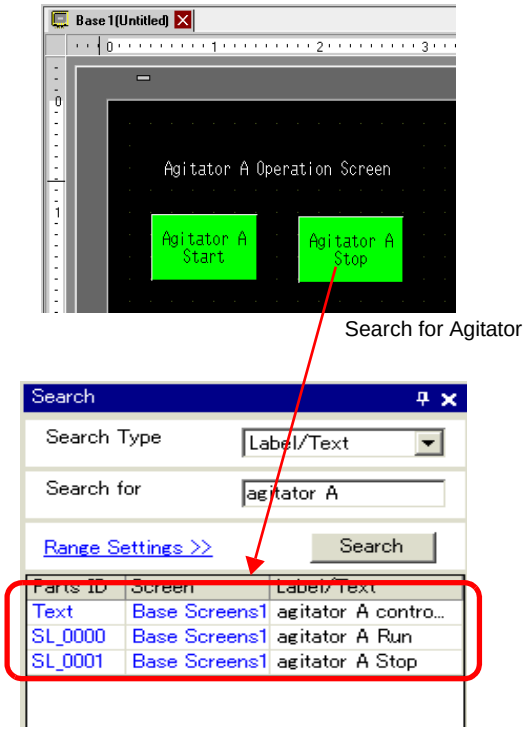
☞ Setup Procedure (page 5-64)
☞ Introduction (page 5-63)

Copying/Deleting a Screen



☞ Setup Procedure (page 5-67)
☞ Introduction (page 5-66)

Searching/Replacing Parts Addresses, Labels, and Comments

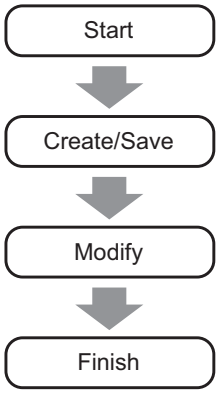


☞ Setup Procedure (page 5-72)
☞ Introduction (page 5-71)

5.2 Starting/Creating/Saving/Finishing

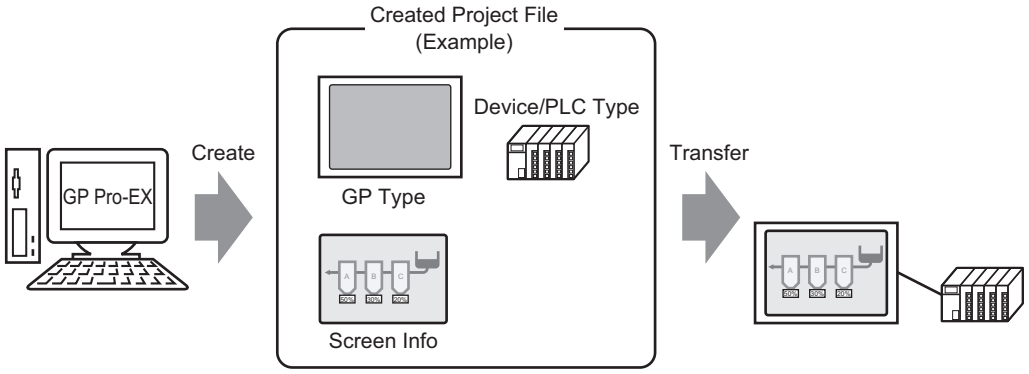
5.2.1 Introduction

This section explains the work flow from starting GP-Pro EX to creating, saving, and editing project files.



Project File

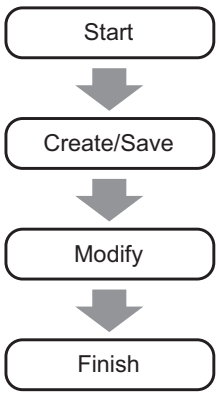
A file created in GP-Pro EX is called a "Project File".
A project file (*.prx) contains the project screens, settings and functions for the display unit. Once you transfer a project file to a display, the display communicates with the device/PLC so that you can display and operate on the file.



5.2.2 Setup Procedure

NOTE

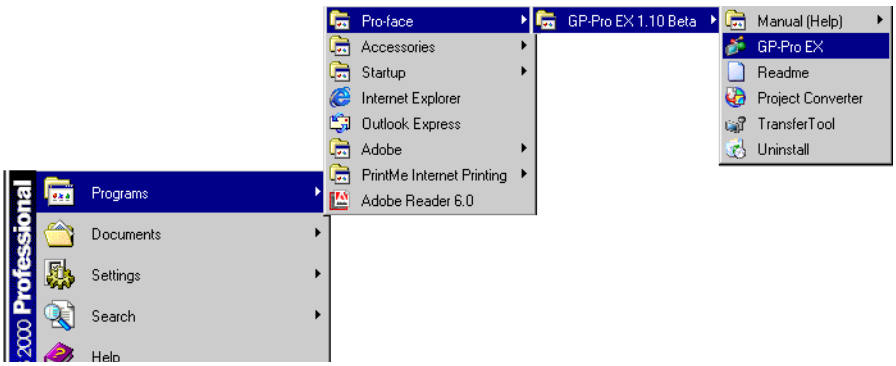
- Refer to the settings guide for details.
  ☞ "5.14.2 [New] Settings Guide" (page 5-78)
  ☞ "5.14.6 [System Settings] Setting Guide" (page 5-111)



■ Starting

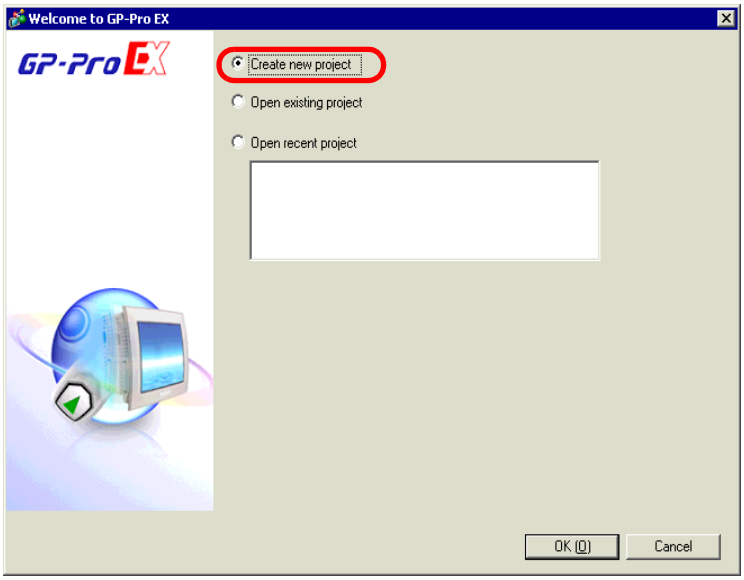
1 Double-click the shortcut

on the desktop screen or from the [Start] menu, point to [Programs], then [Pro-face], then [GP-Pro EX] and select [GP-Pro EX].



2 GP-Pro EX opens and the screen appears as below.

3 The [Welcome to GP-Pro EX] dialog box appears. Select [Create new project] and click [OK].

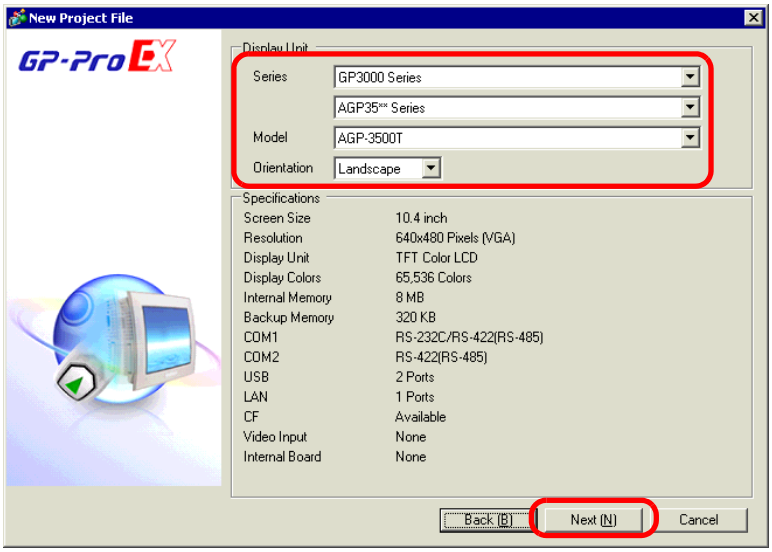


NOTE

- To create a new project, from the [Project (F)] menu, select [New (N)]. You can also click the , to create a new project. The [New Project File] dialog box appears.

4 The following dialog box appears. In the [Series] drop-down list, select the appropriate GP series. In the [Model] drop-down list, select the appropriate model. In the [Orientation] drop-down list, select the method to use. Click [Next (N)].

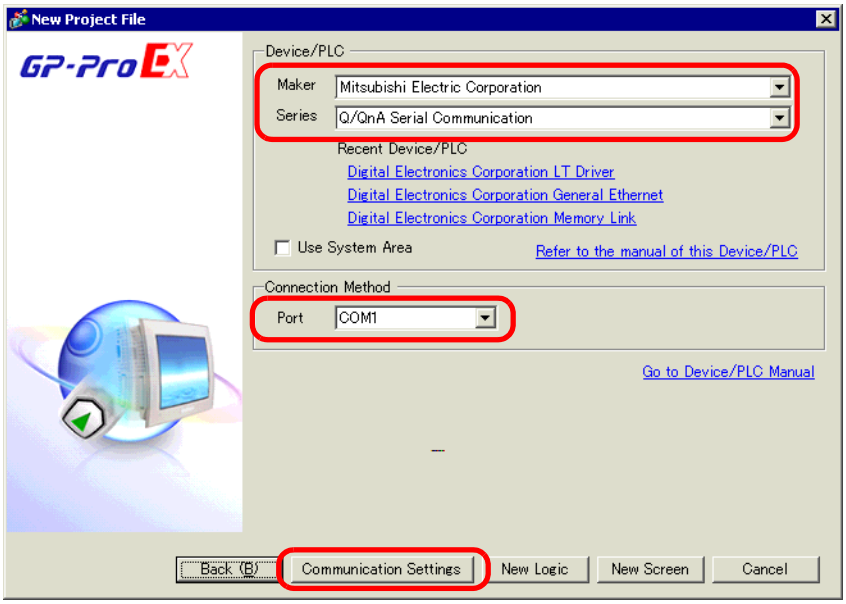
☞ "3.3 Supported Model List" (page 3-7)



NOTE

- [Specifications] shows the detailed specifications of the selected display model.
- If you select [GP2000 Series], GP-Pro EX exits and GP-PRO/PB III for Windows starts. If GP-PRO/PB III for Windows is not installed, the application cannot start and you will return to GP-Pro EX.
- If you select [IPC Series], no [Orientation] settings are necessary. Specify the display size for the screen data in [Screen Size].

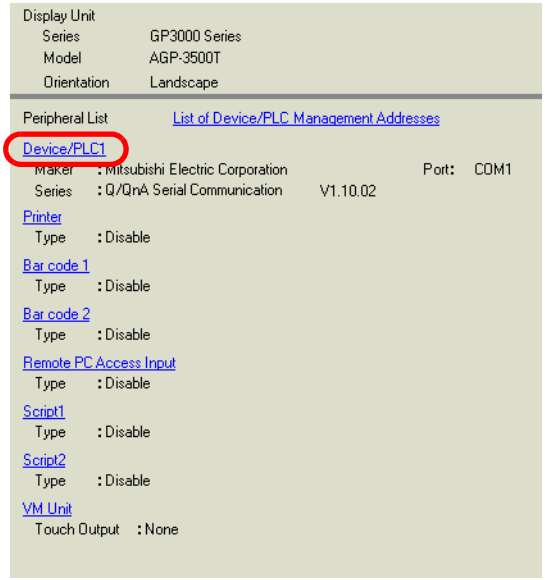
5 The following dialog box appears. In the [Maker] drop-down list, select the manufacturer of the PLC. In the [Series] drop-down list, select the appropriate series. In the [Port] drop-down list, select the port to connect through. Click [Communication Settings].



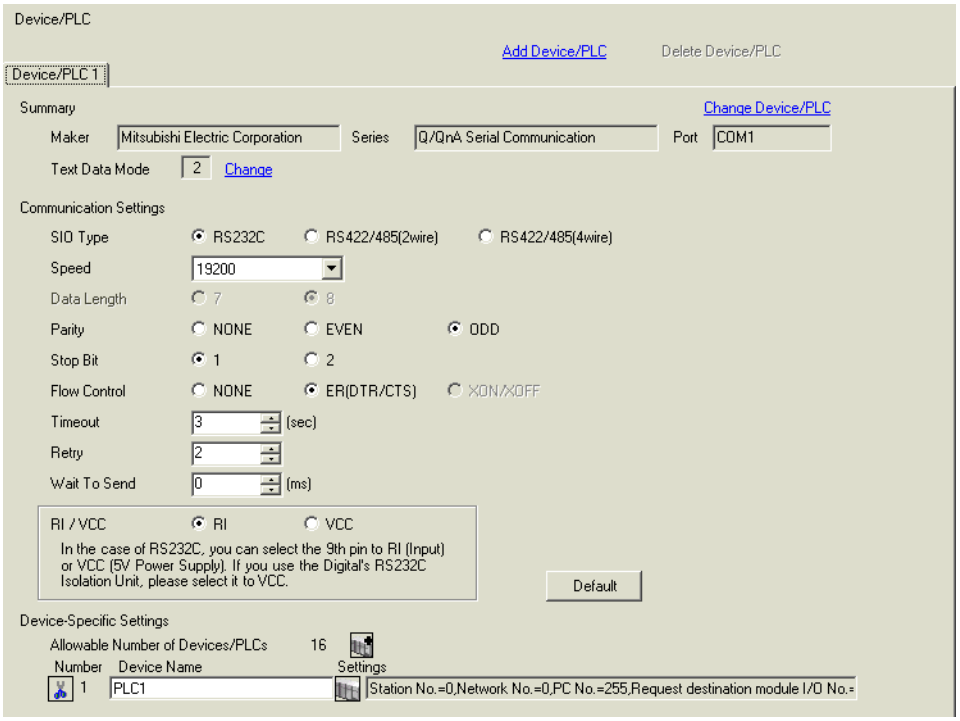
NOTE

- To create a screen without configuring communication settings for the device/PLC series, click [New Screen] to display the drawing screen [Base 1].
  To create a logic program, click [New Logic] to display the new logic screen [MAIN].
  ☞"Chapter 29 Logic Programming" (page 29-1)
- If you specify [Use System Area], you can assign the GP internal system data area to the device/PLC.
  ☞ " ◆ System Area Settings" (page 5-135)

6 When the [New Project File] dialog box closes and the [Peripheral List] appears in the main window, click [Device/PLC1].



7 When [Device/PLC] is displayed, specify the communication settings.

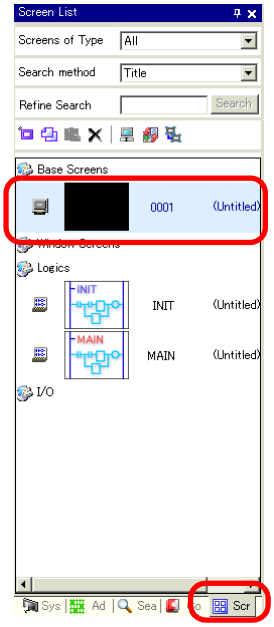


NOTE

- The [Communication Settings] details differ depending on the device/PLC series. See the "GP-Pro EX Device Connection Manual" for your device/PLC.
  It is recommended to keep the initial settings for [Timeout], [Retry], and [Wait to Send].

■ Creating/Saving

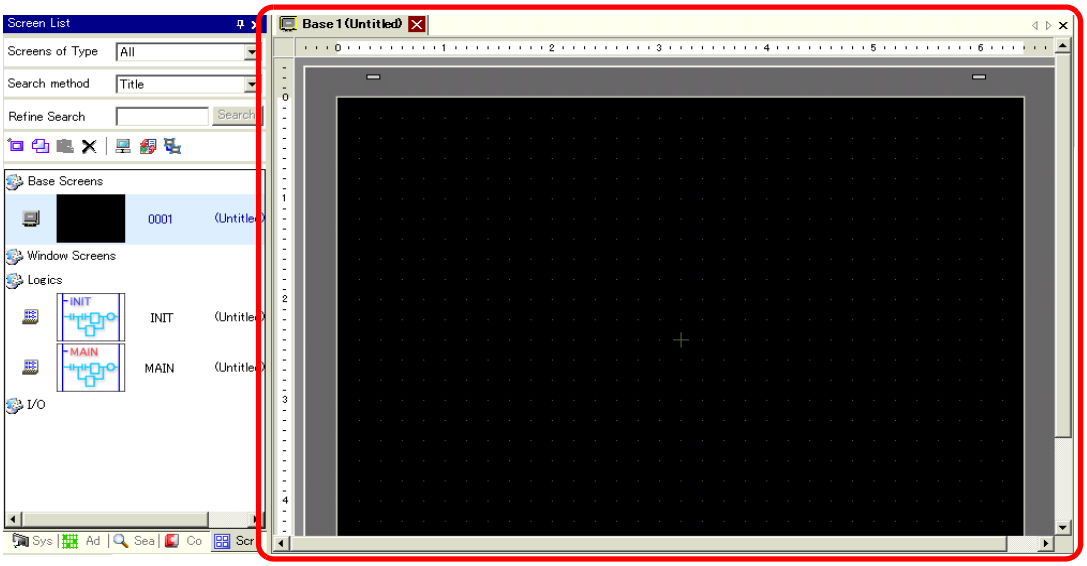
1 Open the Screen List window and double-click the base screen.



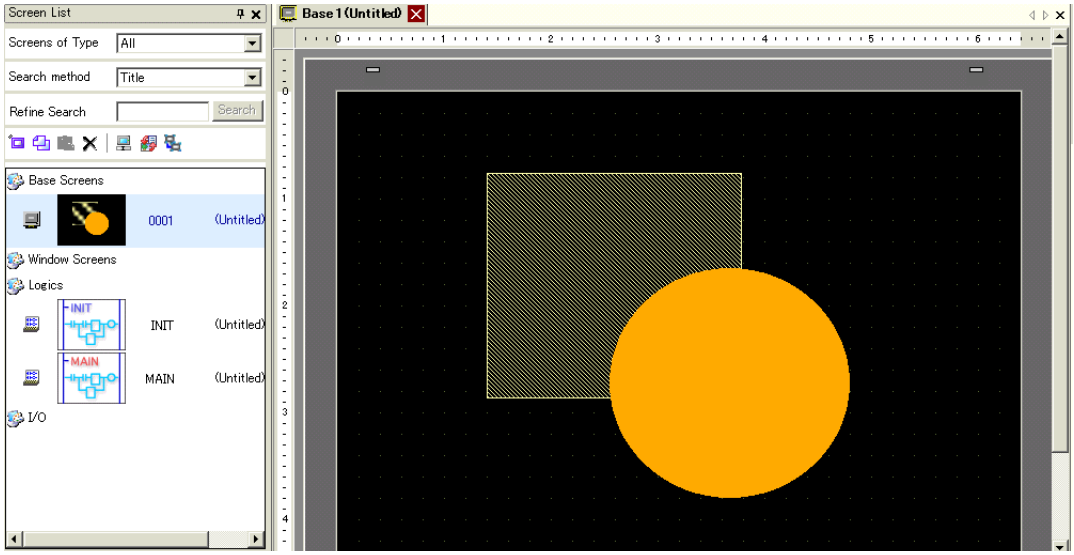
NOTE

- If the [Screen List] window is not open, from the [View (V)] menu, point to [Work Space (W)] and select [Screen List (G)].
- To create a logic program, double-click the logic screen currently displayed. If you select a model that does not support the logic features, you can create the logic program but the program will not run on the display.
☞"Chapter 29 Logic Programming" (page 29-1)

2 The following [Base Screen] appears.

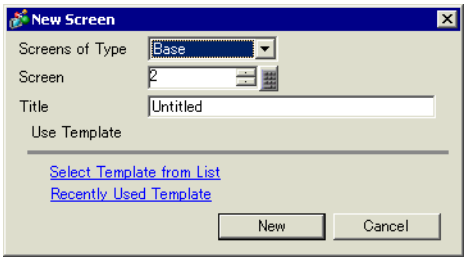


3 Create a screen.

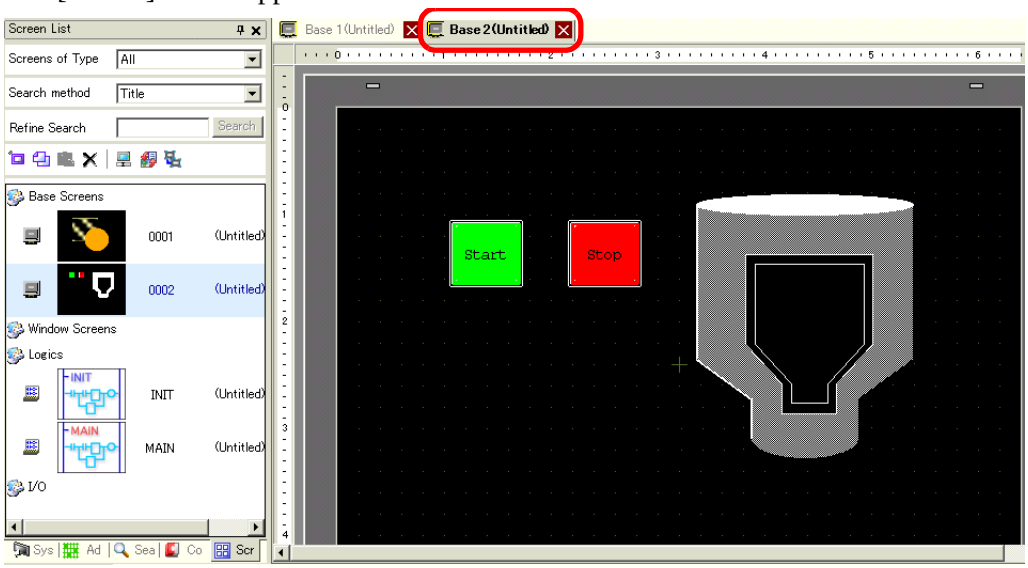


4 Add a new screen.

From the [Screen (S)] menu, select [New Screen (N)] or click . The [New Screen] dialog box appears. Select a [Screens of Type], specify the screen number in [Screen] and [Title], and click [New].

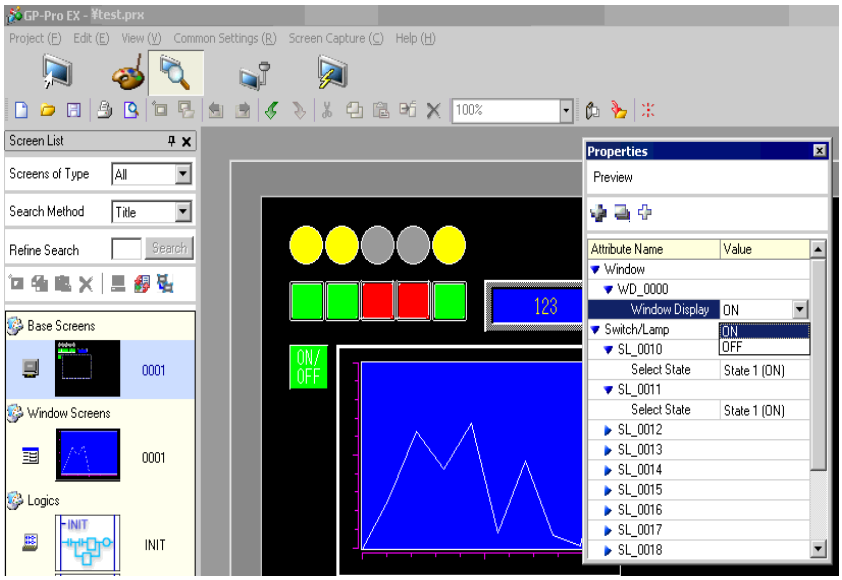


5 The [Base 2] screen appears. Create a screen.



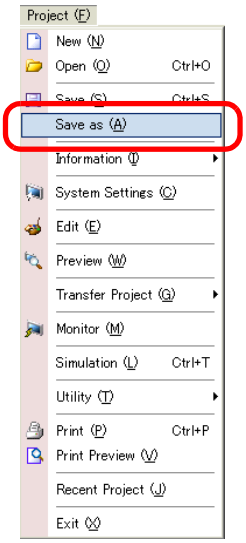
NOTE

- You can check the display state of the screen, even during drawing mode, by clicking the Preview icon on the State toolbar. Colors display using the display unit color settings. You can preview the Base and Window screens only. From the [View (V)] menu, point to [Workspace (W)] and select [Properties (P)] to check simple operation changes such as the displaying or hiding of Window parts, changing the state of Switch Lamps, and displaying values in Data Displays.

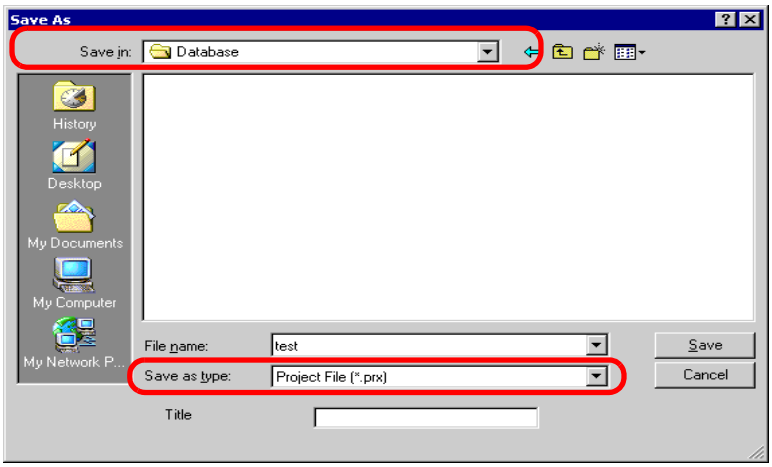


You can save the displayed preview screen to a JPEG file by selecting from the [Screen Capture (C)] menu [Export to File (F)].
To exit the preview, click the [Edit] icon on the State tool bar which returns you to the screen editor.

6 From the [Project (F)] menu select [Save as (A)] or click the Save icon



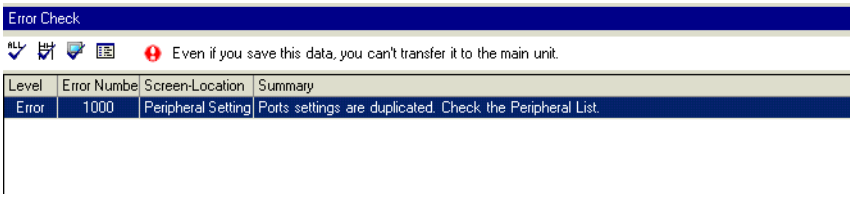
7 The [Save As] dialog box appears. Set the file storage location and file name and click [Save].



NOTE

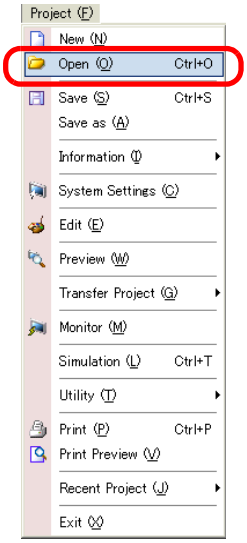
- Your file name can contain up to 255 characters, including the file extension. The default location is \Program Files\Pro-face\GP-Pro EX\ Database.
- The following error message is displayed in the [Error Check] window if there is a problem saving the file.

☞ "33.9 Checking Errors" (page 33-54)

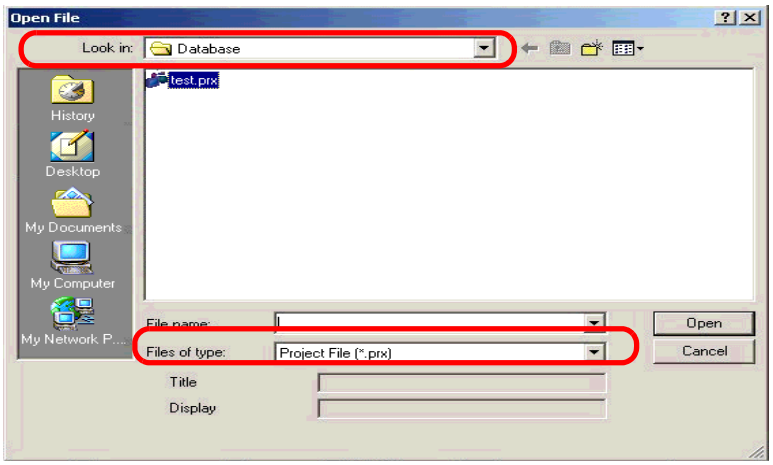


■ Modifying

1 From the [Project (F)] menu, select [Open (O)] or click the Open icon .



2 When the [Open File] dialog box appears, specify the location the file is saved in. Select the project file (∗.prx) you wish to open and click [Open].

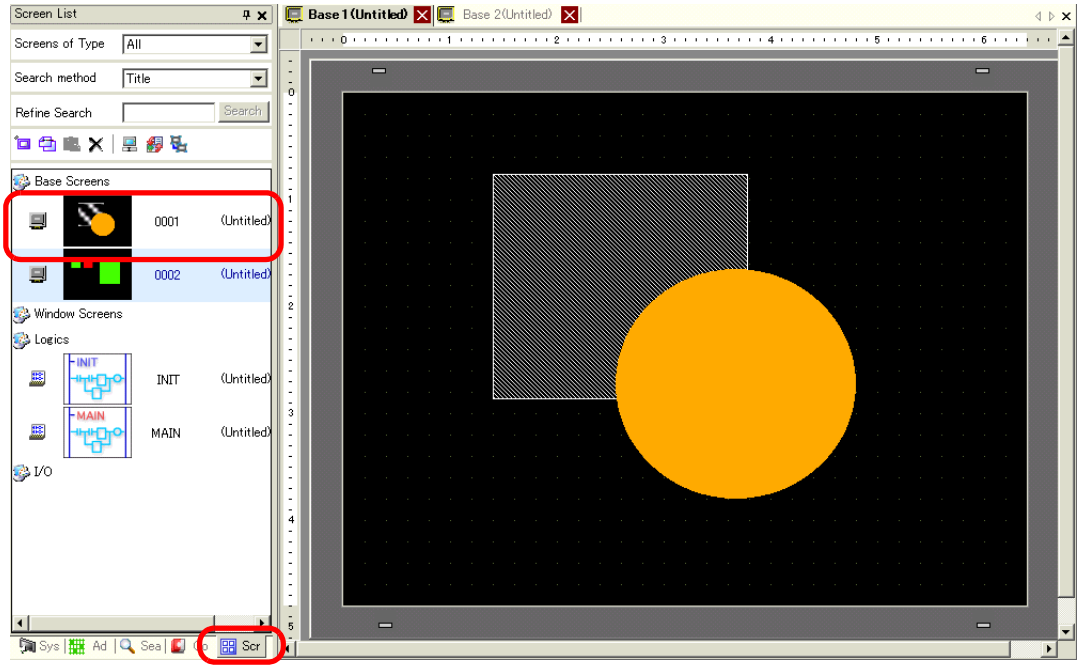


3 The project file main window opens.

NOTE

- You can also open a project file by directly double-clicking the project file (*.prx).
- You can open two different project files at the same time.

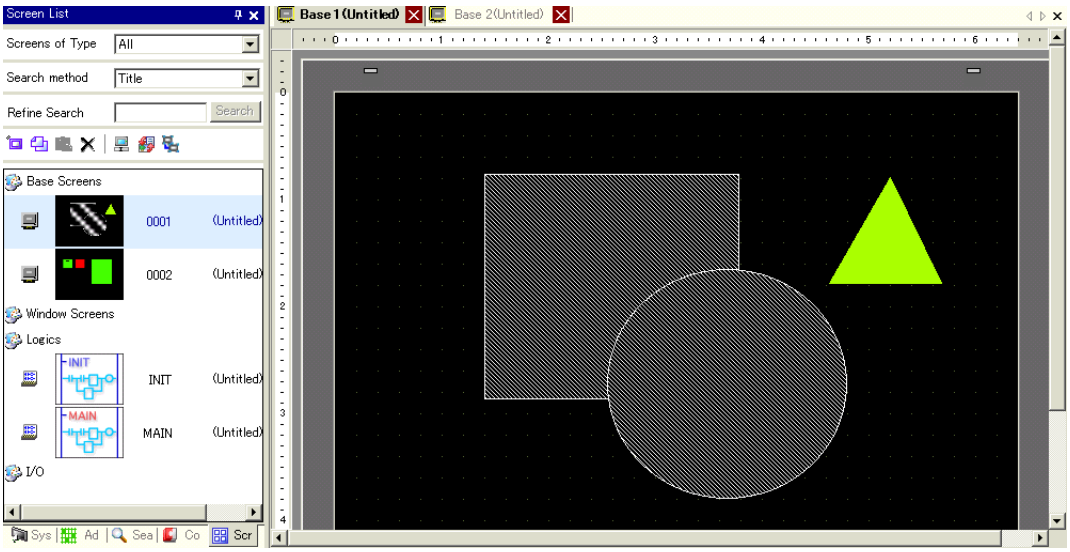
4 From the [Screen List] window, select the Base Screen you want to modify. The screen appears in the editing area.



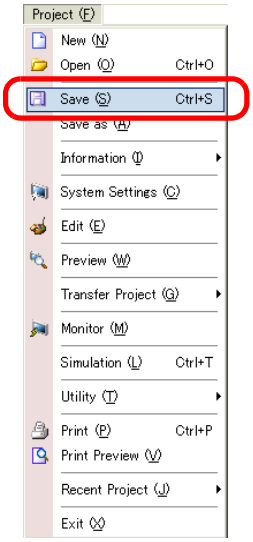
NOTE

- From the [Screen List] window, select the logic screen you want to modify. The screen appears in the editing area.

5 Modify the screen.

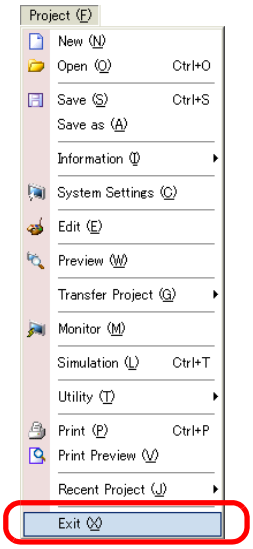


6 To save the changes, from the [Project (F)] menu, select [Save (S)] or click the Save icon .

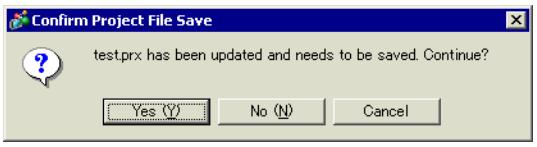


■ Finishing

1 To close the project, from the [Project (F)] menu, select [Exit (X)] or click the ✕ icon in the top right corner.



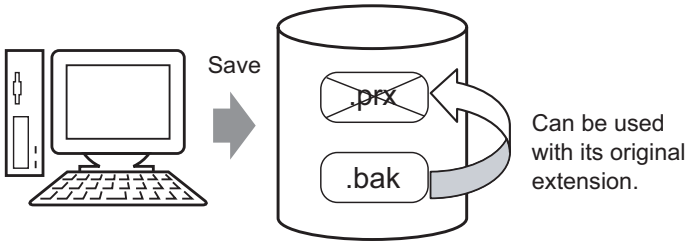
2 If you change a project file and try to exit the application without saving it, the [Confirm Project File Save] dialog box appears.



If you click [Yes (Y)], the project is saved in the current state and closed.
If you click [No (N)], the project closes with the last saved information.
If you click [Cancel], the project returns to the state before the operation without being closed.

5.3 Backing Up a Project File

5.3.1 Introduction



To protect against loss of work, you can create a backup file (*.bak) for your project. To recover the project file, change the .bak file extension to .prx.

NOTE

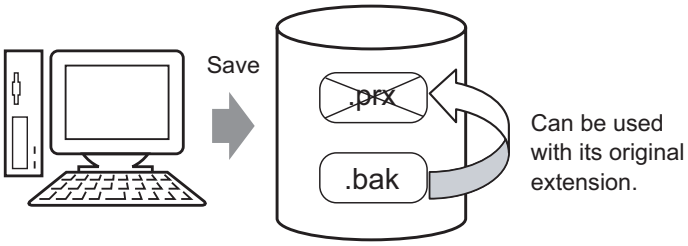
- When abnormal termination occurs in a project, the project file (*.prx) is automatically copied in the "backup" folder, which prevents a file loss.

5.3.2 Setup Procedure

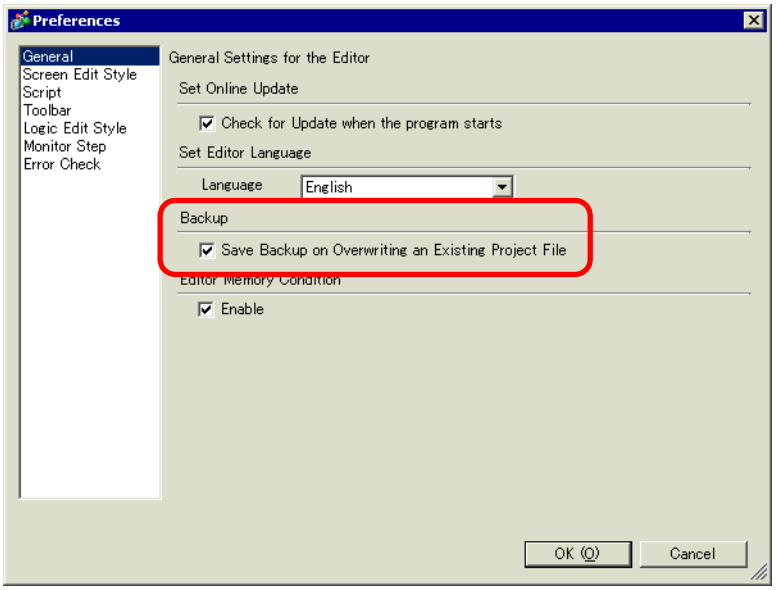
■ Backup as a History Procedure

NOTE

- Refer to the settings guide for details.
  ☞ " ■ General" (page 5-147)



1 From the [View (V)] menu, select [Preferences (O)]. The [Preferences] dialog box appears. Select the [Save Backup on Overwriting an Existing Project File] check box.

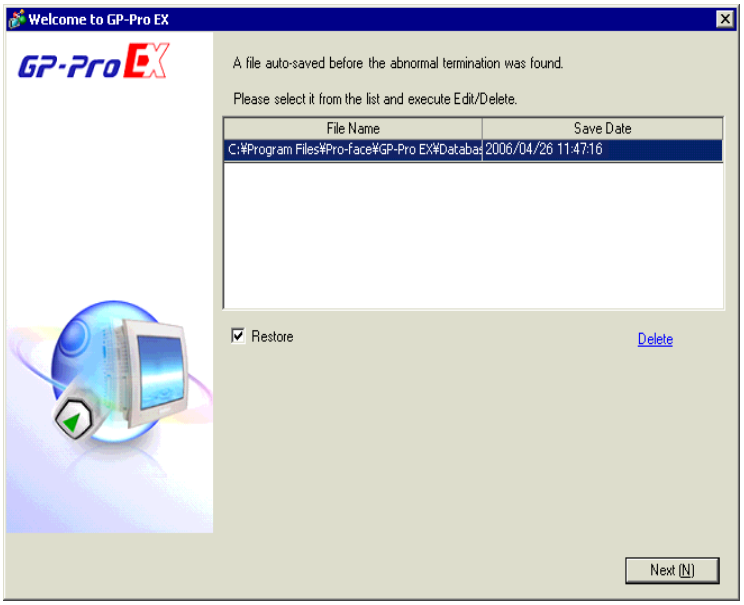


NOTE

- A backup file is saved as "Original Project File Name.bak".
- A backup file is saved in the same location where the original file exists.

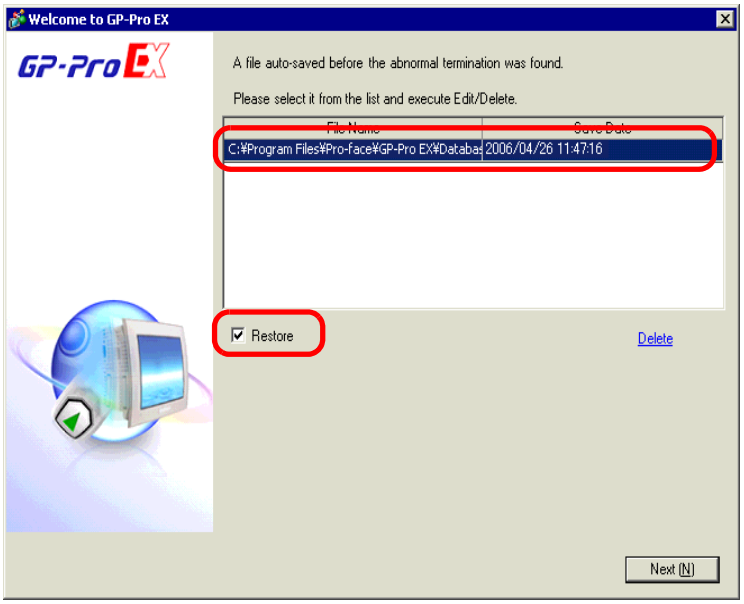
■ Back Up on Abnormal Termination and File Startup

When the program closes improperly, a backup file is created in the "backup" folder. When you reopen GP-Pro EX, the following dialog box appears.

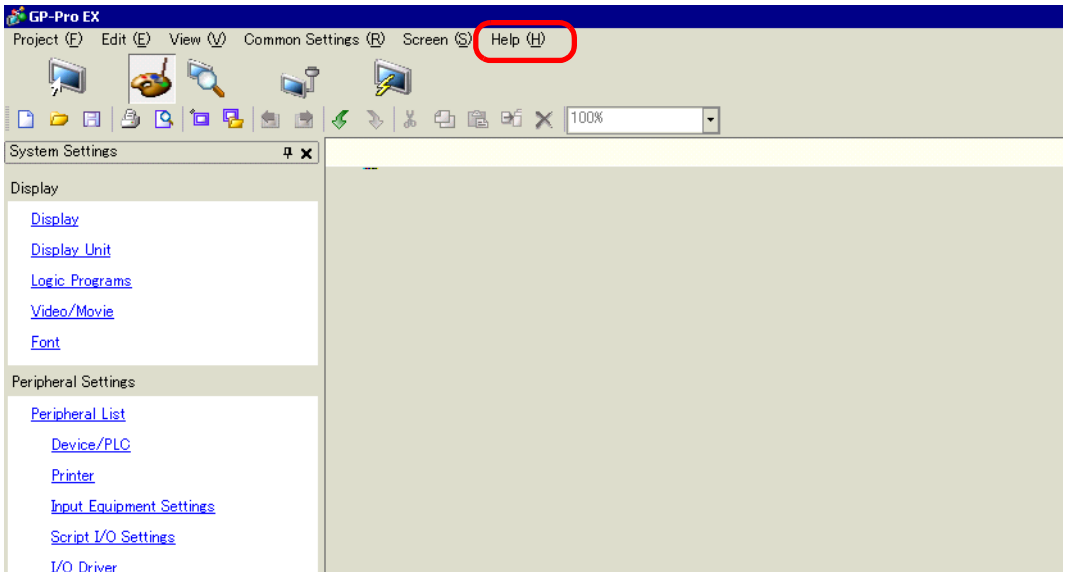


◆ What to do if the program closes improperly

1 Select the file you want to fix. Select the [Restore] check box and click [Next].



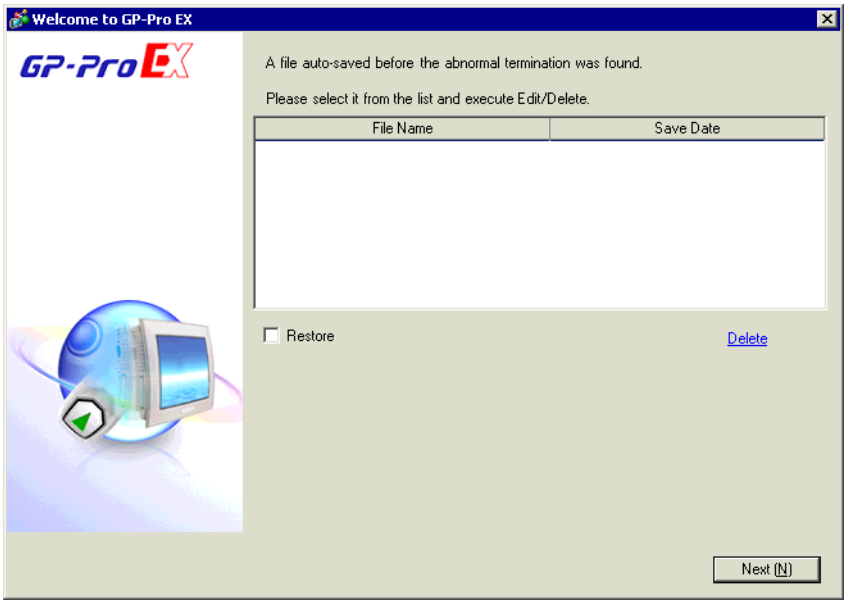
2 The file is fixed and opened as an "Auto-saved file". After startup, files in the backup folder are automatically deleted.



3 From the [Project (F)] menu select [Save as (A)] to save the file in the defined location and with the defined file name.

◆ Starting GP-Pro EX without Fixing the Project File

1 Select the file that does not need to be fixed and click [Delete]. The file automatically saved in the "backup" folder is deleted.



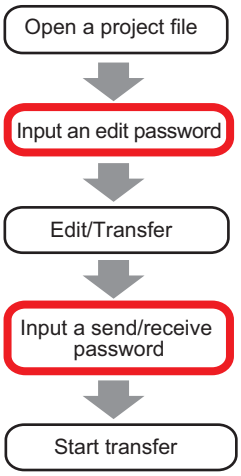
2 Click [Next], and start a project file as usual. The project file opens in its most recently saved state.

NOTE

- If you click [Next] without deleting and start GP- Pro EX normally, the next time you start GP-Pro EX the dialog box will appear again.

5.4 Entering a Password in a Project File

5.4.1 Introduction



You can protect a project file by setting a password for the file editing or transfer.
When you edit or transfer a project file, a dialog box that confirms the password appears.
If you enter a password and it is confirmed, you can edit or transfer the project file.

NOTE

- Be sure to remember your password in order to edit/transfer a project file.
- For information on setting a transmission password, see:
  ☞ "33.6 Transferring with Passwords" (page 33-31)

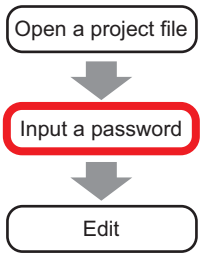
5.4.2 Setup Procedure

NOTE

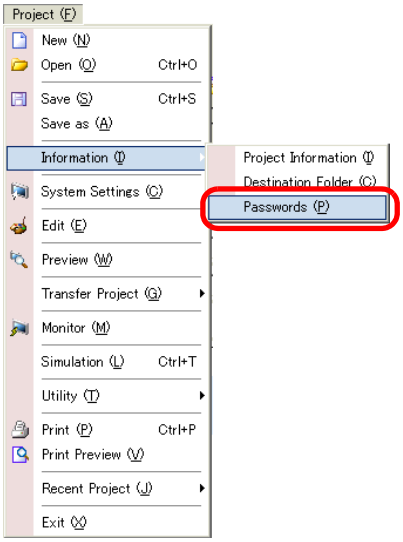
- Refer to the settings guide for details.
  ☞ " ◆ Passwords" (page 5-86)

■ Settings for an Edit Project File Password

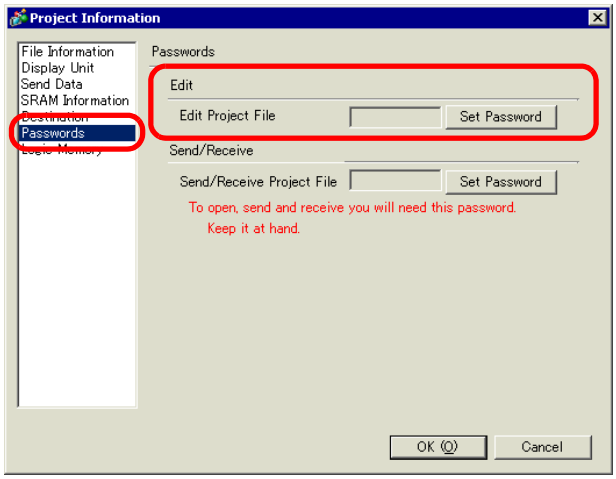
When you open a project file, a dialog box to input a password appears.



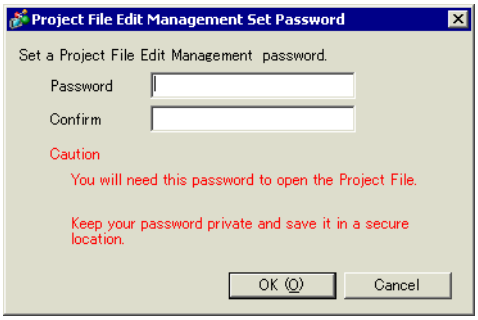
1 From the [Project (F)] menu, point to [Information (I)] and select [Passwords (P)].



2 The [Project Information] dialog box appears with [Passwords] option displayed.



3 In the [Edit] section, click [Set Password]. The following dialog box appears:

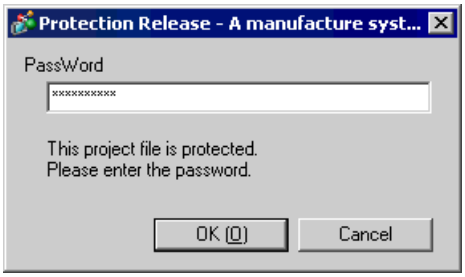


4 Enter a password. The password can contain up to ten characters. Confirm the password.

5 Click [OK] to complete the password settings.

NOTE

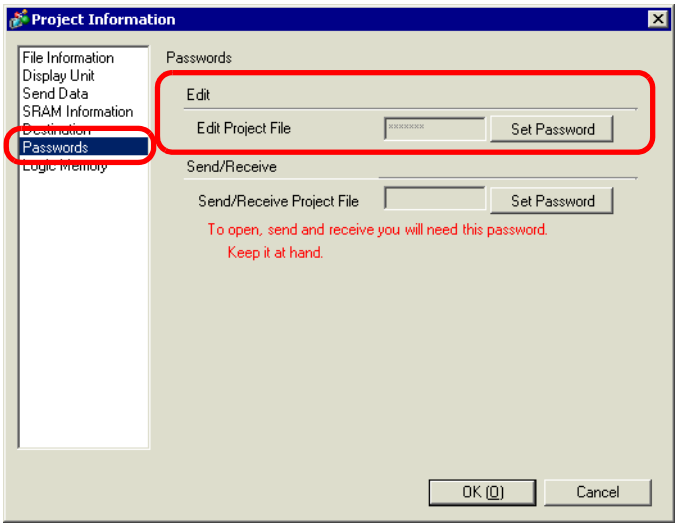
- When opening a password-protected project file, the [Release Protection] dialog box appears. You must type the password to open and edit the project file.



■ Changing the Project Password Settings

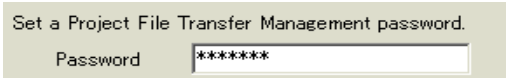
Use the [Project Information] dialog box to change or delete the password.

1 From the [Project (F)] menu, point to [Information (I)] and select [Passwords (P)]. The [Project Information] dialog box appears.

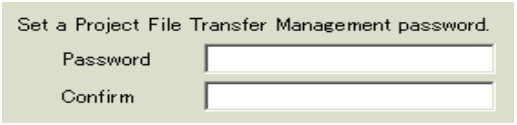


2 In the Edit section, click [Set Password]. The following dialog box appears.

3 Enter the currently set password.



4 Enter the new password. The password can contain up to ten characters. Confirm the new password.
To delete the password, leave the fields blank and click [OK].

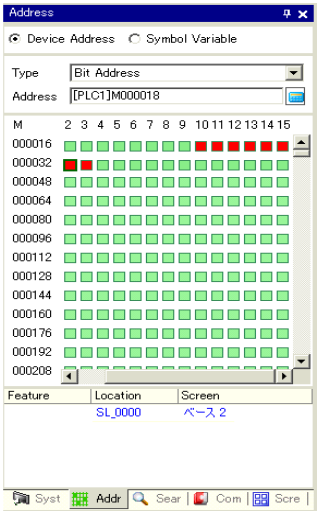


5.5 Confirming the Address List Used in a Project File

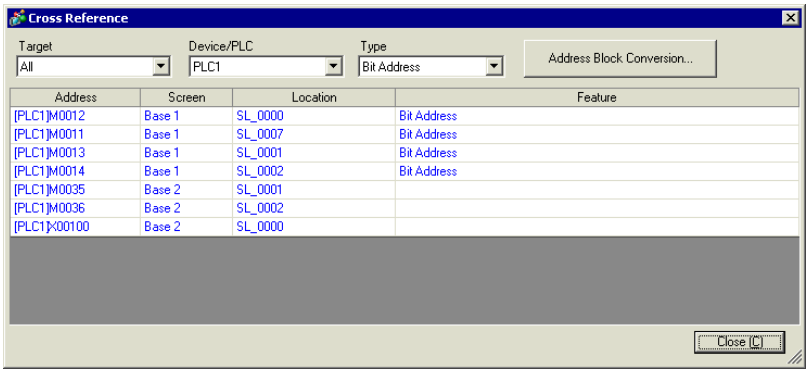
5.5.1 Introduction

You can check the addresses specified in a project file in the two following ways.

Map Format



List Format



5.5.2 Setup Procedure

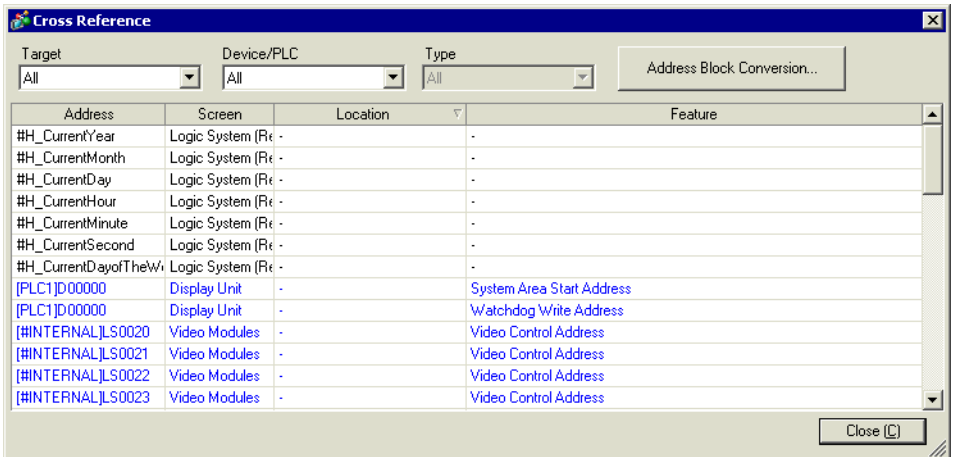
NOTE

- Refer to the settings guide for details.
  ☞ " ■ Cross Reference" (page 5-93)

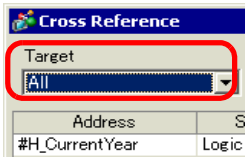
■ Viewing the List of Addresses

Displays a list of the addresses specified in a project file.

1 From the [Project (F)] menu, point to [Utility (T)] and select [Cross Reference (R)]. The [Cross Reference] dialog box appears.



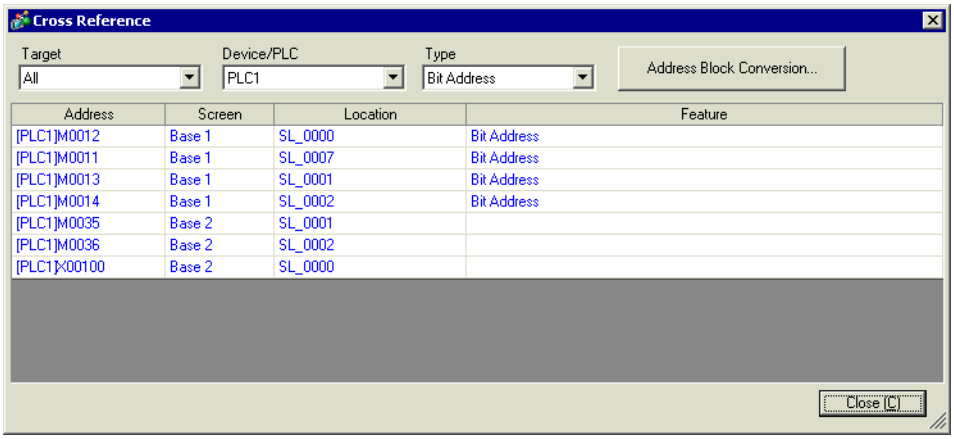
2 Select the screen or setting to be displayed from [Target].



3 Select the [Device/PLC] of the target to be displayed.

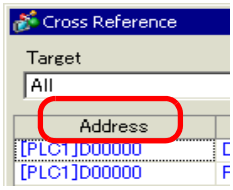
4 Select the [Type] of the address to be displayed.

5 The list of addresses in use is displayed.



NOTE

- To sort by descending or ascending order, click the Addresses header. The column is sorted alphanumerically.



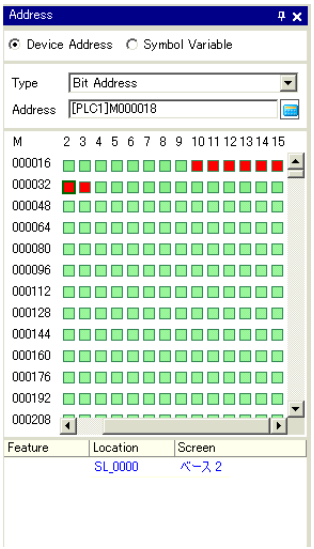
- To convert the listed addresses as a block, click [Address Block Conversion].
☞ "5.6 Converting Multiple Addresses" (page 5-37)
- If you specify [All] in the Cross Reference [Target] field, the address information may take longer to be displayed.
- You can open and edit the [Base Screen] and [Window Screen] by double-clicking on the screen name.

■ Setting Procedure to View Addresses in the Address Map

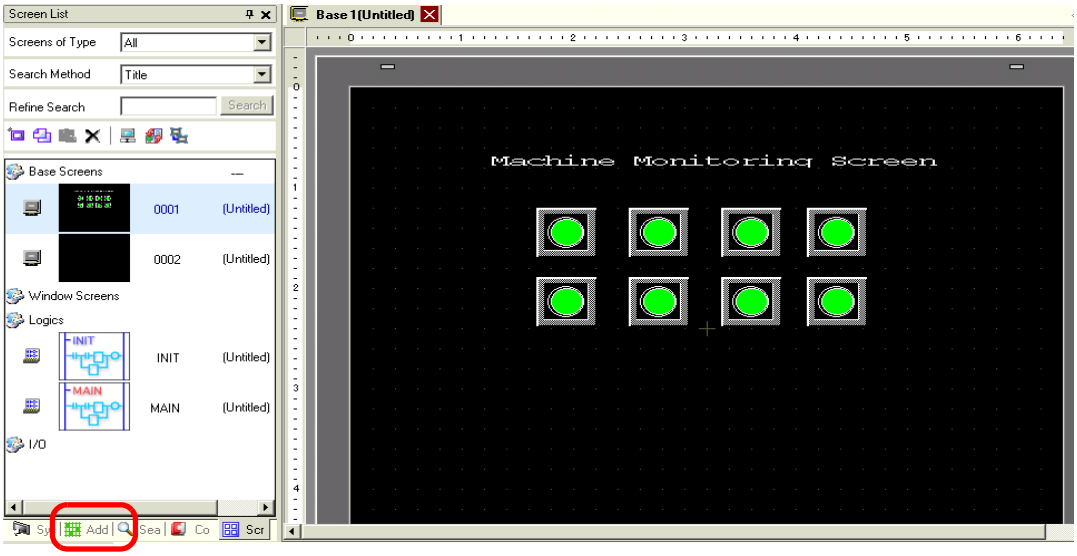
NOTE

- Refer to the settings guide for details.
  ☞ " ■ Address Settings" (page 5-99)

Displays the list of the addresses specified in a project file with a map.



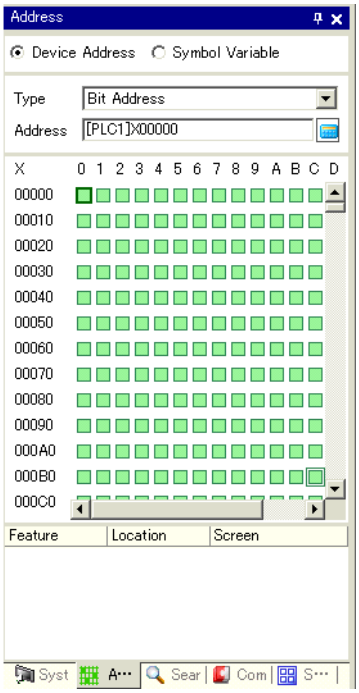
1 Click [Address] in the Work Space.



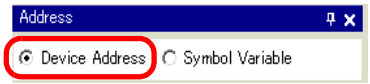
NOTE

- If the [Address] tab is not displayed in the Work Space, from the [View (V)] menu, point to [Work Space (W)] and select [Address (A)].

2 The following [Address] dialog box appears.

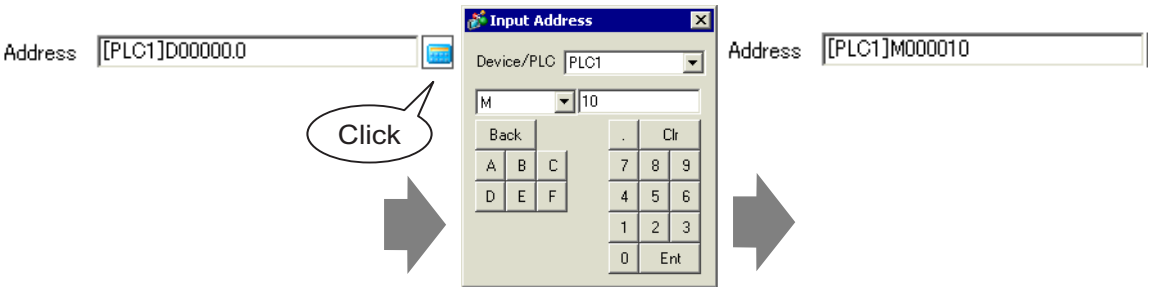


3 Select the target to display from [Device Address] or [Symbol Variable].

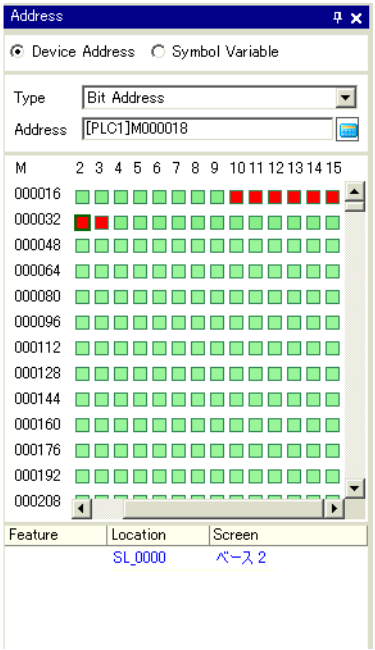


4 In the [Type] drop-down list, select the address type from [Bit Address] or [Word Address].

5 Select the address of the target to display. (For example M010)

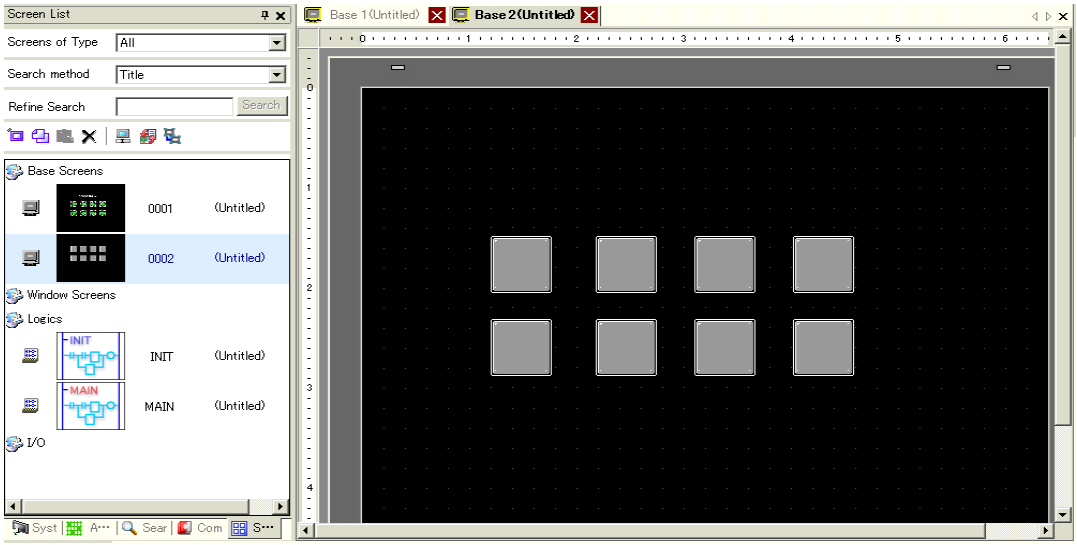


6 You can verify which addresses are used on the address map.

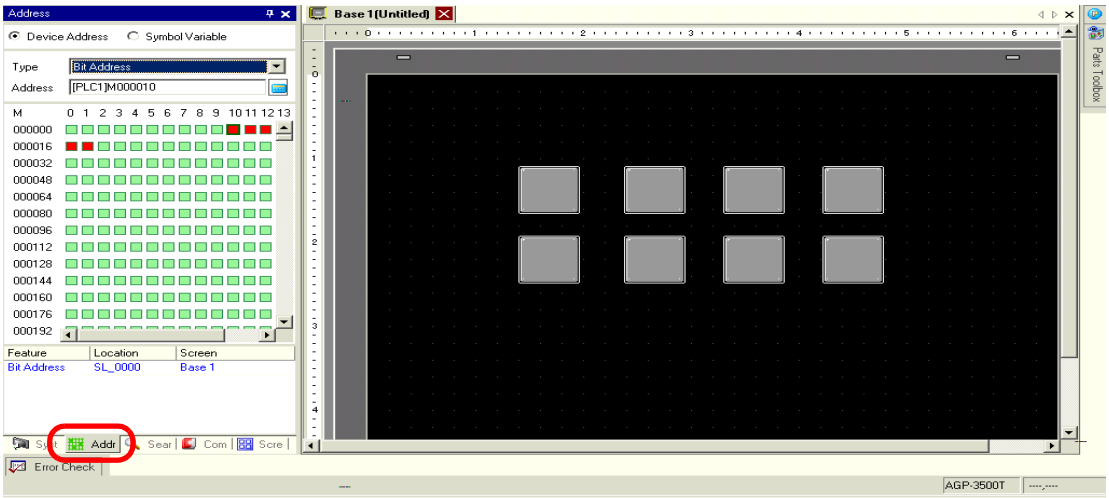


■ Changing Addresses Used in Screen Parts from the Address Map

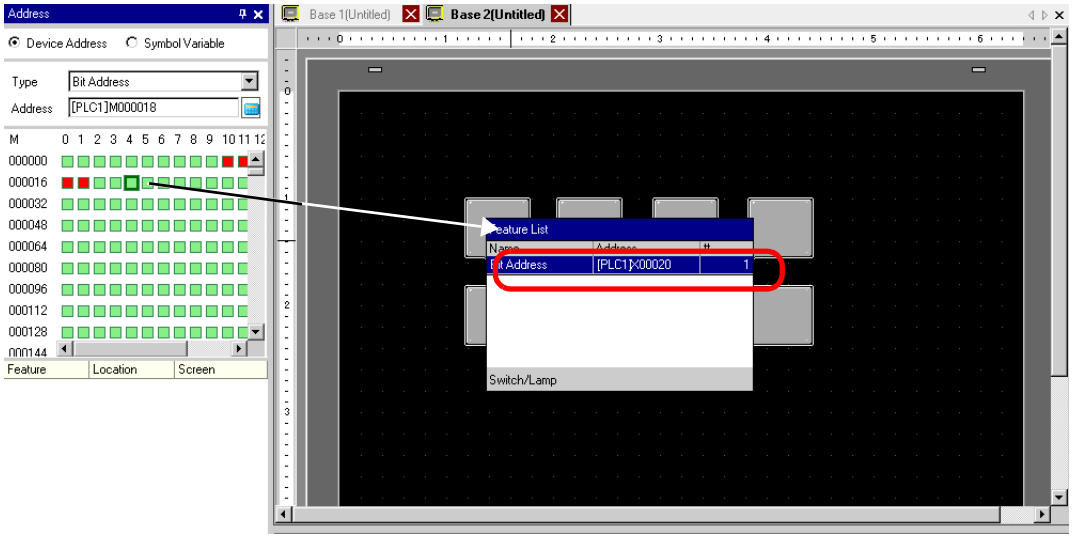
1 Open the screen with the part whose address you want to change.



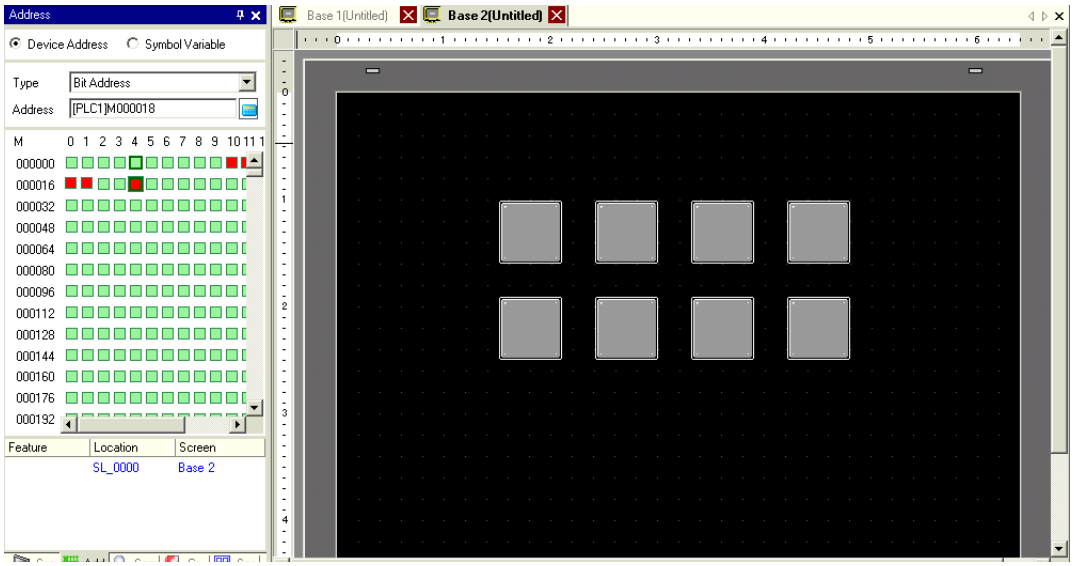
2 Click [Address] in the Work Space. Open the appropriate address [Type].



3 Drag an address from the list onto the part in the screen. Do not release the mouse button. The [Feature List] dialog box is displayed. With the mouse button held down, select the appropriate row in this box.

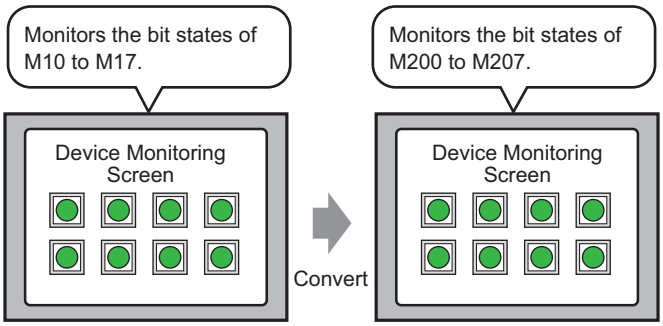


4 Release the mouse button. The address is assigned to the part.



5.6 Converting Multiple Addresses

5.6.1 Introduction



You can convert addresses by specifying the start/end addresses before conversion and the start address after conversion.

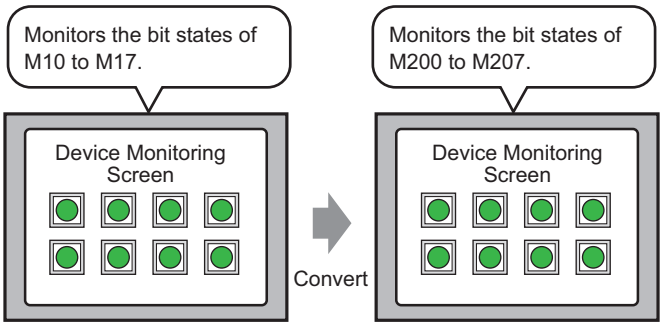
You can convert multiple addresses at one time using two conversion methods. Use [Whole Project] to convert all the addresses in a project. Use [Individual Settings] to convert addresses on a target screen.

5.6.2 Setup Procedure

NOTE

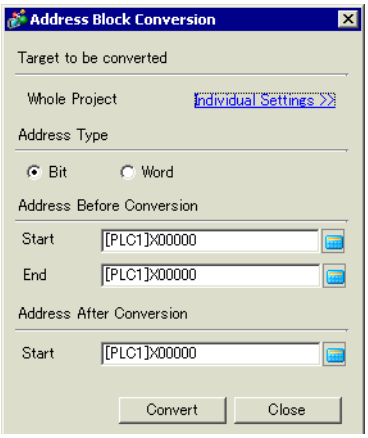
- Refer to the settings guide for details.
  ☞ " ■ Address Block Conversion" (page 5-90)

Converts the addresses set on the specified screens as a block.

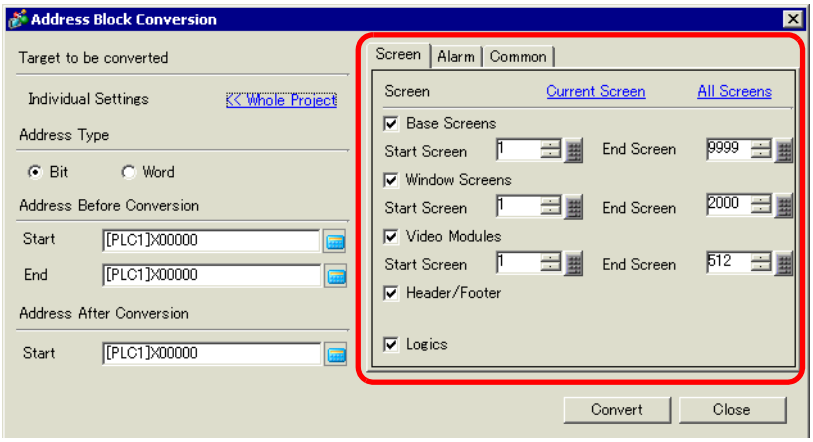


You can convert addresses by specifying the start/end addresses before conversion and the start address after conversion.

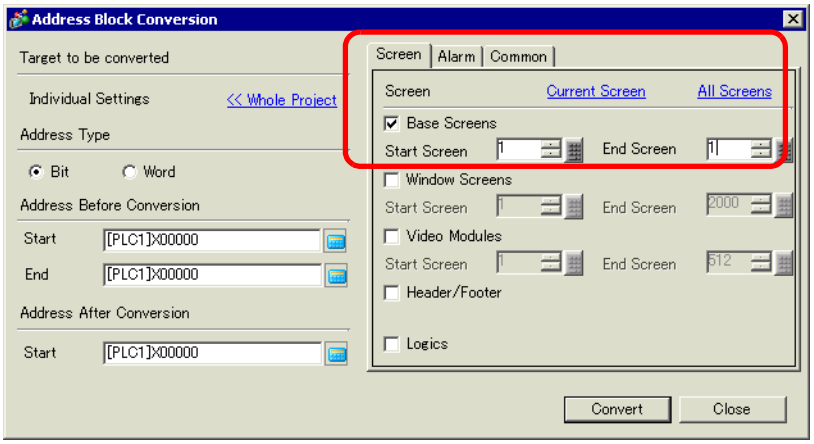
1 From the [Project (F)] menu, point to [Utility (T)] and select [Convert Addresses (A)]. The [Address Block Conversion] dialog box appears.



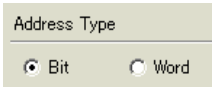
2 Click [Individual Settings] to display the setting items for each conversion target.



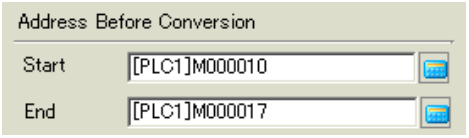
3 Set the screen you want to convert and the screen number or features.



4 Select the [Address Type] from [Bit] or [Word].



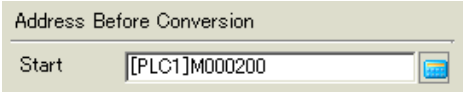
5 In the [Address Before Conversion] section, set the [Start] and [End]. For example, the start address is M10 and the end address is M17.



NOTE

- You cannot specify addresses from different registers.

6 In the [Address After Conversion] section, set the [Start]. For example, the start address is M200.



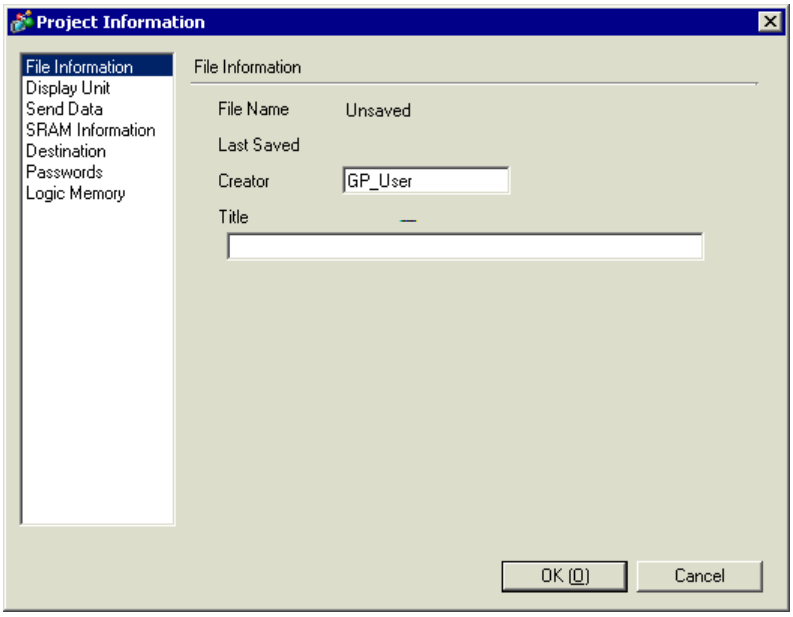
7 Click [Convert]. A dialog box appears to confirm that the conversion is complete. Click [OK].

NOTE

- If you selected [Symbol Variable] for the addresses, the [Address Block Conversion] will not work properly.
- If the total number of addresses (End Address - Start Address) before conversion is greater than the total number of addresses (End Address - Start Address) after conversion, the last device address is assigned to all the unconverted addresses.

5.7 Viewing Project Information

5.7.1 Introduction



From the [Project Information] dialog box, you can view: File Creator and Last Saved Date; the Model and Device/PLC; the data sent by Project Transfer; backup SRAM usage; the logic program you are creating; the registered variable size, and so on.
You can also specify a destination folder and a password.

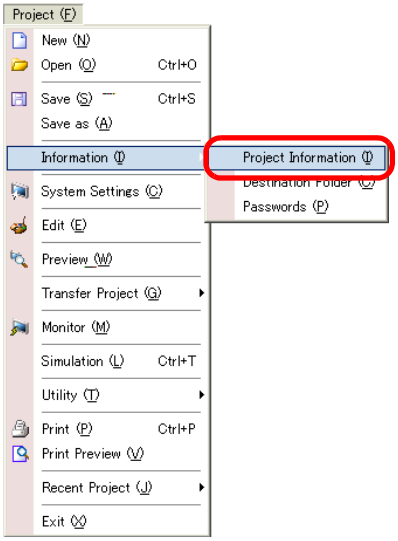
5.7.2 Setup Procedure

NOTE

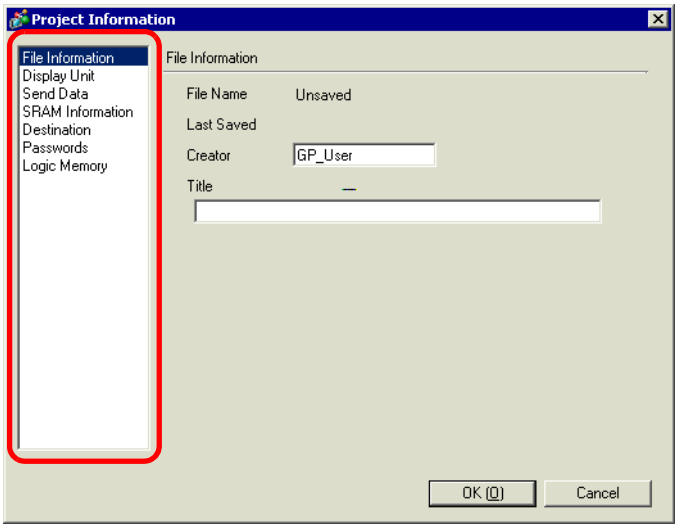
- Refer to the settings guide for details.
  ☞ " ■ Project Information" (page 5-81)

■ Checking [Project Information]

1 From the [Project (F)] menu, point to [Information (I)] and select [Project Information (I)].



2 The [Project Information] dialog box appears. If you click each item in the left window, the displayed information changes.

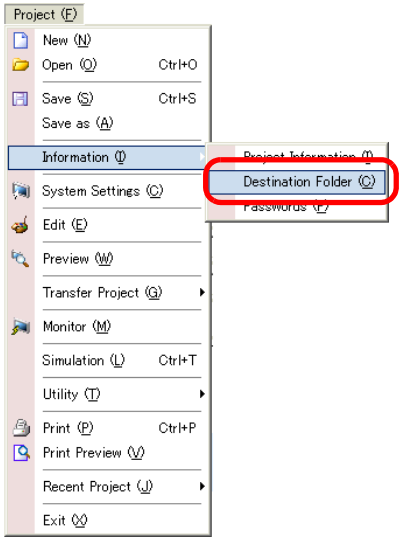


3 Change any information as necessary and click [OK] to close the [Project Information] dialog box.

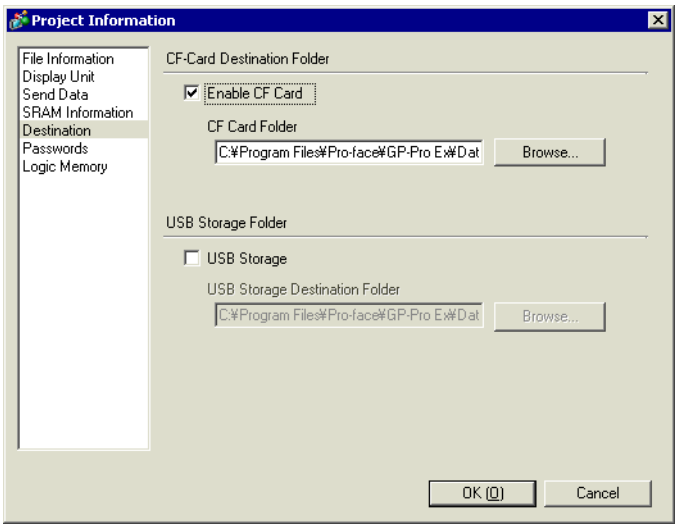
■ Setting the Destination folder

Specifies the location to temporarily store data before saving it on a CF Card or USB storage device.

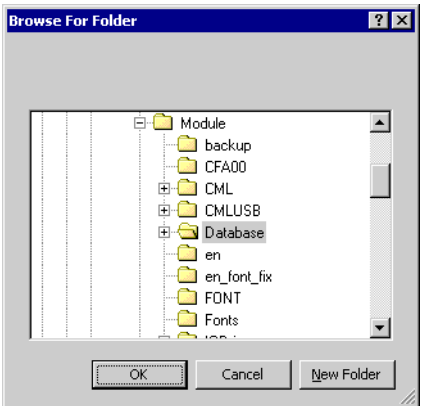
1 From the [Project (F)] menu, point to [Information (I)] and select [Destination Folder (C)].



2 The [Project Information] dialog box appears. Select [Destination] and the checkbox beside either [Enable CF Card] or [USB Storage].



3 Click [Browse...] and designate the folder.



NOTE

- In the initial settings, \Program Files\Pro-face\GP-Pro EX *.** (*.** shows the version) \A database\ (folder with the same name as the project file) is automatically selected for the destination folder.

Click [OK] to return to the [Project Information] dialog box.

4 Click [OK]. If you specify the destination folder for the first time, the following message appears to confirm. Click [Yes (Y)].

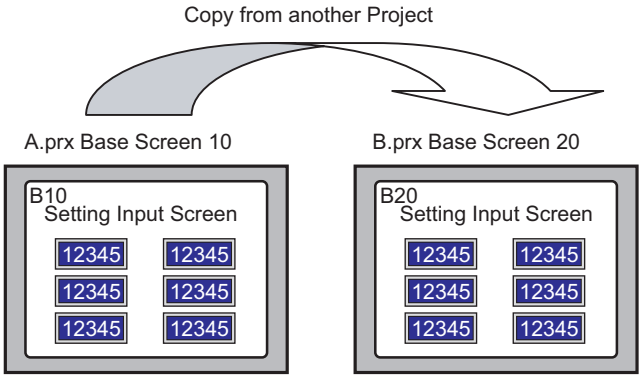
A folder ([data], [file]) is automatically created to store the data to be saved to the CF Card or the USB storage device.

5.8 Copying a Screen from Another Project

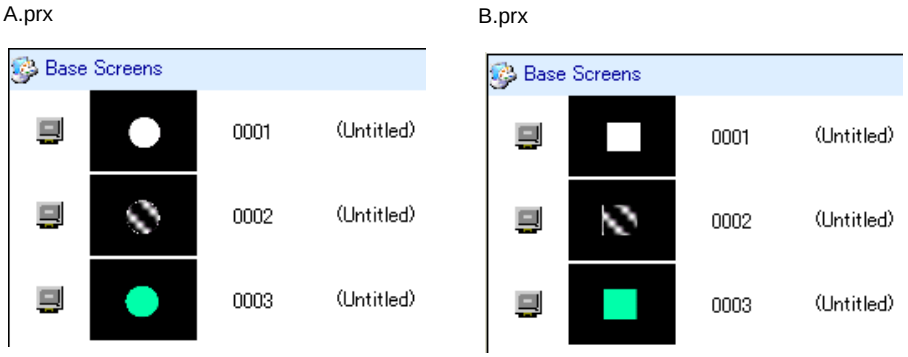
5.8.1 Introduction

You can copy a screen created in another project to the project currently being edited. There are two copying methods: specify necessary screens and copy them, or copy all the screens of another project.

Copying the specified screens in another project



Copying all the screens from another project

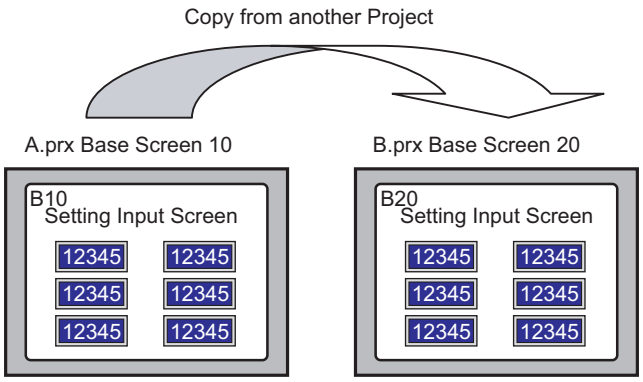


5.8.2 Setup Procedure

NOTE

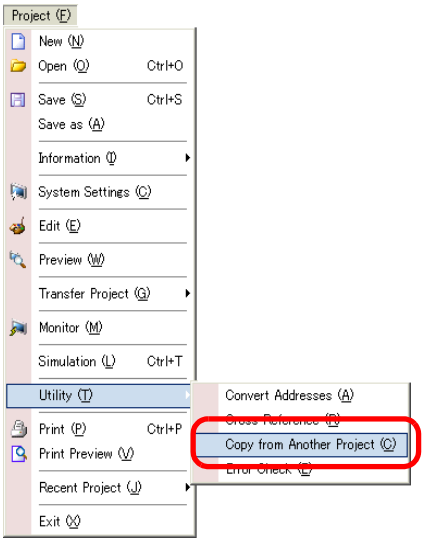
- Refer to the settings guide for details.
  ☞ " ◆ Whole Project" (page 5-90)

Copy the project "A.prx" Base Screen: 10 to the project "B.prx".

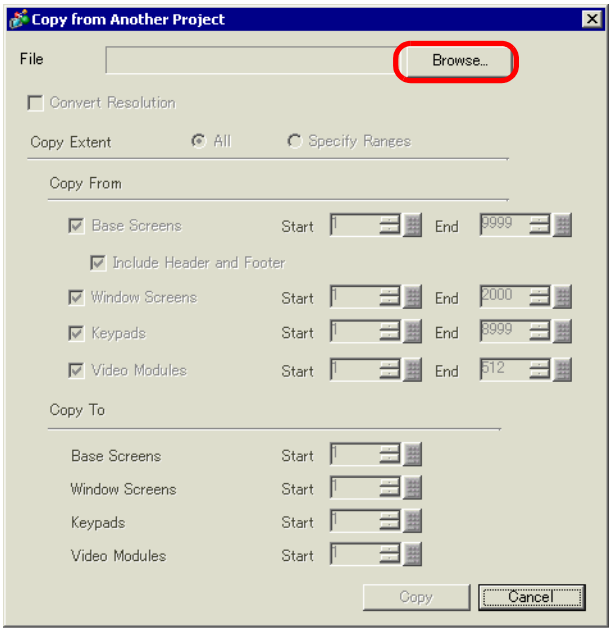


1 Open the project into which you want to copy the screens.

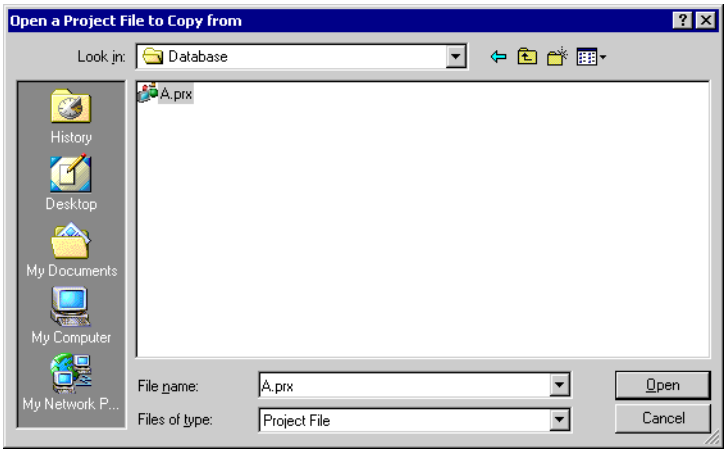
2 From the [Project (F)] menu, point to [Utility (T)] and select [Copy from Another Project (C)].



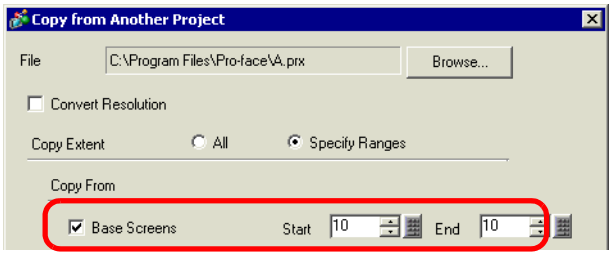
3 In the [Copy from Another Project] dialog box, click [Browse...].



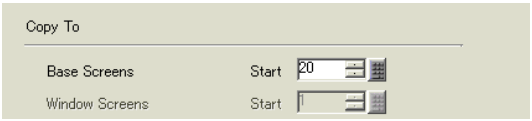
4 Specify the [Look in] and [File name] fields and click [Open].



5 Select the [Specify Ranges] radio button. In the [Copy From] section, select the [Base Screens] check box and set the [Start] and [End] numbers, (For example, [Start][End]10).



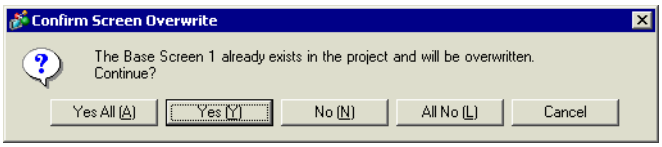
6 In the [Copy To] section, set the [Base Screens] [Start] number.



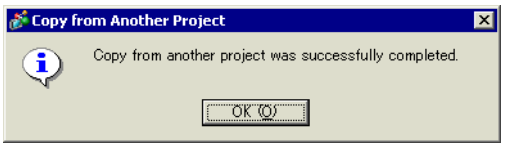
7 Click [Copy].

NOTE

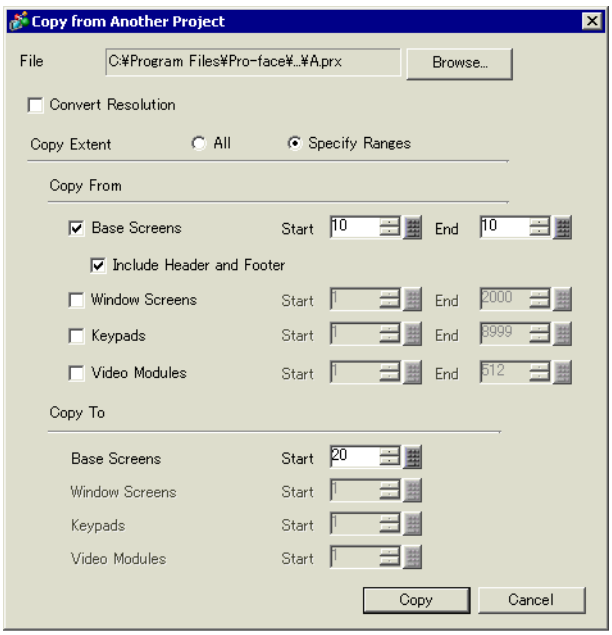
- If a screen of the same number exists in the copy destination, the following confirmation dialog box appears.



8 When the copy is complete, the following message appears. Click [OK].

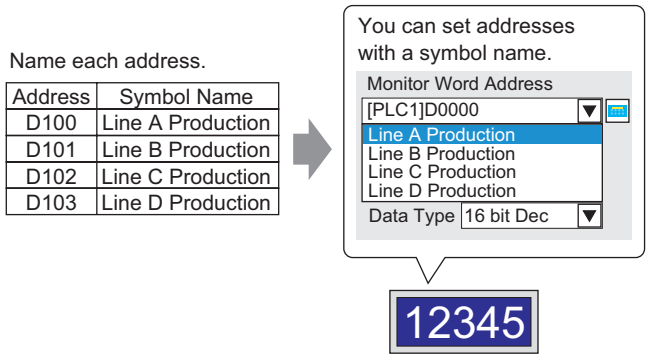


9 When the [Copy from Another Project] dialog box appears, click [×] to close it.



5.9 Registering Addresses with Comprehensive Names

5.9.1 Introduction

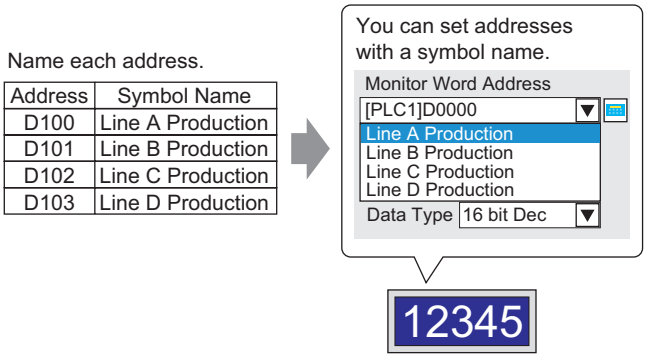


Each address has a "symbol" name. Parts and other objects can use the symbol name in address fields. You can change the address associated with a symbol when necessary, without affecting address settings in Parts and other objects that use the symbol.

5.9.2 Setup Procedure

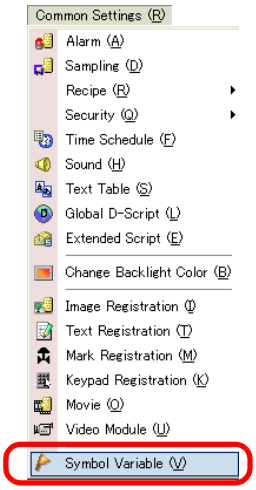
NOTE

- Refer to the settings guide for details.
  ☞ " ■ Address Settings" (page 5-99)
  ☞ "5.14.8 [Common Settings] Setting Guide" (page 5-155)
- For the addresses that can be used with logic features, see:
  ☞ "29.3 Registering Addresses" (page 29-13)

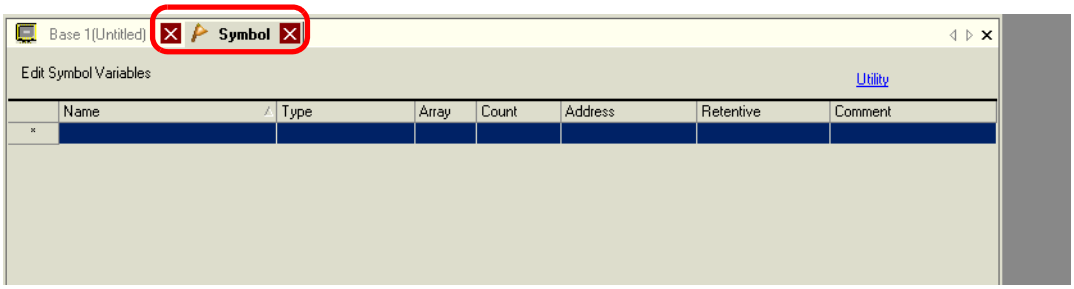


■ Registering the [Symbol Variable]

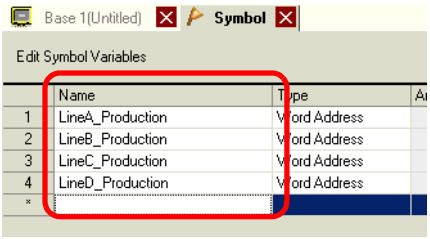
1 From the [Common Settings (R)] menu, select [Symbol Variable (V)].



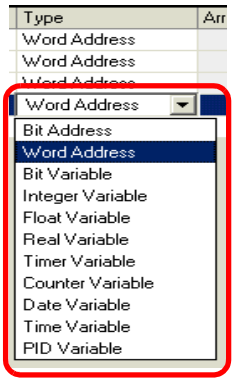
2 The following screen appears.



3 Click a cell in the [Name] column and specify the symbol variable name.



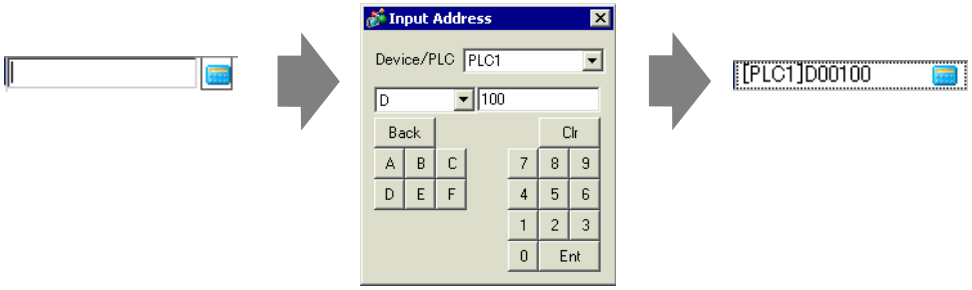
4 For each cell in the [Type] column, select the symbol's address type.



5 Click in each cell in the [Address] column to display . Set each symbol's address.
(For example, Line A Production: D100, Line B Production: D101, Line C Production: D102. Line D Production: D103)

Click the icon to display an address input keypad.

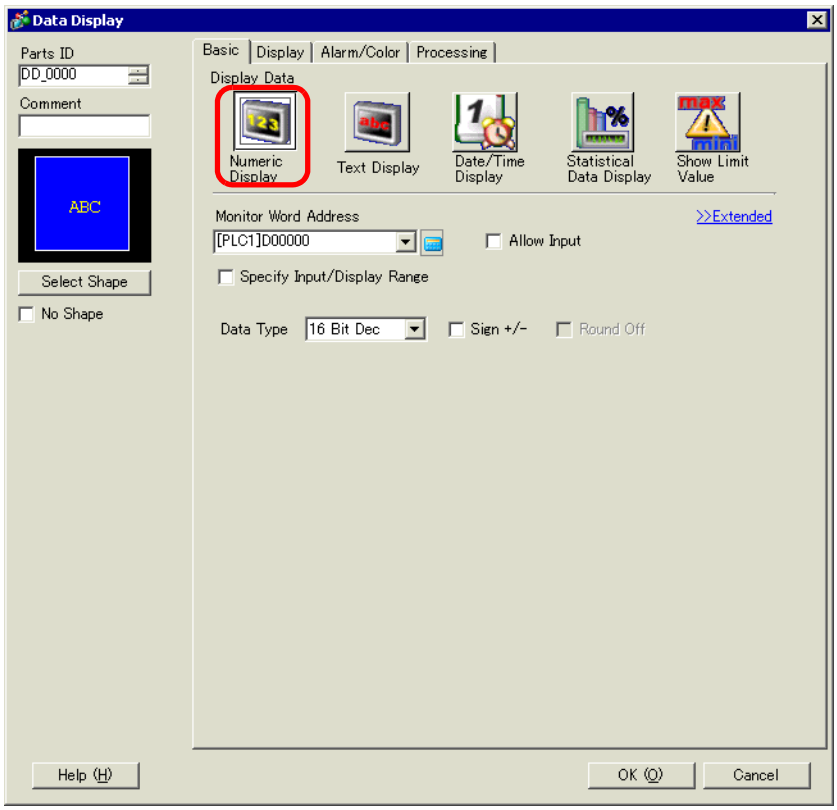
Select device "D", input "100" as the address, and press the "Ent" key.



6 The settings to register an address as a symbol are complete.

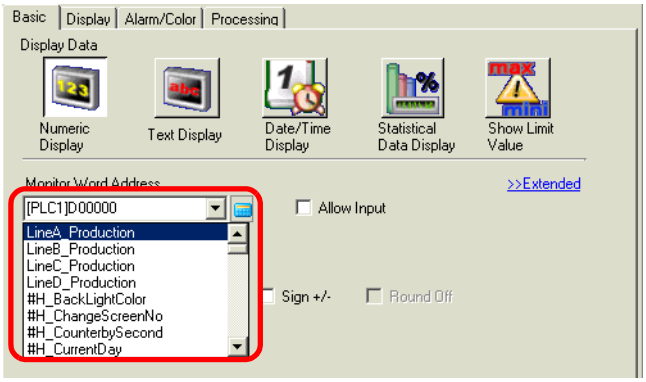
7 Next, set the symbols for your Data Display element. From the [Parts (P)] menu, point to [Data Display (D)] and select [Numeric Display (N)], or click the icon, and place the Data Display element on the screen.

8 Double-click the placed element. The Data Display dialog box appears.

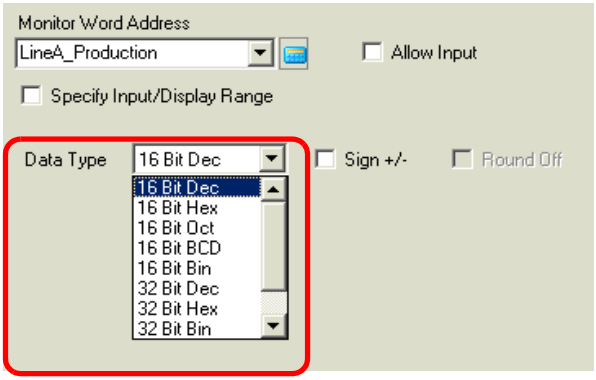


9 Click [Select Shape] and select the appropriate shape.

10 In the [Monitor Word Address] drop-down list, select the symbol to store the value.



11 In the [Data Type] drop-down list, set the type of data to display (for example "16 Bit Dec").

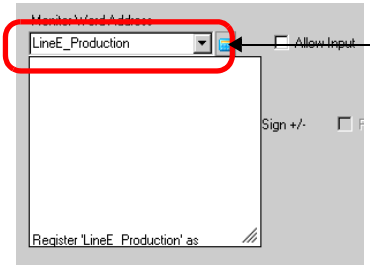


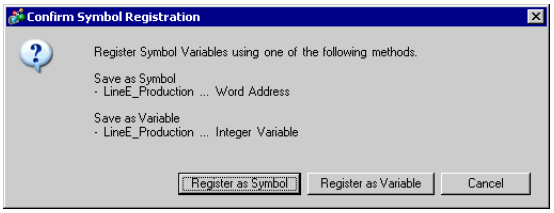
12 As needed, specify the Data Display's color and text on the [Alarm/Color] tab and [Display] tab, and click [OK].

13 Set the Data Displays for the symbols of "Line B Production", "Line C Production", and "Line D Production" as well.

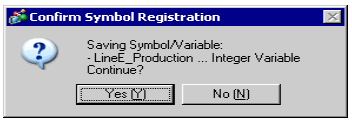
NOTE

- Without registering the symbol first, you can directly enter the symbol name in the address control box when designating the address. Once you enter the symbol, press the [Enter] key. When the following message appears, click [Register as Symbol]. Once registered, you can check the symbol in the Common Settings [Symbol Variable].



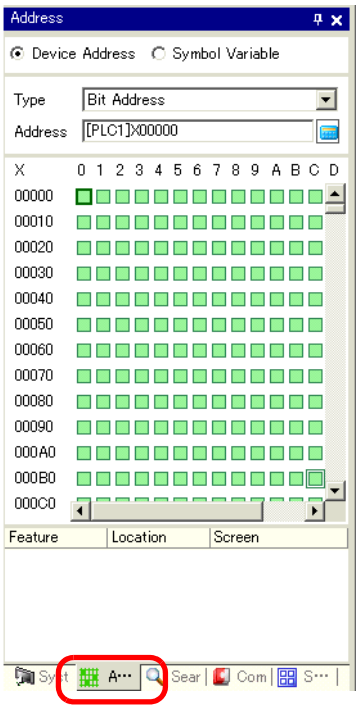


- For the [Register Variable] field, if you select [Variable Format] and [Register as Symbol] it is registered as a symbol of "word address" type. When you click [Register as Variable], it is registered as a variable of "integer variable" type.
  If you select [Address Format], the following message appears. Click [Yes] to register it as a "word address" type symbol.



■ Confirming the Symbol Registration

1 Click [Address] in the Work Space.

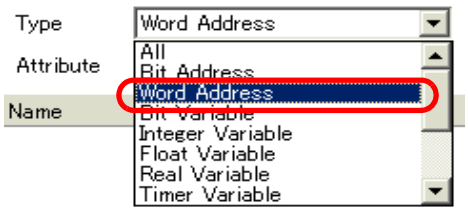


NOTE

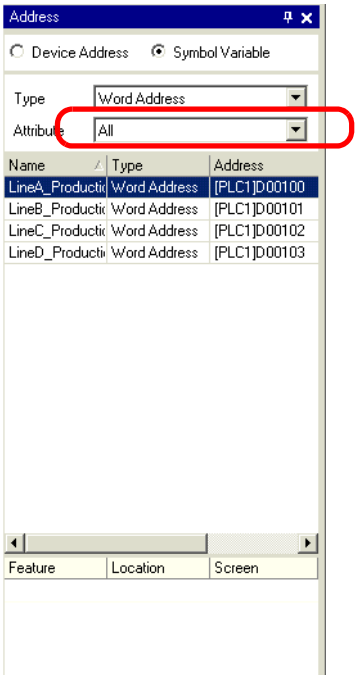
- If the [Address] tab is not displayed in the Work Space, from the [View (V)] menu, point to [Work Space (W)] and select [Address (A)].

2 Select [Symbol Variable].

3 From the [Type] drop-down list select the symbol's address type.



4 In the [Attribute] drop-down list, select the device/PLC for the symbol variable to display. The symbol variable's address list is displayed.

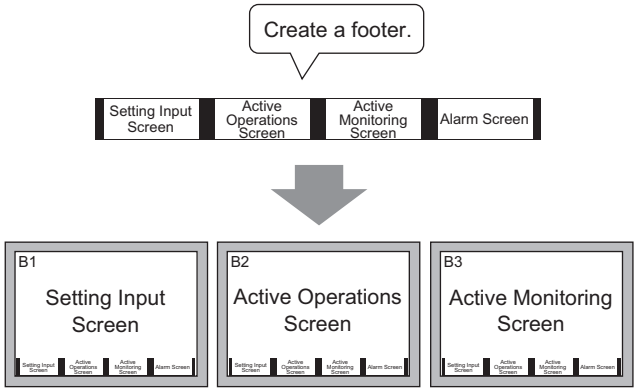


NOTE

- To associate an address with a part, you can drag the address to a part displayed on the screen.
- By double-clicking the address in the list, you can open the [Edit Symbol Variables] dialog box.

5.10 Using Headers and Footers on a Screen

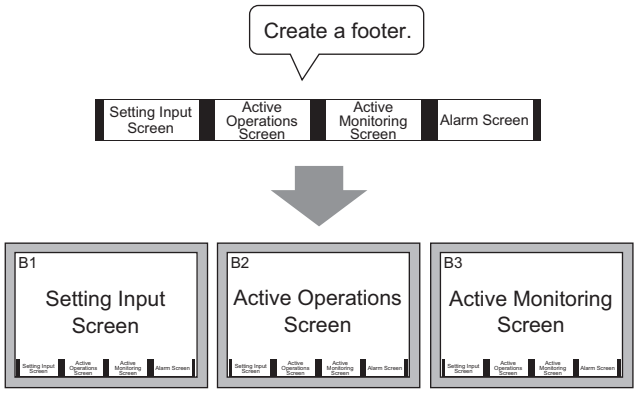
5.10.1 Introduction



You can display a footer for each screen.

You can display the same header/footer on multiple screens.
You can create up to 20 headers and 20 footers.

5.10.2 Setup Procedure



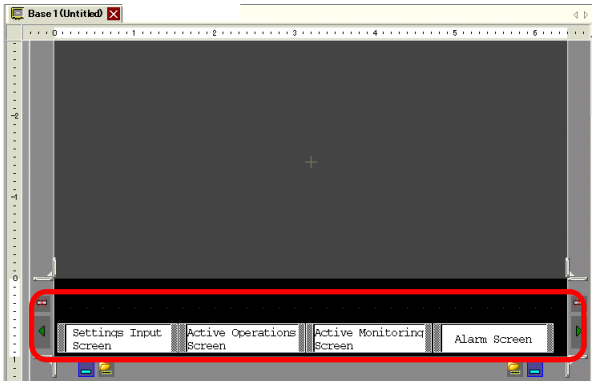
You can display a footer for each screen.

1 You can display a header or footer on each screen. To display the footer screen area, from the [View (V)] menu, select [Footer (F)] or click the [Edit Footer] button at the bottom of the drawing screen.

NOTE

- To display the header screen area, from the [View (V)] menu, select [Header (H)] or click the [Edit Header] button at the top of the drawing screen.

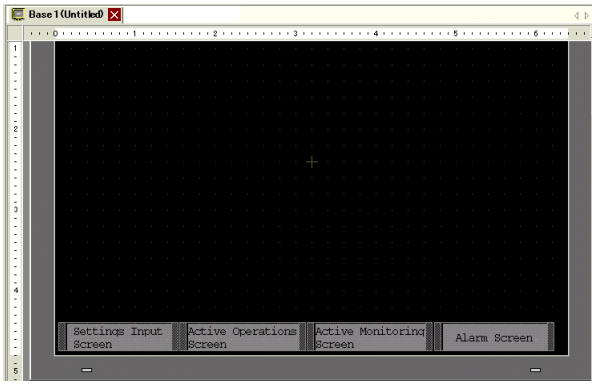
2 Create a screen in the footer editing area.



NOTE

- To delete the created footer area, click .
- To create another footer, click the [Next Footer] button , or click the [Select Footer] button and in the footer list click [New].

3 Click the [Disable footer edit] button to close the footer area.



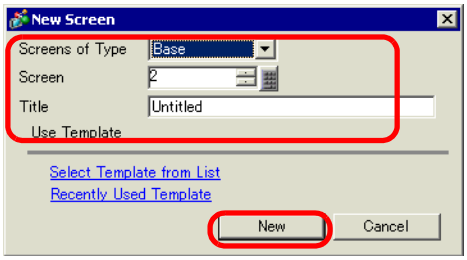
NOTE

- You can create up to 20 headers and 20 footers.
- You can specify a comment in each header/footer. The comment is displayed in the bottom right corner of a header/footer. To specify a comment, from the [View (V)] menu, point to [Work Space (W)] and select [Properties (P)]. In the Properties dialog box, enter your comments.
- If you change from a high resolution GP model to a low resolution model, the headers and footers are not scaled down. After changing the display model, you need to adjust the header/footer size and position.

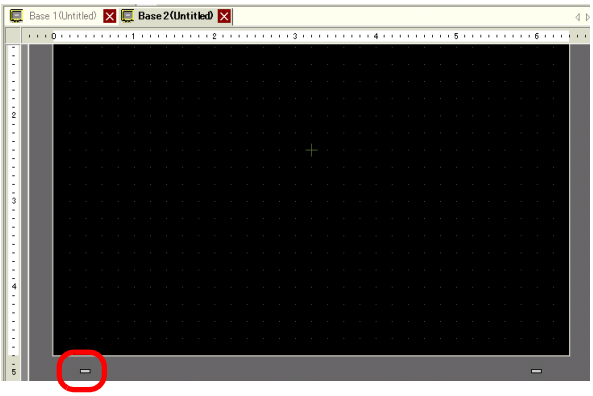
■ Reusing a Header/Footer

1 From the [Screen (S)] menu, select [New Screen (N)] or click the [New Screen] button .

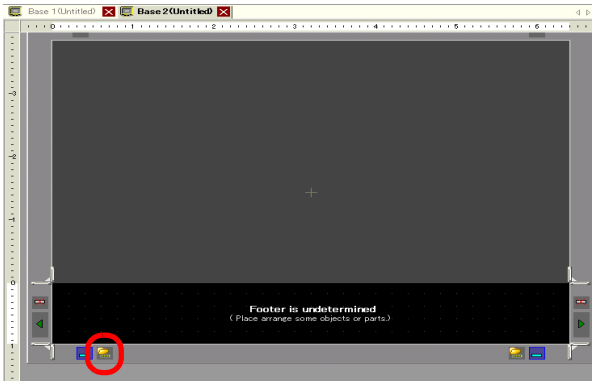
2 In the [New Screen] dialog box, specify [Screens of Type], [Screen], [Title], and click [New].



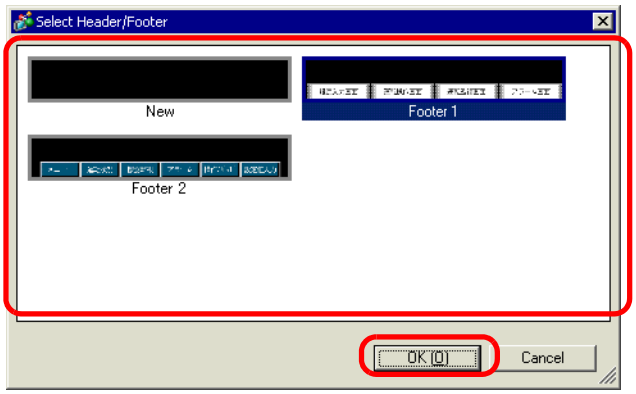
3 From the [View (V)] menu, select [Footer (F)] or click the [Edit Footer] button at the bottom of the drawing screen.



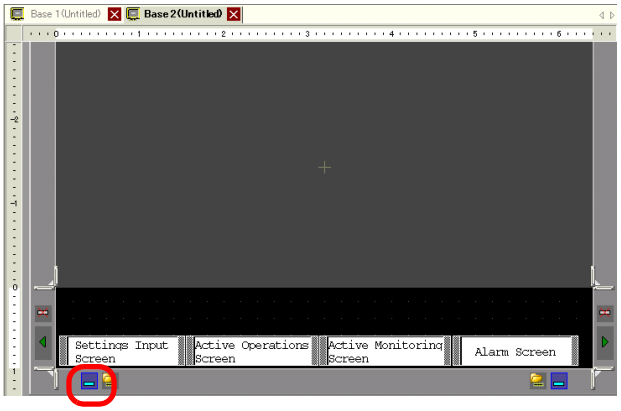
4 The footer screen editing area is displayed. Click the [Select Footer] button .



5 The registered footers are listed. Select the footer you wish to use and click [OK].

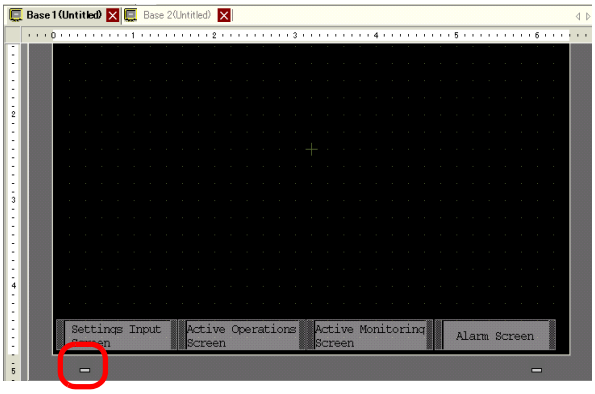


6 The selected footer is displayed. Click the [Disable footer edit] button to close the editing area.



■ Removing a Header/Footer

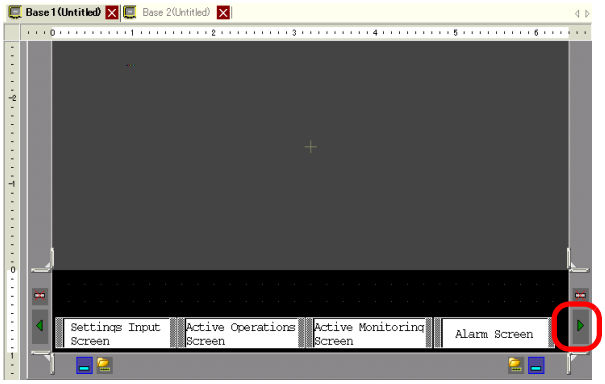
1 Open the screen with the footer you want to remove and click the [Edit Footer] button .



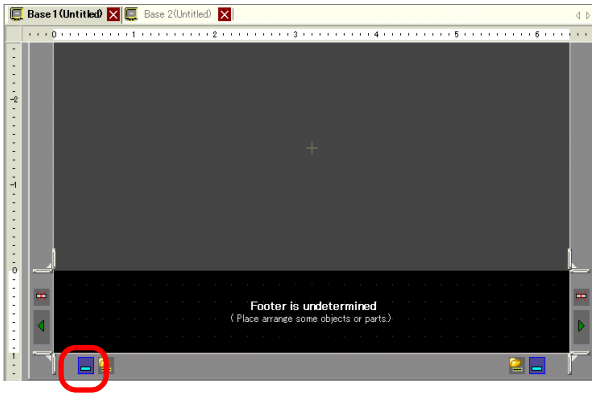
NOTE

- To view a header, from the [View (V)] menu, select [Header (H)] or click the [Edit Header] button at the top of the drawing screen.

2 Click the [Next Footer] button or the [Select Footer] button .and select a blank footer.

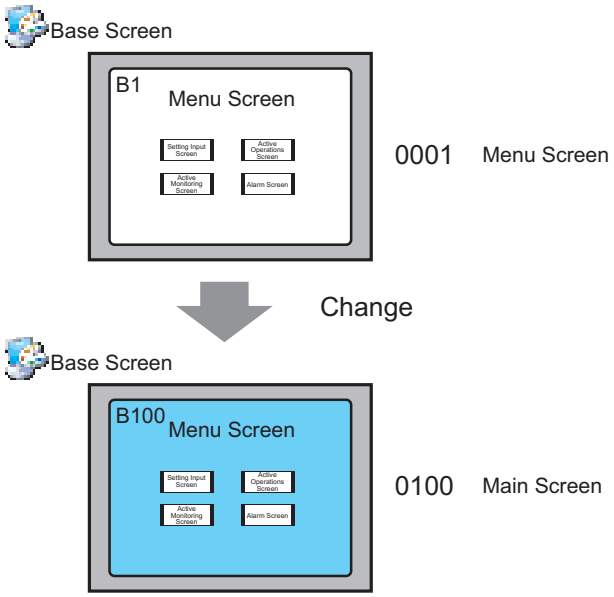


3 Click the [Disable footer edit] button to close the editing area.



5.11 Changing the Screen Number/Title/Screen Color

5.11.1 Introduction

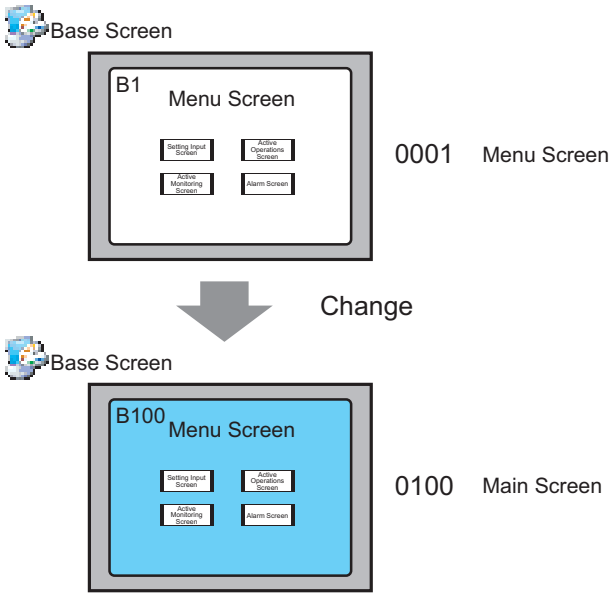


You can change the screen number, screen title, and screen color in a project file.

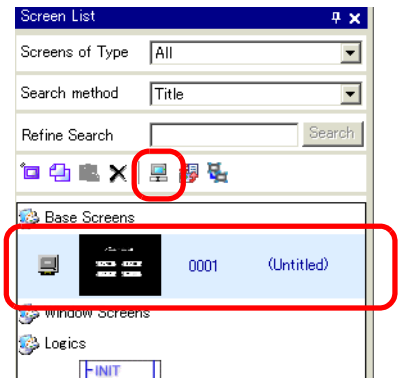
5.11.2 Setup Procedure

NOTE

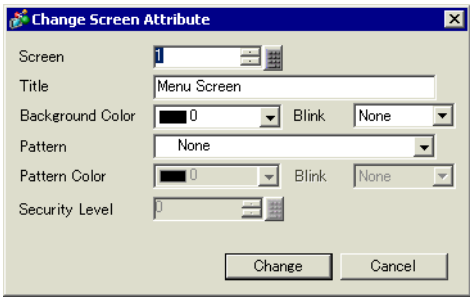
- Refer to the settings guide for details.
  ☞ " ■ Screen List" (page 5-103)



1 From [Screen List] window, select the screen with the attribute you want to change and click the [Change Screen Attribute] icon .



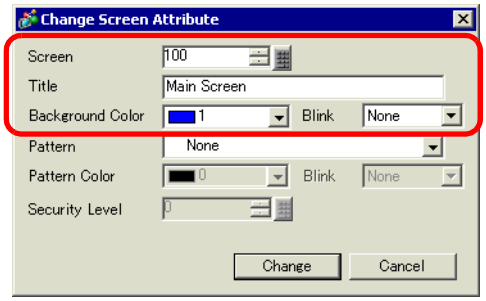
2 The [Change Screen Attribute] dialog box appears.



NOTE

- Alternatively, double-click the screen title bar in the upper editing area to display the [Change Screen Attribute] dialog box.

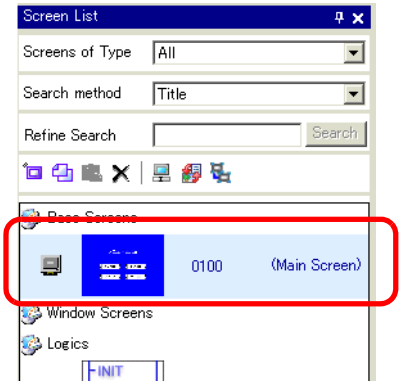
3 Change the [Screen], [Title] and [Background Color].
(For example, Screen: 100, Title: Main Screen)



NOTE

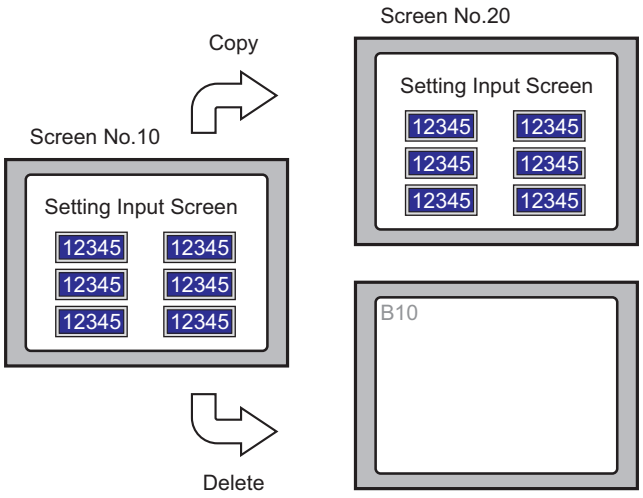
- To specify the [Security Level], see:
☞ "22.2 Creating Limited Access Screens" (page 22-3)

4 The screen attribute is updated.



5.12 Copying/Deleting a Screen

5.12.1 Introduction

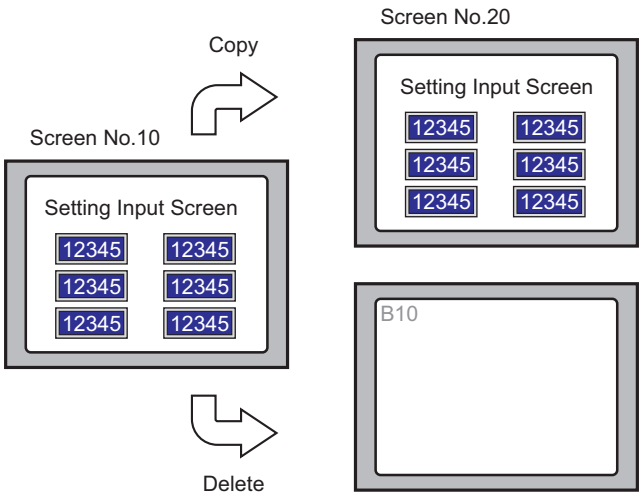


You can copy or delete a screen.

5.12.2 Setup Procedure

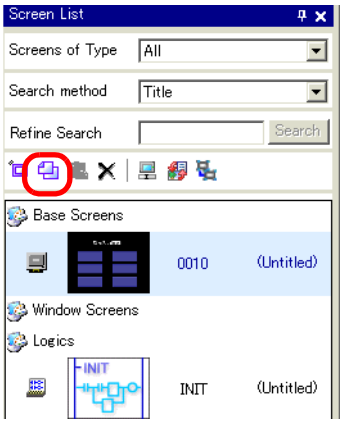
NOTE

- Refer to the settings guide for details.
  ☞ " ■ Screen List" (page 5-103)

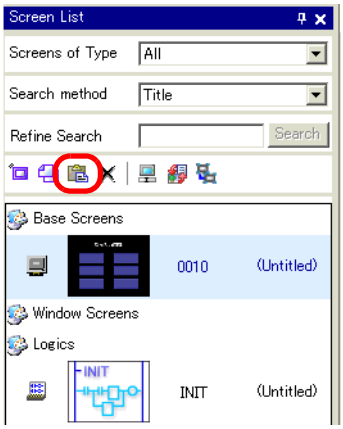


■ Copying a Screen

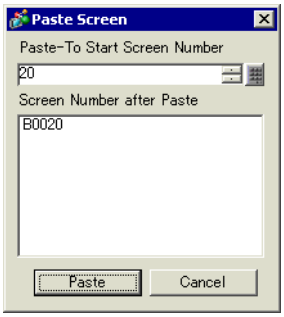
1 In the [Screen List], select the screen you want to copy from and click [Copy].



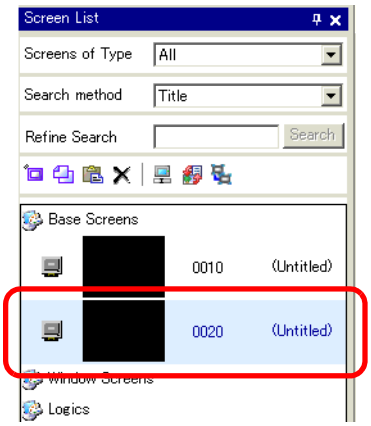
2 Click the [Paste] icon .



3 In the [Paste Screen] dialog box, specify the [Paste-To Start Screen Number] and [Screen Number after Paste] and click [Paste]. (For example, [Paste-To Start Screen Number] 20)



4 A thumbnail view of the pasted screen is displayed in the [Screen List].

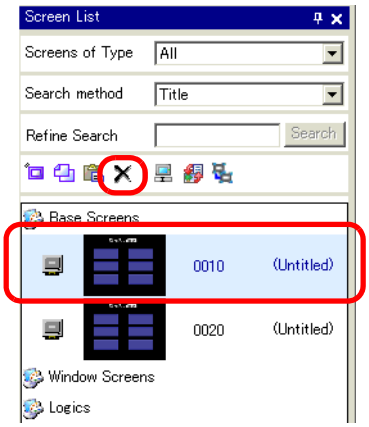


NOTE

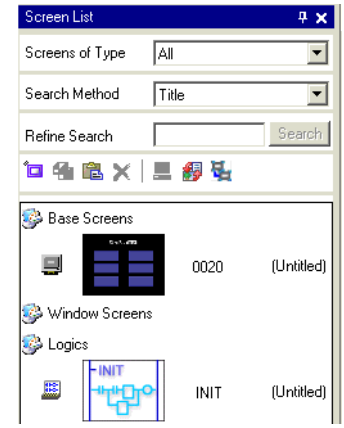
- To select multiple screens at a time, select the target screens on the [Screen List] with the [Shift] key + click, or the [Ctrl] key + click.

■ Delete a Screen

1 In the [Screen List], select the screen you want to delete from and click the [Delete] icon .



2 The screen is deleted from the [Screen List].

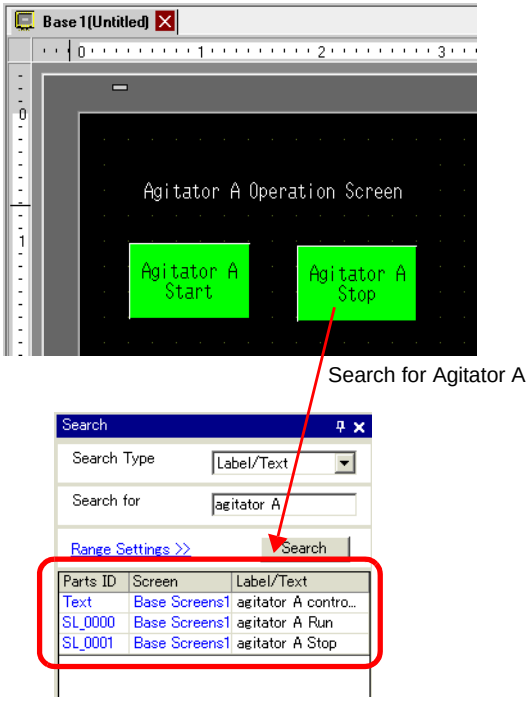


NOTE

- To select multiple screens at a time, select the target screens on the [Screen List] with the [Shift] key + click, or the [Ctrl] key + click.

5.13 Searching/Replacing Parts Addresses, Labels, and Comments

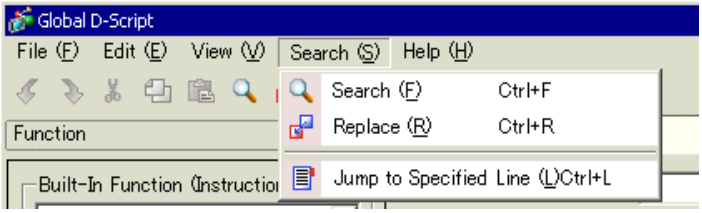
5.13.1 Introduction



You can search and replace the addresses, labels, and comments of the parts used on the screen.

NOTE

- You cannot search addresses and texts if they are used in the [Common] settings. You can search parts or drawings found on a base screen, window screen, video screen, and header/footer.
- You cannot search addresses and comments if they are used in scripts. To search texts used in scripts, go to the [Search] menu in the Settings dialog box.
  For example, Global D-Script



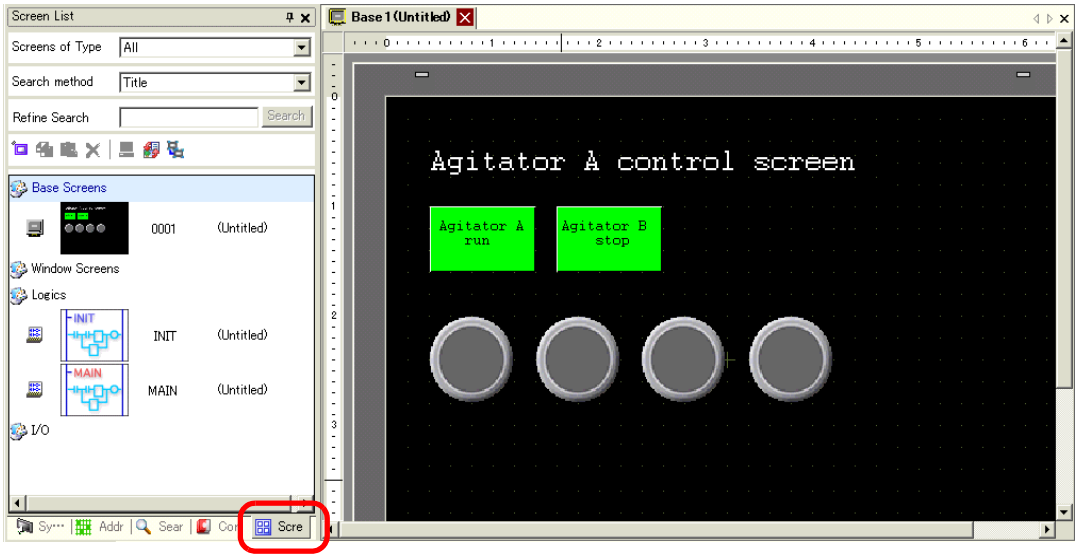
5.13.2 Setup Procedure

NOTE

- Refer to the settings guide for details.

☞ "5.14.5 [Work Space] Settings Guide" (page 5-97)

1 Click the [Search] tab in the work space.



NOTE

- If the work space does not have the [Search] tab displayed, from the [View] menu, point to [Work Space (W)] and select [Search (F)].

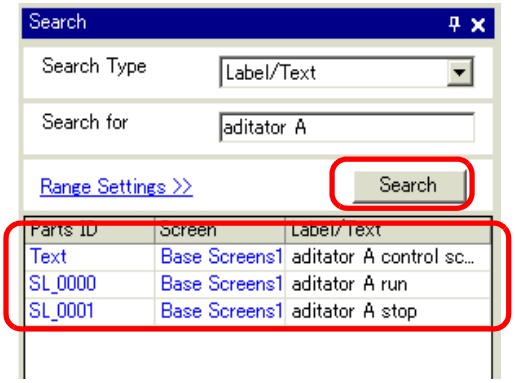
2 The [Search] window appears. Select the search target from [Search Type]. (For example, [Label/Text])

3 Enter the text you want to search for (For example, Agitator A).

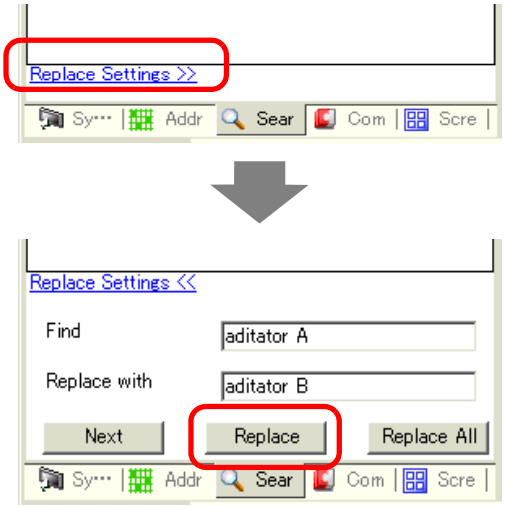
NOTE

- To search for [Comment] or [Label/Text], the following search is also available.
  For example, 1) In [Find Comment], enter [Alarm?]
  -> You can find [Alarm A] but not [Alarm AB] with a different number of words.
  For example, 2) In [Find Comment], enter [Alarm*]
  -> You can find both [Alarm A] and [Alarm AB].

4 Click [Search]. The search results appear.



5 To replace the found text into another text, click [Replace Settings]. From the search results, select the line of the parts you wish to replace and enter the new text and click [Replace].

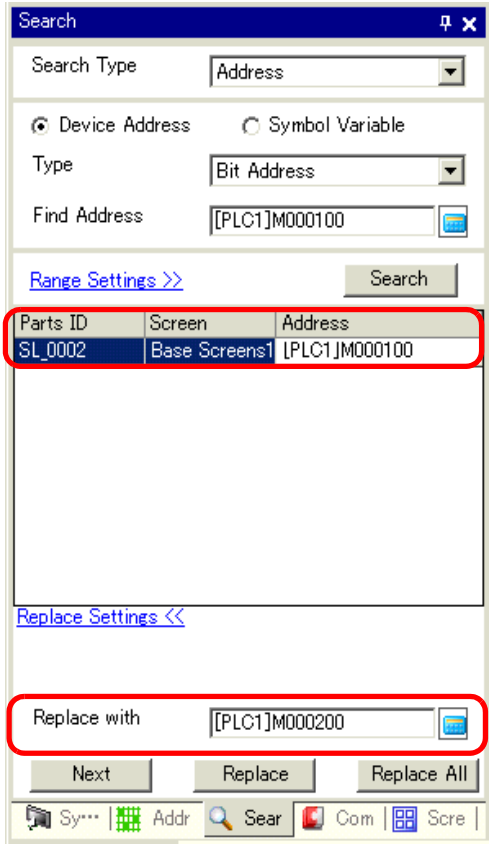


NOTE

- To replace all the texts of multiple parts from the search result, select the relevant line with pressing the CTRL key. Use the SHIFT key to select multiple lines in sequence.

NOTE

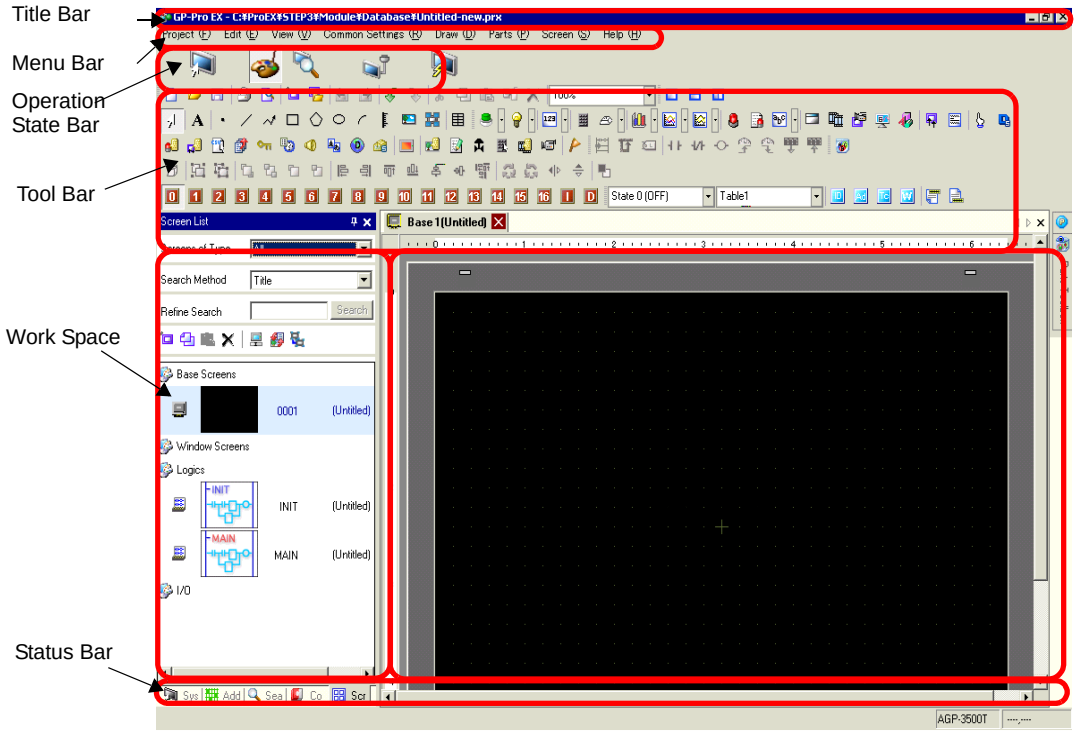
- You can only replace [Comment], [Label/Text], and [Address]. You cannot replace [Parts ID].
- To replace [Address], select the address to replace from the search result. Once entering [Replace with], click [Replace] or [Replace All].



5.14 Settings Guide

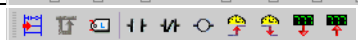
5.14.1 Main Window Part Names

The following explains the basic screens and names in GP-Pro EX.



Setting	Description
Title Bar	Displays a project file name or screen title.
Menu Bar	Displays GP-Pro EX operation menus, which change depending on what you are editing.
Operation State Bar	Select from [System Settings], [Edit], [Preview], [Transfer Project], or [Monitor] to switch to the operation screen. • System Settings: Displays the System Settings window and in the editing area the previously selected settings. “5.14.6 [System Settings] Setting Guide” (page 5-111) • Edit: Displays the screen editor where you can draw graphics and define common settings. • Preview: Displays the preview screen where you can check the display state of screens. You can copy previews to the clipboard or save them as JPEG files. • Transfer Project: Launches the Transfer Tool. “33.10 Setting Up Transfer Tool” (page 33-57) • Monitor: When the display unit is connected to the PC, you can view the operation and state of the logic program on the display unit from the PC. “29.10 Monitoring Logic Programs (Online Monitor)” (page 29-77)

Continued

Setting	Description
Tool Bar	Displays command icons, such as Part, Draw or Edit. Click one of these icons with the mouse to execute the operation. You can show or hide the toolbar. From the [View (V)] menu, select [Toolbar (T)]. Also, the bar can be moved by dragging and placing it on the left, right, top, or bottom of the screen. Listed are the following sections on the Tool Bar. **NOTE** • You can customize the toolbar depending on frequency of use. On the [View (V)] menu, point to [Preferences (O)], select [Toolbar], and click [Toolbar Settings]. The Toolbar Settings window appears. It allows you to add and delete icons. Alternatively, right-click the icon on the tool bar to display the Toolbar Settings window.
Standard	
Edit	
View	
Draw	
Parts	
Instruction	
Package	
Common Settings	
Editing Area Tiling	
Change part state	
Work Space	Displays a Window. By dragging a Window, you can move and place it in the desired position. Displays the following types of Windows.
System Settings Address Settings Common Settings Screen list Search window	Displays [System Settings], [Address], [Common Settings], [Screen List], [Search]. • System Settings ☞ “ ■ System Settings” (page 5-97) • Address Settings ☞ “ ■ Address Settings” (page 5-99) • Common Settings ☞ “ ■ Common Setting” (page 5-101) • Screen List Window ☞ “ ■ Screen List” (page 5-103) • Search ☞ “ ■ Search” (page 5-107)

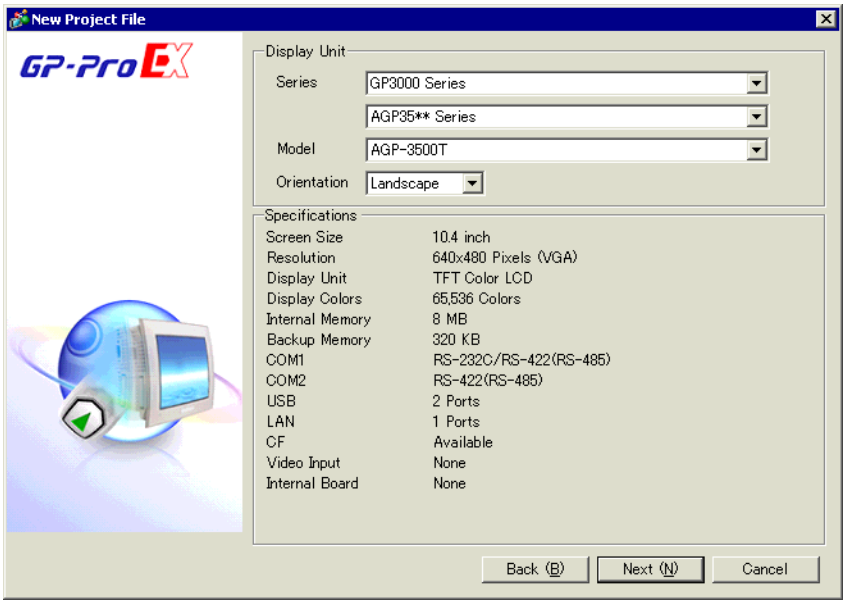
Continued

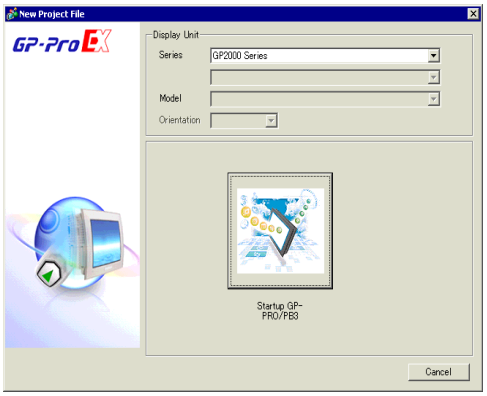
Setting		Description
Work Space	Properties	Displays the selected part or screen's attributes to confirm or edit the attributes. ☞ " ■ Properties" (page 5-105) **NOTE** • This window is displayed the first time you start up the GP.
	Parts Toolbox	The window lists the part shapes. This allows you to select the parts shapes you wish to use and drag & drop the parts to place them on the screen.
	Screen Data List	Displays a list of drawings and Parts on the screen. ☞ " ■ Screen Data List Window" (page 5-106)
	Comment Settings	☞ " ■ Comment List Window" (page 5-110)
	Watch List	☞ "29.14.2 [Work Space] Settings Guide ■ Watch List Window" (page 29-142)
	Error Check	Displays a list of errors found on the created screen. You can execute an error check by clicking the icon in the window. ☞ " ■ Error Check" (page 5-154)
	PID Monitor	☞ "29.14.2 [Work Space] Settings Guide ■ PID Monitor Window" (page 29-138)
Editing Area		This is the area used to edit a screen. The editing area displays Base Screens, Window Screens, or the registration of each functionís [Common Settings] and setting screens. You can change the display method of the editing area using the [Editing Area (B)] option from the [View (V)] menu. Also, when displaying Base Screens or Window Screens, you can change the display state by using [Zoom (Z)] or [Change Language (L)].
Status Bar		Displays the specified model and the coordinate position of the mouse pointer in the editing area.
Zoom Box		The window displays the enlarged image around the cursor. From the [View (V)] menu, select [Zoom Box] to display/hide the screen or to change the enlargement percentage.

5.14.2 [New] Settings Guide

To create a new project, from the [Project (F)] menu, select [New (N)] or click . The [New Project File] dialog box appears. Set the display model.

■ Display Settings



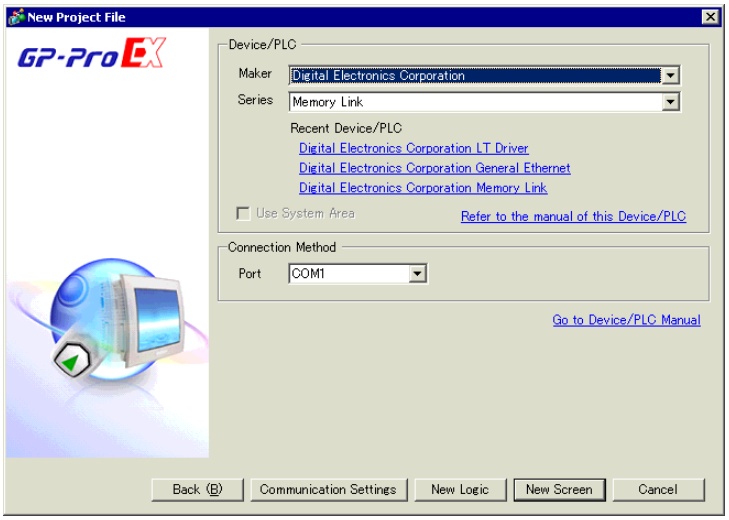
Setting	Description
Select Series	Select the display unit to use from [GP3000 Series], [GP2000 Series], [ST3000 Series], [LT3000 Series], or [IPC Series]. **NOTE** • If you select [GP2000 Series], the following dialog box appears. Click the icon to exit GP-Pro EX and start GP-PRO/PB3. GP-PRO/PB does not start if not installed. 

Continued

Setting		Description
Display Unit		Set the Display Unit.
	Series	Select the Series.
	Model	Select one of the models from the series.
	Orientation	Select the display orientation from [Landscape] and [Portrait]. This is not displayed if [IPC Series] is selected.
	Screen Size	Only when [IPC Series] is selected, sets the display size for the screen data.
Specifications		Displays the specifications of the display specified in [Display Unit].

■ Device/PLC Series Settings

Click [Next] after the setting the display and the following dialog box appears. Select the Device/PLC.



Setting		Description
Device/PLC		Set the device/PLC.
	Maker	Select the device/PLC maker name.
	Series	Select the series for the device/PLC selected in [Maker].
	Recent Device/PLC	Displays the maker name and series name of up to three devices/PLCs recently specified in the [New Project File] dialog box. Click each display to specify the [Maker] and [Series].
	Use System Area	Designate whether or not to assign the GP internal system data area to the device/PLC. ☞ " ◆ System Area Settings" (page 5-135)
	Refer to the manual of this Device/PLC	Displays the page in "GP-Pro EX Device Connection Manual" that describes the device/PLC selected.
Connection Method		Set the connection method of the GP and device/PLC.
	Port	Select the port to allocate to the device/PLC from [COM1], [COM2], [Ethernet (UDP)], and [Ethernet (TCP)].
Go to Device/PLC Manual		Displays the top page of "GP-Pro EX Device Connection Manual."

5.14.3 [Properties] Settings Guide

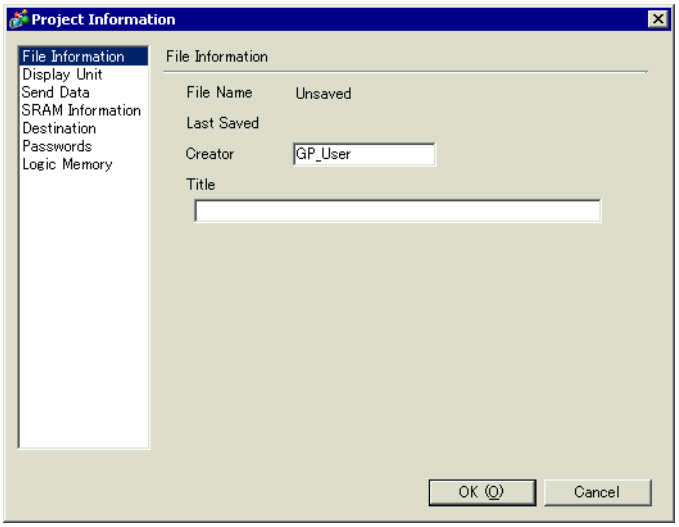
This section covers the Project Information dialog box. To open this dialog box, from the [Project (F)] menu, select [Information (I)].

■ Project Information

The Project Information dialog box displays the settings for communicating with the display unit.

◆ File Information

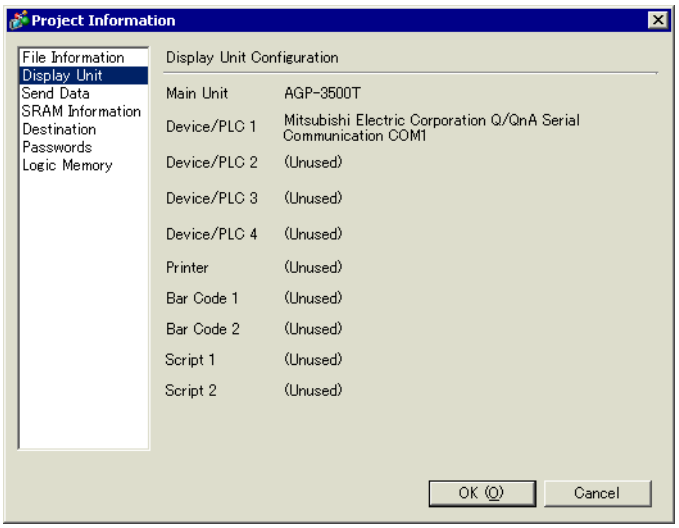
Displays information of a project file.



Setting	Description
File Name	Displays a project file name.
Last Saved	Displays the year, date, day of the week, and time when the last project file was saved. The format is [Day of the Week], [Month], [Date], [Time (hh:mm:ss)], and [Year].
Creator	Set the name of the project file creator. You can input up to 30 characters.
Comment	Set a comment for the project file. You can input up to 60 characters.

◆ Display Unit

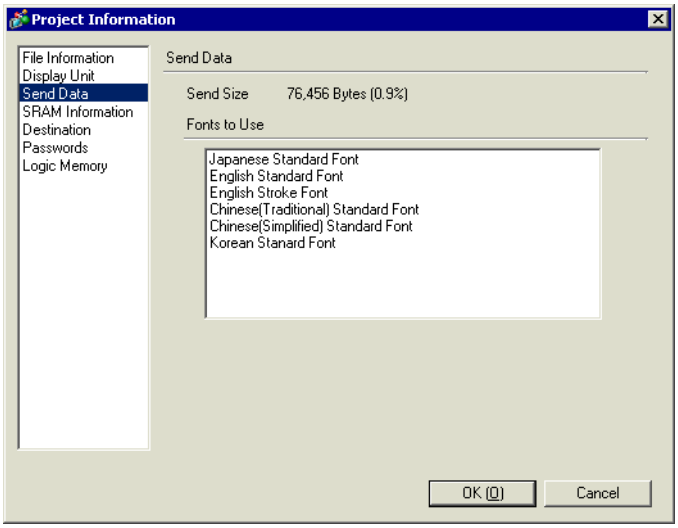
Displays the type or name of the specified devices/PLC and peripheral devices. Displays [Unused] for unused devices.



Setting	Description
Display Unit	Displays the display model name.
Device/PLC 1	Displays the specified device/PLC's series. ☞ "5.14.6 [System Settings] Setting Guide" (page 5-111)
Device/PLC 2	
Device/PLC 3	
Device/PLC 4	
Printer	Displays the specified printer type. ☞ "34.6.2 System Settings [Printer] Settings Guide" (page 34-48)
Bar Code 1	Displays the specified bar code type. ☞ "8.4.1 [Input Equipment Settings] Settings Guide" (page 8-21)
Bar Code 2	
Script 1	Displays the specified script type. ☞ " ■ [Script I/O Settings] Settings Guide" (page 5-145)
Script 2	

◆ Send Data

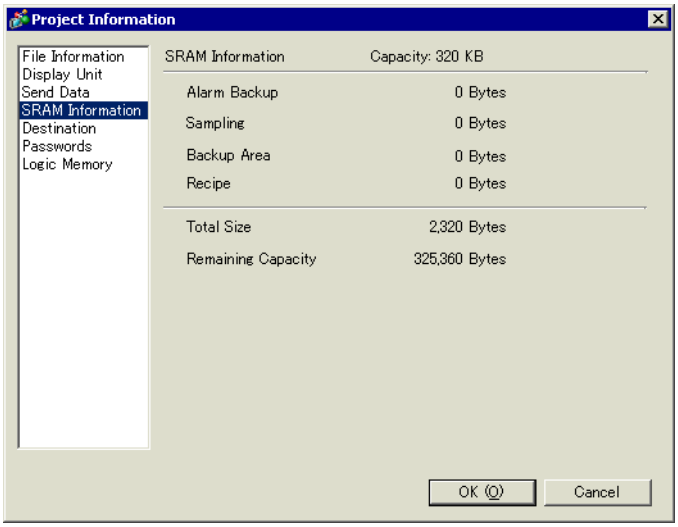
Displays information of the data to transfer to the display.



Setting	Description
Send Size	Displays the total size of the project data to send. The data exceeding the maximum size that the GP can accept is displayed with red characters.
Fonts to Use	Displays a list of fonts to send. Designate the fonts for a project in [System Settings]> [Font]. ☞ "6.4 [Font] Settings Guide" (page 6-19)

◆ SRAM Information

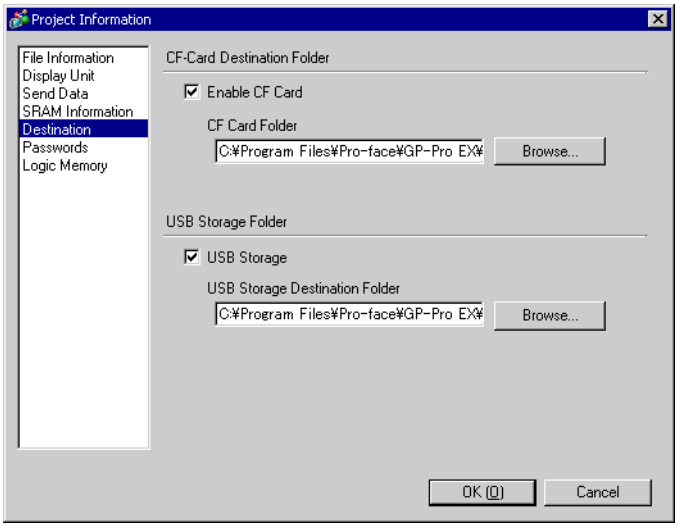
Displays information of GP's backup SRAM capacity.



Setting	Description
Capacity	Displays the specified display's backup SRAM capacity in KB.
Alarm Backup	Displays the SRAM size used for Alarm History.
Sampling	Displays the SRAM size used for Sampling.
Backup Area	Displays the SRAM size used for the GP internal device backup.
Recipe	Displays the SRAM size used for Recipe.
Total Size	Displays the total size used for the SRAM by the byte.
Remaining Capacity	Displays the remaining capacity by the byte. If the total size exceeds the capacity, the value is displayed with a minus.

◆ Destination

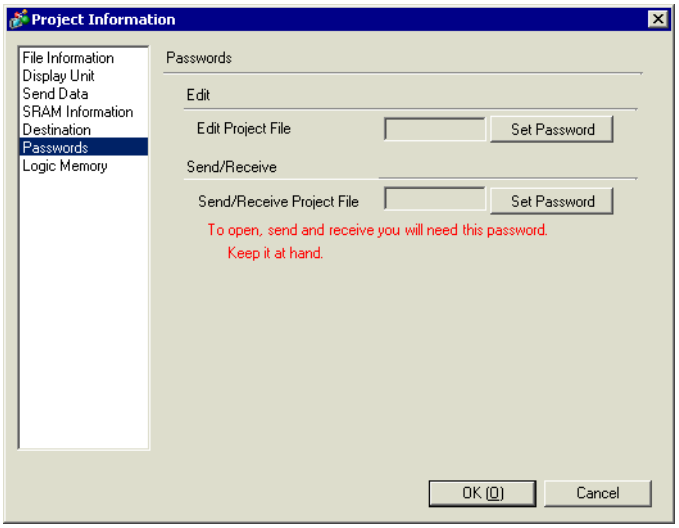
Specifies the location to save data you transfer to a CF Card and USB storage inserted to GP.

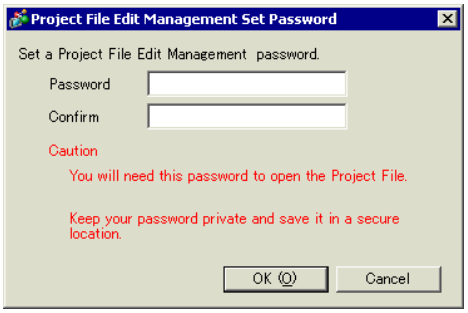
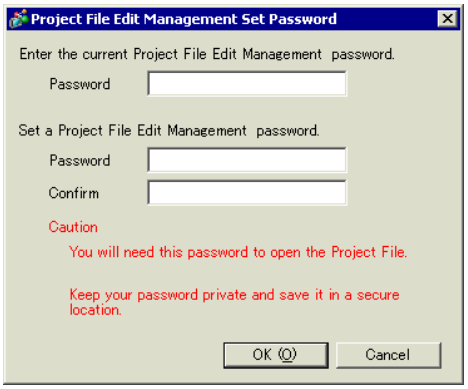


Setting	Description
Enable CF Card	Select whether or not to use a CF Card in a project.
CF Card Folder	Specifies the location to store data you save on the CF Card. Click [Browse...] to display the dialog box that designates the directory. In the initial settings, \Program Files\Pro-faceGP-Pro EX *.** (*.** show the version) \Database\ (folder with the same name as the project file) is specified.
USB Storage	Select whether to use USB storage in the project.
USB Storage Destination Folder	Specifies the location to store data you save in USB storage. Click [Browse...] to display the dialog box that designate the directory. In the initial settings, \Program Files\Pro-face\GP-Pro EX *.** (*.** shows the version) \Database\ USB is specified.

◆ Passwords

Set a password for editing or transferring a project file.



Setting	Description
Edit	Set a password to protect the project file.
Edit Project File	Displays the password as "*****" .
Set Password	Click this button and the following dialog box appears:  If you click [Set Password] when a password is already set, the following dialog box appears. Change or remove the password. 

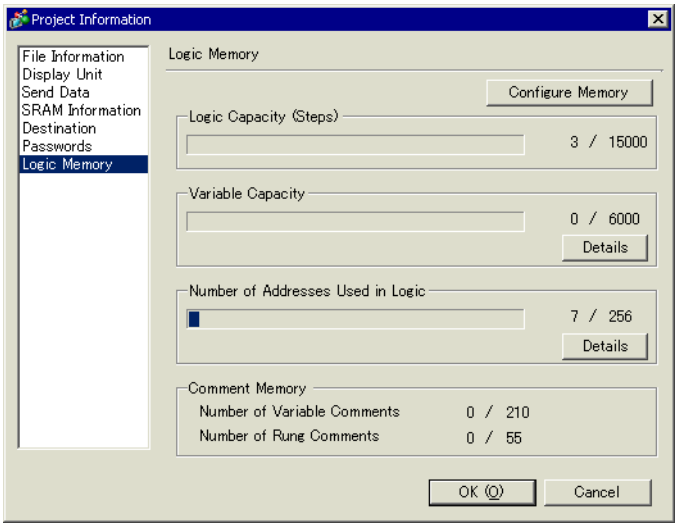
Continued

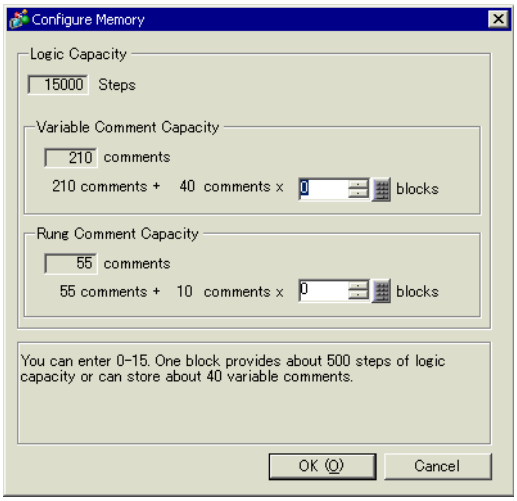
<table>
<tr><th colspan="2">Setting</th><th>Description</th></tr>
<tr><td rowspan="2">Edit</td><td>Password</td><td>Set a password with up to 10 characters.</td></tr>
<tr><td>Confirm</td><td>Confirm the password.
NOTE
• If you click [OK] leaving this box blank, the password is not set.</td></tr>
<tr><td colspan="2">Send/Receive</td><td>Set a password to Permit a project transfer.</td></tr>
<tr><td></td><td>Send/Receive Project File</td><td>Displays a password for sending/receiving with "*****" .</td></tr>
<tr><td></td><td>Set Password</td><td>Click this button and the following dialog box appears:

If you click [Set Password] when a password is already set, the following dialog box appears. Change or remove the password.
</td></tr>
<tr><td></td><td>Password</td><td>Set a password with up to 24 characters.</td></tr>
<tr><td></td><td>Confirm</td><td>Confirm the password.
NOTE
• If you click [OK] leaving this box blank, the password is not set.</td></tr>
</table>

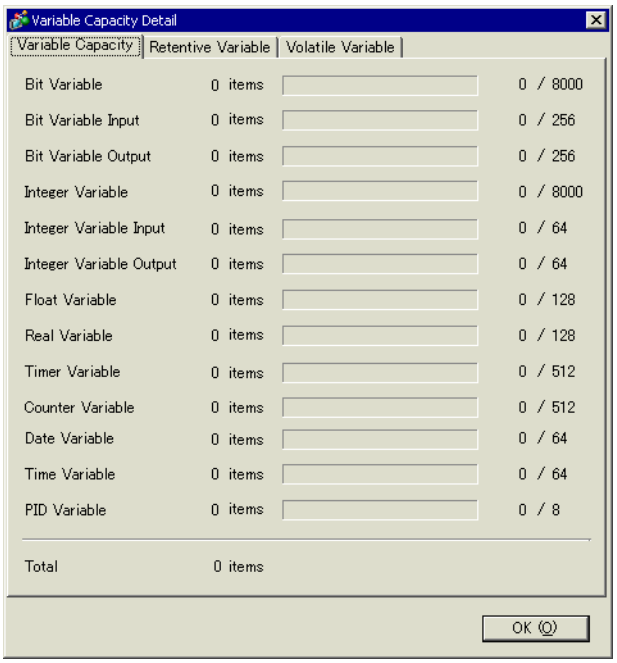
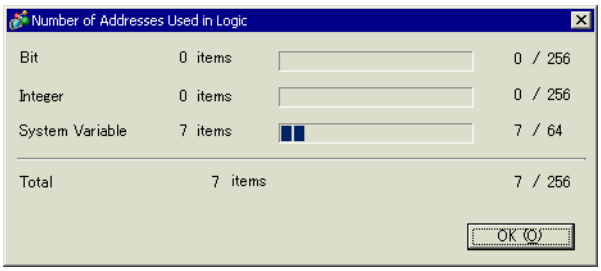
◆ Logic Memory

You can check the current logic capacity, symbol variable capacity, address points, and comment memory of the logic program. You can also change the proportion of the logic capacity and comment memory as required.



Setting	Description
Configure Memory	Click this button and the following dialog box appears. 
Logic Capacity	Displays the number of Steps that you can create.
Variable Comment Capacity	Sets the upper limit for the symbol variable comment memory, ranging from 0 to 15.
Rung Comment Capacity	Sets the upper limit for the rung comment capacity, ranging from 0 to 15.

Continued

Setting	Description
Variable Capacity	Displays the current and total configurable number of symbol variables used.
Details	Click this button and the following dialog box appears. You can check the number of symbol variables currently used and the possible configurable number, as well as the total number of symbol variables. 
Number of Addresses Used in Logic	Displays the number of addresses currently used in the logic program and the possible configurable number.
Details	Click this button and the following dialog box appears. You can check the current number used, the possible configurable number, as well as the total number of bit variables, integers, and system variables. 
Comment Memory	Displays the current and configurable number of symbol variable and rung comments.

■ Destination Folder

Specifies the designation folder for the CF Card or the USB storage.

☞ “ ◆ Destination” (page 5-85)

■ Protect Data

Set a password for editing or transferring a project file.

☞ “ ◆ Passwords” (page 5-86)

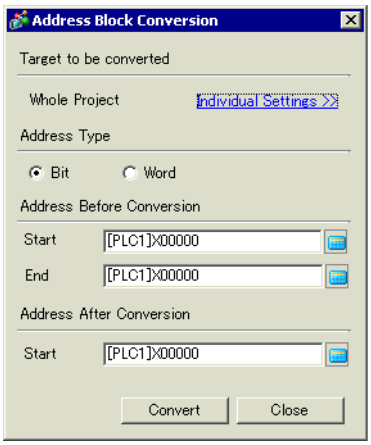
5.14.4 [Utility] Settings Guide

This section covers the Utilities. To open the utilities, from the [Project (F)] menu select [Utility (T)].

■ Address Block Conversion

Converts the sequential addresses specified in a project. There are two conversion methods: [Whole Project] converts the addresses in the whole project as a block, and [Individual Settings] converts the selected target screens or features.

◆ Whole Project



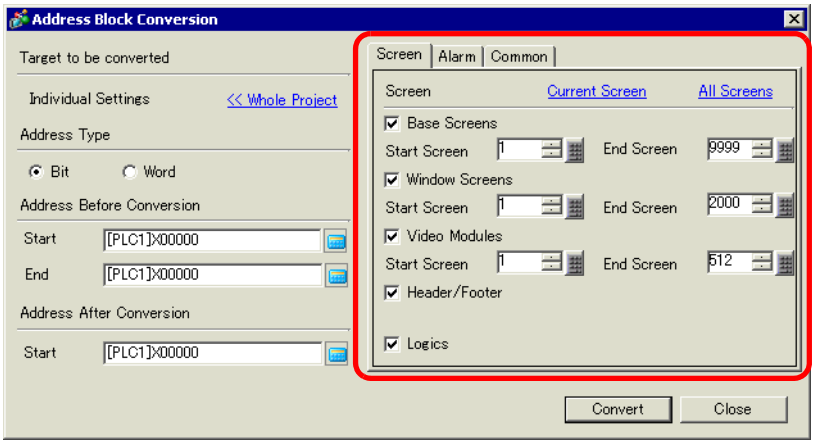
Setting	Description
Conversion Target	Displays the conversion target.
Whole Project	Display this when converting all the addresses in a project file.
Individual Settings	Goes to the mode that sets the selected target individually. ☞ " ◆ Individual Settings" (page 5-91)
Address Type	Select the address type to convert from [Bit] or [Word].
Address Before Conversion	Set the range of sequential addresses to convert.
Start	Set the start address to convert.
End	Set the end address to convert.
Address After Conversion	Set the addresses after conversion.
Start	Set the start address of the convert destination.

NOTE

- You cannot specify addresses from different registers.
- If the total number of addresses (End Address - Start Address) before conversion is greater than the total number of addresses (End Address - Start Address) after conversion, the last device address is assigned to all the unconverted addresses.

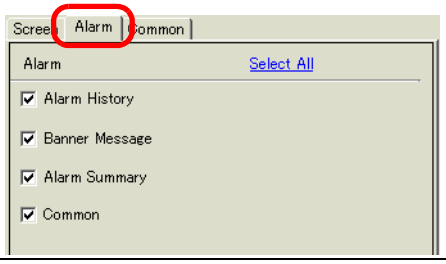
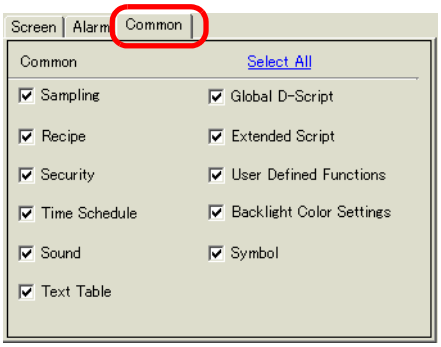
◆ Individual Settings

Sets the address conversion target screens individually and converts them.



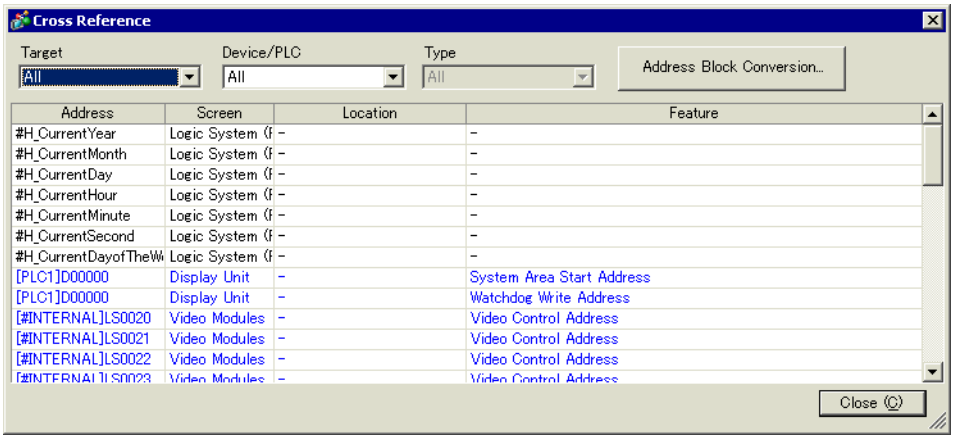
Setting	Description
Screen	Select the block of target screens to convert.
Current Screen	Converts addresses as a block only for the screens that are currently being edited.
All Screens	Runs address block conversion on all screens by selecting check boxes for all screen types.
Base Screens	Set whether or not to include Base Screens.
Start Screen	Set the start screen number of the Base Screens from 1 to 9,999.
End Screen	Set the end screen number of the Base Screens from 1 to 9,999.
Window Screen *1	Set whether or not to include Window Screens.
Start Screen	Set the start screen number of the Window Screens from 1 to 2,000.
End Screen	Set the end screen number of the Window Screens from 1 to 2,000.
Video Modules	Determines whether to include the Video Module window in the conversion.
Start Screen	Specifies the first Video Module window number to be included in the conversion from 1 to 512.
End Screen	Specifies the last Video Module window number to be included in the conversion from 1 to 512.
Header/ Footer	Set whether or not to include the addresses specified for Headers/Footers among the conversion.
Logics	Determines whether to include the logic screen in the conversion.

Continued

Setting	Description
Alarms	Select the Alarm Settings. 
Alarms	Select the conversion Alarm features from [Alarm History], [Banner Message], [Alarm Summary], or [Common].
Select All	Runs address block conversion on all alarm settings by selecting check boxes for all alarm types.
Common	Runs address block conversion on the features selected in [Common Settings]. 
Common	Select the conversion features from [Sampling], [Recipe], [Security], [Time Schedule], [Sound], [Text Table], [Global D-Script], [Extended Script], [User Defined Functions], [Backlight Color Settings] or [Symbol].
Select All	Runs address block conversion on all Common settings by selecting check boxes for all the features, except for alarms.

■ Cross Reference

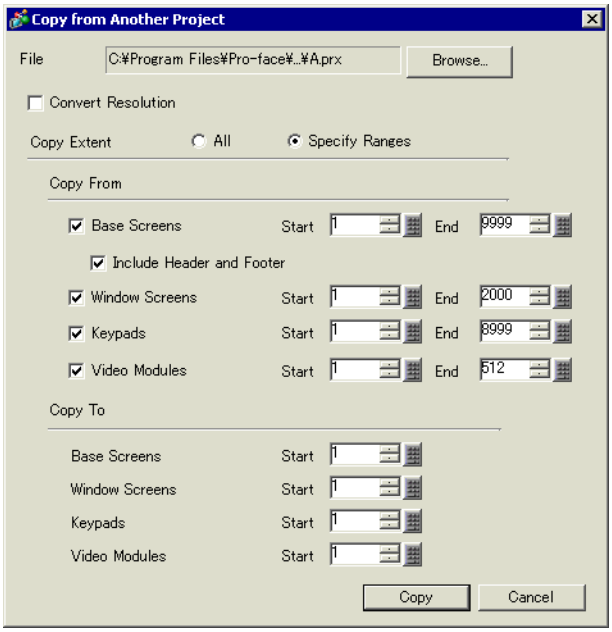
Displays the addresses used by screens and placed parts in a project.

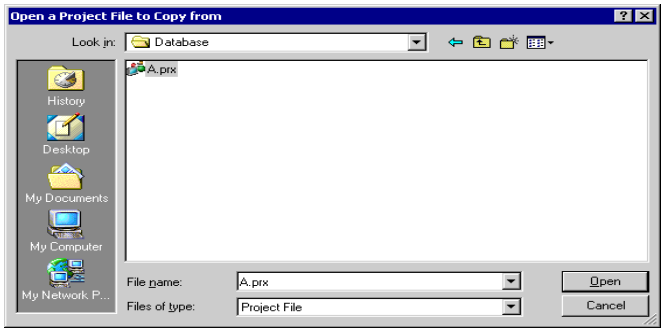


Setting	Description
Target	Select the contents to display on the Cross Reference from [All], [Current Screen], [Base Screen], [Window Screen], [Header/Footer], [Logics], [I/O], [Alarm], [Sampling], [Recipe], [Security], [Time Schedule], [Sound], [Text Table], [Global D-Script], [Extended Script], [User Defined Functions], [Backlight Color Settings], [Video Modules] or [System Settings].
Device/PLC	Select the contents to display on the Cross Reference from [All], [Symbol Variable], [PLC1] (device/PLC), [#INTERNAL] (internal device address), or [#MEMLINK] (only when using memory link).
Type	Select the address type to display from [All], [Bit Address], [Word Address], [Bit Variable], [Integer Variable], [Float Variable], [Real Variable], [Timer Variable], [Counter Variable], [Date Variable], [Time Variable], [PID Variable], [System Variable (Bit)], [System Variable (Integer)].
Address Block Conversion	Displays the [Address Block Conversion] dialog box. Converts the addresses specified in a project as a block. There are two conversion methods: [Whole Project], which converts the addresses in the whole project as a block, and [Individual Settings], which sets and converts the conversion target screens individually. ☞ " ■ Address Block Conversion" (page 5-90)
Address	Displays the address or symbol name in use.
Screen	Displays the screen numbers, Alarms, Common Settings' types in use.
Location	Displays the part IDs in use or the group, block number, or rung number an address belongs to.
Feature	Displays the usage of each address.

■ Copy from Another Project

Specifies another project file to copy necessary screens.



Setting	Description
File	Displays the copy-from file.
Convert Resolution	Specifies whether or not to adjust part size, position, and text size to the display resolution when copying the screen from a project with a different resolution. Some scale magnification may not convert properly due to text size and resolution limitations.
Browse	Click this button and the following dialog box appears. Set the copy-from fileís storage location and select a file. 
Copy Extent	Select the copy target from [All] or [Specify Ranges].

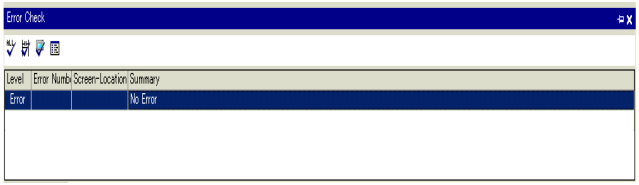
Continued

Setting			Description
Copy From			Set the target screens in Copy From when [Specify Ranges] is selected.
	Base Screens		Copies Base Screens in another project file.
		Start	Set the copy-from Base Screen start number from 1 to 9,999.
		End	Set the copy-from Base Screen end number from 1 to 9,999.
	Include Header and Footer.		Set whether or not to copy the header/footer in another project file.
	Window Screens		Copies Window Screens in another project file.
		Start	Set the copy-from Window Screen start number from 1 to 2,000.
		End	Set the copy-from Window Screen end number from 1 to 2,000.
Copy from Screen	Keypads		Copies the keypad screen from another project file.
		Start	Specifies the first copy-from keypad screen number from 1 to 8999.
		End	Specifies the last copy-to keypad screen number from 1 to 8999.
	Video Modules		Copies the Video Module window from another project file.
		Start	Specifies the first copy-from Video Module window number from 1 to 512.
		End	Specifies the last copy-from Video Module window end number from 1 to 512.
Copy To			Specifies the copy-to screen numbers.
	Base Screens		Specifies the copy-to Base Screen start number from 1 to 9,999.
	Window Screens		Specifies the copy-to Window Screen top number from 1 to 1,999.
	Keypads		Specifies the first copy-to keypad screen start number from 1 to 8999.
	Video Modules		Specifies the first copy-to Video Module window start number from 1 to 512.

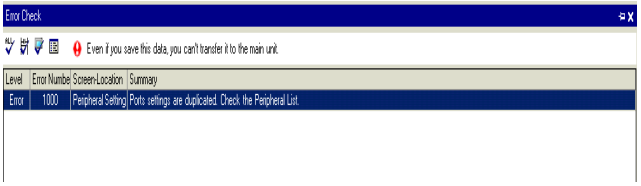
■ Error Check

Checks whether an error exists in the settings in a project.

No error



Error exists



Setting			Description
Operation Icons	All		Checks for errors in all settings.
	Logic only		Checks for errors in logic screen settings.
	Screen only		Checks for errors in the new screen settings.
	Settings		Displays the [Error Check] dialog box under [Preferences].
Level			Displays the level of error as either an [Error] or a [Warning].
Error Number			Displays the error number. For details about error numbers, refer to "Maintenance/Troubleshooting."
Screen-Location			Displays the screen Number, part Number, or Row Number where the error occurred.
Summary:			Displays the error details.

NOTE

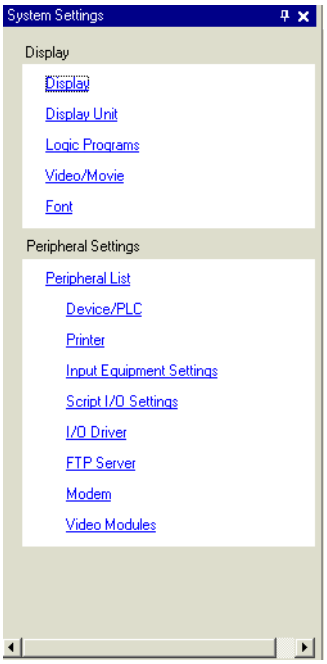
- Error checks are automatically performed when saving projects.

5.14.5 [Work Space] Settings Guide

This section covers the Work Space settings. To open each Work Space, from the [View (V)] menu, point to [Work Space (W)] and select the Work Space to open.

■ System Settings

This window is used to configure system settings for a project file.



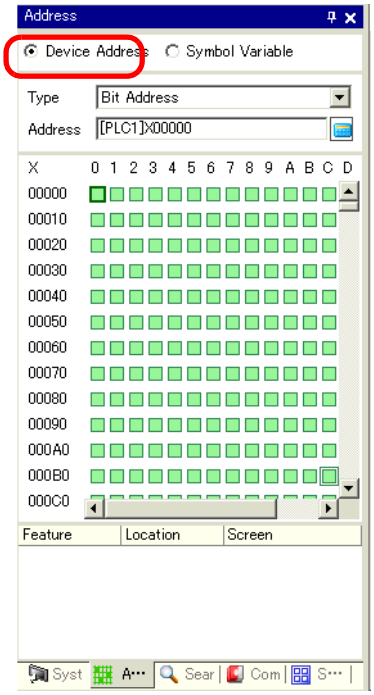
Setting		Description
Display		Configures the display settings.
	Display	Displays the display settings and specifications. ☞ " ■ [Display]" (page 5-111)
	Display Unit	Configures detailed settings for the display main unit. ☞ " ■ [Display Unit] Settings Guide" (page 5-112)
	Logic Programs	Configures the logic feature settings. ☞ "29.14.1 [Logic Programs] Setting Guide" (page 29-136)
	Video/Movie	Configures the settings for video play and movie recording. ☞ "27.9.1 [Video/Movie] Settings Guide" (page 27-73)
	Font	Sets a font to use on the display. ☞ "6.4 [Font] Settings Guide" (page 6-19)

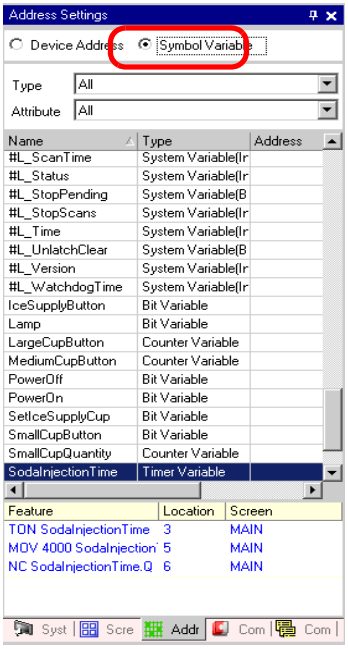
Continued

Setting		Description
Peripheral Settings		Configure settings for each peripheral device.
	Peripheral List	Displays a list of the specified peripheral devices. ☞ " ■ [Peripheral List] Settings Guide" (page 5-139)
	Device/PLC	Configure settings for a device/PLC. ☞ " ■ [Device/PLC] Setting Guide" (page 5-142)
	Printer	Configure settings to communicate with the printer. ☞ "34.6.2 System Settings [Printer] Settings Guide" (page 34-48)
	Input Equipment Settings	Configures the settings to communicate with the input device. ☞ "8.4.1 [Input Equipment Settings] Settings Guide" (page 8-21)
	Script I/O Settings	Configure Script I/O Settings. ☞ "20.8.1 D-Script/Common [Global D-Script] Settings Guide" (page 20-53)
	I/O Driver	Configures the I/O series settings. ☞ "31.2.1 [I/O Driver] Settings Guide" (page 31-12)
	FTP Server	Registers FTP servers. ☞ "27.9.2 [FTP Server] Settings Guide" (page 27-91)
	Modem	Configures the settings for the modem connected to the display unit. ☞ "33.10.2 [Modem] Setttings Guide" (page 33-65)
	Video Modules	Configures the Video Module window settings. ☞ "27.9.6 [Video Module] Settings Guide" (page 27-124)

■ Address Settings

Displays a map of the device/PLC addresses in use or a list of the symbol variables.





Setting	Description
Select Model	Select the target for a list from [Device Address] or [Symbol Variable].
Device Address	Displays a map of the device/PLC addresses used in a project.
Type	Select the address type to list. When the [Register Variable] is [Variable Format], select [Bit Address] or [Word Address] as the type. When the [Register Variable] is [Address Format], select [Bit Address], [Word Address], [Float Variable], [Real Variable], [Timer Variable], [Counter Variable], [Date Variable], [Time Variable], or [PID Variable] as the type.
Address	Select the address of the target to display in the map area.
Map Area	Displays a map of how the addresses are used

Continued

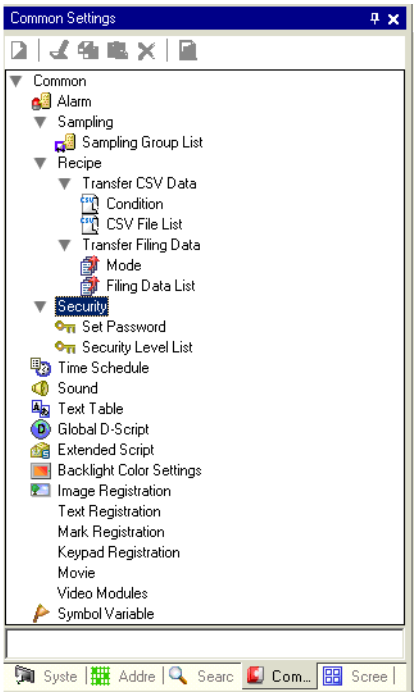
Setting		Description
Symbol Variable		Displays the symbol variables used in the project.
	Type	Select the address type to list. When the [Register Variable] is [Variable Format], select [All], [Bit Address], [Word Address], [Bit Variable], [Integer Variable], [Float Variable], [Real Variable], [Timer Variable], [Counter Variable], [Date Variable], [Time Variable], [PID Variable], [System Variable (Bit)], or [System Variable (Integer)] as the type. When the [Register Variable] is [Address Format], select [Bit Address], [Word Address], [System Variable (Bit)], or [System Variable (Integer)] as the type.
	Attribute	Select the symbol variable usage from [All], [In Use], or [Unused].
	Display Area	Displays a list of the symbol variables.
Feature		Displays the usage of each address.
ID Location		Displays the part IDs in use or the group, block number, or rung number an address belongs to.
Screen		Displays the screen numbers, Common Settings type.

NOTE

- Double-click either Feature, Location, or Screen and the selected screen for the parts appears in front.

■ Common Setting

Calls features common to a project file.



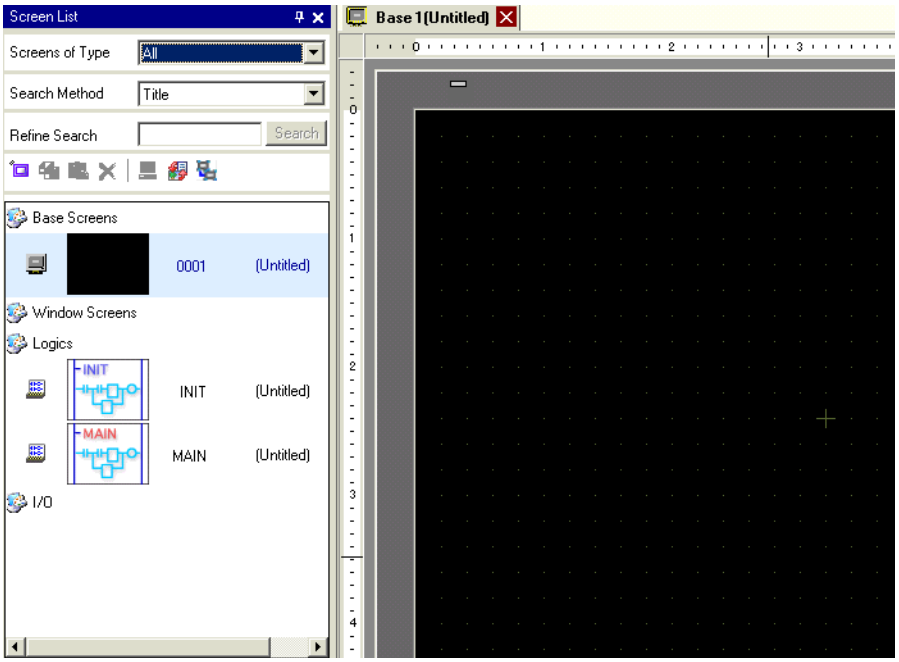
Setting			Description
Alarm Settings			Displays the setting screen to register an alarm message. ☞ "19.9.1 Common (Alarm) Settings Guide" (page 19-63)
Sampling	Sampling List		Displays a list of each setting content for sampling groups. ☞ "24.8.1 Common [Sampling] Settings Guide" (page 24-37)
Recipe	Transfer CSV Data	Condition	Displays the screen to configure condition settings for transferring CSV data. ☞ " ■ Transfer CSV Data (Condition)" (page 25-56)
		CSV File List	Displays the screen to register CSV data. ☞ " ■ Transferring CSV Data (CSV File List)" (page 25-61)
	Transfer Filing Data	Action	Displays the screen to specify the filing data's transfer actions. ☞ " ■ Transfer Recipe Data Settings" (page 25-63)
		Filing Data List	Displays the screen to register filing data. ☞ " ■ Transferring Recipes (Filing Data List)" (page 25-67)

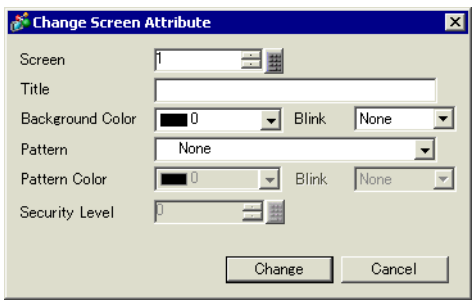
Continued

Setting		Description
Security	Security Password	Displays the screen to specify a security level and password. ☞ "22.5.2 Security Level List" (page 22-11)
	Security Level List	Displays a list of the screens with the security settings and the security level. ☞ "22.5.1 Password Settings" (page 22-9)
Time Schedule		Displays a list of actions with the time schedule settings. ☞ "23.4 Common Time Schedule Settings Guide" (page 23-11)
Sound		Displays the screen to specify sound. ☞ "26.5 Settings Guide" (page 26-13)
Text Table		Displays the text table to specify text. ☞ "15.7.3 Text Table Settings Guide" (page 15-51)
Global D-Script		Displays a list of existing global D-scripts. ☞ "20.8.1 D-Script/Common [Global D-Script] Settings Guide" (page 20-53)
Extended Script		Displays the screen to program extended scripts. ☞ "20.8.1 D-Script/Common [Global D-Script] Settings Guide" (page 20-53)
Change Backlight Color		Configures the operation conditions to switch the backlight to red ☞ " ■ Backlight Color Settings" (page 5-156)
Image Registration		Displays the [Image Registration] screen to register images. ☞ "10.5.1 Common (Image Registration) Settings Guide" (page 10-23)
Text Registration		Displays the screen to register text. ☞ "15.7.2 Common [Text Registration] Settings Guide" (page 15-49)
Mark Registration		Displays the screen to register marks. ☞ "9.12.3 Common (Mark Registration) Settings Guide" (page 9-81)
Keypad Registration		Displays the screen to edit a keypad. ☞ "16.5.2 Common (Keypad Registration) Settings Guide" (page 16-23)
Movie		Displays the [Movie] screen for creating a movie list file. ☞ "27.9.3 Common [Movie] Settings Guide" (page 27-93)
Video Modules		Displays the screen for specifying the Video Module settings. ☞ "27.9.5 Common [Video Module] Settings Guide" (page 27-115)
Symbol Variable		Displays a screen to register a symbol. ☞ " ■ Registering the [Symbol Variable]" (page 5-51) ☞ "29.3 Registering Addresses" (page 29-13)

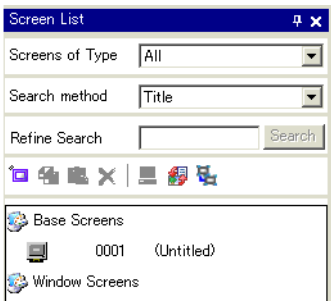
■ Screen List

Displays a list of existing Base Screens or Window Screens.



Setting		Description
Screens of Type		Select the screens to list from [All], [Base Screen], [Window Screen], [Logic], or [I/O Screen].
Search Method		Select the screen search method from [Screen] or [Title].
Refine Search		Enter your search term, up to 128 characters.
Operation Icons	New Screen	Displays the [New Screen] dialog box.
	Copy (C)	Copies the selected screen.
	Paste	Pastes the copied screen on the Screen List.
	Delete	Deletes the selected screen from the project.
	Change Attribute	The following dialog box appears. You can change the screen number, title, and color. 

Continued

Setting		Description
Operation Icons	Change Display Unit Mode	Changes the screen list to show or not show a thumbnail preview of the screen. Reduced Screen Display List Display 
	Nesting	Displays the screens hierarchically.
Screen List		Displays a list of screens existing in a project. Double-click the screen row you want to view and the screen is displayed in the right editing area. You can also select a screen and copy or delete it.

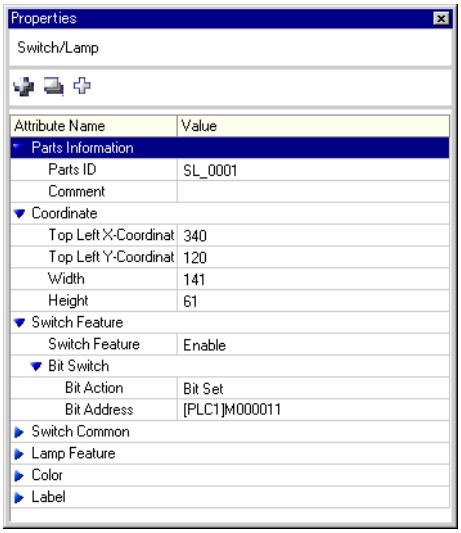
■ Properties

Displays the selected part or screen attributes/settings. Using this window, you can check the attributes or change the settings.

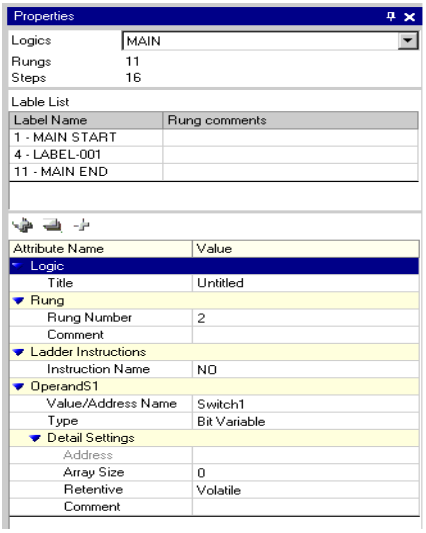
NOTE

- Not all of the setting information for the selected part will be displayed in this window.
- Attributes and settings for parts whose placement position and setting information is fixed with fixed pins will not be displayed. For more details on the fixed pins, refer to
- "9.6.3 Fixing/Unfixing Objects" (page 9-49)

When Creating a Screen



When Creating Logic



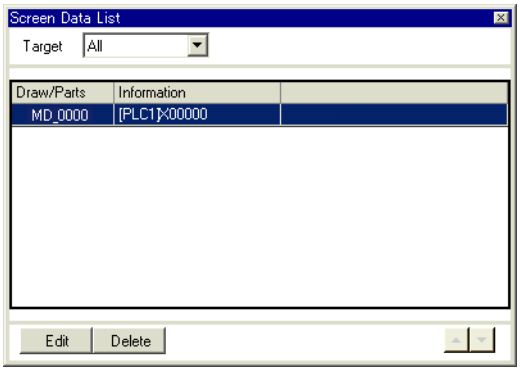
Setting	Description
Part Name Display Area (When creating a screen)	The name of the selected part or screen is displayed. If multiple parts are selected, the number of selected parts is displayed.
Part Name Display Area (When creating logic)	For more information about creating a logic program using the [Logic Program Window], refer to "29.13.5 Using Reference Features to Search Logic Programs" (page 29-127) .
Logics	When creating a [MAIN], [INT], or subroutine screen, select the logic screen from [SUB-01] to [SUB-32].
Rungs	Displays the total number of rows in the logic program.
Steps	Displays the total number of Steps in the logic program.
Label List	Displays a list of the labels in the logic program.
Button Area	Opens and closes the attributes list.
Expand All	Expands and displays all categories.
Collapse All	Reduces and hides all categories.
Expand to 1st Level	Expands and displays only top level categories.

Continued

Setting	Description
Attribute Display/ Setting Area	Displays the setting content for each attribute. You can change the attributes in this list.

■ Screen Data List Window

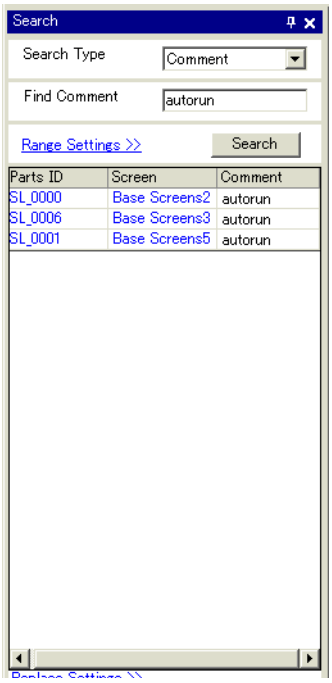
Displays a list of the Parts and Draw on the screen.

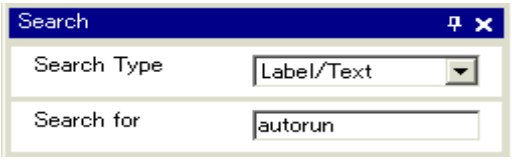


Setting	Description
Target	Select the targets to display in the list from [All], [Draw], or [Parts].
Target Assistance	Select the type of targets to display in the list when the [Target] is [Draw] or [Parts].
Display List	Displays a list of the Parts and Draw placed on the screen. Double-click a row and to open the Settings dialog box.
Draw/Parts	Displays the Draw type when the [Target] is [Draw] or the Part ID number when the [Target] is [Parts]. Displays "Group Object 1" for a grouped target. And displays "D-script" when [D-Script] is selected.
Information	Displays the coordinate when the [Target] is [Draw] or all the Partís addresses when the [Target] is [Parts]. Displays the ID number and comment when [D-Script] is selected or the coordinate and all the addresses in a group when Group Object is selected.
Show Fixed Pins	Shows whether or not the part or drawing is fixed. For more details on the fixed pins , see ☞ "9.6.3 Fixing/Unfixing Objects" (page 9-49)
Edit	Displays the setting dialog box for the Part/Draw selected on the display list.
Delete	Deletes the Part/Draw selected on the display list.
Order (Up)	Moves the item selected up the display list.
Order (Down)	Moves the item selected down the display list.

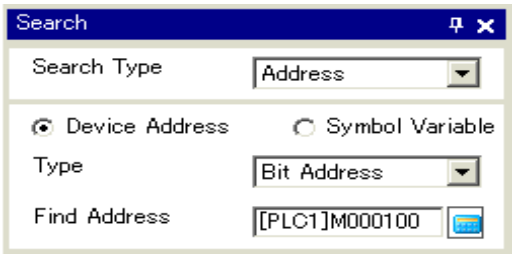
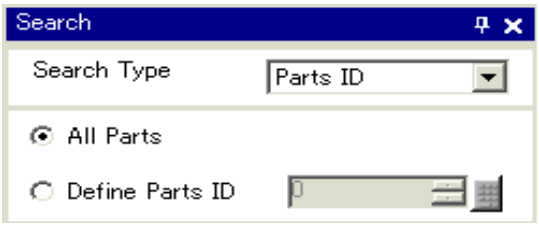
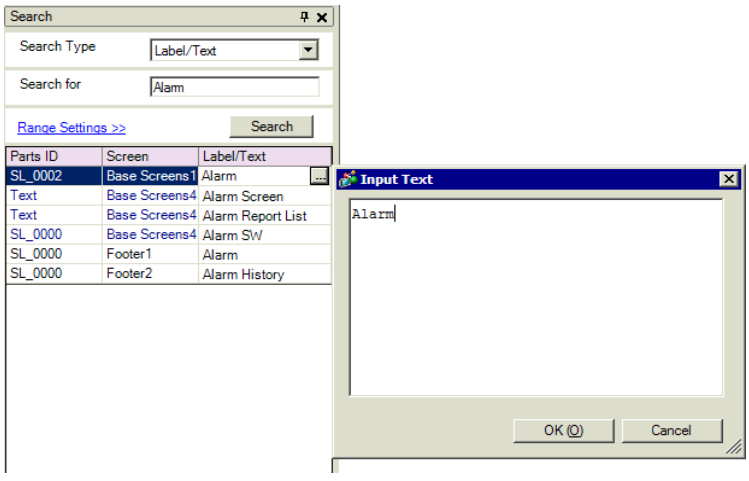
■ Search

Searches all screens in the project file for the parts that meet the specified conditions. Based on the search results, you can change the attributes.

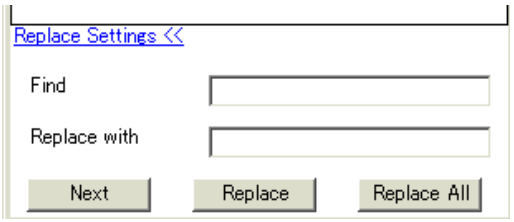


Setting		Description
Search Type		Select the search method from [Comment], [Label/Text], [Address], or [Parts ID].
	Comment	Searches for the text entered in the parts' [Comment]. In [Find Comment], enter the text you wish to find.
	Label/Text	Searches for the parts' [Label] or Drawing text. In [Search for], enter the text you wish to find. 

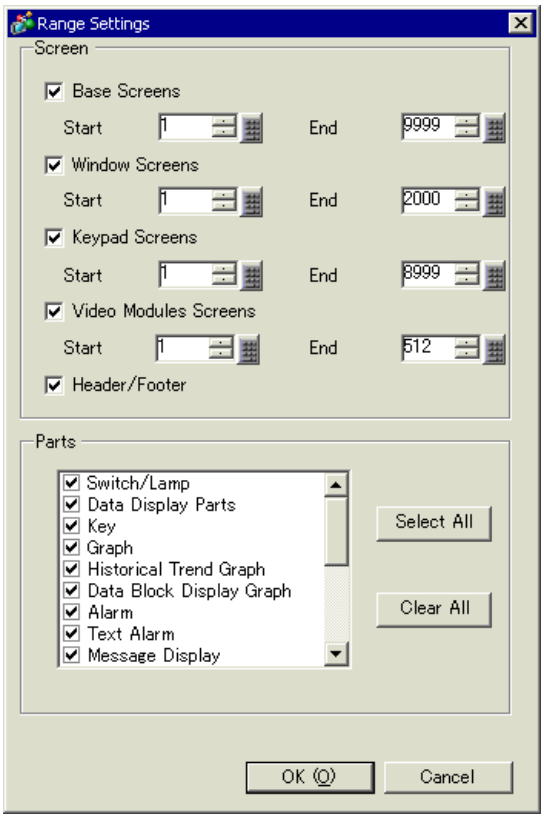
Continued

Setting		Description
Search Type	Address	Searches for the address used in the parts. Select [Device Address] or [Symbol Variable]. If you select [Device Address], enter [Type] and [Find Address]. If you select [Symbol Variable], enter [Find Address] only. 
	Parts ID	Search the Parts ID. Select [All Parts] or [Define Part ID (No.only)]. 
Range Settings		Click to display a dialog box to specify the search area. ☞ "◆ Range Settings Dialog Box" (page 5-110)
Search button		Click to start the search. During the search, the [Stop] button will appear.
Search Result		Click the search results to call the screen where the part is used. The screen shows the selected parts. Double-click the search results to display the parts setting dialog box.
	Parts ID	Displays the parts numbers found.
	Screen	Displays the screen where the found parts are placed.
	Comment or Label/Text or Address	According to the search type specified, Comment, Label/Text, or Address is displayed. You can change the Comment, Label/Text, or Address directly on the screen. 

Continued

Setting		Description
Replace Settings <<		Click to display the following items. You can change the specified Comment, Label/Text, or Address. 
	Find	Enter the text you wish to replace.
	Replace with	Enter the new text you want to use.
	Next	Searches the replace target in the current search result.
	Replace	Replaces the items selected in the search results.
	Replace all	Replaces all the items selected in the search result.

◆ Range Settings Dialog Box



Setting	Description
Base Screens	Specifies whether to search the base screen as well as the search range from 1 to 9999.
Window Screens	Specifies whether to search the window screen as well as the search range from 1 to 2000.
Keypad Screens	Specifies whether to search the keypad screens as well as the search range from 1 to 8999.
Video Module Screens	Specifies whether to search the video modules as well as the search range from 1 to 512.
Header/Footer	Specifies whether to search the header/footer.
Parts	Select the type of parts you want to find.
Select All	Searches for all parts.
Clear All	Clears all the parts selected for search.

■ Comment List Window

☞ “ ■ Comment List Window” (page 29-137)

■ Watch List Window

☞ “ ■ Watch List Window” (page 29-142)

■ PID Monitor

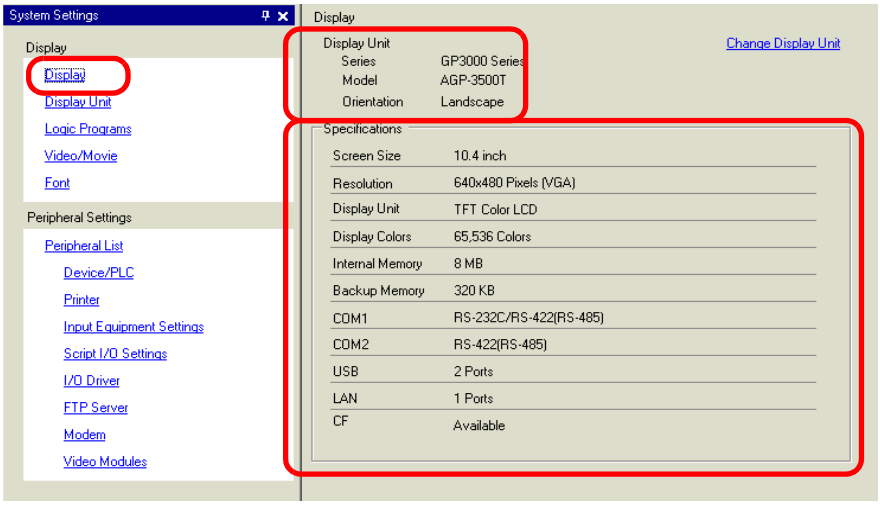
☞ “ ■ PID Monitor Window” (page 29-138)

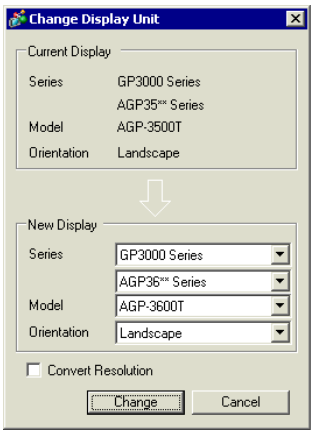
5.14.6 [System Settings] Setting Guide

This section reviews the information in the [System Settings].

■ [Display]

Displays the specified display unit specifications.



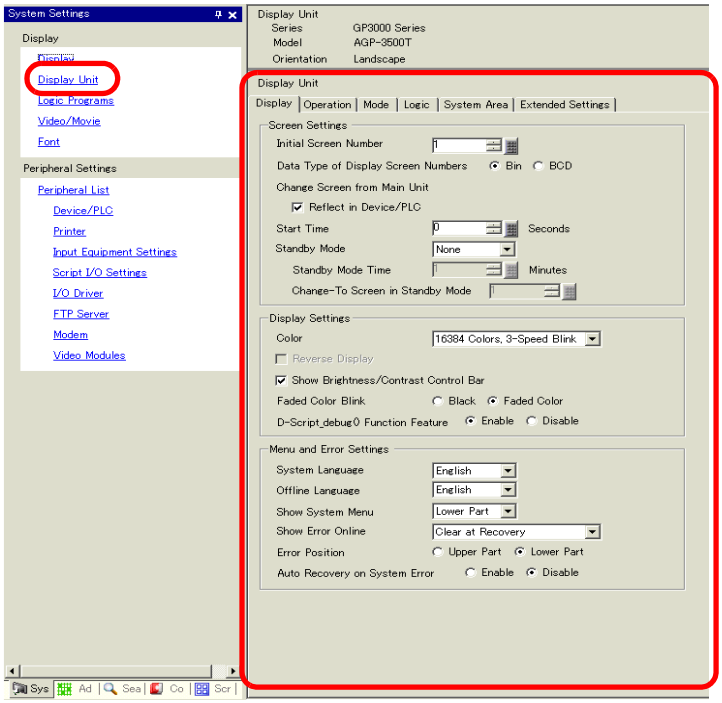
Setting	Description
Display Unit	Displays the display unit model number. **NOTE** • Commonly displayed on all the screens called from the System Settings.
Series	Displays the series name of a display unit.
Model	Displays the model name that supports the display unit series.
Orientation	Displays the display unit installation method with [Landscape] or [Portrait].
Specifications	Displays the specifications of the display unit specified in [Display Unit].
Change Display Unit	The following dialog box appears. Change the display unit model to be used for the project file. 

Continued

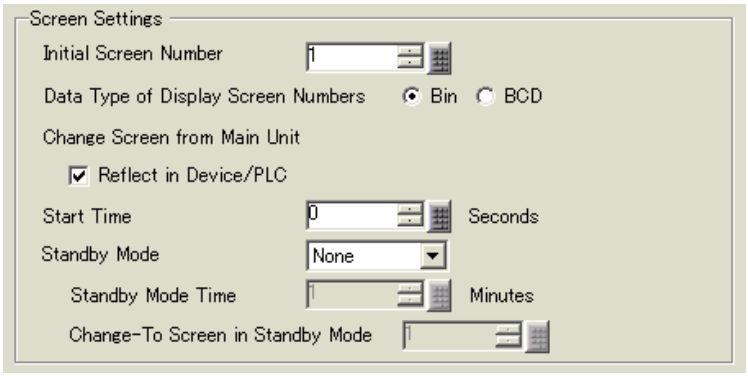
Setting		Description
	Current Display	Displays the series name, model name and installation method of the currently specified display unit.
	New Display	Specifies [Series], [Model], [Orientation] of the display to change. If you select IPC series, select [Screen Size] instead of [Orientation].
	Convert Resolution	Specifies whether or not to adjust part size, position, and text size to the display resolution if the previous resolution is different. Some scale magnification may not convert properly due to text size and resolution limitations.

■ [Display Unit] Settings Guide

◆ Display

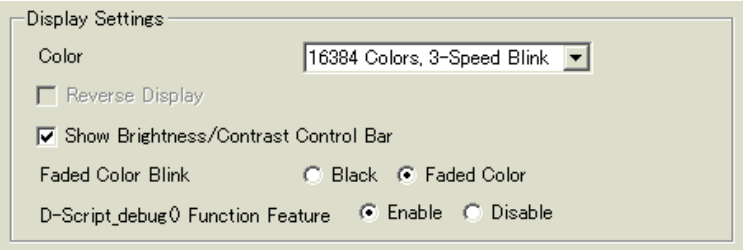


- Screen Settings



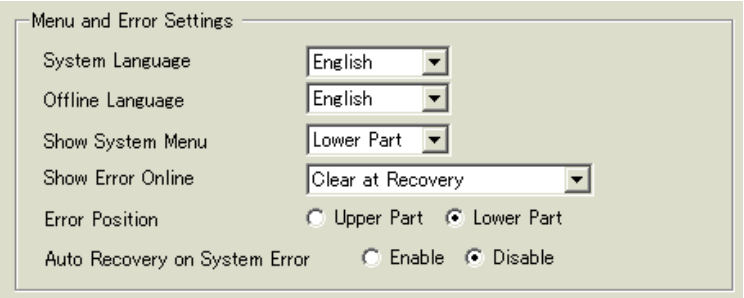
Setting	Description
Initial Screen Number	Set the number of the screen that to appear at startup. ☞ "12.3 Choosing the Screen to Display when the GP Turns on" (page 12-7) **NOTE** • Set the screen number from 1 to 9,999 when the [Data Type of Display Screen numbers] is [Bin], and from 1 to 7,999 for [BCD].
Data Type of Display Screen numbers	Select the data type of the screen number specified when changing screens from [Bin] or [BCD].
Change Screen from Display Unit	Set whether or not to reflect the settings in the device/PLC when the screen is changed from the main unit.
Reflect in Device/PLC	The currently displayed screen number is written into the connected device's [System Area Start Address] + 8 address. This option must be set to change screens from a Screen Change switch and connected device. ☞ "12.5 Changing the Displayed Screen from both Touch and a Device/PLC" (page 12-12)
Start Time	Set the time it takes for the display to start up after the power turns ON from 0 to 255 seconds.
Standby Mode	Select the standby mode from [None], [Screen OFF], or [Screen Change]. • No Check Box Selected The screen does not change to the standby mode. • [Screen OFF] Clears the screen if there is no screen touch, screen change or alarm message display after the [Standby Mode Time] passes. • Screen Change Changes to the screen specified in [Change-To Screen in Standby Mode] if there is no screen touch, screen change or alarm message display after the [Standby Mode Time] passes.
Standby Mode Time	Set the time to automatically clear the screen to protect the display from 1 to 255 minutes. Automatically clears the screen display or changes to the specified screen when the specified time passes without any display operations.
Change-To Screen in Standby Mode	If [Screen Change] is selected for [Standby Mode], specifies the base screen number to switch to after [Standby Mode Time] passes. **NOTE** • Set the screen number from 1 to 9,999 when the [Data Type of Display Screen numbers] is [Bin], and from 1 to 7,999 for [BCD]. • If the global window is displayed, the window remains even when the base screen changes.

- Display Settings



Setting	Description
Color	Set the color for the display. Type / Color Setting Range TFT Display: 65,536 Colors, No Blink and 16,384 Colors, 3-Speed Blink STN Display: 4,096 Colors, 3-Speed Blink Monochrome: Monochrome 16 Levels 3-Speed Blink
Reverse Display	Set whether or not to display the screen with black/white reversed. **NOTE** • This can be set only when a monochrome display is selected.
Show Brightness/ Contrast Control Bar	Select to control with touch inputs the brightness and contrast on the display unit.
Faded Color Blink	Select [Black] or [Faded Color] for the alternating color of a part or picture with blink. If you select [Faded Color], the blink is a darker shade of the color specified in the part or picture.
D-Script_debug ( ) Function Feature	Set whether or not to execute the debug() function data described in D-script. ☞ "21.7.1 Debug Function" (page 21-65)

- Menu and Error Settings

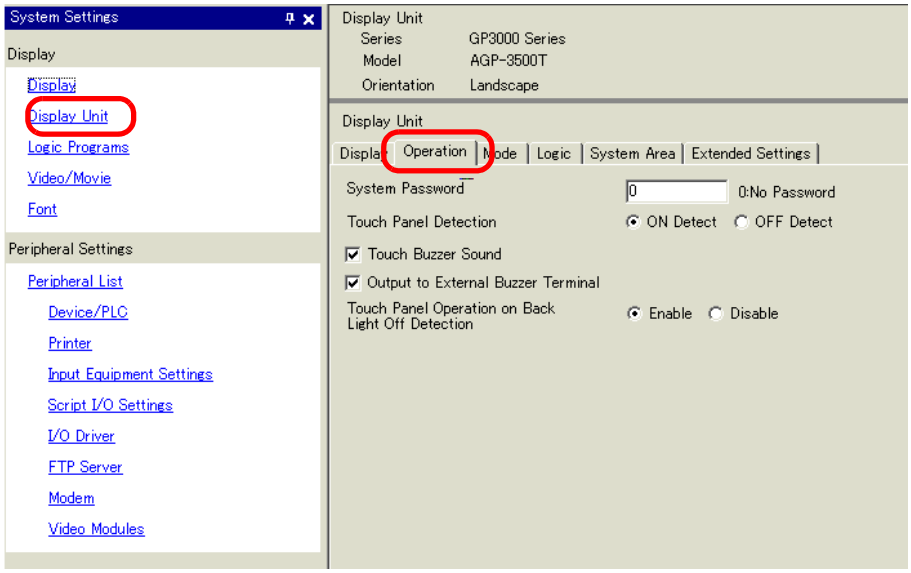


Setting	Description
System Language	Set the system language to either [English] or [Japanese]. The system language controls the language for the system menu, Brightness/Contrast Control, and error messages.
Offline Language	Select the offline menu display language from either [English] or [Japanese].

Continued

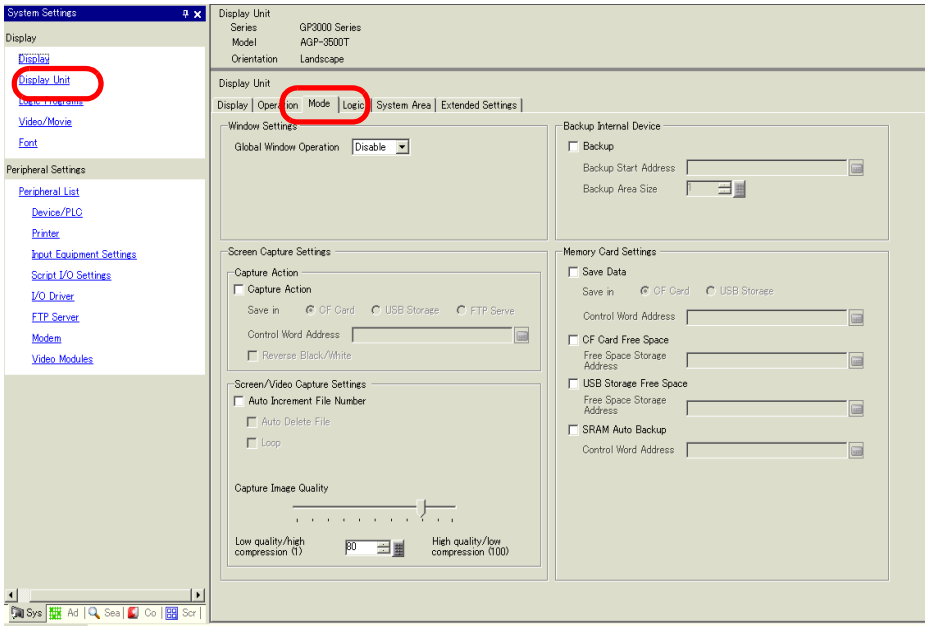
Setting	Description
Show System Menu	Select the system menu position: [Do Not Display], [Upper Part], or [Lower Part].
Show Error Online	Select the timing for clearing online error displays: [None], [Clear at Recovery], or [Clear on Screen Change]. IMPORTANT • The error message that occurs when the device/PLC cannot be written to due to a communication error will not be deleted from the GP screen, even if [Clear at Recovery] is specified. You can delete this error message by initiating a screen change.
Error Position	Select the error display position: [Upper Part] or [Lower Part].
Auto Recovery on System Error	Set whether or not to perform auto recovery on system errors.

◆ Operation

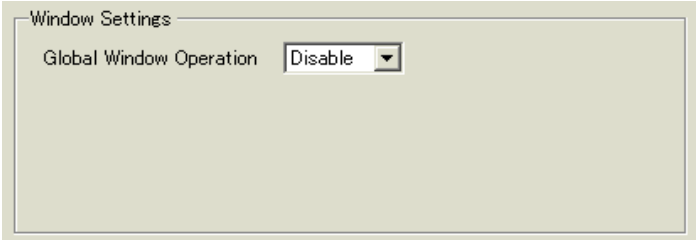


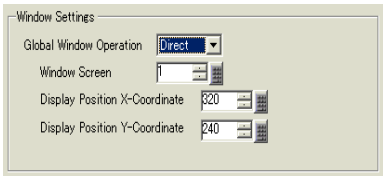
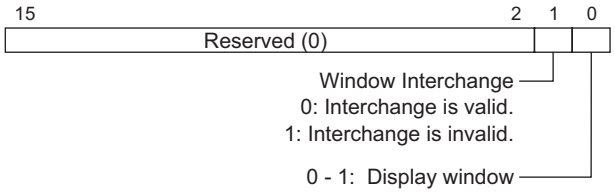
Setting	Description
System Password	Set the system password for the initial settings or to go offline from 0 to 99,999,999. Set "0" when a system password is unnecessary.
Touch Panel Detection	Select the detection timing from [ON Detect] (when touching the touch panel) or [OFF Detect] (when taking your finger off the touch panel).
Touch Buzzer Sound	Set whether or not to sound the built-in buzzer when touching the screen.
Output to External Buzzer Terminal	Set whether or not to output the touch panel buzzer to the external buzzer terminal.
touch Panel Operation on Back Light Off Detection	Set whether or not to enable touch panel operations when the backlight is burned out.

◆ Mode

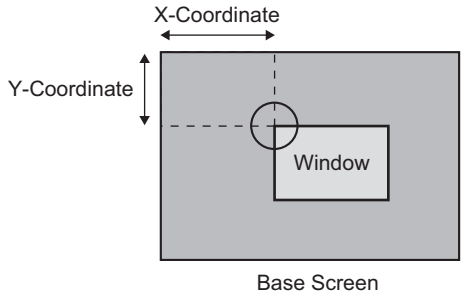
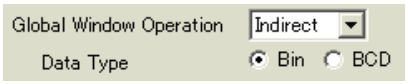
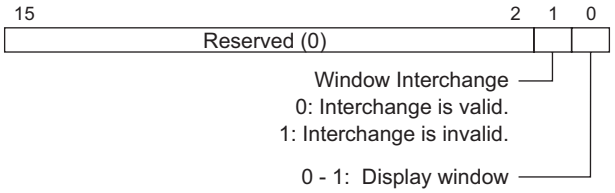

System Settings
Display
Display
Display Unit
Video/Movie
Font
Peripheral Settings
Peripheral List
Device/PLC
Printer
Input Equipment Settings
Script I/O Settings
I/O Driver
FTP Server
Modem
Video Modules
Display Unit
Series GP3000 Series
Model AGP-3500T
Orientation Landscape
Display Unit
Display | Operation | Mode | Logic | System Area | Extended Settings
Window Settings
Global Window Operation Disable
Backup Internal Device
Backup
Backup Start Address
Backup Area Size
Screen Capture Settings
Capture Action
Capture Action
Save in CF Card USB Storage FTP Serve
Control Word Address
Reverse Black/White
Screen/Video Capture Settings
Auto Increment File Number
Auto Delete File
Loop
Capture Image Quality
Low quality/high compression (1)
80
High quality/low compression (100)
Memory Card Settings
Save Data
Save in CF Card USB Storage
Control Word Address
CF Card Free Space
Free Space Storage Address
USB Storage Free Space
Free Space Storage Address
SRAM Auto Backup
Control Word Address

- Window Settings
  Set the Global Window display settings.

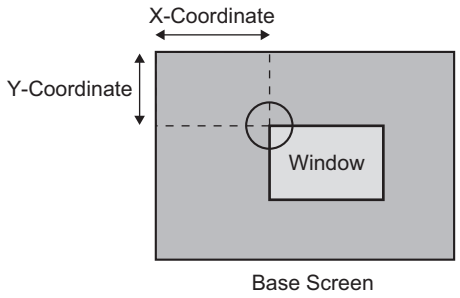


Setting	Description
Global Window Operation	Select the action of the Global Window, which displays on all screens: [Disable], [Direct], or [Indirect].
Disable	Does not use a Global Window.
Direct	Displays the Window Screen number to display and its position in a fixed state. Control the display with address LS16 in the GP internal device, or the device/PLC to which the system data area is assigned. Setting Screen  Internal Device Addresses to Use LS0016 Control Address LS0017 (Reserved) LS0018 (Reserved) LS0019 (Reserved) • Control Address Controls the display of a Global Window. If you turn ON Bit 0, a Window is displayed.  **NOTE** • To use a system data area on the device/PLC, use four sequential words from the assigned address. ☞ " ◆ System Area Settings" (page 5-135)
Window Screen	Set the Global Window screen number from 1 to 2000.

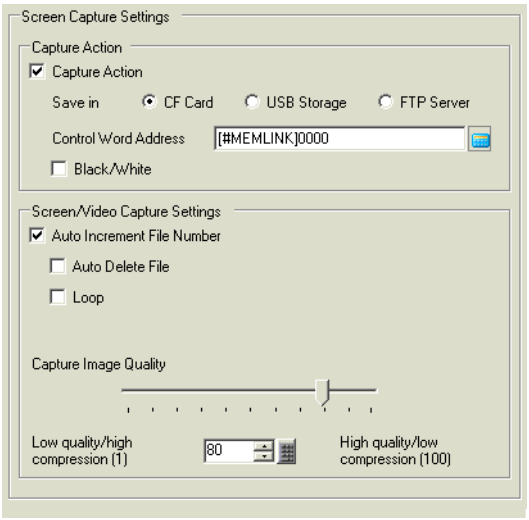
Continued

Setting			Description
Global Window Operation	Direct	Display Position X-Coordinate/ Y-Coordinate	Set the Global Window display position. Even if the screen changes, the Window is displayed in the same position. The coordinate specified here is the top left corner of the Window.  **NOTE** • Specifies the X-coordinate by 4 dots. If the display position is not specified by 4 dots, the position is automatically corrected by 4 dots to the left of the specified coordinate to display the Global Window.
	Indirect		Set the Window Screen number to display and its position by storing data in the GP internal device address (LS16 to LS19). If you assign a system data area to the device/PLC, you can switch Window Screens or change the display position from the device/PLC. Setting Screen  Internal Device Addresses to Use LS0016 Control Address LS0017 Window Screen No. LS0018 Display Position (X-Coordinate LS0019 Display Position (Y-Coordinate • Control Address Controls the display of a Global Window. If you turn ON Bit 0, a Window is displayed.  • Window Screen Number Specify the number of the Window Screen you want to display from 1 to 2000.

Continued

Setting			Description
Global Window Operation	Indirect		• Display Position X-Coordinate/Y-Coordinate Set the Global Window display position. If you change the value to store in the address, you can move the Window. The coordinate specified here is the top left corner of the Window.  **NOTE** • To use a system data area on the device/PLC, use four sequential words from the assigned address. ☞ " ◆ System Area Settings" (page 5-135)
		Data Type	Select the type of data to store in the address from [Bin] or [BCD].

- Screen Capture Settings
  Prints hard copy of the GP screen or video screen.



Setting		Description
Capture Settings	Capture Action	Set whether or not to perform a screen capture.
	Save in	Select the location to save the captured screen from the [CF Card], [USB Storage], or [FTP Server].
	Control Word Address	Set the control word address to trigger the screen capture. Three words are used starting from the designated [Control Word Address] to check the file number, file output execution, and saving results (status). • About Address Address +0 — Control Address +1 — Status Address +2 — Hard Copy File No. * [Hardcopy File Number] is available only when CF, USB storage are selected. Control 15 … 0 Bit Reserved Bit 0: File output start bit Starts file output when [0] changes to [1]. Status 15 … 12 … 1 0 Bit Reserved JPEG Error Code Bit 1: File output completed [0]: Unoutputted [1]: Output completed Bit 0: File outputting [0]: Unoutputted [1]: Outputting

Continued

Setting		Description
Capture Settings	Control Word Address	Details of JPEG Error Code

Bit 12-15	Description	Details
0000	Completed Successfully	Occurs when the process was completed successfully.
0001	Reserved	
0010	Reserved	
0011	Reserved	
0100	CF Card/USB No storage	Occurs during snapshot or JPEG data display, either the CF Card/USB storage is not inserted or the CF Card hatch is open.
0101	Write Error	Occurs when the CF Card/USB storage does not have sufficient free space for snapshot or when it is removed during writing.
0110	Reserved	
0111	CF Card/USB storage error	Occurs when the CF Card/USB storage has not been formatted.
1000	Reserved	
1001	Excess of Number of Auto Increment Files	Occurs when the file number exceeds 65,535 in the auto increment feature.
1010	FTP server connection error	Occurs when the FTP server cannot be accessed.
1011	FTP Login Error	Occurs when an attempt to log into the FTP server failed.
1100	Write error	Occurs when an attempt to write data to the FTP server fails.

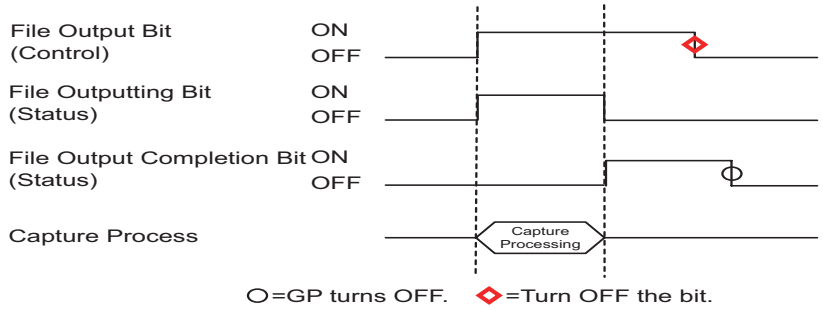
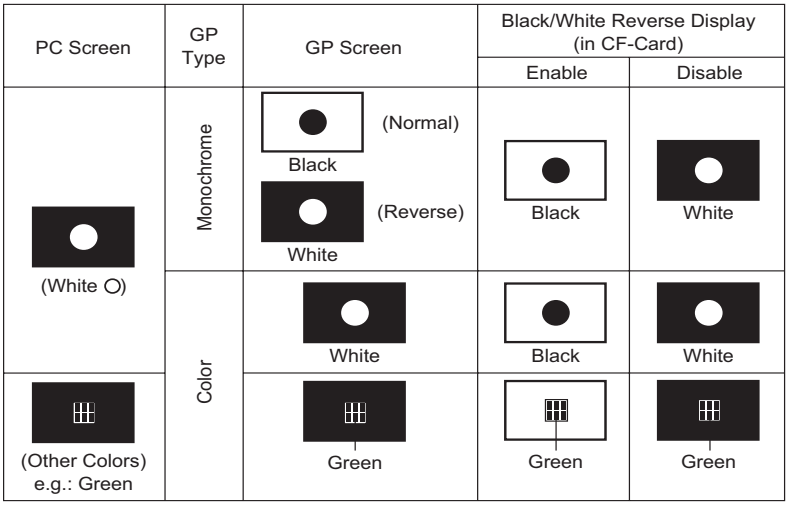
NOTE

- The timeout for the FTP Server is 75 seconds. An error occurs if the FTP Server is connected after the timeout period elapses.
  The time stamp will be saved in a file name.
  For example, When the file is saved 2006/05/27, 15:23:46", the file name is CP060527_152346.jpg.

(Hard Copy File Number)

- Saving on a CF Card or in USB storage
  This feature designates the "****" portion in a screen capture file name "CP*****.jpg" The value can be from 0 to 65,535. When using the [Auto Increment File Number] function, this address automatically stores the file number.
- Saving on FTP server
  The file number of the screen-captured file uses the time stamp and does not refer to the [Control Address]+2 value.

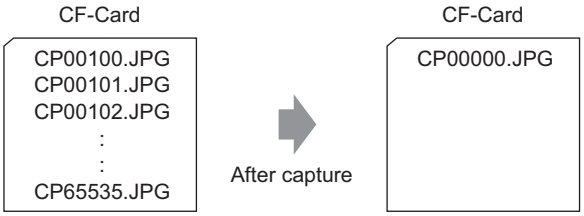
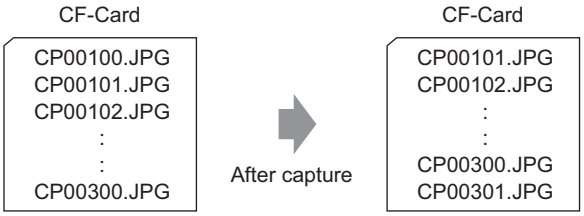
Continued

Setting		Description
Capture Settings	Control Word Address	• Details of Capture Action In the file output completion bit, the status address Bit 1 turns ON when the capture process is completed. Then, confirm that the file output completion bit is ON and turn OFF the file output bit from the device/ PLC. If the file output bit is turned OFF, the GP turns OFF the file output completion bit. Control and status timing during capture is as follows  **NOTE** • If you turn OFF the file output bit (control) before the file output completion bit turns ON, the file output completion bit is automatically turned OFF. • If an error occurs while processing screen capture, the status area is not cleared when the control address trigger bit is turned OFF. It will be cleared next time the process is completed successfully.
	Black/White	Specifies whether to save the screen captured on a CF Card in black and white reverse display. **NOTE** • On a monochrome or color model, the black/white reverse states are displayed as follows.  • You can reverse only black or only white. • Color inversion is not available.

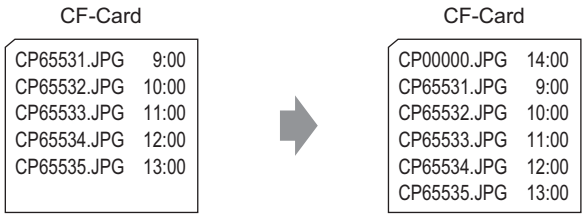
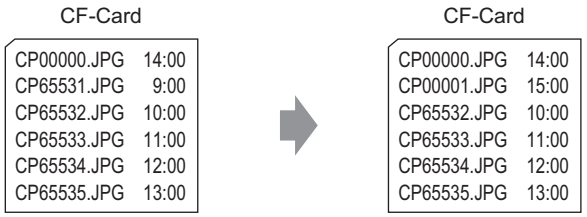
Continued

Setting		Description
Screen/Video Capture Settings	Auto Increment File Number	When a screen is captured, a new file is created with a file name automatically assigned by adding 1 (numbering) to the highest number of the existing files. The feature is available when saving to [CF Card] or [USB Storage]. The automatically numbered file number will be written to designated [Control Word Address] +2. Numbering occurs to a maximum of 65535. After that screen capture will not function. To continue, use [Auto Delete File] or [Loop]. **NOTE** • The GP searches for the highest file number upon GP power-up, upon opening/closing of the CF Card cover, and upon insertion/removal of the CF Card/USB storage. • When using this function, file numbers specified to the designated [Control Word Address] +2 are ignored.

Continued

Setting			Description
Screen/Video Capture Settings	Auto Increment File Number	Auto Delete File	Deletes existing files and allows new files to be saved when the file number exceeds the maximum of 65535 or the CF Card/USB storage does not have sufficient free space. When a file with the highest file number exists If the CF Card/USB storage already has the maximum number (65535) file, it deletes all the existing files and creates new files starting with the file number 0. For example, When "CP65535.JPG" exists in the CF Card  All screen capture files in the CF Card "CP *****.JPG" are deleted and "CP00000.JPG" is saved. **NOTE** • All files are deleted so this can take from a few seconds to a few minutes. When the CF Card/USB does not have sufficient free space This feature deletes the file with the lowest file number and creates a file with the highest file number + 1. For example, Files with file numbers CP00100.JPG to CP00300.JPG are saved on the CF Card.  The file with the smallest number, "CP00100.JPG", is deleted and the new file "CP00301.JPG" is created.

Continued

Setting			Description
Screen/Video Capture Settings	Auto Increment File Number	Loop	During screen capture a new file number is created by adding 1 to the most recently time stamped file number in the CF Card/USB storage. When 65535 files exist on the CF Card, the files from 00000 will be overwritten sequentially and the screen captures will continue. **NOTE** • File timestamps are checked each time a file is created. The latest file has the highest file number When the latest file number is 65535, the next file is number 00000. For example, Files with file numbers "CP65531.JPG" to "CP65535.JPG" are saved on the CF Card.  A new file, "CP00000.JPG", is created. If the CF Card/USB does not have sufficient free space During screen capture, the oldest file is deleted and the new file is saved with a file number 1 larger than the latest file. For example, When the latest file is "CP00000.JPG"  The oldest file, "CP65531.JPG", is deleted and the new file "CP00001.JPG" is created. **NOTE** • When a file is deleted due to insufficient free space on the CF Card or the USB storage, the oldest file is deleted in order to create a new file. In such a case, it may take twice as long to save a file compared to saving when there is sufficient free space. • When saving to FTP, the auto increment file number feature is not available.

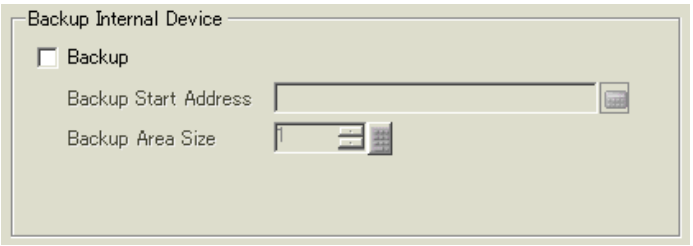
Continued

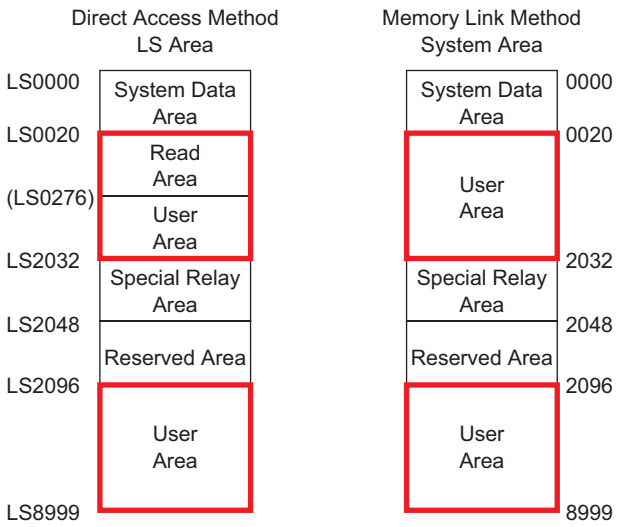
Setting		Description
Screen/Video Capture Settings	FTP Server	It is displayed only when you select [FTP Server] for the Save in location. Select the FTP server number to use. (FTP server number is the number that you registered in the system settings [FTP Server Settings]. **NOTE** • The time stamp is given to the file name.
	Capture Image Quality	Set the capture image quality from 1 to 100. You can also specify by directly inputting numeric values. 1 : Low-Quality Image, High Compression 100: High Quality Image, Low Compression

- Backup Internal Device
  Copies data stored in the internal device addressís user area to the backup SRAM. If you specified the Backup Internal Device, the GP will start up maintaining the data stored in the internal device address when you turn ON the GP again.

IMPORTANT

- The data stored in the GP internal device is cleared when turning OFF the GP or when the GP goes offline. You can use this function to back up the data in the user area.



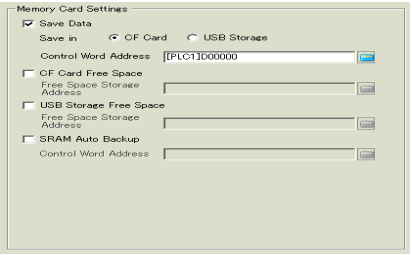
Setting	Description
Backup	Set whether or not to backup the GP internal device. **NOTE** • Backs up the data stored in sequential addresses in the user area. Select the user area range from LS or USR (system area or USR for the memory link method). You cannot back up multiple ranges. If you select the LS area in the direct access method, only one of the two user areas (red frame portion) is backed up. This holds true for selecting the system area in the memory link method. 

Continued

<table>
<tr><th>Setting</th><th>Description</th></tr>
<tr><td>Backup Start Address</td><td>Set the start address of the internal device to back up. Set the start address within the range to ensure the [Backup Area Size].
For direct access method, the start address should be specified within the range of LS20 to LS2031, LS2096 to LS8999, or USR0 to USR29999.
For memory link method, the start address should be specified within the range of 20 to 2031, 2096 to 8999, or USR0 to USR29999.</td></tr>
<tr><td>Backup Area Size</td><td>Set the internal device size to back up.
IMPORTANT
• If the [Backup Start Address] + [Backup Area Size] exceeds the valid range of the internal device backup, the backup function will not work.
NOTE
• For the LS area or M to M device (memory link), specify from 1 to 6,096. For the USR area, specify from 1 to 30,000.
• The internal device's backup size depends on the backup area size.
Calculation
16 + (4*1 x Backup Area Size)
For example,
<table><tr><td>Settings</td><td>Description</td></tr><tr><td>Backup Start Address</td><td>LS2096</td></tr><tr><td>Backup Area</td><td>6096</td></tr></table>Calculation Result
(16) + (4 x 6096) = 24,400 bytes (approximately 24 KB)

*1 The value is 4 for the LS device address and the memory link. The value is 2 for the USR device address. If the Backup Area Size is an odd number, add 1 to the value.</td></tr>
</table>

- Memory Card Settings
  Configures the settings for saving data to various memory cards.

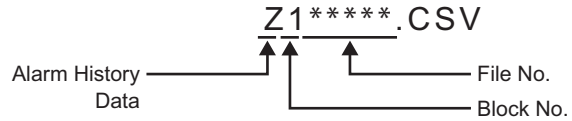


Setting	Description
Save Data	Specifies whether to save the data stored in the backup SRAM when the GP is active, such as filing data or CSV files (Alarm, Sampling), on a [CF Card] or in [USB Storage]. ☞ "5.15.2 Restrictions on Saving Data" (page 5-168)
Control Word Address	This address controls writing data. It writes a command to the address after designating a file number. Control Word Address: Command/Status +1: File No. Command/Status Enters a command to write data to a CF Card or a USB storage device The processing results (status) are reflected in the address.

Mode	Data	Description
Command	0001h	Filing Data
	0002h	GP-PRO/PB III for Windows Logging data (compatible)
	0003h	GP-PRO/PB III for Windows Line Chart data (compatible)
	0004h	GP-PRO/PB III for Windows Sampled data (compatible)
	0005h	Block 1's Alarm History data
	0006h	Block 2's Alarm History data
	0007h	Block 3's Alarm History data
	0008h	Block 4's Alarm History data
	0009h	Block 5's Alarm History data
	000ah	Block 6's Alarm History data
	000bh	Block 7's Alarm History data
	000ch	Block 8's Alarm History data
	0020h	GP-PRO/PB III for Windows Logging loop auto-save start (compatible)
	0021h	GP-PRO/PB III for Windows Logging loop auto-save completion (compatible)
Status	0000h	Completed Successfully
	0100h	Write Error
	0200h	No CF Card is inserted, or the cover is open.
	0300h	No data to be loaded (when no data is specified)
	0400h	File Number Error (File number is outside of range)
	0500h	Conflict error with the Pro-Server request
	2000h	GP-PRO/PB III for Windows Logging loop auto-save responding correctly (compatible) While the Control Address has this value, the auto-save mode continues. When the value is changed, the auto-save mode finishes.

Continued

Setting	Description
Control Word Address	File Name and Save Location When [Enable multiple folders] is specified for filing data, specify within the range of 1 to 8,999. When it is not specified, the file number is fixed with "1". For example, after writing a command, Alarm History data is saved to the [ALARM] folder on the CF Card or USB storage device with the following name.



e.g.)

Control Word Address	0005h
+1	0002h

→ Z100002.CSV

NOTE

- When the CF Card is reset by the GP unit, a folder is created to save data.

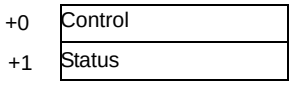
Folder	Data to be saved	File Name
\FILE	Filing Data	F*****.BIN
	Transfer CSV Data	ZR*****.CSV
\LOG	GP-PRO/PB III for Windows Logging data (compatible)	ZL*****.CSV
\DATA	Image Screen	I*****.BIN
	Sound Data	O*****.BIN
\CAPTURE	Screen Capture Video Capture	CP*****.JPG
\MOVIE	Movie File	*.SDX
\TREND	GP-PRO/PB III for Windows Line Chart data (compatible)	ZT*****.CSV
	GP-PRO/PB III for Windows Sampled data (compatible)	ZS*****.CSV
\ALARM	Block 1's Alarm History data	Z1*****.CSV
	Block 2's Alarm History data	Z2*****.CSV
	Block 3's Alarm History data	Z3*****.CSV
	Block 4's Alarm History data	Z4*****.CSV
	Block 5's Alarm History data	Z5*****.CSV
	Block 6's Alarm History data	Z6*****.CSV
	Block 7's Alarm History data	Z7*****.CSV
	Block 8's Alarm History data	Z8*****.CSV
\SRAM	Backup SRAM data	ZD*****.BIN
\SAMP01	Sampling Group 1's data	SA*****.CSV
- - -	- - -	- - -
\SAMP64	Sampling Group 64's data	SA*****.CSV

Continued

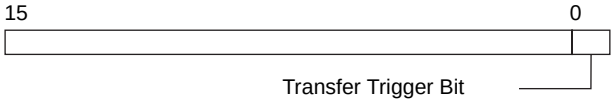
Setting	Description
CF Card Free Space	Set whether or not to store the CF Cardís free space in an internal device. You can then view the CF Cardís free space.
Free Space Storage Address	Set the address to store CF Card free space. For direct access method, the start address should be specified within the range of LS20 to LS2031, LS2096 to LS8999, or USR0 to USR29999. For direct access method, the start address should be specified within the range of 20 to 2031, 2096 to 8999, or USR0 to USR29999. Stores the value within the range of 0 to 65,535 (FFFFh) in the specified address. The unit of a value to be stored is in KB. NOTE • When a CF Card is not inserted, the GP cannot check the free space successfully and displays it as 0 KB. • The CF Card free space is only an estimate. You may not always be able to save data exactly the size of the free space. • If free space exceeds 65,535 (FFFFh) KB, the value of the LS area is 65,535 (FFFFh).
USB Storage Free Space	Determines whether to save the free space in the external memory to the internal device. The approximate free space in the external memory is displayed.
Free Space Storage Address	Configures the address where the free space in the external memory is saved. For direct access method, the start address should be specified within the range of LS20 to LS2031, LS2096 to LS8999, or USR0 to USR29999. For direct access method, the start address should be specified within the range of 20 to 2031, 2096 to 8999, or USR0 to USR29999. Stores the value within the range of 0 to 65,535 (FFFFh) in the specified address. The unit of a value to be stored is in KB. NOTE • When no USB storage is inserted, the GP cannot check the free space successfully and simply displays 0 byes. • The free space in the external memory is only an estimate. You may not always be able to save data exactly the size of the free space. • If free space exceeds 65,535 (FFFFh) KB, the value of the LS area is 65,535 (FFFFh).
SRAM Auto Backup	Set whether or not to automatically transfer all the backup SRAM data to the CF Card.

Continued

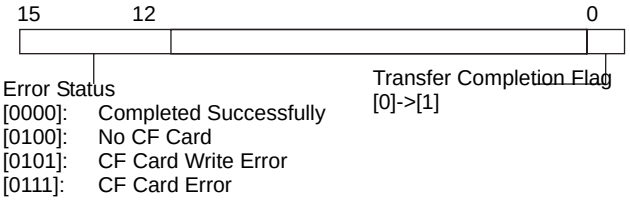
Setting	Description
Control Word Address	Backs up the SRAM data to a CF Card in operating mode. Specify the control address to trigger the backup. The processing status is saved to an address created from the specified control address +1.



- Control
  Turn On Bit 0 to start the backup.



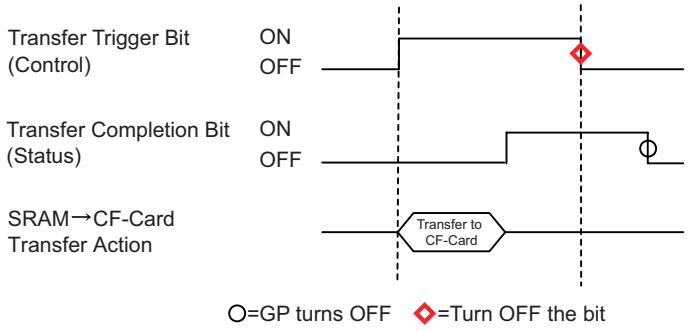
- Status
  When the transfer has successfully completed, Bit 0 (Transfer Completion Flag) turns ON. Confirm that Bit 0 is ON, and turn OFF Bit 0 of the control address. The transfer completion bit will then turn OFF automatically.



The details of error codes are as follows.

Error Code	Error Name	Details
0000	Completed Successfully	When the backup process is completed successfully.
0100	No CF Card	When a CF Card is not inserted at backups or the CF Card hatch is open.
0101	CF Card Write Error	When there is no sufficient free space in the CF Card at backups or the CF Card is removed while the data is written.
0111	CF-Card Error	Occurs when the CF Card is unformatted.

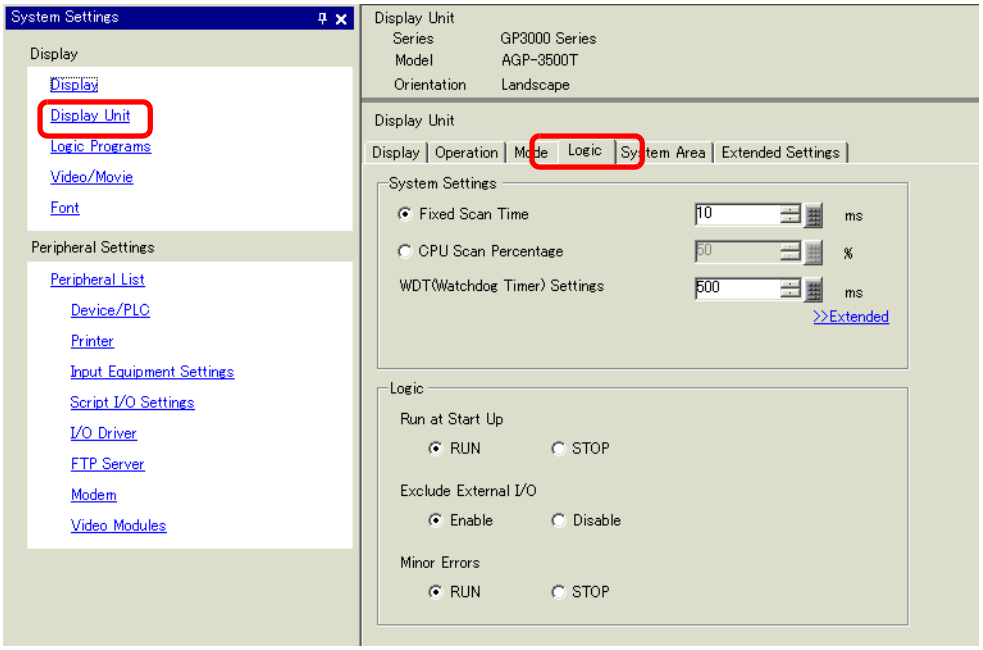
Continued

Setting	Description
Control Word Address	The timing during transfer is as follows.  **NOTE** • After confirming that the data is not being saved in the CF Card by another feature and that the [Transfer Completion Flag] is OFF, transfer SRAM data to the CF Card. • When transferring SRAM data to the CF Card, make sure the [Transfer Trigger Bit] and [Transfer Completion Flag] are OFF at the start of operation in case the power is turned OFF during transfer. • Set the time to turn ON and OFF [Transfer Trigger Bit] longer than the time set in either [Communication Cycle Time]*1or [Display Scan Time]*2.

*1 The Communication Cycle Time is the time from when the GP requests data from the external device to when the data arrives. This value is stored in internal device LS2037 as a binary value, in units of 10 milliseconds.

*2 Display Scan Time is the time required to process one screen. This value is stored in internal device LS2036 as a binary value, in millisecond units.

◆ Logic

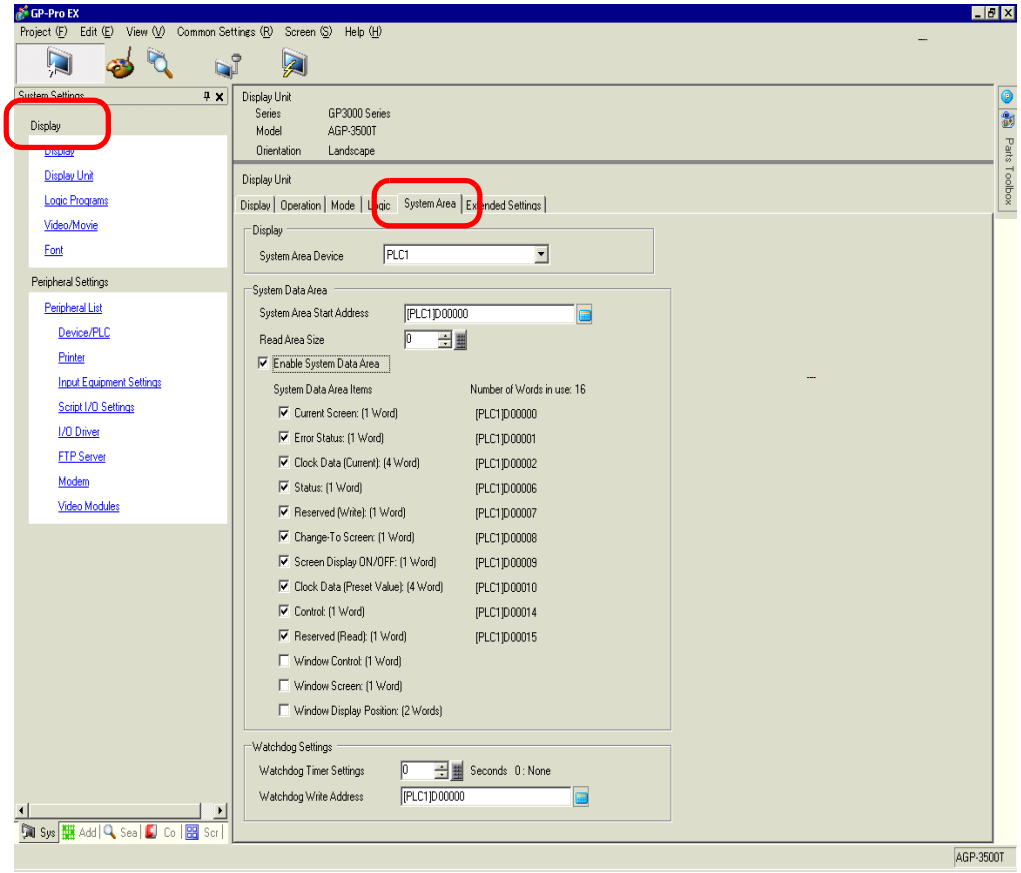


Setting			Description
System Settings			Configures the system settings for logic features.
	Fixed Scan Time/CPU Scan Percentage		Selects the mode for logic scan time. • If you select [Fixed Scan Time], you can specify the logic time frequency from 10 ms to 2000 ms. ☞ " ◆ Fixed Scan Time" (page 29-120) • If you select [CPU Scan Percentage], you can specify the logic time occupancy. The settings range from 0% to 50%. ☞ " ◆ CPU Scan Percentage" (page 29-121)
	WDT (Watchdog Timer) Settings		You can configure the monitoring time for the logic scan time. An error occurs if the logic scan time exceeds the WDT (Watchdog Time). The settings range from 100 ms to 3000 ms.
	>>Extended/<<Basic		Click [>>Extended] to specify the [Address Refresh] speed.
		Address Refresh	Select the address refresh speed from [Slow], [Medium], and [Fast]. ☞ " ■ Address Refresh" (page 29-123)

Continued

Setting		Description
Logic		Click [Retentive Settings] to display the [Retentive Settings] dialog box. [Variable Format] specifies the symbol variable retentive/volatile points. [Address Format] specifies the symbol variable retentive/volatile range. ☞ "■ Retentive Settings" (page 29-16)
	Run at Start Up	Select the logic program status at display start up from [Run] or [Stop].
	External I/O	Select whether to enable input/output from the I/O unit from [Enable] or [Disable].
	Minor Errors	Select whether to [Run] or [Stop] the logic program when a minor error occurs.

◆ System Area Settings



Setting		Description
Display		Specify a device/PLC.
	System Area Device	Select the device/PLC to specify the system data area.
System Data Area		Set the system data area.

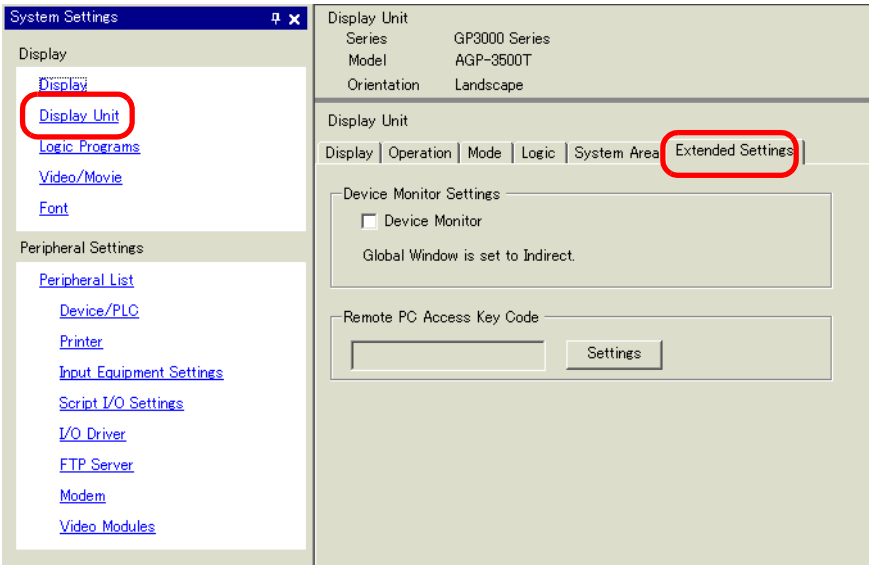
Continued

Setting		Description
	System Area Start Address	Designate the start address used for the system area.
	Read Area Size	Set the number of words in the [Read Area] that stores the data used commonly on all screens or the line chart block display data from 0 to 256. NOTE • Cannot be specified when a device/PLC is connected with the memory link method.
	Enable System Data Area	Set whether or not to enable the system data area.
	System Data Area Items	Set the system data area items to use. For details of the direct access method, refer to "A.1.4.2 System Data Area" (page A-11) , and for the memory link method "A.1.5.2 System Data Area" (page A-26) .
	Number of Words in Use:	Displays the total number of words for the items specified to the system data area.
Watchdog Settings		Monitors the communication state of the GP and the PLC. The GP writes "00FF" to the PLC word address at every setting time. The PLC confirms at every setting time that "00FF" has been written and that communication is performed.
	Watchdog Timer Settings	Set the watchdog's monitoring cycle time from 0 to 65,535.
	Watchdog Write Address	Set the write address for the watchdog.

◆ Extended Settings

Available extensions differ depending on the model. Please check whether your model supports the feature before use.

☞ “1.3 List of Supported Functions by Device” (page 1-5)



Setting	Description
Device Monitor	Specifies whether to use the device monitor feature. **NOTE** • For the device monitor feature, see below. ☞ “A.2 Monitoring the Value of Device Addresses (Device Monitor)” (page A-41)
Remote PC Access Key Code	Enter the key code necessary for using the RPA feature. Click [Settings] and the [Remote PC Access Key Code Settings] dialog box appears. Enter the 12-digit key code and click [OK(O)]. **NOTE** • If you enter the wrong key code, an error message appears and no settings are allowed. Enter the correct key code. • When you place the Remote PC Access Window Display, an error message appears. You cannot transfer the project file unless the key code is set.

◆ IPC Settings

This item only appears when you select [IPC Series] for the display unit.

☞ "37.9.1 System Settings [Display Unit Settings]-[IPC Settings] Settings Guide" (page 37-155)

■ Logic Program Settings Guide

☞ "29.14.1 [Logic Programs] Setting Guide" (page 29-136)

■ [Video Module Window] Settings Guide

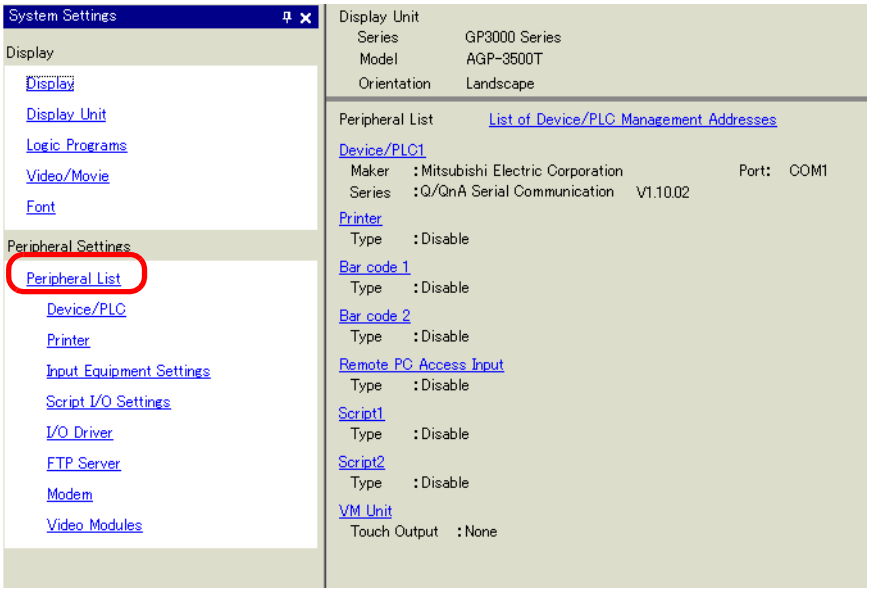
☞ "27.9.1 [Video/Movie] Settings Guide" (page 27-73)

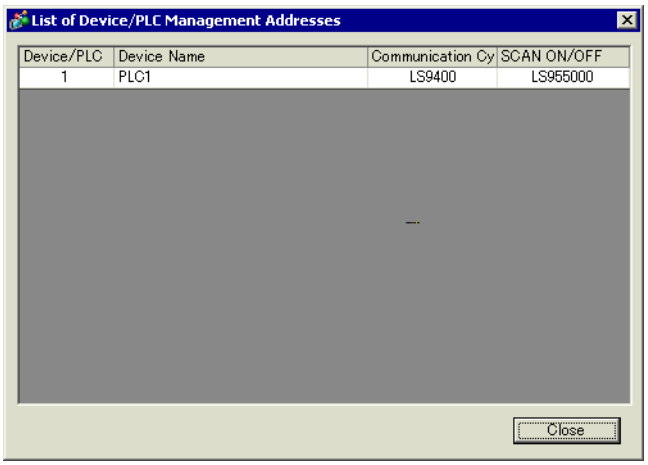
■ [Font] Settings Guide

☞ "6.4 [Font] Settings Guide" (page 6-19)

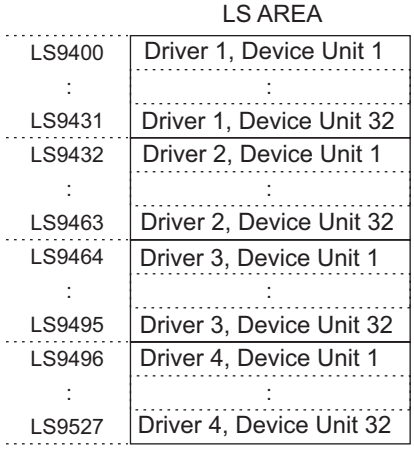
■ [Peripheral List] Settings Guide

Displays a list of the specified peripheral devices.

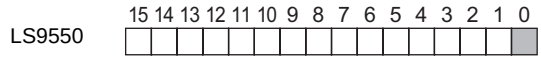


Setting	Description
List of Device/PLC Management Addresses	Displays a list of the specified device/PLC management addresses. 
Device/PLC	Displays the specified device/PLC series.
Device Name	Displays the specified device/PLC names.

Continued

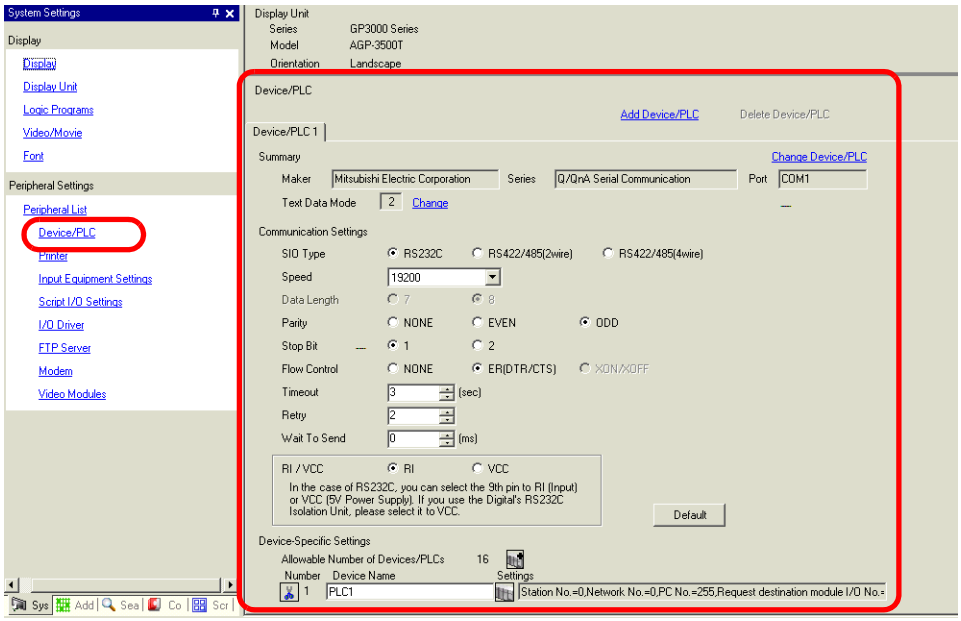
Setting		Description
List of Device/PLC Management Addresses	Communication Cycle Time	Displays the internal device addresses to store the specified device/PLC communication cycle time (unit: ms). Communication cycle time refers to the elapsed time between data transfer request and import start from the GP to the device/PLC. The communication cycle times for each device/PLC when communicating with multiple devices/PLCs are stored using the address scheme shown here.  **NOTE** • The communication cycle time specified in the system window settings [Display Unit]-[System Area]-[System Area Device] is also stored in the internal device LS2037 as binary data (unit:10ms). • If LS area is 32 bit, the value is stored in the lower 16 bits.

Continued

Setting		Description
	SCAN ON/OFF	Displays the internal device address that controls whether to run or stop the set communication scan for the device/PLC. Controls the device/PLC using the displayed bit address as the start. LS AREA LS9550 — Driver 1, Units 1 to 16 LS9551 — Driver 1, Units 1 to 32 LS9552 — Driver 2, Units 1 to 16 LS9553 — Driver 2, Units 1 to 32 LS9554 — Driver 3, Units 1 to 16 LS9555 — Driver 3, Units 1 to 32 LS9556 — Driver 4, Units 1 to 16 LS9557 — Driver 4, Units 1 to 32 LS9558 — Reserved LS9559 — Reserved To stop the communication with the 1st device/PLC of Driver 1, turn ON the LS9550 bit. To resume, turn OFF the bit.  **NOTE** • If you select [Enable System Data Area] for the device/PLC, you cannot turn OFF the communication scan. • If LS area is 32 bit, the value is stored in the lower 16 bits.
Device/PLC1		Displays the memory size of the font used in the user screen area. The user screen area capacity depends on the display model. ☞ "1.3 List of Supported Functions by Device" (page 1-5)
	Maker	Displays the currently specified device/PLC maker.
	Series	Displays the series for the currently specified PLC.
	Version	Displays the device/PLC series.
	Port	Displays the ports that can be connected to a device/PLC. **NOTE** • If the port is also used for other devices/PLCs, is displayed to the right of the [Port].
Printer, Bar Code 1, Bar Code 2, Script 1, Script 2		Displays and edits the settings of the specified [Printer], [Bar Code 1], [Bar Code 2], [Script 1], and [Script 2].
	Type	Displays the types of the specified peripheral devices.
	Port	Displays the connecting ports of the specified peripheral devices. **NOTE** • If the port is also used for other devices/PLCs, is displayed to the right of the [Port].

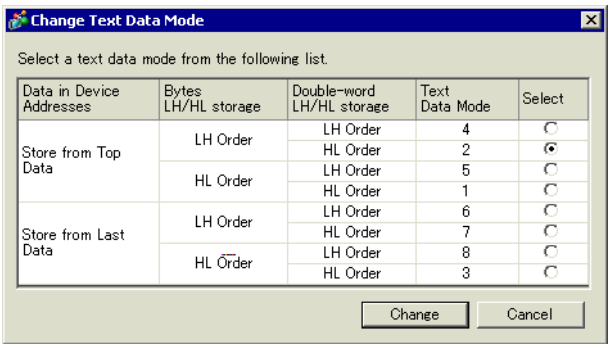
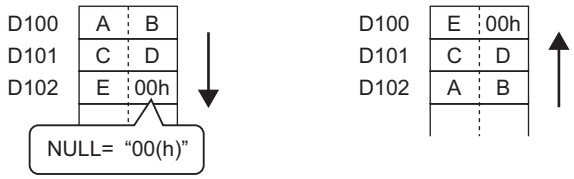
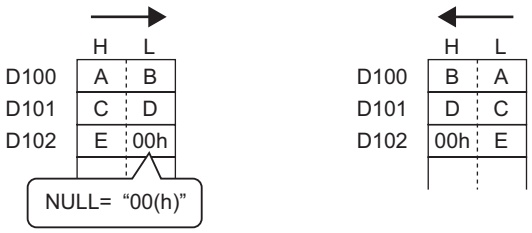
■ [Device/PLC] Setting Guide

Set the details of a device/PLC.

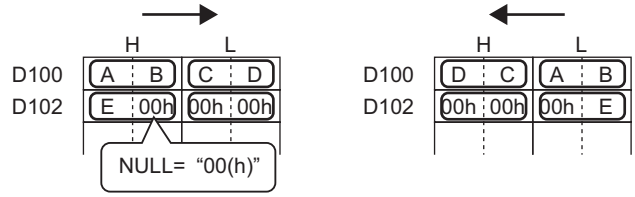


Setting	Description
Add Device/PLC	Adds the device/PLC settings. Use this setting when one display is communicating with multiple devices/PLCs. **NOTE** • The number of device/PLC drivers that the GP can communicate with at the same time depends on the type of GP. ☞ "1.3 List of Supported Functions by Device" (page 1-5)
Delete Device/PLC	Deletes the specified device/PLC.
Change Device/PLC	Changes the settings of the device/PLC.
Summary	Displays the settings of the currently specified devices/PLCs. **NOTE** • Selecting the LT series model, shows the maker, series, and ports: Summary Change Device/PLC Maker Digital Electronics Corporation Series LT Driver Port --- Text Data Mode 1 Change [LT Driver] is the same as [Memory Link].
Maker	Displays the currently specified device/PLC maker.
Series	Displays the currently specified device/PLC series name.
Port	Displays the connection port of the currently specified device/PLC. **NOTE** • If the port is also used for other devices/PLCs, ❗ is displayed to the right of the [Port].

Continued

Setting			Description
Summary	Text Data Mode		Displays the text data mode of the currently specified devices/PLCs.
	Change		When the [Change Text Data Mode] dialog box is displayed, you can change the text data mode. Normally the text data mode is specified according to each device/PLC. 
		Data in Device Addresses	Select the data device storage order from [Store from Top Data] or [Store from Last Data]. Storing the text "ABCDE". • Store from Top Data:(When the [Text Data Mode] is "5") • Store from Last Data:When the [Text Data Mode] is "8" 
		Bytes LH/HL Storage	Select the data storage order to specify in one word (16 bits) from [LH Order] or [HL Order]. Storing the text "ABCDE". • HL Order: (When the [Text Data Mode] is "5") • LH Order: (When the [Text Data Mode] is "4") 

Continued

Setting			Description
Summary	Change	Double-word LH/HL Storage	Select the data storage order to specify in two words (32 bits) from [LH Order] or [HL Order]. Storing the text "ABCDE". • HL Order (When the [Text Data Mode] is "1") • LH Order (When the [Text Data Mode] is "4" 
		Text Data Mode	Displays the combination number of the text data mode storage orders.
		Select	Select the text data mode to be used.
Communication Settings			Configure the settings according to the device/PLC. The settings differ depending on the series. See "GP-Pro EX Device Connection Manual." It is recommended to keep the default settings for [Timeout], [Retry], and [Wait to Send].
Device-Specific Settings			Set this according to each device/PLC.
	Allowable Number of Devices/PLCs		Displays the allowable number of devices/PLCs for the selected device/PLC type.
	[Add Device Button]		Each time you click the [Add Device Button], one device/PLC is added. This cannot be added when the [Allowable Number of Devices/PLCs] is set to 1.
	[Delete Device Button]		Deletes the device/PLC settings.
	Number		Displays the specified device/PLC number.
	Device Name		Set a device/PLC name with up to 20 characters. **NOTE** • When adding the desired [Device Name], ensure not to use a repeated name.
	[Display Unit Button]		Set settings as needed for the device/PLC. Displays the [Individual Display Unit] dialog box. **NOTE** • The [Individual Display Unit] differ depending on the PLC. For more information on the settings for each device/PLC, refer to "GP-Pro EX Device Connection Manual".

■ [Printer] Settings Guide

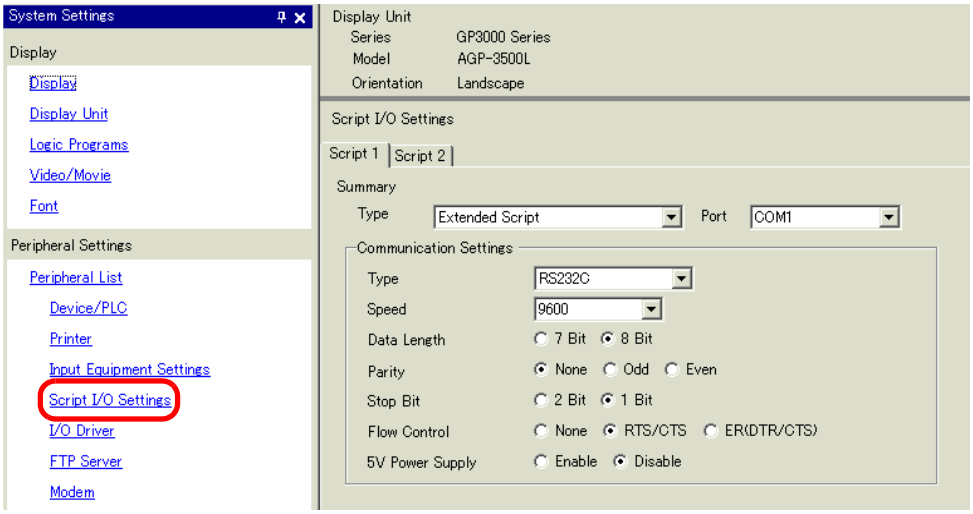
☞ “34.6.2 System Settings [Printer] Settings Guide” (page 34-48)

■ [Input Equipment Settings] Settings Guide

☞ “8.4.1 [Input Equipment Settings] Settings Guide” (page 8-21)
☞ “36.4.2 System Settings [Input Equipment Settings] - [Remote PC Access Input] Settings Guide” (page 36-20)

■ [Script I/O Settings] Settings Guide

Configure settings to communicate with the device/PLC using scripts.



Setting	Description
Type	Select [D-Script/Global D-Script] to use the "SIO Port Operation" function, which communicates using a serial port for D-script or global D-script. Select [Extended Script] to use extended scripts.
Port	Select a port for scripts from [COM1] or [COM2]. **NOTE** • If the port is also used for other devices/PLCs, is displayed to the right of the [Port].
Communication Settings	Configure communication settings. **NOTE** • This is not displayed when the [Type] is [Do Not Use]. • [Communication Settings] differ depending on the device/PLC selected. For details on the settings of the device/PLC, see "GP-Pro EX Device Connection Manual."

Continued

Setting		Description
Communication Settings	Type	Select the communication method from [RS232C], [RS422/485 (4wire)], or [RS422/485 (2wire)].
	Speed	Select a communication speed from [2400], [4800], [9600], [19200], [38400], [57600] or [115200].
	Data Length	Choose the communication data length from [7 bit] or [8 bit].
	Parity	Select the communication parity bit from [None], [Odd], or [Even].
	Stop Bit	Choose the communication stop bit length from [2 bit] or [1 bit].
	Flow Control	If the communication method is [RS232C], select the communication control method from [None], [RTS/CTS] or [ER (DTR/CTS)].
	5V Power Supply	If the communication method is [RS232C], designate whether or not to specify the 5V power supply. Only set it to [Enable] if the connected device requires a power supply. If a 5V power supply is not needed and you select Enable, damage can occur to the connected device or the GP. Confirm the specifications of the connected device and cable before setting this.

■ [I/O Driver] Settings Guide

☞ "31.2.1 [I/O Driver] Settings Guide" (page 31-12)

■ [FTP Server Settings] Setting Guide

☞ "27.9.2 [FTP Server] Settings Guide" (page 27-91)

■ [Modem] Settings Guide

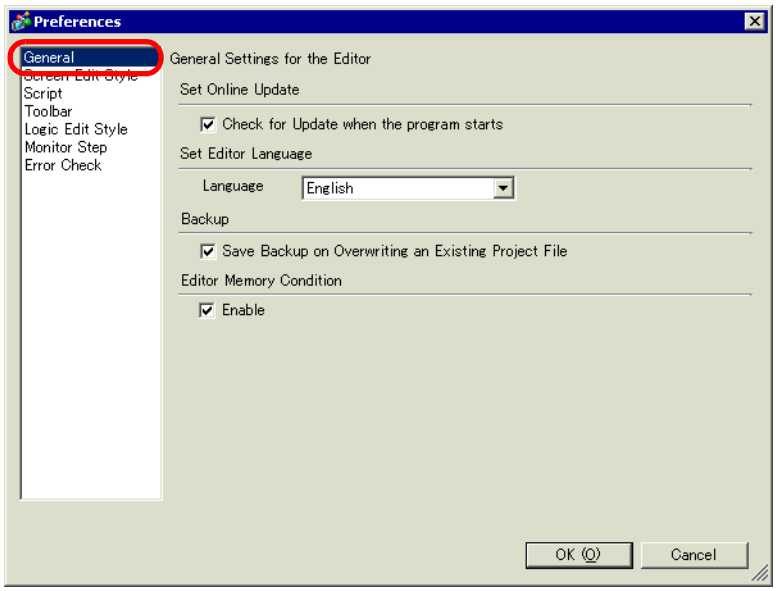
☞ "33.10.2 [Modem] Setttings Guide" (page 33-65)

5.14.7 [Preferences] Settings Guide

This section explains each item on the [Preferences] dialog box. To open this dialog box, from the [View (V)] menu, select [Preferences (O)].

■ General

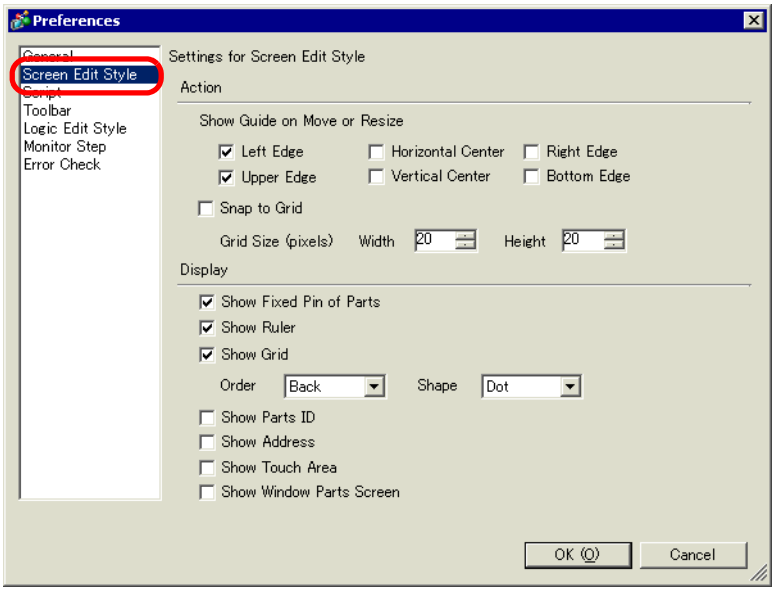
Configure general settings for the editor system.



Setting		Description
Set Online Update	Check for Update when the program starts	Set whether or not to perform an online update when the program starts.
Set Editor Language	Language	Select the language, [Japanese] or [English], used in GP-Pro EX for menus and so on. **NOTE** • You need to restart GP-Pro EX after making the settings.
Backup	Save Backup on Overwriting an Existing Project File	Before overwriting a project file, select whether or not you want to create a backup of the project file. ☞ "■ Backup as a History Procedure" (page 5-21)
Editor Memory Condition	Enable	Specifies whether to keep the settings after exiting the project in order to use the same screen environment the next time. The application can remember which screens are open, which is the active screen, and any System Setting windows displayed in the editing area. You can keep the environment from the most recent 5 projects.

■ Screen Edit Style

Configure settings relevant to Screen Edit Style.



Setting	Description
Action	Set the actions for editing screens.
Show Guide on Move or Resize	When moving parts or pictures, this option shows guides to help align pictures or parts.
Left Edge	Displays a guide on the left to help you align pictures and parts.
Horizontal Center	Displays a guide with a horizontal center to help you align pictures and parts.
Right Edge	Displays a guide on the right edge to help you align pictures and parts.
Upper Edge	Displays a guide on the upper edge to help you align pictures and parts.
Vertical Center	Displays a guide with a vertical center to help you align pictures and parts.
Bottom Edge	Displays a guide on the bottom edge to help you align pictures and parts.
Snap to Grid	Displays a guide to help you align pictures and parts with the grid.
Grid Size (pixels)	Set the grid size.
Width	Set the grid size in the X-coordinate direction from 4 to 120.
Height	Set the grid size in the Y-coordinate direction from 4 to 120.
Display	Set the display for editing screens.
Show Fixed Pin of Parts	Shows fixed pins of a Part. ☞ “ ■ Screen Data List Window” (page 5-106)
Show Ruler	Shows the ruler.
Show Grid	Shows the grid.

Continued

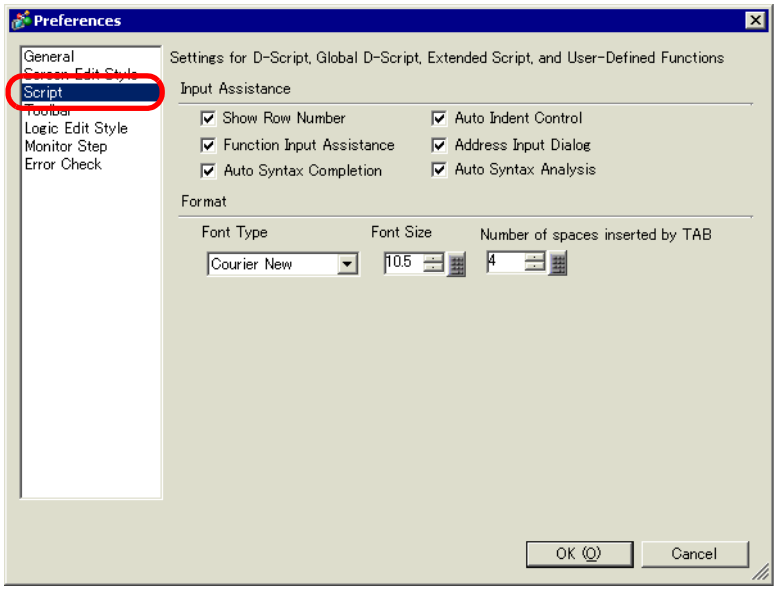
Setting		Description
Display	Order	Select whether or not to show the grid at the [Front] or the [Back] of the pictures or parts.
	Shape	Set the grid's shape from [Dot] or [Grid].
	Show Part ID	Shows the picture or part label.
	Show Address	Shows the address of a Part with address settings.
	Show Touch Area	For touchable Parts, shows its touch area in orange.
	Show Window Part Screen	Shows Window Screens that refer to window Parts.

■ Script

Configure settings relevant to D-Script, Global D-Script, Extended Script, and User Defined Function.

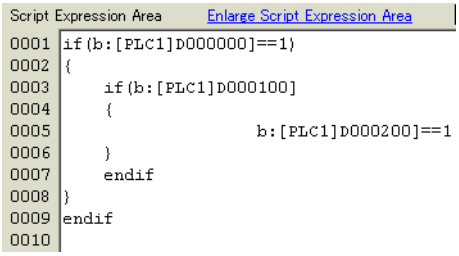
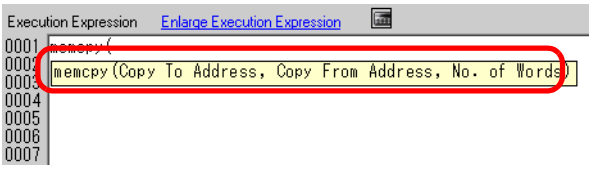
You can also specify these in the [Extended Script] and [Global D-Script] dialog boxes.

☞ "20.8.1 D-Script/Common [Global D-Script] Settings Guide" (page 20-53)



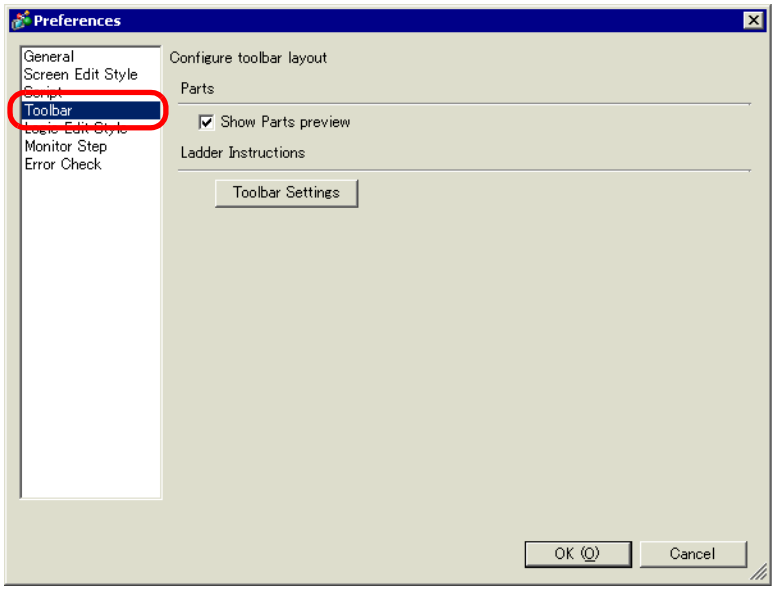
Setting		Description
Input Assistance		Configure settings of input assistance in D-Script, Global D-Script, Extended Script, and User Defined Function.
	Show Row Number	Shows the row number to the right of the program.

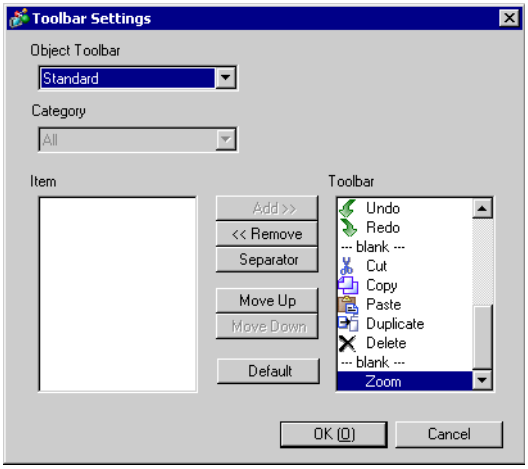
Continued

Setting		Description
Input Assistance	Auto Indent Control	If you insert line feeds as below, tabs are inserted according to the hierarchy. 
	Function Input Assistance	When the function and the initial bracket "(" are typed as below, the function's format is displayed. 
	Address Input Dialog	When creating a script, type a left-hand square bracket ([) and the [Input Address] dialog box appears. You can input addresses in this dialog box.
	Auto Syntax Completion	When "if" or "loop" is typed from the keypad, the remaining syntax is completed.
	Auto Syntax Analysis	When creating scripts, the expression is verified. The [Message Area] displays the results if the expression is incorrect. For example, "Line 1: The expression is incorrect."
Format		Set the format for scripts.
	Font Type	Select the font to use.
	Font Size	Set the font size to use from 8 to 72 in increments of 0.5.
	Number of Spaces Inserted by Tab	Set the number of tab key indentations to use from 1 to 8.

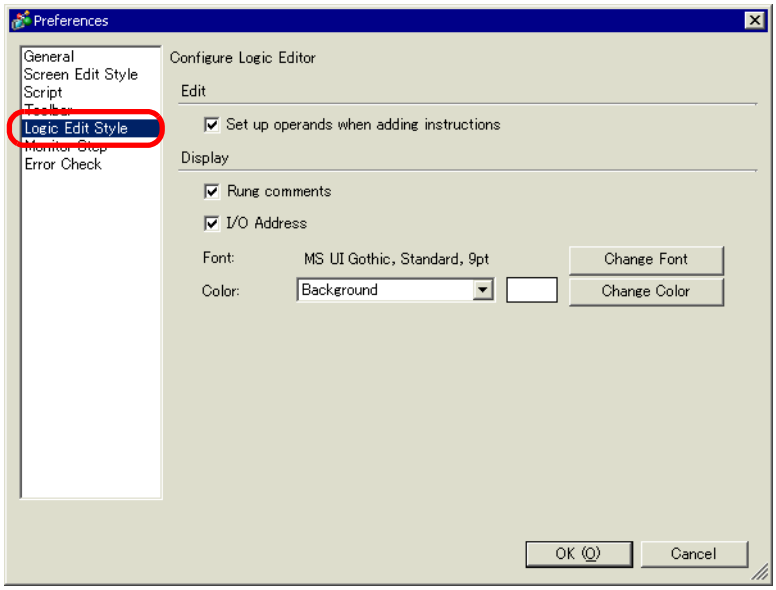
■ Tool Bar

Customize each Toolbar



Setting		Description
Parts	Show Parts Preview	Set whether or not to display a preview of the part when you hover the mouse over the part's toolbar icon.
Customize		Select the logic instruction icon to be displayed on the toolbar.
	Toolbar Settings	Opens the [Toolbar Settings] dialog box.  **NOTE** • For the toolbar settings, refer to the following. ☞ "29.2.4 Customizing the Toolbar" (page 29-6)

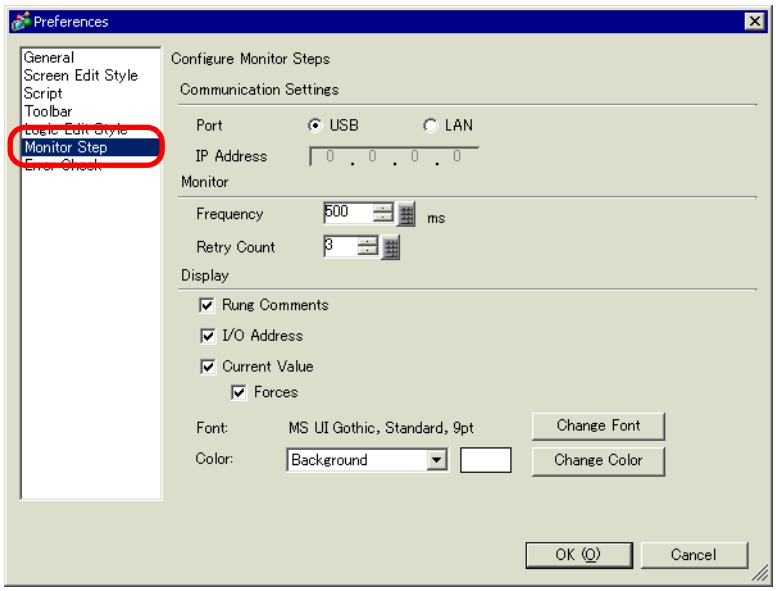
■ Logic Edit Style



Setting		Description
Edit	Set up operands when adding ladder instructions	Specifies operands when you are inserting the instruction in the logic programming.
Display	Rung Comments	Displays rung comments on the logic screen.
	I/O Address	Displays the I/O address if a symbol variable is allocated to an I/O terminal.
	Font	Select the font to use for all the characters on the logic screen.
	Color	Select an option from the drop-down list, then click [Change Color] to set the option's color.

■ Monitor Step

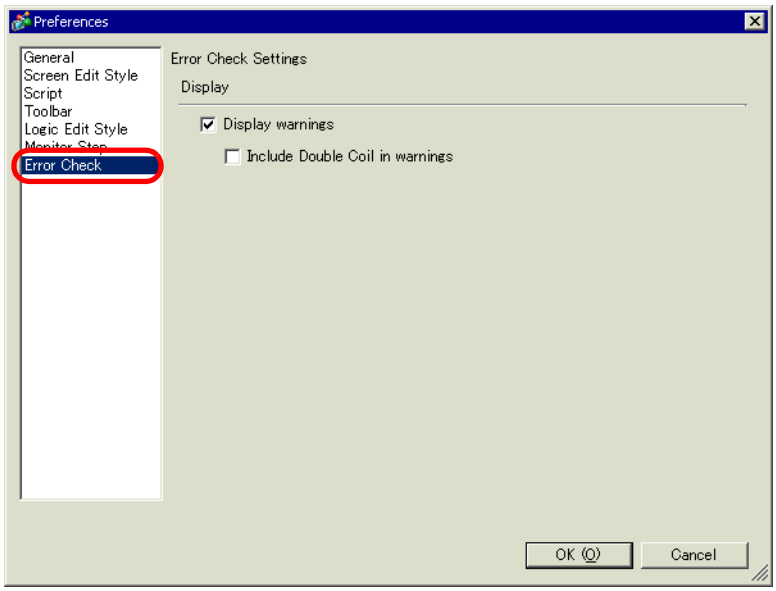
Configures the settings for monitoring logic programs online.



Setting		Description
Communication Settings	Port	Select the communication port for online monitoring from [USB] or [LAN].
	IP Address	If you select [LAN] for [Port], specify the IP Address.
Monitor	Frequency	Specifies the communication frequency from 200 to 3000.
	Retry Count	Specifies the communication retry count from 0 to 10.
Display	Rung Comments	Displays rung comments on the logic screen.
	I/O Address	Displays the I/O address if a symbol variable is allocated to an I/O terminal.
	Current Value	Displays the current values of symbol variables during online monitoring.
	Forces	Displays values that have been forced during online monitoring.
	Font	Select the font to use for all the characters on the logic screen.
	Color	Select an option from the drop-down list, then click [Change Color] to set the option's color.

■ Error Check

Configures the error check settings.



Setting	Description
Display warnings	On running the error check, displays warnings in the error window. When the check box is not selected: Displays only errors. When the check box is selected: Displays both errors and warnings.
Include Double Coil in warnings	When the same address is used for multiple purposes, displays a warning in the error window.

5.14.8 [Common Settings] Setting Guide

■ Alarm

☞ “19.9.1 Common (Alarm) Settings Guide” (page 19-63)

■ Sampling

☞ “24.8.1 Common [Sampling] Settings Guide” (page 24-37)

■ Recipe

☞ “25.10.1 Common [Recipe] Setup Guide” (page 25-56)

■ Security

☞ “22.5 Common [Security Settings] Settings Guide” (page 22-9)

■ Time Schedule

☞ “23.4 Common Time Schedule Settings Guide” (page 23-11)

■ Sound

☞ “26.5.1 Common [Sound] Settings Guide” (page 26-13)

■ Text Table

☞ “15.7.3 Text Table Settings Guide” (page 15-51)

■ Global D-Script I/O Settings

☞ “20.8.1 D-Script/Common [Global D-Script] Settings Guide” (page 20-53)

■ Extended Script I/O Settings

☞ “20.8.1 D-Script/Common [Global D-Script] Settings Guide” (page 20-53)

■ Image Registration

☞ “10.5.1 Common (Image Registration) Settings Guide” (page 10-23)

■ Text Registration

☞ “15.7.2 Common [Text Registration] Settings Guide” (page 15-49)

■ Mark Registration

☞ “9.12.3 Common (Mark Registration) Settings Guide” (page 9-81)

■ Keypad Registration

☞ “16.5.2 Common (Keypad Registration) Settings Guide” (page 16-23)

■ Movie

☞ “27.9.3 Common [Movie] Settings Guide” (page 27-93)

■ Video Module Window Settings

☞ “27.9.5 Common [Video Module] Settings Guide” (page 27-115)

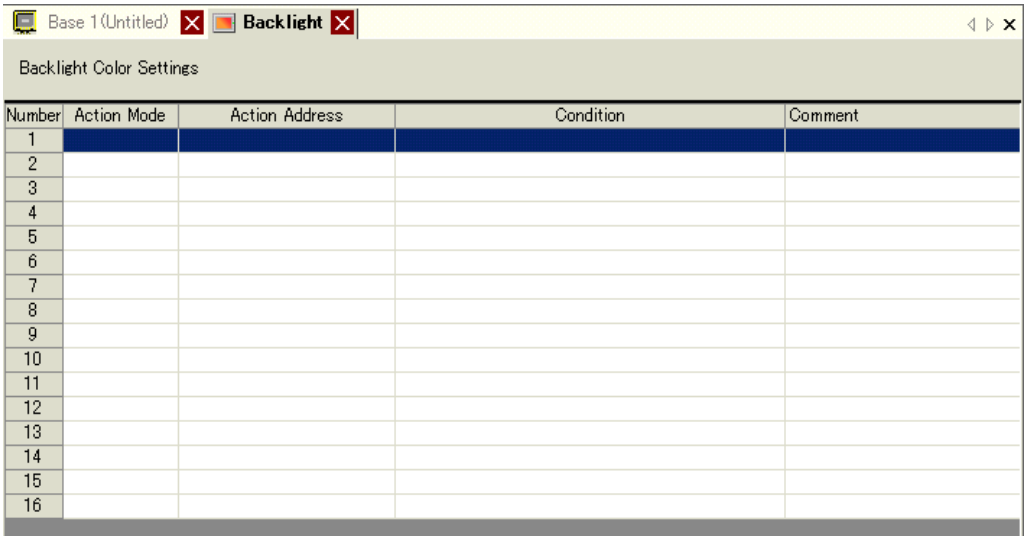
■ Backlight Color Settings

This feature switches the backlight to red. It is useful when creating warning signals. There are 16 condition settings available.

NOTE

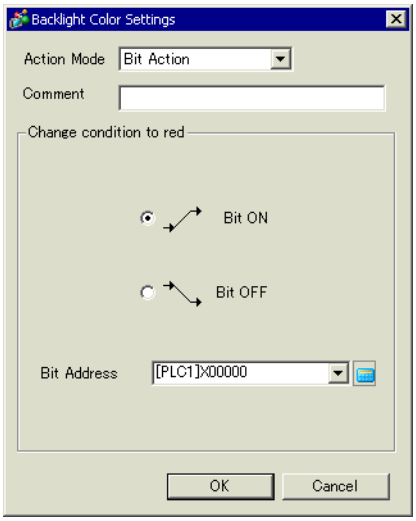
- This feature is available to limited models.

☞ "1.3 List of Supported Functions by Device" (page 1-5)

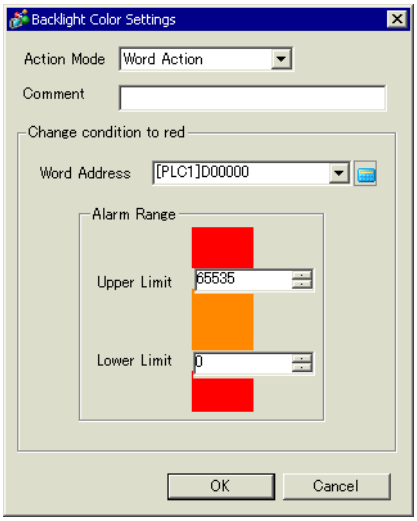


Setting	Description
Action Mode	Double-click the line to display the [Backlight Color Settings] settings dialog box. The selected settings are shown in the box.
Action Address	
Condition	
Comment	

Selecting [Bit Action]



Selecting [Word Action]



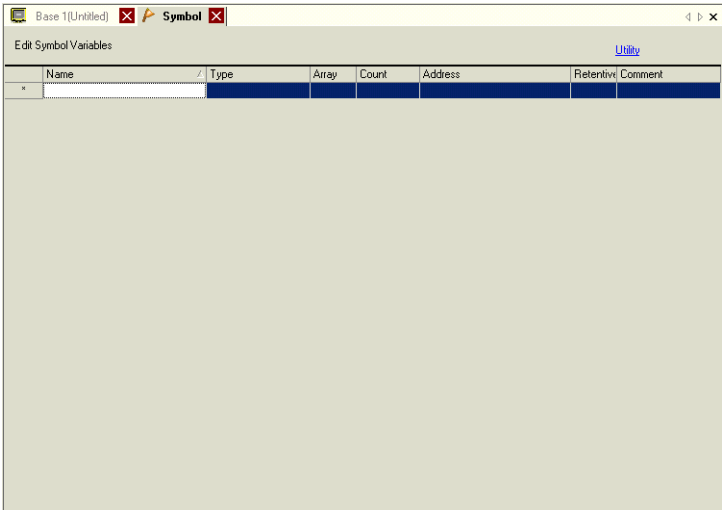
Setting	Description
Action Mode	Select either [Bit Action] or [Word Action].
Comment	Enter your comment using up to 20 characters.
Change condition to red	Configure the conditions for switching the backlight to red. • When you select [Bit Action] for [Action Mode] Specifies whether to switch the color to red upon the specified [Bit Address] turning ON or OFF. • When you select [Word Action] for [Action Mode] Switches the color to red when the stored value in the specified [Word Address] is outside the specified range (higher than [Upper Limit] or lower than [Lower Limit]) is stored. The setting range between [Upper Limit] and [Lower Limit] is 0 to 65535.

■ Symbol Variable Settings

Displays the screen for registering symbol variables.

NOTE

- For details about registering symbol variables, refer to the following.
  ☞ "29.3.2 Using Symbol Variables with Arbitrary Names (Variable Format)" (page 29-19)
  ☞ "29.3.3 Using Symbol Variables with Fixed Addresses (Address Format)" (page 29-30)



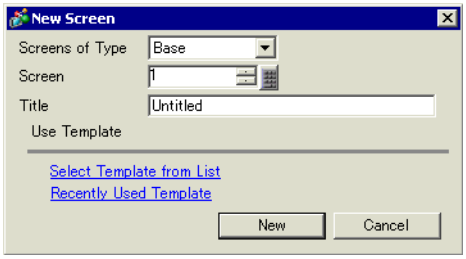
Setting	Description
Name	Specifies the symbol variable name.
Type	Specifies the symbol variable type. When the [Register Variable] is [Variable Format], select [Bit Address], [Word Address], [Bit Variable], [Integer Variable], [Float Variable], [Real Variable], [Timer Variable], [Counter Variable], [Date Variable], [Time Variable], or [PID Variable] as the type. When the [Register Variable] is [Address Format], select [Bit Address] or [Word Address] as the type.
Array	Determines whether to specify arrays.
Count	Specifies the array size of an [Array].
Address	If you specified [Bit Address] or [Word Address] for [Type], specify the Device/PLC address.
Retentive	Select retentive/volatile.
Comment	Type any comments.
Utility	• Import Imports CSV file format symbol variables. • Export Exports CSV file format symbol variables.

5.14.9 [Screen] Settings Guide

This section explains about each item displayed by selecting the [Screen (S)] menu.

■ New Screen

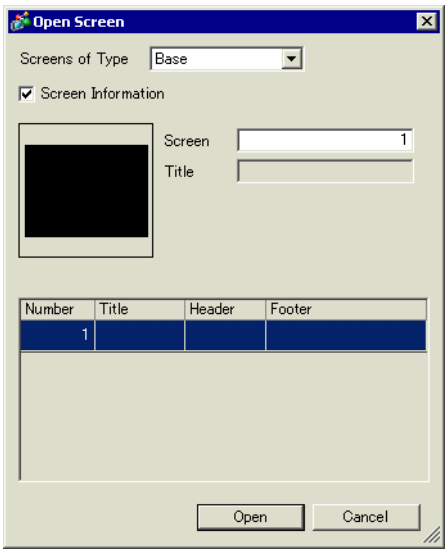
To create a new screen, from the [Screen (S)] menu, select [New Screen (N)].



Setting		Description
Screens of Type		Select the screen type to create or select a template from [Base], [Window], or [Logic].
Screen		If you selected [Base] for [Screens of Type], specify the number of the screen to create from 1 to 9,999. If you selected [Window], specify the number from 1 to 2,000. If you selected [Logic], specify from SUB-01 to SUB-32.
Title		Set the screen title, up to 30 characters, for the new screen.
Use Template		Select a template.
	Select Template from List	Displays the [Select Template] dialog box to select a template.
	Recently Used Template	The names of recently used templates are displayed as popup.

■ Open Screen

Opens a screen.



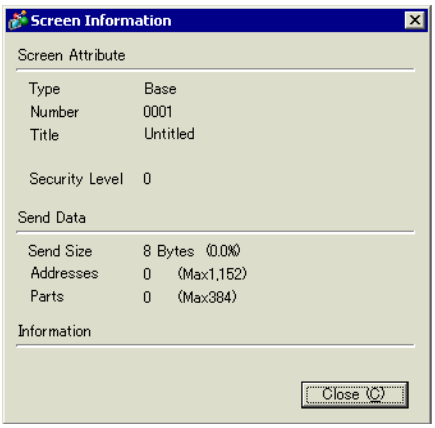
Setting		Description
Screens of Type		Select the type of a screen to open from [Base], [Window], [Logic], or [I/O].
Screen Information		Set whether or not to display the information and preview of a screen to open.
	Screen	Displays the screen number selected on the display list. If you change the number, the preview is changed.
	Title	Displays the screen title in the preview.
Display List		Displays a list of all the screens in a project file.
	Number	Displays the screen number.
	Title	Displays the screen title.
	Header	When a Header is specified, the Header [Title] is displayed.
	Footer	When a Footer is specified, the Footer [Title] is displayed.

■ Close Screen

Closes the drawing screen.

■ Screen Information

Displays the specified screen information.



Setting		Description
Screen Attribute		Displays the screen information.
	Type	Displays the type of the specified screen with [Base], [Window] or [Logic]. If you open the [Screen Info] where the Header/Footer can be edited, the Type is displayed as [Header] or [Footer].
	Number	Displays the screen number.
	Title	Displays the screen title.
	Security Level	Displays the screen security level
Send Data		Displays the summary of data to send to the GP.
	Send Size	Displays the data size for one screen by the byte. Displays the usage rate of the screen total size in percentage in parenthesis.
	Addresses	Displays the total number of addresses used in screens in [Number of Addresses]. Displayed in red if it exceeds the maximum number of addresses.
	Parts	Displays the total number of parts used for screens in Parts.
Information		Displays supplementary information.

■ Previous screen/Next screen

Displays the previous/next screen from that currently displayed.

NOTE

- The previous screen/next screen feature is not available on movie screens.

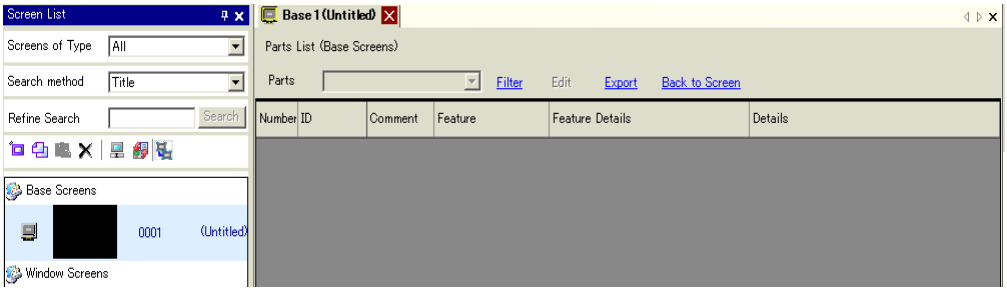
■ Change View

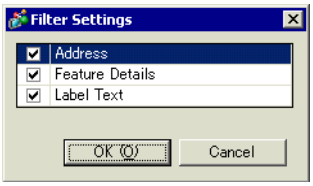
◆ Edit Screen

Changes the view to the drawing screen.

◆ Parts List

Displays a list of the attributes of the parts used on the selected screen. Does not display a list of [Draw], [Trigger Action], or [D-Script].



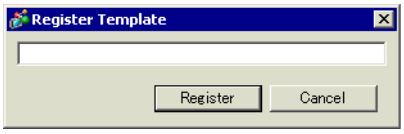
Setting	Description
Part	Select the part type to list from all the parts placed on the screen.
Filter	The [Filter Settings] dialog box appears. Set whether or not to display [Address], [Feature Detail], and [Label Text] on the Parts List. 
Edit	Displays the setting dialog box for the part selected from the list.
Export	The [Export Parts List] dialog box appears. Set the location to save the [Parts List] in a CSV file (*.csv)
Back to Screen	Changes the view to the drawing screen.
Display List	Lists the details of parts.

Continued

Setting		Description
	Number	Numbers are sequentially assigned to the placed parts from the oldest, starting from 1.
	ID	Displays the part IDs.
	Comment	Displays the parts comments.
	Feature	Displays the part feature name. For example, Bit - Comparison
	Address/Address 1	Displays the address types and addresses specified to the parts.
	Feature Details	Displays the detail text for a part's features.
	Label/State 0	Displays the labels specified to the parts. If different labels are specified to each state of a part, a label is displayed for each state.
	Details	Displays other detailed information such as coordinates where parts are placed. The display contents depend on parts.

■ Template Registration

Register the parts placed on the drawing screen except the header/footer as a template.



Setting	Description
Register Template	Set the title of a template to create with up to 30 characters.

5.15 Restrictions

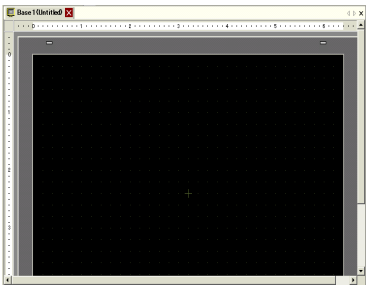
5.15.1 Restrictions for Creating Screens

■ Screens of Type

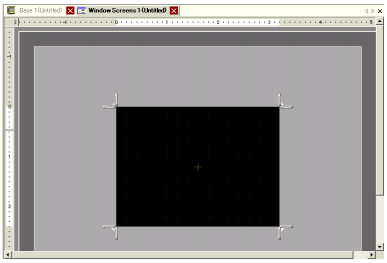
This section covers the types of screens created with project files.
A project file is mainly composed of two screens: a Base Screen and Window Screen. A Base Screen is a screen displayed on the GP. To display a screen on the GP, always use a Base Screen. A Window Screen is a screen called and displayed on a Base Screen. A Window Screen is used to display one screen on top of the other, such as a keypad input.

☞ "18.3 Displaying Windows" (page 18-7)

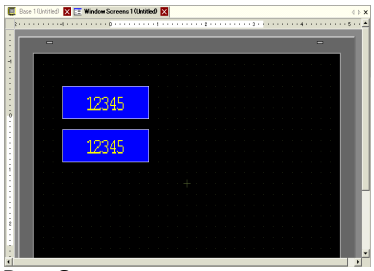
◆ Base Screens



◆ Window Screens

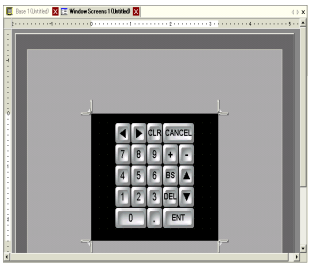


For example,

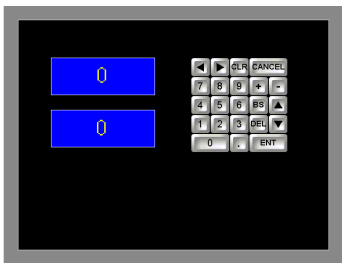


Base Screen

+



Window Screen *1



Base Screen + Window Screen

NOTE

- The logic screen and I/O screen are used for creating logic programs.

☞ "29.2.3 Logic Screens" (page 29-5)
☞ " ■ I/O Display Method" (page 31-15)

■ Number of Screens that can be Created

Screens of Type	Allowable Setting Number Range for Screens
Base Screen	1 to 9999
Window Screen *1	1 to 2000
Logic	SUB-01 to SUB32

■ Data Capacity per Screen

The maximum capacity per screen is approximately 1 MB. You cannot create a screen exceeding this capacity.
The maximum capacity of the area that can maintain created screen data ([User Screen Area]) depends on each GP model.
☞ "1.3 List of Supported Functions by Device" (page 1-5)

■ Number of Features that can be Placed on a Screen

The maximum allowable number of parts and features placed on a single screen is as follows. This number is for newly created screens without any other settings.

NOTE

- The maximum number of parts you can place per screen are 384 and the number of addresses you can specify per screen are 1,152. If you select [IPC Series] for the display unit, you can use up to 1000 parts and 3000 addresses.

Part	Feature Type	Base Screen	Window Screen*1
Alarms	Summary	1	1
	Show History	384	
Text Alarm	-	1	1
Graph	Normal Graph	384	
	Statistical Graph		
	Meter Graph		
Key Part	-	384	
Data Display	Numeric Display*2	384	
	Text Display *2	384	
	Date/Time Display	384	
	Statistical Data Display	384	
	Show Limit Value	384	
Picture Display	ON/OFF Display	384	
	State Display		
	CF Image Display		
	Move Display (only when Mark is selected)	30	

Continued

Part	Feature Type	Base Screen	Window Screen*1
Switch/Lamp	Bit Switch	384	
	Word Switch		
	Screen Change		
	Special Switch		
	Selector Switch		
	Lamp		
Window	Window*3	384	0
	Global Window*4		
Movie Player	-	1	
Video Module Display	-	512*5	0
Message Display	Direct Input	384	
	Text Display		
D-Script	-	-*6	
Sampled Data Display *2	-	1	1
Historical Trend Graph*7	-	8	
Data Block Display Graph *7	-		
Special Data Display	Data Transmission	1	1
	Filing	384	
	Show CSV *2	1	1
	File Manager	1	0
Trigger Action	Bit Action	384	
	Word Action		
	Screen Change		
	Draw Action		
Remote PC Access Window Display	-	1*8	-

*1 A maximum of three Windows can be displayed on the display screen at the same time. For more details about displaying Windows, refer to the following:

"18.8.2 Restrictions for Window Displays ■ Displaying Multiple Windows on a Single Screen" (page 18-30)

*2 You cannot draw a Sampled Data Display and Special Data Display (Show CSV) at the same time. The same applies to drawing a Special Data Display (Show CSV) and a Data Display set up with Allow Input.

*3 Up to three window parts with the [Continuous Read] option (two if using Global Windows) can be placed on a single screen. If three [Continuous Read] windows are placed on a screen, any additional windows will not operate.

*4 When the device monitor screen is displayed, the global window cannot be displayed.

*5 You can display only one video module per display screen at the same time.

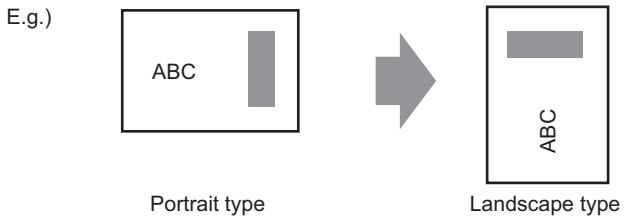
*6 The maximum number of D-Scripts depends on the number of addresses you specify per screen (up to 1152) and the screen data capacity (up to 1 MB).

*7 Maximum eight [Historical Trend Graphs] and [Data Block Display Graphs].

*8 When three windows are already displayed (or two global window), this cannot be displayed.

■ Screen Display

- When you change the orientation from portrait to landscape, or from landscape to portrait, the drawing is displayed with 90-degree rotated. From the [Edit] menu, select [Rotate/Flip] to edit. Be sure to check the screen after the change.



- If you change from a high resolution display type to a low resolution display type, the data that exceeds the range is not displayed. If you change back to a high resolution display type, the data that exceeded the range is displayed.
  The maximum number of display characters on a part differs between a low resolution display type and a high resolution display type. If you change an alarm message created with a high resolution display type to a low resolution display type, any part that does not fall on the message screen is not displayed.
- If you convert resolution, the part size, position, and the text size to the display resolution is adjusted automatically. Some scale magnification may not convert properly due to text size and resolution limitations.
- When you reduce the screen edit area with the zoom function, some drawings may not display correctly, depending on the magnification.

5.15.2 Restrictions on Saving Data

■ CF Card/USB Storage Save Cautions

- During data writing onto a CF Card/USB storage, the parts and screen switching actions becomes slower.
- It may take several seconds to write data, depending on the amount.
- After the Status data is read out from the GP, at least one communication cycle or one Display Scan Time period must pass before the next command can be written.*1*2
- Do not call up screens that use the CF Card/USB storage when the CF Card/USB storage is not installed on the GP. If you do, they will not function properly.
- If a write error occurs, any file that has not finished loading may remain on the CF Card in the USB storage.
- To overwrite and save the CF Card/USB storage data existing, the CF Card/USB storage must have enough free space to allow the data. If the data is larger than the available space, a write error occurs.
- When saving data onto a CF Card or into USB storage and the target folder (\ALARM...) does not exit, the folder is automatically created to save the data. If the folder cannot be created, for example, if the CF Card/USB storage is not initialized, a write error results.
- There is a limit to the frequency that data can be written to the CF Card (500 KB of data can be rewritten around 100,000 times).
- To format the CF Card/USB storage on your PC, select FAT or FAT32. If you use NTFS for formatting, GP does not recognize the CF Card/USB storage.

*1 The Communication Cycle Time is the time from when the GP requests data from the external device to when the data arrives. This value is stored in internal device LS2037 as a binary value, in units of 10 ms.

*2 Display Scan Time is the time required to process one screen. This value is stored in internal device LS2036 as a binary value, in millisecond units.

■ CF Card Cautions for Use

- When removing the CF Card, verify that the access lamp is switched off. There is a chance that CF Card data can be lost or damaged.
- While accessing the CF Card, do not turn the GP unit off, reset the GP, or remove the CF Card. Create a preset verification screen for information about CF Card access. Turn off power, reset, open the CF Card cover, or remove the CF Card only after verifying that screen.
- When inserting the CF Card in the GP unit, make sure you have the correct side up and the correct location for the CF Card connector. If installed incorrectly, damage can occur to the data or to the CF Card/GP unit.
- Please use a CF Card made by Digital Electronics Corporation. If using another companyís CF Card, damage may occur to the CF Cardís data.
- Please make sure to back up all CF Card data.
- Please refrain from doing the following, as it can result in damage to data and equipment:
  - •Bending the CF Card
  - •Dropping the CF Card
  - •Spilling water on the card
  - •Touching the CF Card's connectors directly
  - •Disassembling or modifying the CF Card

■ USB Storage Cautions for Use

- When accessing a USB storage device, do not reset the GP or remote/insert a USB storage device. Data in the USB storage device may be destroyed.
  To remove the USB storage safely, design the system to turn ON the system variable #H_Control_USBDetachTrigger and confirm #H_Status_USBUsing is OFF before removal.
  ☞ “ ■ Bit type” (page A-102)
- Please make sure to back up all data on USB storage devices.
- Do not connect more than 1 USB storage. If you do so, the USB devices may not be recognized properly.

■ External Memory List for Saving Data

The following shows external memories you can use to save data in (or browse to).

NOTE

- Available memories you can use to save data in differ depending on the model.
☞ "1.3 List of Supported Functions by Device" (page 1-5)

Feature	CF Card	USB storage	FTP Server
Screen Capture	O	O	O
Image Display on Picture Display	O	X	X
Alarm History Data Save	O	O	X
Sampled Data Save	O	O	X
Recipe (CSV data) Transfer	O	O	X
Recipe (Filing Data) Save	O	O	X
File Display on File Manager	O	X	X
File Manager Copying Feature between CF Card/External Memory	O	O	X
Display on Display CSV Data	O	X	X
Sound Data Save	O	X	X
Movie File Save/Play	O	X	O
Video Screen Capture (with VM Unit)	O	X	X
JPEG Display on Video Modules	O	X	X
Video Modules (memory loader)	O	O	X
Available Space Check	O	O	X
Backup SRAM Data Save	O	X	X
Offline Memory Initialization	O	X	-
D-script Functions for CF File Operations	O	X	X

■ Precautions for GP Screen Captures

- It takes five to six seconds to capture a screen, and the file size is approximately 200 KB (when the Image Quality is 80).
- The file size and capture time depend on the image quality and screen size.
- Part displays are not updated during capture.
- If you capture a screen with the Blink option, the captured image is displayed with no blink.
- If you create a file with other actions than screen capture while the CF Card/USB storage device is inserted, the file is overwritten with the next [Auto Increment File Number].
- When you use [Auto Delete File], it may take some time to delete many files. All files are deleted so this can take from a few seconds to a few minutes.

■ Precautions for SRAM Auto Backup

- Make sure the CF Card free space is larger than the backup SRAM size. Free space is checked before the process execution. If there is no sufficient free space in a CF Card, data is not saved in the CF Card.
- When you use the CF Card storage feature, confirm that the CF Card storage control address has no data. You can save the following data in a CF Card: Filing Data, Logging Data, Line Chart Data, Sampled Data (Data Samplingís Data), and Alarm Data
- The CF Card storage feature runs before SRAM backup. While SRAM backup is running, writing to the CF Card is interrupted.
- While executing the SRAM backup, the process of CF Card storage feature is interrupted. When automatically writing to the CF Card with the logging featureís loop action, the logging action is also interrupted until the write to the CF Card starts.
- Only one backup file can be saved in a CF Card.
- If you execute [Initialize CF Card] under [Initialize Memory] in GP offline mode, a SRAM folder will be created.
- If you execute CF Card → SRAM (Restore) in GP offline mode, all the saved data (such as sampled data) will be replaced with the newly stored data.
- If you execute CF Card → SRAM (Restore) in GP offline mode, the adjusted values for Brightness, Contrast, and Sound Volume will not change. The adjusted values will be applied after you turn ON the power again or after the GP goes into operation mode.
- If you execute CF Card → SRAM (Restore) in GP offline mode, the stored Japanese FEP learning information will be overwritten. For this reason, the display order of the convert-to characters may change according to the frequency of use.