

---

Screen Configuration Software

# Smart Editor



Introductory Manual

---

-Contents-

- 1 Preparation
  - Smart Editor/Installation and Uninstallation
- 2 Starting and Closing Smart Editor
  - Starting the App/Closing the App
- 3 Layout and Basic Operations of Smart Editor
  - Names of Parts/Basic Operation
- 4 Screen Program Configuration
  - Before Configuring Screen Programs/Screen Program Configuration
- 5 Screen Program Transfer
- 6 Useful Display and Editing Menus
  - Simulator/Emulator/Screen List/Change State/Display Environment/  
Item Information/Grid/Guides/Error Check/Search/Batch Change/  
Screen Library/Password
- 7 Appendix
  - Windows Font/Function Performance Specifications

# Record of Revisions

Reference numbers are shown at the bottom left corner on the back cover of each manual.

Printing Date	Reference No.	Revised Contents
October 2024	1212NE0	First edition
July 2025	1212NE1	Second edition <ul style="list-style-type: none"><li>• TS4000 series added</li><li>• Smart Editor download license application</li><li>• HMI search transfer (Ethernet)</li><li>• Parts bar</li></ul>



# Preface

Thank you for selecting the MONITOUCH.

For correct setup of the MONITOUCH, you are requested to read through this manual to understand more about the product.

For details on other operating procedures for the MONITOUCH, refer to the following related manuals.

Manual Name	Contents	Reference No.
Smart Editor Reference Manual 1	Explains the functions and operation of the V10/V9/TS4000 series.	1210NE
Smart Editor Reference Manual 2		1211NE
Web Server Manual	Explains the functions and operation of the Web Server.	1215NE
Smart Editor Introductory Manual	Explains the installation procedure of Smart Editor, the process for configuring simple screen programs, as well as how to transfer a created screen program using Smart Editor.	1212NE
Smart Editor Training Manual Beginner's Guide	Explains the screen creation process using Smart Editor with examples in detail.	1213NE
Smart Editor Training Manual Practical Guide		1214NE
V10 Series Unit Operation / Local Mode / Error Screen Manual	Explains the operating procedures, Local mode screens, and error list for the V10 series.	1093NE
V9 Series Troubleshooting/Maintenance Manual	Explains the operating procedures, Local mode screens, and error list for the V9 series.	1068NE
TS4000 Series Unit Operation / Local Mode / Error Screen Manual	Explains the operating procedures, Local mode screens, and error list for the TS4000 series.	1216NE
V10/V9/X1 Series Macro Reference	Provides an overview of macros of V-SFT version 6 and explains macro editor operations and macro command descriptions in detail.	1071NE
V10/V9 Series Connection Manual 1	Explains the connection and communication parameters for the V10/V9 series and controllers in detail.	2210NE
V10/V9 Series Connection Manual 2		2211NE
V10/V9 Series Connection Manual 3		2212NE
TS4000 Series Connection Manual 1	Explains the connection and communication parameters for the TS4000 series and controllers in detail.	2221NE
TS4000 Series Connection Manual 2		2222NE
TS4000 Series Connection Manual 3		2223NE
V10 Series Hardware Specifications	Explains hardware specifications and precautions when handling the V10 series.	2025NE
V9 Series Hardware Specifications	Explains hardware specifications and precautions when handling the V9 series.	2023NE
TS4000 Series Hardware Specifications	Explains hardware specifications and precautions when handling the TS4000 series.	2026NE

For details on devices including PLCs, inverters, and temperature controllers, refer to the manual for each device.

## Notes:

1. This manual may not, in whole or in part, be printed or reproduced without the prior written consent of Hakko Electronics Co., Ltd.
2. The information in this manual is subject to change without prior notice.
3. Microsoft and Windows are registered trademarks of Microsoft Corporation in the United States and other countries.
4. All other company names or product names are trademarks or registered trademarks of their respective holders.
5. This manual is intended to give accurate information about MONITOUCH hardware. If you have any questions, please contact your local distributor.





---


# Notes on Safe Usage of MONITOUCH

---

In this manual, you will find various notes categorized under the following levels with the signal words "DANGER" and "CAUTION".

 **DANGER** Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

 **CAUTION** Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury and could cause property damage.

Note that there is a possibility that items listed with  **CAUTION** may have serious ramifications.

## **DANGER**

- Never use the output signal of the MONITOUCH for operations that may threaten human life or damage the system, such as signals used in case of emergency. Design the system so that it can cope with a touch switch malfunction. A touch switch malfunction may result in machine accidents or damage.
- Turn off the power supply when you set up the unit, connect new cables, or perform maintenance or inspections. Otherwise, electrical shock or damage may occur.
- Never touch any terminals while the power is on. Otherwise, electrical shock may occur.
- Always close the terminal covers before turning the power on and operating the unit. Otherwise, electrical shock may occur. (V10/V9)
- The liquid crystal in the LCD panel is a hazardous substance. If the LCD panel is damaged, do not ingest the leaked liquid crystal. If leaked liquid crystal makes contact with skin or clothing, wash it away with soap and water.
- Never disassemble, recharge, deform by pressure, short-circuit, or reverse the polarity of the lithium battery, nor dispose of the lithium battery in fire. Failure to follow these conditions will lead to explosion or ignition.
- Never use a lithium battery that is deformed, leaking, or shows any other signs of abnormality. Failure to follow these conditions will lead to explosion or ignition.
- Switches on the screen are operable even when the screen has become dark due to a faulty backlight or when the backlight has reached the end of its service life. If the screen is dark and hard to see, do not touch the screen. Otherwise, unintended operations may occur resulting in machine accidents or damage.
- Tighten the mounting screws on the fixtures of the MONITOUCH uniformly to the specified torque indicated below. Excessive tightening may cause deformation, breakage, or malfunction of the touch switch, which may result in damage to the machine or an accident. Insufficient tightening may cause the unit to fall down, short-circuit, or malfunction
  - V1015, V1010, V1008, V9, TS4000: 5.31 lbf-in (0.6 N-m)
  - V1012: 7.97 lbf-in (0.9 N-m)

## **CAUTION**

- Check the appearance of the unit when it is unpacked. Do not use the unit if any damage or deformation is found. Failure to do so may lead to fire, damage, or malfunction.
- For use in a facility or as part of a system related to nuclear energy, aerospace, medical, traffic equipment, or mobile installations, please consult your local sales representative.
- Operate (or store) the MONITOUCH under the conditions indicated in this manual and related manuals. Failure to do so could cause fire, malfunction, physical damage or deterioration.
- Observe the following environmental restrictions on use and storage of the unit. Otherwise, fire or damage to the unit may result.
  - Avoid locations where there is a possibility that water, corrosive gas, flammable gas, solvents, grinding fluids, or cutting oil can come into contact with the unit.
  - Avoid high temperatures, high humidity, and outside weather conditions, such as wind, rain, or direct sunlight.
  - Avoid locations where excessive dust, salt, and metallic particles are present.
  - Avoid installing the unit in a location where vibrations or physical shocks may be transmitted.
- Protective functions may not function properly if a device is not used as specified by the manufacturer.
- Equipment must be correctly mounted so that the main terminal of the MONITOUCH will not be touched inadvertently. Otherwise, an accident or electric shock may occur.
- Check periodically that terminal screws on the power supply terminal block and fixtures are firmly tightened. Loosened screws or nuts may result in fire or malfunction.
- Tighten the terminal screws on the power supply terminal block of the MONITOUCH uniformly to the specified torque indicated below. Improper tightening of screws may result in fire, malfunction, or other serious trouble.
  - V10: 7.1 lbf-in (0.8 N-m)
  - V9: 7.1 to 8.8 lbf-in (0.8 to 1.0 N-m)
  - TS4000: 5.0 to 6.0 lbf-in (0.56 to 0.68 N-m)
- The MONITOUCH has a glass screen. Do not drop or give physical shock to the unit. Otherwise, the screen may be damaged.
- Correctly connect cables to the terminals of the MONITOUCH in accordance with the specified voltage and wattage. Overvoltage, overwattage, or incorrect cable connection could cause fire, malfunction, or damage to the unit.

## CAUTION

- Always ground the MONITOUCH. The FG terminal must be used exclusively for the MONITOUCH with the level of grounding resistance less than 100 Ω. Otherwise, you may sustain an electric shock, a fire may occur, MONITOUCH may not recognize touch operations, and malfunctions may occur.
- Prevent any conductive particles from entering the MONITOUCH unit. Failure to do so may lead to fire, damage, or malfunction.
- After wiring is finished, remove the paper used as a dust cover before starting operation of the MONITOUCH. Operation with the dust cover attached may result in accidents, fire, malfunction, or other trouble. (V10/V9)
- Do not attempt to repair, disassemble, or modify the MONITOUCH unit yourself. Contact Hakko Electronics or the designated contractor for repairs.
- Do not repair, disassemble, or modify the MONITOUCH unit. Hakko Electronics Co., Ltd. is not responsible for any damages resulting from repair, disassembly, or modification of the unit that was performed by an unauthorized person.
- Do not use sharp-pointed tools to press touch switches. Doing so may damage the display unit.
- Only technicians are authorized to set up the unit, connect cables, and perform maintenance and inspection.
- Lithium batteries contain combustible material such as lithium and organic solvents. Mishandling may cause heat, explosion, or ignition resulting in fire or injury. Read the related manuals carefully and correctly handle the lithium battery as instructed.
- Take safety precautions during operations such as changing settings when the unit is running, forced output, and starting and stopping the unit. Any misoperations may cause unexpected machine movement, resulting in machine accidents or damage.
- In facilities where the failure of the MONITOUCH could lead to accidents that threaten human life or other serious damage, be sure that such facilities are equipped with adequate safeguards.
- When disposing of the MONITOUCH unit, it must be treated as industrial waste.
- Before touching the MONITOUCH unit, discharge static electricity from your body by touching grounded metal. Excessive static electricity may cause malfunction or trouble.
- Insert an SD card into the unit in the same orientation as pictured on the unit. Failure to do so may damage the SD card or the slot on the unit. (V10/V9)
- The SD card access LED flashes red when the SD card is being accessed. Never remove the SD card or turn off power to the unit while the LED is flashing. Doing so may destroy the data on the SD card. Check that the LED has turned off before removing the SD card or turning off the power to the unit. (V10/V9)
- If storage (USB flash drive) is removed while it is being accessed, the data in storage may become corrupted. Only remove storage after pressing the [Storage Removal] switch.
- Be sure to remove the protective sheet that is attached to the touch panel surface at delivery before use. If used with the protective sheet attached, MONITOUCH may not recognize touch operations or malfunctions may occur. (V10/V9)
- When using an analog resistive-film type the MONITOUCH unit, do not touch two positions on the screen at the same time. If two or more positions are pressed at the same time, the switch located between the pressed positions may be activated.
- When using a capacitive MONITOUCH unit, take note of the following cautions.
  - Use a Class 2 power supply for a 24-VDC unit. If an unstable power supply is used, MONITOUCH may not recognize touch operations or malfunctions may occur.
  - Capacitive touch panel types support two-point touch operations. If a third point is touched, the touch operation will be cancelled.
  - Capacitive touch panel types are prone to the influence of conductive material. Do not place conductive material such as metals near the touch panel surface and do not use the panel if it is wet. Otherwise, malfunctions may occur.

### [General Notes]

- Never bundle control cables or input/output cables with high-voltage and large-current carrying cables such as power supply cables. Keep control cables and input/output cables at least 200 mm away from high-voltage and large-current carrying cables. Otherwise, malfunction may occur due to noise.
- When using the MONITOUCH in an environment where a source of high-frequency noise is present, it is recommended that the FG shielded cable (communication cable) be grounded at each end. However, when communication is unstable, select between grounding one or both ends, as permitted by the usage environment.
- Be sure to plug connectors and sockets of the MONITOUCH in the correct orientation. Failure to do so may lead to damage or malfunction.
- If a LAN cable is inserted into the MJ1 or MJ2 connector, the device on the other end may be damaged. Check the connector names on the unit and insert cables into the correct connectors. (V10/V9)
- Do not use thinners for cleaning because it may discolor the MONITOUCH unit surface. Use commercially available alcohol.
- Clean the display area using a soft cloth to avoid scratching the surface.
- If a data receive error occurs when the MONITOUCH unit and a counterpart unit (PLC, temperature controller, etc.) are started at the same time, read the manual of the counterpart unit to correctly resolve the error.
- Avoid discharging static electricity on the mounting panel of the MONITOUCH. Discharging static electricity on the mounting panel may cause malfunction to occur due to noise.
- The MONITOUCH is identified as a class-A product in industrial environments. In the case of use in a domestic environment, the unit is likely to cause electromagnetic interference. Preventive measures should thereby be taken appropriately.
- The signal ground (SG) and frame ground (FG) are connected inside the V9150 series unit. Take care when designing systems.
- The MONITOUCH is equipped with a battery that contains lithium metal and therefore observance of transport regulations is necessary. Hakko Electronics ships MONITOUCH units packed in accordance with transport regulations. If there is a need to transport the MONITOUCH unit after it is once unpacked, transport the unit in accordance with the IATA Dangerous Goods Regulations, International Maritime Dangerous Goods (IMDG) Code, and transport regulations of the countries concerned. Ask your forwarding agent for details of transport regulations.

[Notes on the LCD]

Note that the following conditions may occur under normal circumstances.

- Avoid prolonged display of any fixed pattern. Due to the characteristic of liquid crystal displays, an afterimage may occur. If prolonged display of a fixed pattern is expected, use the backlight auto OFF function.
- The response time, brightness, and colors of the MONITOUCH unit may be affected by the ambient temperature.
- Tiny spots (dark or luminescent) may appear on the display due to the characteristics of liquid crystal.
- Unevenness in brightness and flickering may occur depending on the screen display pattern due to the characteristics of liquid crystal.
- There are variations in brightness and color between units.
- Display colors may vary depending on the viewing angle because a converging lens is used in the backlight unit.

[Notes on Capacitive MONITOUCH]

- Touch panel operability may not be optimal if used with dry fingers or skin. In such a case, use a capacitive stylus pen.
- Periodically clean the touch panel surface for optimum touch operations.

When cleaning, take note of the following points.

<When cleaning>

- The panel surface is made of glass. Be sure to clean the surface gently with a cloth or sponge. Otherwise, you may scratch or damage the glass.
- Take care not to let cleaning detergent seep into the touch panel unit.  
Do not directly apply or spray cleaning detergent on the panel surface.

[Notes on Wireless LAN]

For details regarding supported wireless LAN standards, radio law certifications, and countries where wireless LAN can be used, refer to the "About Wireless LAN on V10 Series" / "About Wireless LAN on V9 Advanced Model" / "About Wireless LAN on V9 Standard Model" manual provided with the V10/V9 series unit at delivery.



# Contents

---

<b>1</b>	<b>Preparation</b>	
1.1	Smart Editor	
1.1.1	Applicable Models .....	1-1
1.1.2	Operating Environment .....	1-1
1.1.3	License .....	1-1
1.2	Installation and Uninstallation	
1.2.1	Installation .....	1-2
1.2.2	Configuration of the Installation Folder .....	1-5
1.2.3	Uninstallation .....	1-5
<b>2</b>	<b>Starting and Closing Smart Editor</b>	
2.1	Starting the App	
2.1.1	Starting Methods .....	2-1
2.1.2	Opening an Existing File .....	2-1
2.2	Saving a File	
2.2.1	Save .....	2-2
2.2.2	Save As .....	2-2
2.2.3	File Extensions .....	2-3
2.3	Closing the App	
<b>3</b>	<b>Layout and Basic Operations of Smart Editor</b>	
3.1	Names of Parts	
3.1.1	Application Button .....	3-2
3.1.2	Menu Bar .....	3-2
3.1.3	Project View Pane .....	3-6
3.1.4	Toolbars .....	3-12
3.2	Basic Operation	
3.2.1	Switching Screens .....	3-17
3.2.2	Changing the Layout .....	3-19
3.2.3	Placing Parts .....	3-20
3.2.4	Changing a Part After Placement .....	3-23
3.2.5	Checking the Registration Status of a Screen Program .....	3-30
<b>4</b>	<b>Screen Program Configuration</b>	
4.1	Before Configuring Screen Programs	
4.1.1	Models and Screen Resolution .....	4-1
4.1.2	Screen Program Structure .....	4-2
4.1.3	Creating a New Screen Program .....	4-5
4.2	Screen Program Configuration	
4.2.1	Registering Screen Comments and Changing the Background Color .....	4-8
4.2.2	Creating Text .....	4-9
4.2.3	Creating Switches and Lamps .....	4-10
4.2.4	Creating a Data Entry: Keypad/keyboard Display (Numerical Data Display, Character Display) .....	4-15
4.2.5	Configuration for Saving Alarm History .....	4-18

## 5 Screen Program Transfer

5.1	Overview	
5.2	USB Transfer	
5.2.1	Installing the USB Driver	5-2
5.2.2	Transfer	5-4
5.3	Ethernet Transfer	
5.3.1	IP Address Settings	5-8
5.3.2	Transfer	5-13
5.4	Storage Transfer	
5.4.1	Storage Manager	5-19
5.4.2	MONITOUCH Operations	5-21
5.5	Switching to Local mode	

## 6 Useful Display and Editing Menus

6.1	Simulator	
6.1.1	Overview	6-1
6.1.2	Usage Procedure	6-1
6.1.3	Operating the Simulator	6-4
6.2	Emulator	
6.3	Screen List	
6.4	Change State	
6.4.1	Changing Switch and Lamp States	6-8
6.4.2	Changing Languages	6-8
6.5	Display Environment	
6.5.1	Device Memory	6-10
6.5.2	Message	6-10
6.5.3	Showing and Hiding Overlap Displays	6-11
6.6	Item Information	
6.7	Grid/Guides	
6.7.1	Grid Display	6-14
6.7.2	Guides	6-14
6.8	Error Check	
6.9	Search	
6.9.1	Device Memory	6-16
6.9.2	Text	6-17
6.9.3	Macro Command	6-17
6.9.4	Cross-reference	6-18
6.10	Batch Change	
6.10.1	Device Memory	6-19
6.10.2	Properties	6-19
6.11	Screen Library	
6.12	Password	

## 7 Appendix

### 7.1 Windows Font

7.1.1	Setting Items .....	7-1
7.1.2	Setting Procedure .....	7-2
7.1.3	Displaying the Windows Font List .....	7-6
7.1.4	Batch Changing Windows Fonts .....	7-6
7.1.5	Windows Fonts for Multi-Language Screen Programs .....	7-8
7.1.6	Windows Fonts Used in a Screen Program but Not Installed on the Computer .....	7-9
7.1.7	Limitations .....	7-11

### 7.2 Function Performance Specifications

7.2.1	Display Function Specifications .....	7-12
7.2.2	Function Performance Specifications .....	7-13
7.2.3	Limits on Maximum Number of Placeable Parts .....	7-14



# 1 Preparation

## 1.1 Smart Editor

### 1.1.1 Applicable Models

V10 / V9 / V8 (UG40) / X1 / TS series, TELLUS

### 1.1.2 Operating Environment

Make sure that your system meets the following system requirements before starting Smart Editor.

Item	Specifications
Computer (PC)	Personal computer for Windows
OS *1	10 (64-bit) / 11 (64-bit)
CPU	Windows 10: Intel Core 2 Duo, 2 GHz or above recommended Windows 11: Dual-core (minimum), 64-bit capable processor, or System-on-a-Chip (SoC)
Memory	8 GB or more recommended
Hard disk	At installation: 6.0 GB or more
How to Install	DVD-ROM or Download license application
Display	Resolution: 1920 × 1080 dots (Full HD) or higher
Others	<ul style="list-style-type: none"> <li>• Microsoft .NET Framework 4.0 or higher</li> <li>• Visual Studio 2015-2022 Visual C++ Redistributable Package (Installed automatically upon installation of Smart Editor if not already installed on your computer)</li> </ul>

\*1 Administrator privileges are required for installation.

## Software Copyrights

- The software as well as its copyright and any other copyrights and rights related to the software are property of Hakko Electronics Co., Ltd.
- The software may not be used or copied, whether in whole or in part, without permission of Hakko Electronics Co., Ltd.
- The specifications and content of the software are subject to change without prior notification.
- Hakko Electronics Co., Ltd. bears no responsibility for any results of using the software.
- Use of this software is limited to a single central processing unit.  
(If multiple licenses or a site license is purchased, use the software within the limits of the license(s).)
- Microsoft and Windows are registered trademarks of Microsoft Corporation in the United States and other countries.
- All other product names are trademarks or registered trademarks of their respective holders.

## Notes on Usage

- The software may not be correctly installed if resident programs and applications such as an antivirus program are running. Be sure to close all applications before installing the software.
- The face of the DVD-ROM is the side with the product name printed on it. The blank side is the data side.
- If the DVD-ROM is scratched with a sharp object, it may not be read properly. Touching the data side and leaving fingerprints may lead to a malfunction because the computer reads data from the data side. Handle both sides of the disc with care.
- When placing the DVD-ROM in the DVD-ROM drive, pay attention to the orientation of the disc and place the disc in the drive as instructed in the instruction manual of your computer.
- If free memory space becomes insufficient while Smart Editor is running, Windows may forcefully terminate the software. In order to prevent losing data from a forced termination, save the screen program regularly.

### 1.1.3 License

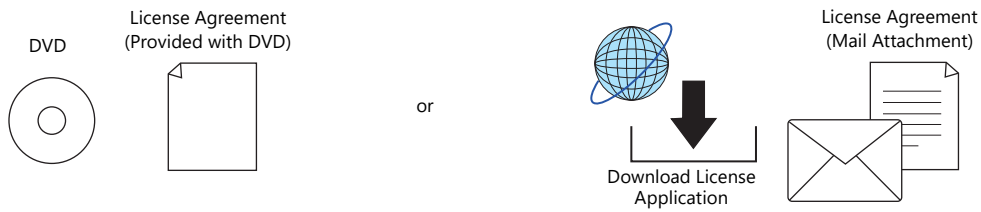
- When Smart Editor is purchased, a DVD and the License Agreement are provided. The License Agreement is necessary for installation. For the download Smart Editor, the license agreement will be attached to the e-mail [[MONITOUCH Smart Editor] Download License Application completed]. Take appropriate measures to avoid losing the License Agreement.
- If you happen to lose the License Agreement, contact your local sales representative.

## 1.2 Installation and Uninstallation

### 1.2.1 Installation

#### Items to Prepare

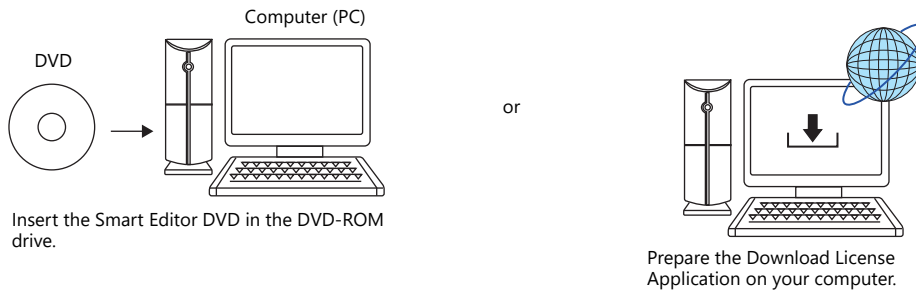
- Smart Editor DVD or Download license application
- License Agreement (Take appropriate measures to avoid losing the License Agreement.)



#### Procedure

Example: Windows 11

1. Start Windows and prepare to install the "Smart Editor".

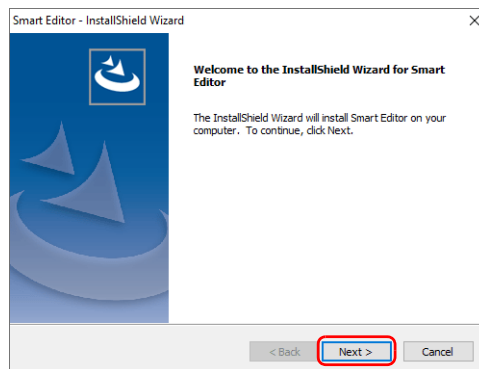


2. Double-click "xxxxx.exe" on the DVD-ROM or in the download license application.

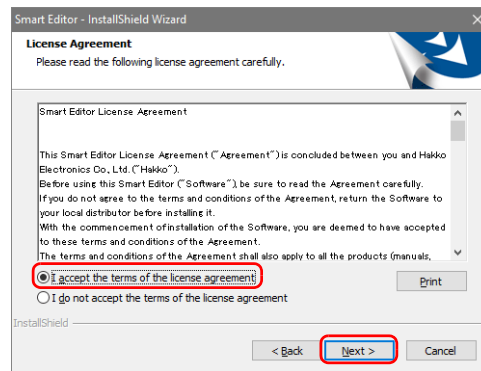


If a security-related dialog box appears, proceed with permission.

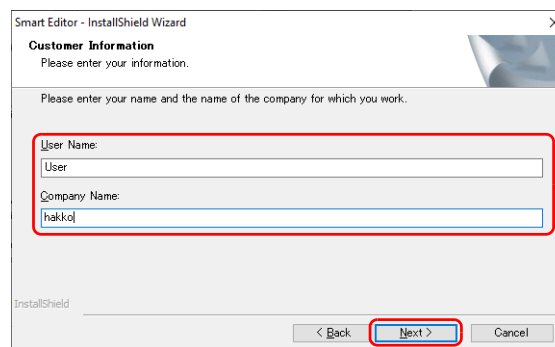
3. The following window appears. Click [Next].



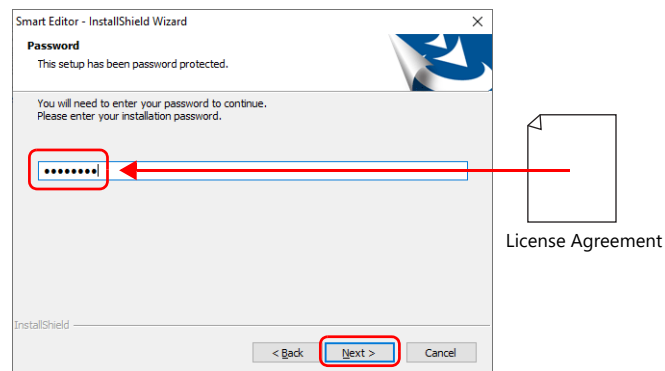
- The [License Agreement] screen is displayed. Read the contents carefully, select [I accept the terms of the license agreement], and then click [Next].



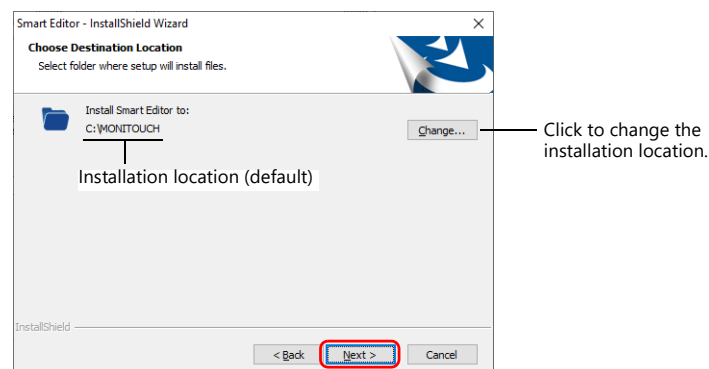
- The [Customer Information] screen is displayed. Enter your [User Name] and [Company Name], and then click [Next].



- The [Password] screen is displayed. Enter the License Agreement provided with the DVD, and then click [Next].



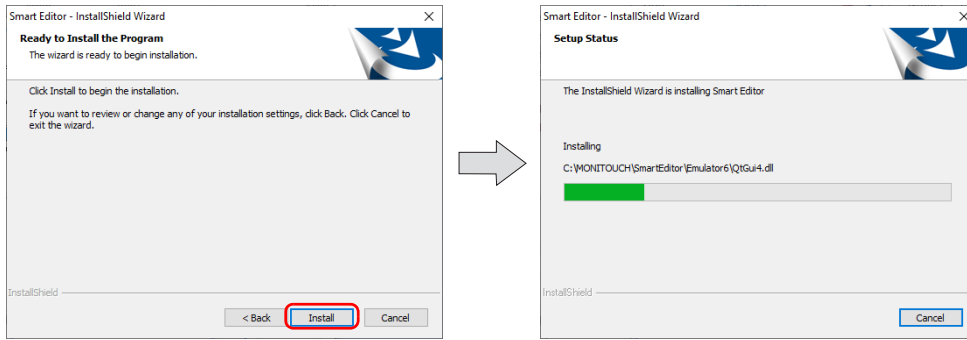
- The [Choose Destination Location] screen is displayed. Click [Next].



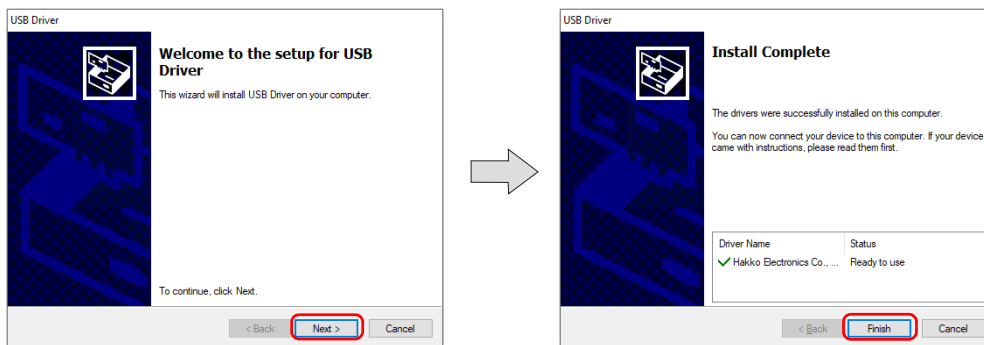
## 1. Preparation

---

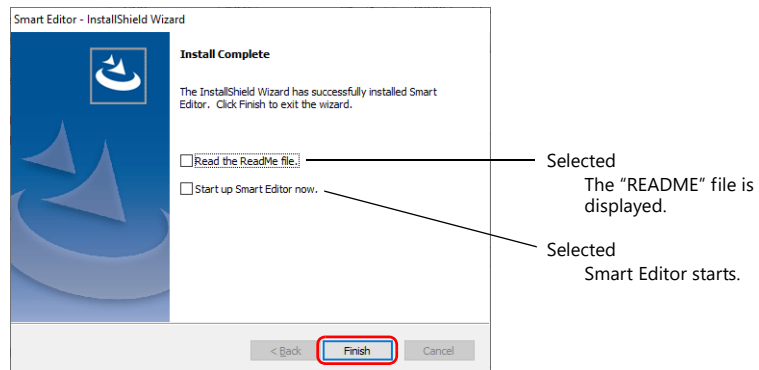
8. The following window appears. Click [Install]. Installation automatically starts.



9. When installation is complete, the [Welcome to the setup for USB Driver] window is displayed. Click [Next] to install.



10. After all installation processes are complete, the [Install Complete] screen is displayed. Click [Finish].



This completes the installation procedure.

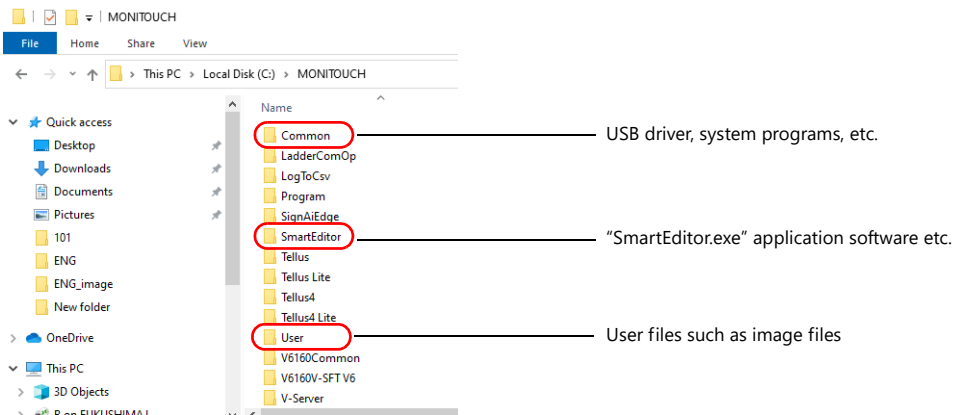
## 1.2.2 Configuration of the Installation Folder

The default installation location is as follows:

C:\MONITOUCH

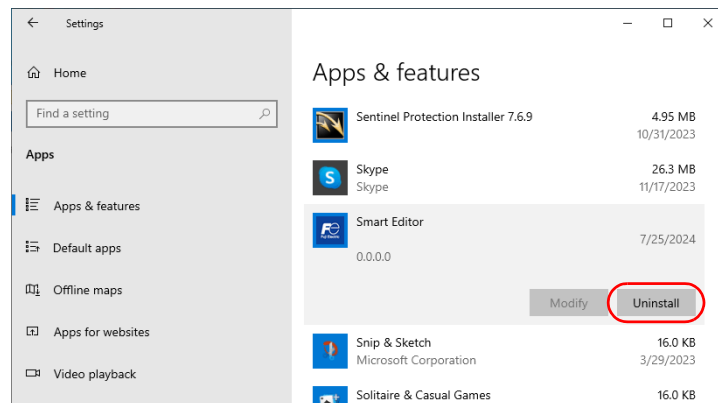
The “Common”, “User”, and “Smart Editor” folders are created in the “MONITOUCH” folder.

The “SmartEditor.exe” application software is located in the “Smart Editor” folder.



## 1.2.3 Uninstallation

Display the Windows “Apps & features”, select “SmartEditor” in the list, and click [Uninstall].





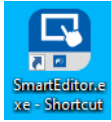
## 2 Starting and Closing Smart Editor

### 2.1 Starting the App

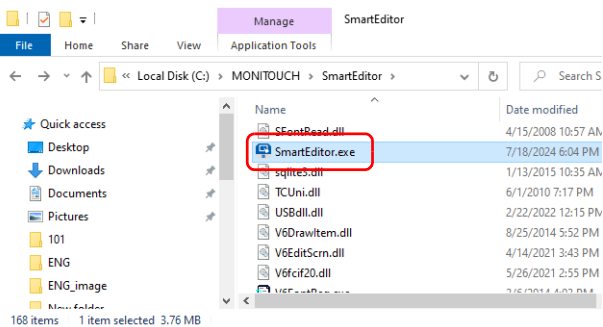
#### 2.1.1 Starting Methods

Start Smart Editor using any of the following methods.

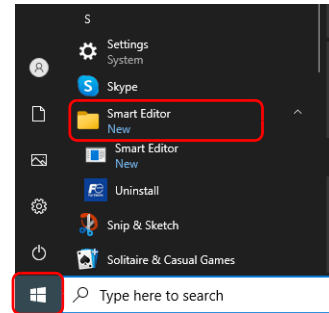
- Double-click on the desktop shortcut.



- Double-click "SmartEditor.exe" in the installation folder.  
Example: C:\MONITOUCH\SmartEditor\SmartEditor.exe



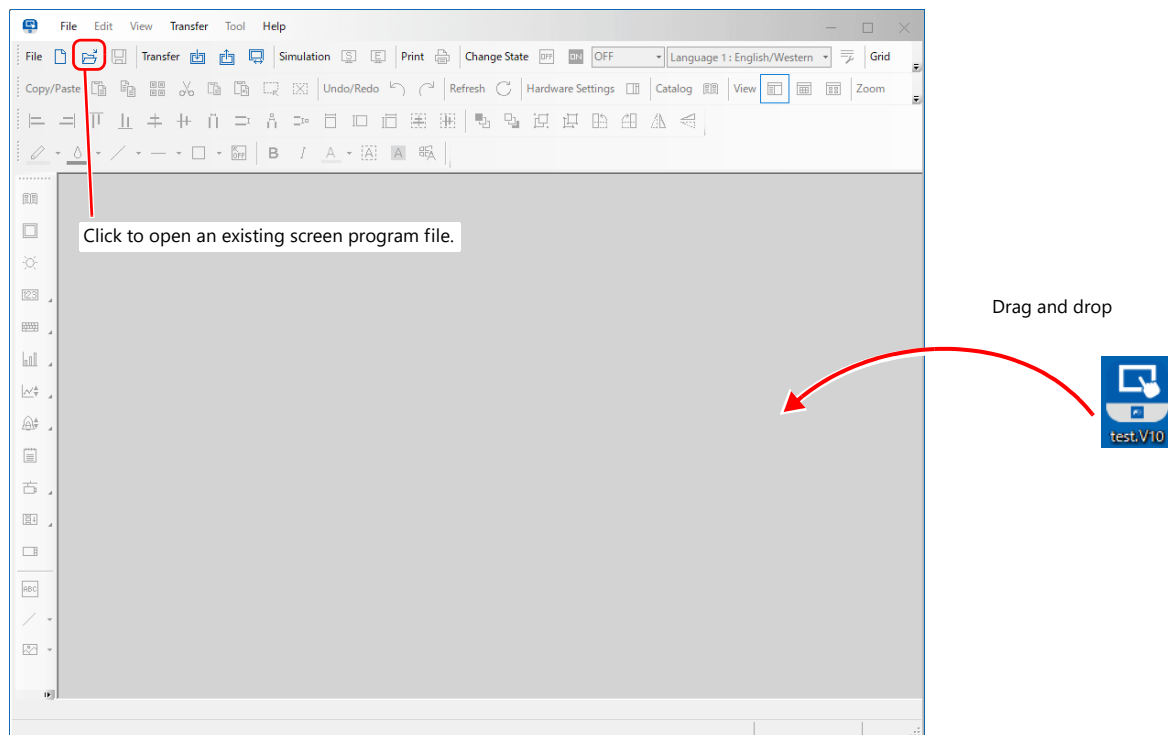
- Click [Smart Editor] from the Start menu.



Start menu

#### 2.1.2 Opening an Existing File

A screen program file can be opened by either clicking the [Open] icon (or by clicking [File] → [Open]) on Smart Editor, or by dragging and dropping a file.



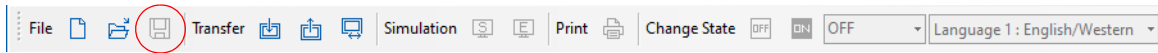
The app can also be started by double-clicking on an existing screen program file.



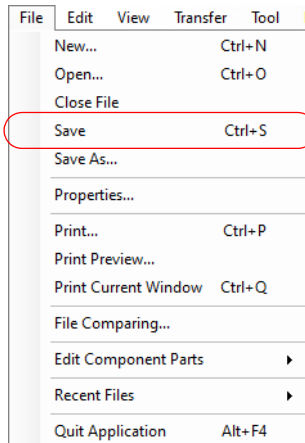
## 2.2 Saving a File

### 2.2.1 Save

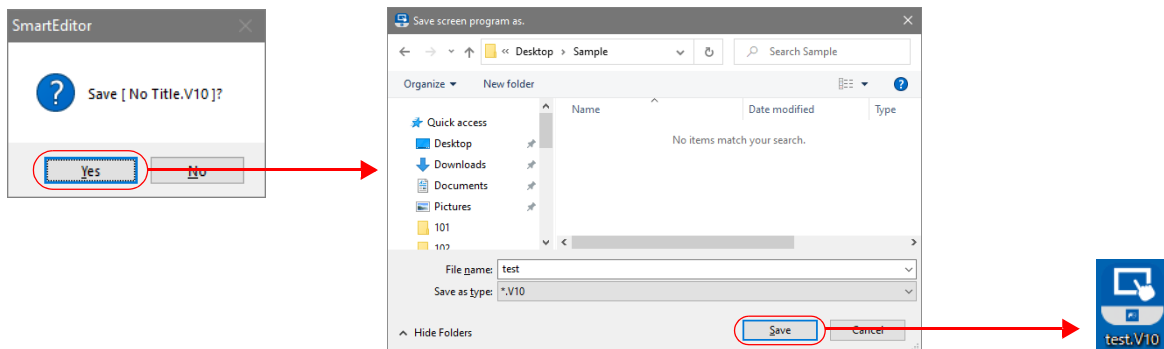
1. Either click the [Save] icon on the toolbar, or click [File] → [Save].



or



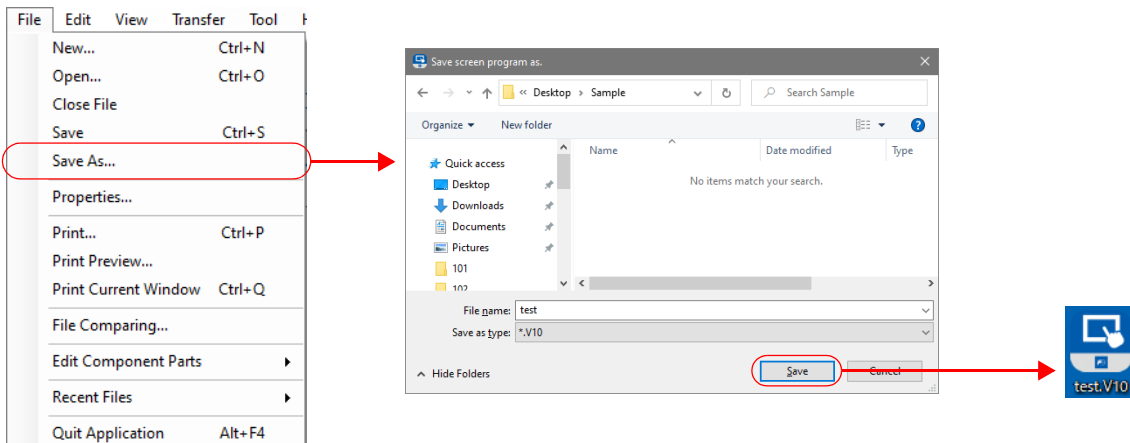
2. If the screen program file is an existing one, it is saved by overwriting. If saving a newly created file, the following confirmation window is displayed. Click [Yes], enter the desired filename and save the file.



For details about file extensions, refer to ["2.2.3 File Extensions"](#).

### 2.2.2 Save As


Click [File] → [Save As], enter the desired filename and save the file.



For details about file extensions, refer to ["2.2.3 File Extensions"](#).

## 2.2.3 File Extensions

When a screen program is saved, files with the following extensions are created.

Image	Edit Model	Screen data file extension	Remarks
 <p>test.V10</p> <p>Extensions</p>	X1 series	*.X1	
	V10 series TS4000 series	*.V10	
	V9 series	*.V9	
	TS2060 series TS1000S series V8 series	*.V8	

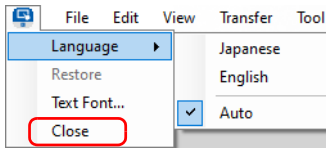
\* Other file extensions

File extension	Remarks
*.env	This file stores the editing environment settings of Smart Editor in use when the file is saved. (E.g.: grid settings)
*.bak	This is a backup file that stores the data of the previous time that the screen program was saved by overwriting. * It is necessary to check "Backup File Creation" in [File] → [Property] → the [General] tab.
*.txw	This file stores text registered using Windows fonts when using Windows fonts for character display parts. * For details, refer to " <a href="#">Windows font registration list</a> " page 7-5.

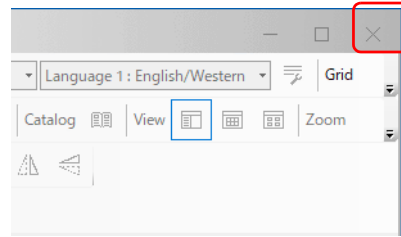
## 2.3 Closing the App

Close Smart Editor using any of the following methods.

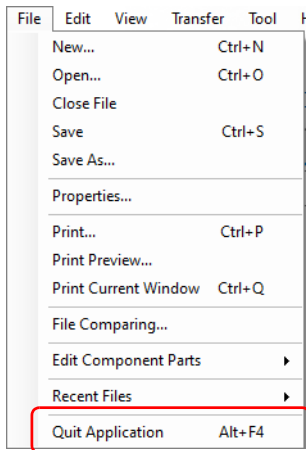
- Click the application button → [Close].



- Click [x] at the top right corner of Smart Editor.



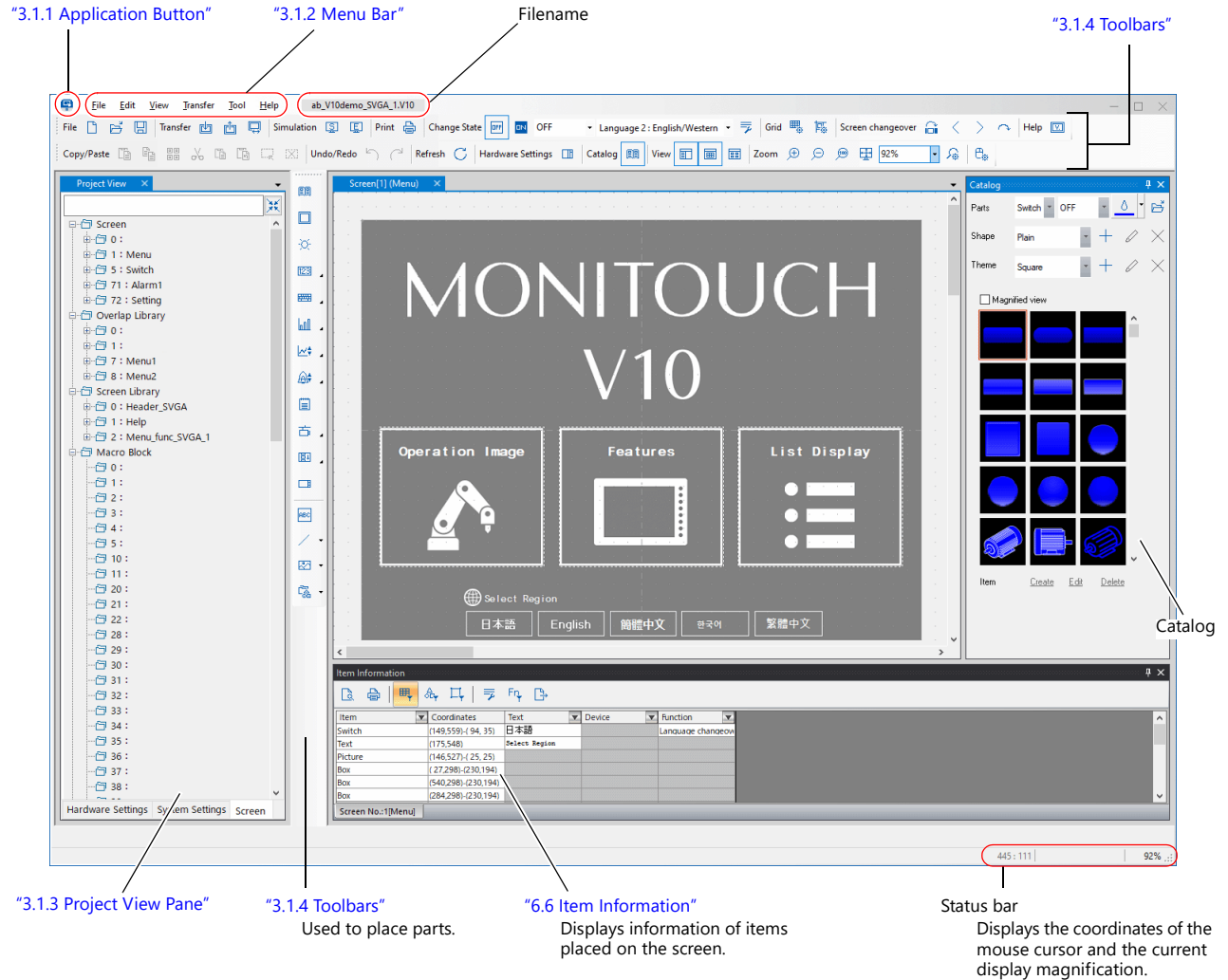
- Click [File] → [Quit Application].



# 3 Layout and Basic Operations of Smart Editor

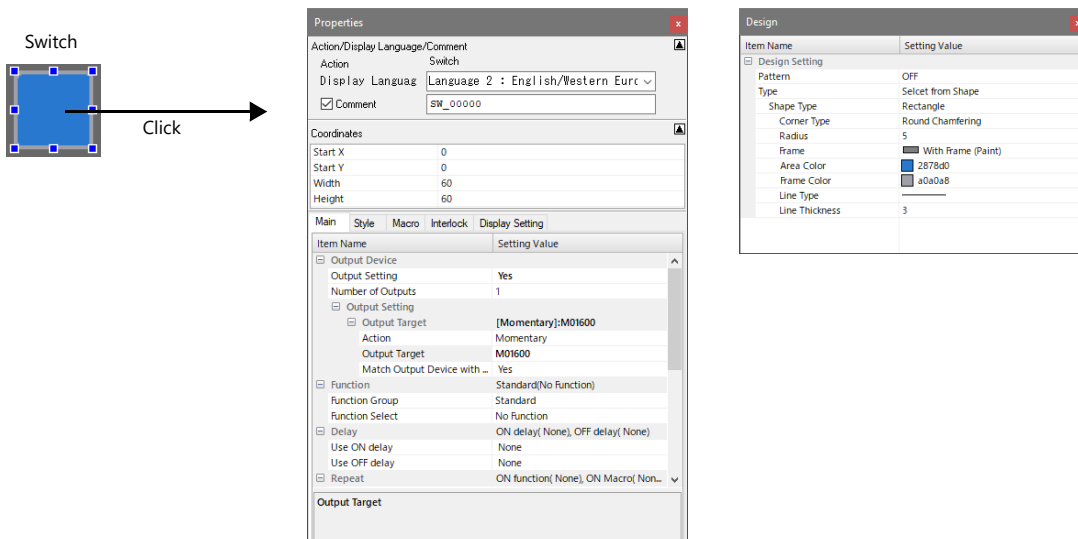
## 3.1 Names of Parts

The layout of Smart Editor is shown below.

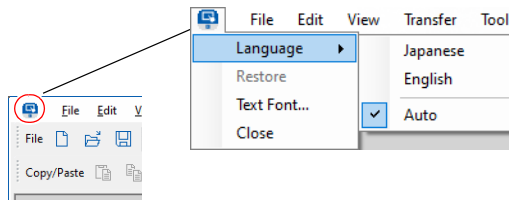


Clicking a placed part displays the [Properties] pane and [Design] properties pane.

- [Properties] pane: Device memory assignment and operation settings of parts
- [Design] properties pane: Setting and changing the color and design of parts

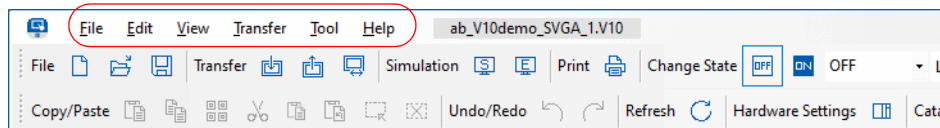


### 3.1.1 Application Button

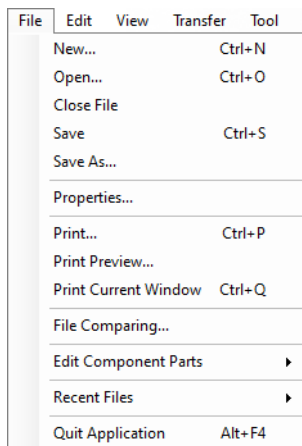


Item	Description
Language	Select the interface language of Smart Editor. Smart Editor needs to be restarted after changing the setting.
Restore	Restores the size of the Smart Editor window to the size before maximization.
Text Font	Set the font for text displayed on the Smart Editor interface, such as text registered on the [Properties] pane of a part, and text on the [Message Edit] window. When using Windows fonts for items, the font set here is the default font setting.
Close	Closes Smart Editor.

### 3.1.2 Menu Bar

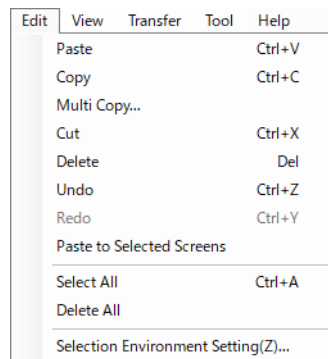


#### File



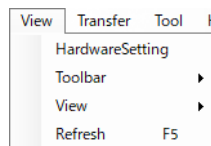
Item	Description
New	Creates a new screen program file.
Open	Opens an existing screen program file. It is possible to open a screen program file for an old model and convert it to a file for a current model.
Close File	Closes the screen program file that is currently open.
Save	Saves the file currently being edited (if it is a newly created file, you must give it a filename).
Save As	Saves the file currently being edited to a new file with a different filename.
Properties	Check the information on the currently opened screen program file and set the password and editing environment.
Print	Prints out the created screen program file from a printer connected to the computer.
Print Preview	Displays a preview of the printer output.
Print Current Window	Prints out the currently open window.
File Comparing	Compares two files that are saved on the computer.
Edit Component Parts	Perform editing of component parts.
Recent Files	Displays up to 10 of the most recently opened screen program files.
Quit Application	Closes Smart Editor.

## Edit



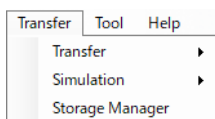
Item	Description
Paste	Pastes the item on the clipboard onto the screen.
Copy	Copies the selected item to the clipboard.
Multi Copy	Copy the selected item and paste multiple instances of the item.
Cut	Cuts the selected item and moves it to the clipboard.
Delete	Deletes the selected item.
Undo	Restores the screen to the state before the last action was performed.
Redo	This command becomes available when [Undo] is performed. Click this button to restore the screen to the state before [Undo] was executed.
Paste to Selected Screens	Copy the selected item and paste it onto multiple selected screens.
Select All	Selects all items on the screen.
Delete All	Deletes all items on the screen.
Selection Environment Setting	Limit the types of parts that can be selected using the mouse.

## View



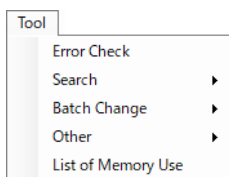
Item	Description	
Toolbar	Standard	For details, refer to <a href="#">"Toolbars" page 3-12.</a>
	Edit	
	Layout	
	Drawing/Parts	
	Property	
View	Project View	For details, refer to <a href="#">"Project View Pane" page 3-6.</a>
	Catalog	Displays the parts catalog.
	Item Information	Displays a list of items that are placed on or configured for the screen.
	Screen List	Displays the [Screen List] window.
Refresh	Refreshes the screen.	

## Transfer



Item		Description
Transfer	Download	Write the screen program to MONITOUCH.
	Upload	Read a screen program from MONITOUCH.
	File Comparing	Compare the program opened on Smart Editor with the program on MONITOUCH.
	Communication Settings	Configure the settings for communication between the computer and MONITOUCH. USB, Ethernet, Serial port (using the "V-CP" cable made by Hakko Electronics).
Simulation	Simulate	Starts the simulator. The simulator is used to check the operation of the screen program on MONITOUCH by using the computer instead of a PLC. It is possible to set/reset bit device memory as well as input word device memory data on the simulator.
	Start Emulator	Starts the emulator. The simulator starts as well. Operation of the screen program can be checked even when both the PLC and MONITOUCH are not available.
	Update Emulator Data	Refreshes the emulator screen to the latest screen program data.
Storage Manager		The storage manager is an application that facilitates writing of screen programs to be used on MONITOUCH to a storage device such as an SD card or USB flash drive, and importing of data from a storage device for conversion into other file formats. For details, refer to "8 Storage Device" in Reference Manual 2.

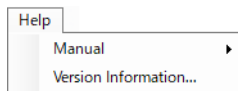
## Tool



Item		Description
Error Check		Performs an error check on the screen program currently being edited.
Search	Device	Search device memory addresses, tags, text, Windows fonts, and macro commands.
	Tag	
	Text	
	Windows Font	
	Macro Command	
	Cross-reference	Search where macro block, screen, overlap library, screen library, graphic library, and pattern numbers are used.
Parts Library	Displays a list of images of 3D parts (including real parts), such as a switch or lamp, currently used in the screen program. In this list, locations of each 3D part can also be checked.	
Batch Change	Device	Perform a batch change of device memory addresses.
	Windows Font	Perform a batch change of Windows fonts.
	Multi Language	Perform a batch change of properties such as language switching and text color.
	Change Cursor Movement Order	Perform a batch change of cursor movement order numbers.
	Screen Library	Perform a batch change on screen libraries.
	Fix 3D parts frame	Perform a batch change of the fixed frame size of real type and 3D type parts.

Item		Description
Other	Overlap Transparency	Perform a batch change of overlap transparency settings (transparency display, area transparency).
	Change Memory Card Setting into Recipe	Converts to memory card compatibility mode when a screen program is converted from an old series. For details, refer to the Memory Card Mode Conversion Manual.
	Convert item comment to device notation	Converts item comments to device memory notation when using the operation log function. For details, refer to Reference Manual 2.
	Convert to CSV	Used to export/import the device memory and strings of each item in the screen program as a CSV or TXT file. Editing is possible without using Smart Editor.
	Screen Image	Capture an image of the displayed screen. Select from the three commands: [Save as Pattern Image], [Copy to Clipboard], and [Save in Image File]. To use the image in Excel or Word, select either [Copy to Clipboard] or [Save in Image File].
	Dxf File Convert	Import a DXF file into the screen program currently being edited. The DXF file can also be imported as a picture.
	Convert to Rich Text Format	Convert an image of the screen program currently being edited to a rich text format file.
List of Memory Use	Display the available capacity of the screen program currently being edited.	

## Help



Item	Description
Manual	Manuals can be referred to. * If a manual cannot be opened, download it from our website.
Version Information	Displays version information.

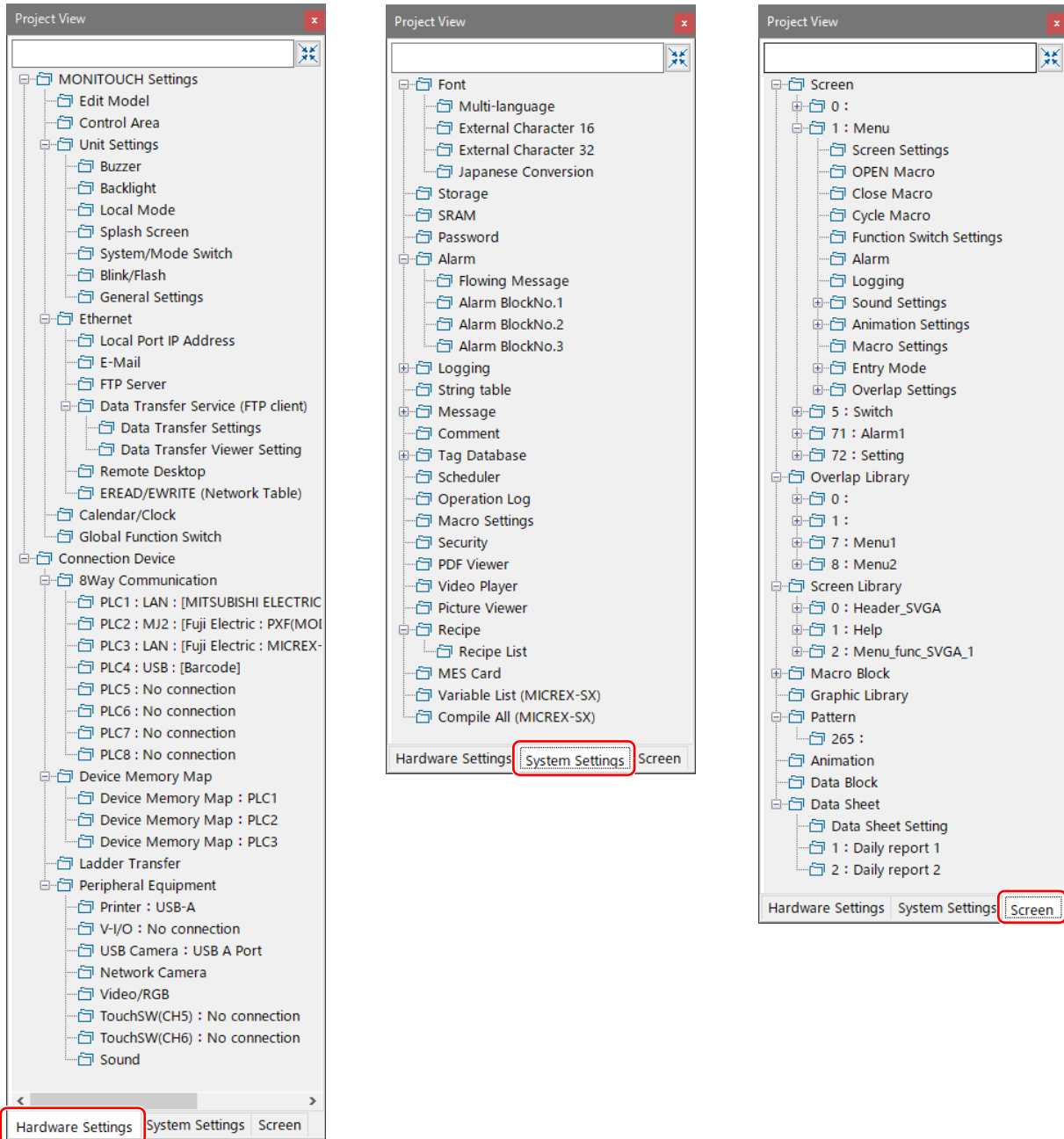
### 3.1.3 Project View Pane

There is a wide variety of settings, such as initial configuration items necessary for MONITOUCH to communicate with the PLC, MONITOUCH settings, and screen program settings.

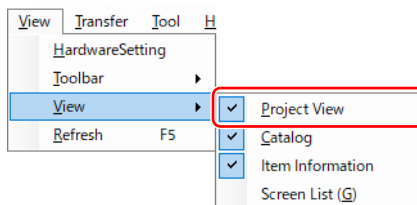
The [Project View] pane (tree format) is used to configure such settings.

The following three groups are available on the [Project View] pane.

- Hardware Settings
- System Settings
- Screen

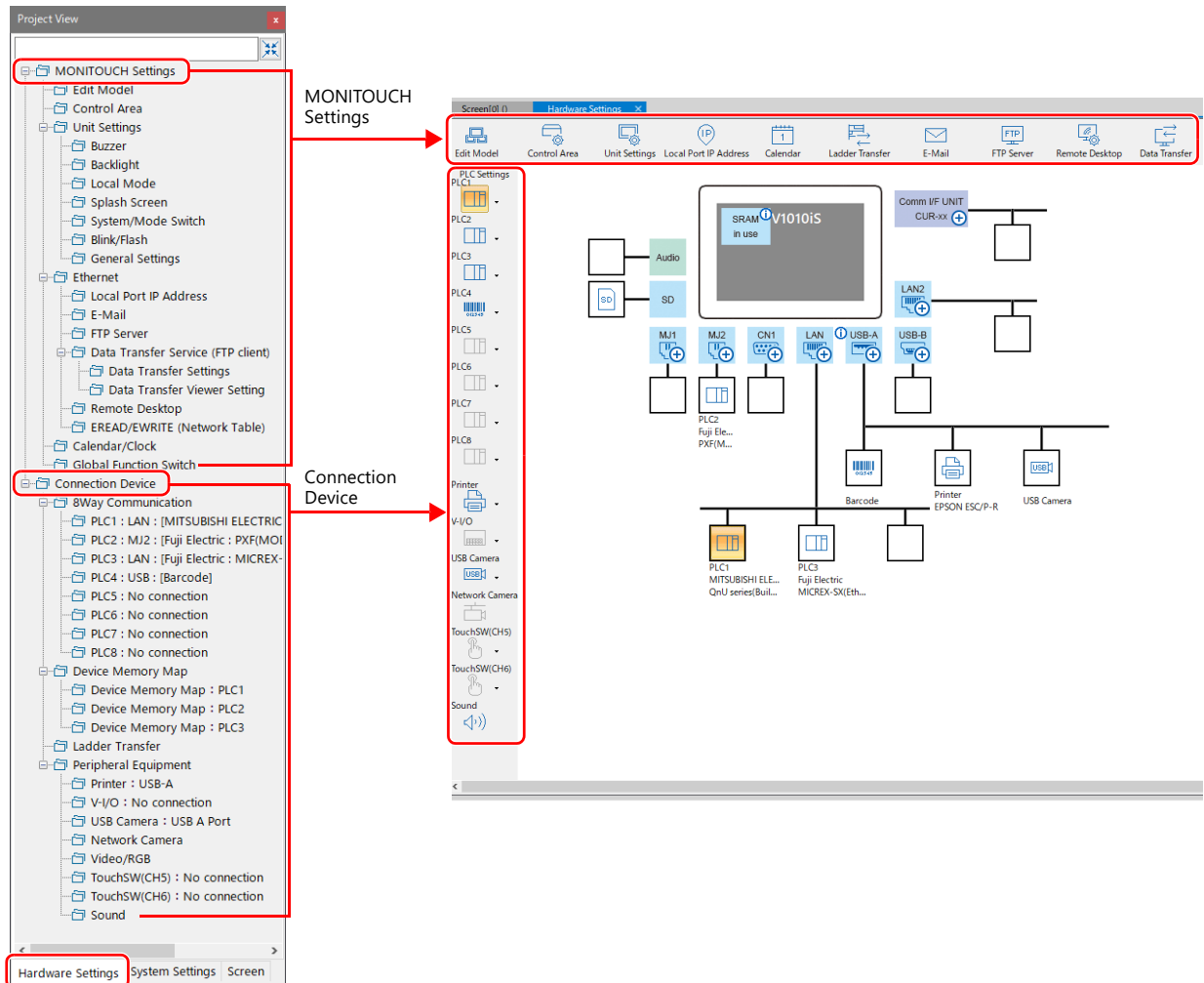


Displaying the [Project View] pane: [View] → [View] → [Project View]



## Hardware Settings

Configure settings for devices to connect to MONITOUCH, Ethernet function settings, and initial settings for MONITOUCH. The settings displayed on the [Project View] pane → [Hardware Settings] tab and the [Hardware Settings] window are the same.



Check the hardware settings before transferring a screen program to MONITOUCH.

## MONITOUCH Settings

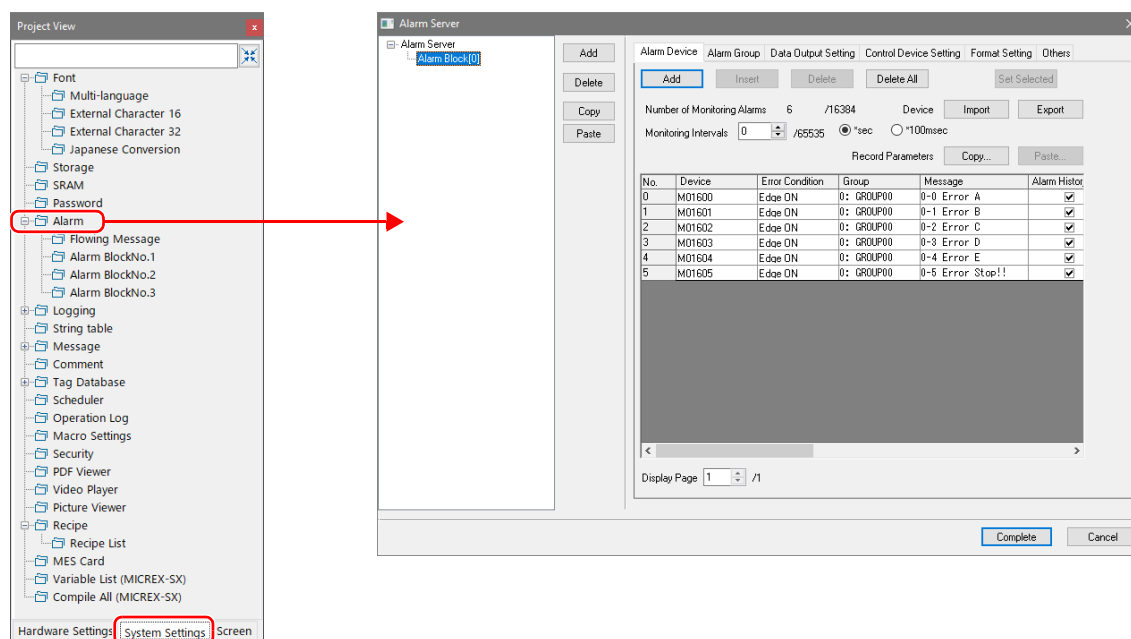
Item	Description	Reference
Edit Model	Select the MONITOUCH model for which you wish to configure a screen program.	-
Control Area	Configure the control area. * In the case of a screen program converted from that of an old model, this may be indicated as [Read/Write Area] instead.	Reference Manual 1 1 System
Unit Settings	Set the buzzer sound and backlight operation of MONITOUCH.	Reference Manual 1 1 System
Ethernet	Set the MONITOUCH IP address and configure settings to use the Ethernet function for sending e-mail notifications or using the FTP server function.	Reference Manual 2 6 Ethernet Communication Function
Calendar/Clock	Set from where to read the calendar and other settings.	Reference Manual 1
Global Function Switch	Configure the MONITOUCH function switches from [F1] to [F7] ([F1] to [F5] depending on the models). * Since these are global settings, they apply to all screens.	Reference Manual 1 3 Switch

## Connection Device

Item		Description	Reference
8 Way Communication	PLC 1 to 8	Configure settings for PLCs, temperature controllers, inverters, etc. Depending on the device connected, the available connection modes vary.	Connection Manual
Device Memory Map		128 addresses can be registered to a single device memory map and batch transfer of addresses can be performed between each equipment.	Reference Manual 2 11 Device Memory Map
Ladder Transfer		Configure settings to write and monitor PLC ladder programs via MONITOUCH.	Reference Manual 2 12 Ladder Transfer
Peripheral Equipment	Printer	Set this option when connecting a printer for hard copies, data sheet printing, or logging data printing.	Reference Manual 1 16 Print
	V-I/O	Configure V-I/O settings.	-
	USB Camera	Configure USB camera settings.	Reference Manual 2 1 Image Display
	Network Camera	Configure network camera settings.	
	Video/RGB	Configure settings related to video/RGB display.	
	Touch SW (CH5) Touch SW (CH6)	Set this option when connecting an RGB input unit and emulating touch switches.	
	Sound	Set this option when the simulator communication program and the screen program are to be saved to a storage device using the storage manager application.	Reference Manual 2 2 Sound

## System Settings

Configure fonts and the various functions that affect the screen program as a whole.



3

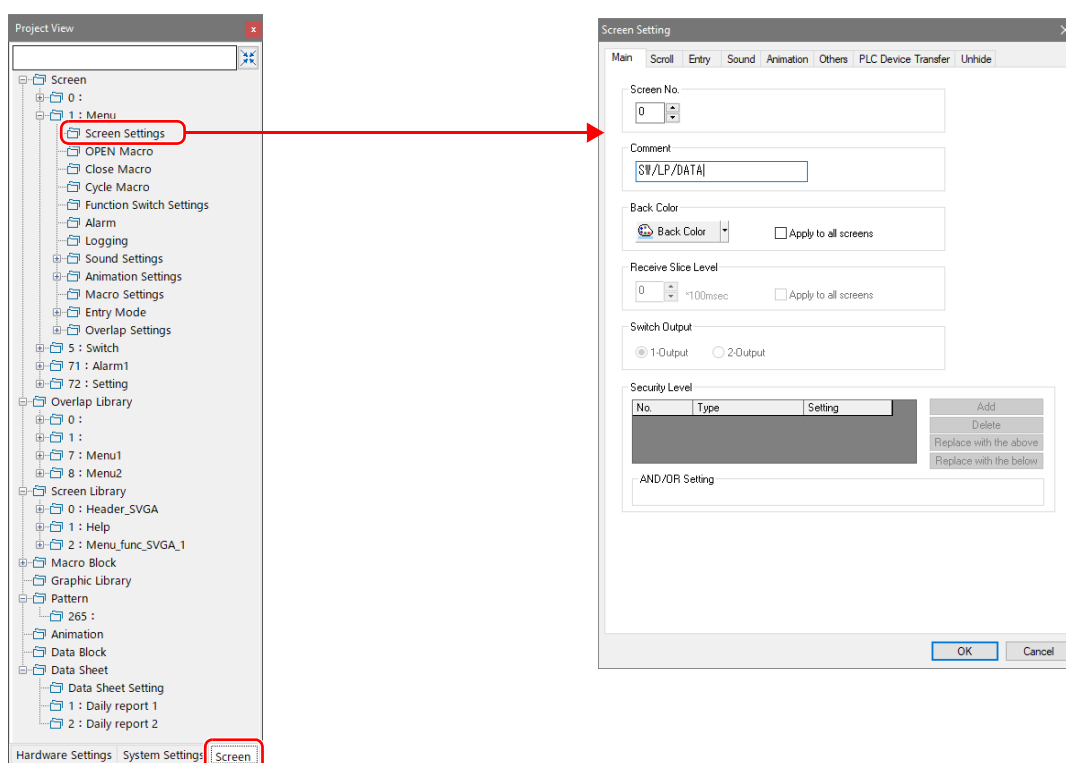
Item	Description	Reference
Font	Select the language for display on MONITOUCH.	Reference Manual 1 1 System
Multi-language	This setting is available when there are two or more interface languages selected in the [Font] settings.	Reference Manual 2 9 Language Changeover
External Character 16	External characters exclusive to MONITOUCH can be used to display character strings on MONITOUCH. There are two types of external characters that can be registered: the 16 × 16 dot matrix type and the 32 × 32 dot matrix type. If either of the scaling factors (X and Y) is an odd number, external characters are displayed as the 16 × 16 dot matrix type; if both X and Y are even numbers, they are displayed as the 32 × 32 dot matrix type. Up to 63 characters can be registered for each type. External characters are registered in order starting from "F040" of the Shift-JIS code.	
External Character 32		
Japanese Conversion	Allows conversion of input characters by individual segments. Frequently used matches are displayed in the conversion candidate list, and even if not input completely, items are displayed in the conversion candidate list by predicting the characters that are to be input next. (Predictive conversion function)	Reference Manual 1 6 Entry
Storage	Configure settings when using SD cards or USB flash drives.	Reference Manual 2 8 Storage Device
SRAM	Configure settings when using SRAM. SRAM is an area where data is retained by the MONITOUCH battery, and is primarily used for logging, alarm history, operation logs, non-volatile device memory (\$L, \$LD), etc.	Reference Manual 1 1 System
Password	Set a password for when opening a screen program or when sending/receiving a screen program.	"6.12 Password"
Alarm	The states of device memory registered to an alarm server can be saved as alarm history. History data can be output to storage as a CSV file by turning the relevant bit ON for checking on a computer.	Reference Manual 1 8 Alarm
Flowing Message	When an alarm occurs, an alarm message is automatically displayed at the bottom (or top) of the screen.	
Logging	The values of device memory addresses registered to a logging server can be saved as history data. Logging can be performed at a fixed cycle or using a trigger bit (0 → 1).	Reference Manual 1 7 Trends
String table	Strings that are used many times throughout the screen program can be registered to a string table. Once registered, they can be used such as for text items and switches by simply selecting the string from the string table.	Reference Manual 2 14 String Table Function
Message	This area is for registering text as desired. Register the text to use for functions where displayed messages differ according to status, such as alarm parts.	Reference Manual 1 12 Message
Comment	This function is for registering multiple lines of text to individual numbers and then calling up the lines either by bit operation or specifying the number. The area for registering the text is called "Comment". The color and size of text can be set as desired for each comment.	

### 3. Layout and Basic Operations of Smart Editor

Item	Description	Reference
Tag Database	"Tag editing" is a function used to assign names (tags) to PLC or internal device memory (\$u, \$L, etc.) and use these names for screen program configuration.	Reference Manual 2 10 Tag
Scheduler	Configure settings when executing specific operations at specified times.	Reference Manual 2 3 Scheduler
Operation Log	The operation log function stores screen operation history records (operation logs) in the SRAM area. When the SRAM area becomes full, logs can be output to an SD card.	Reference Manual 2 4 Operation Log
Macro Settings	Configure settings when using the initial macros (to be executed once at the start of RUN mode), global macros (to be executed when the specified bit is turned ON), or event timer macros (to be executed at regular intervals).	Macro Reference Manual
Security	Security levels can be set for individual items, such as screens and data display parts, so that they can be shown or hidden based on the security level when an operator logs into the system. Also, interlock settings can be configured for switches.	Reference Manual 2 5 Security
PDF Viewer	PDFs saved in storage can be viewed using the PDF viewer.	Reference Manual 2 13 PDF Viewer
Video Player	Video files in MP4 format (.mp4) can be saved in storage and played back using the video player.	Reference Manual 2 15 Video Player
Picture Viewer	Image files saved in storage can be displayed using the picture viewer. Supported file formats: *.JPEG / *.bmp / *.PNG	Reference Manual 2 16 Picture Viewer
Recipe	Recipe data can be saved to storage in either CSV or BIN file format, and then read into PLC or internal device memory (\$u, \$L, etc.), or written to a file.	Reference Manual 1 15 Recipes
Recipe List		
MES Card	Data can be inserted, searched for, and deleted from databases and storage (MES stand-alone).	Reference Manual 2 6.7 MES Interface Function
Tag Table	This is available when using a PLC that can use tags. Tags can be edited.	Each dedicated manual
Variable List (MICREX-SX)	This is available when using the variable name cooperation function (IEC mode) with a Fuji Electric SX PLC. Variable names are displayed in a list, and can be compiled.	MICREX-SX Variable Name Cooperation Function
Compile All (MICREX-SX)		

## Screen

Configure settings concerning screen configuration, such as individual screens and overlap displays.

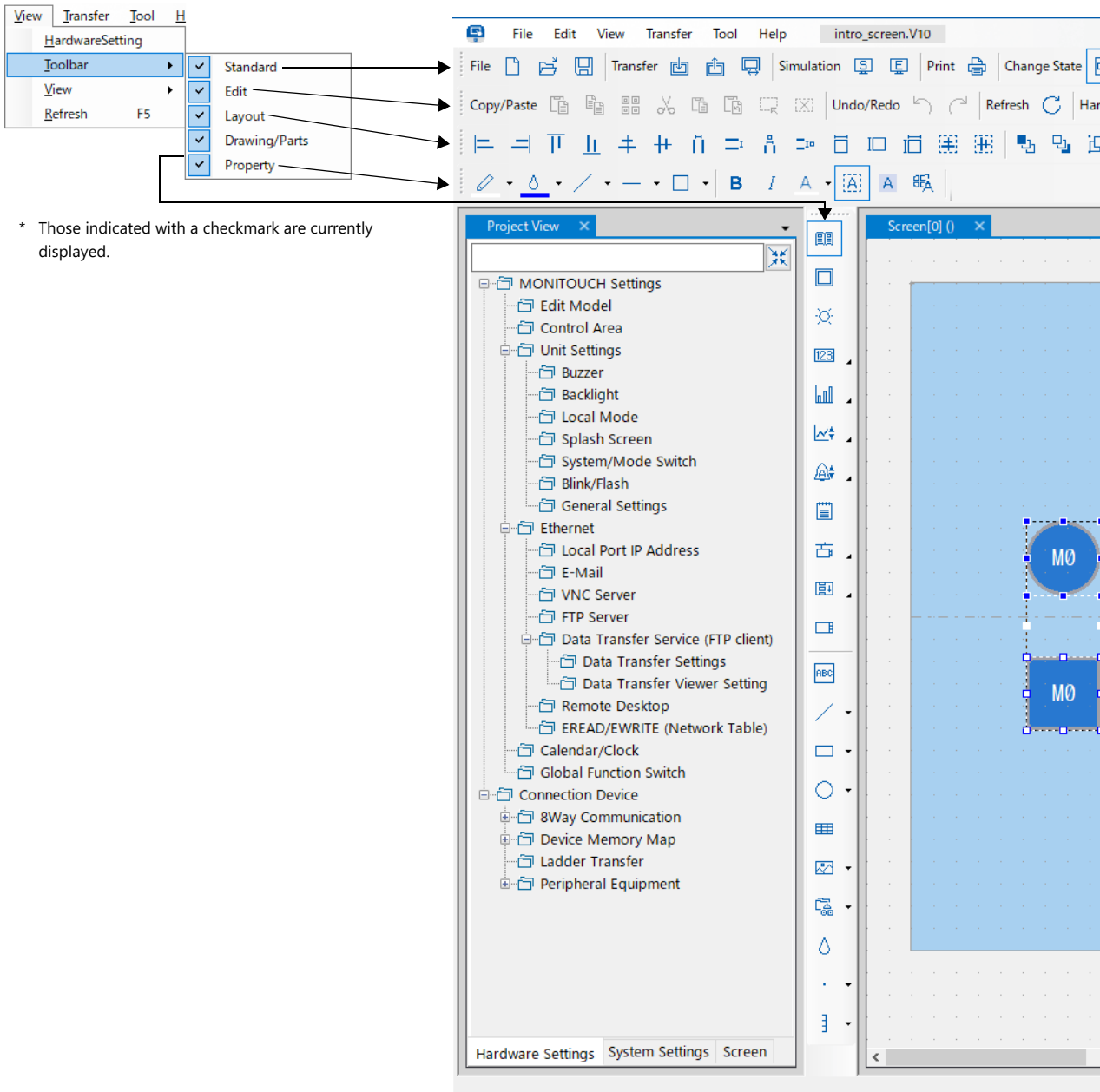


Item	Description		Reference	
Screen	0000 to 9999	Screen Settings	Set the background color and comment for a screen.	-
		OPEN Macro	Register an open macro.	Macro Reference Manual
		Close Macro	Register a close macro.	
		Cycle Macro	Register a cycle macro.	
		Function Switch Settings	Configure local function switch settings. (Settings apply only to the registered screen.) * To set an operation common to all screens, configure the global function switch settings (page 3-7)	-
		Alarm	Configure logging and alarm server settings.	Reference Manual 1
		Logging		
		Sound Settings	Configure audio settings.	Reference Manual 2
		Animation Settings	Configure animation settings.	Reference Manual 1
		Macro Settings	Configure macros.	Macro Reference Manual
		Entry Mode	Configure settings when inputting using a numeric keypad or a keyboard.	Reference Manual 1
Overlap Settings	Configure settings when using overlap displays.			
Overlap Library	0000 to 9999	-	This is an area where overlap displays are registered.	-
Screen Library	0000 to 9999	-	This is an area where screen libraries are registered. Parts that are to be used across multiple screens can be registered to the screen library and then placed on a screen for easy configuration.	-
Macro Block	0000 to 1023	-	This area is for registering macro programs.	Macro Reference Manual
Graphic Library	Group No. 0 to 9 No. 0000 to 0255	-	This area is for registering graphics or numerical data displays that will be displayed when a bit is turned ON.	Reference Manual 1
Pattern	0000 to 4095	-	This area is for importing bitmap or JPEG files, and also drawing patterns by dots and registering them.	-
Animation	-	-	This area is provided for the use of the animation function. Graphics for animation are registered.	Reference Manual 1
Data Block	0000 to 1023	-	This area is for registering data block areas (parts). Data displays, such as numerical data or character display parts, and drawing items can be registered.	-
Data Sheet	Data Sheet Setting	-	When using the data sheet function to print out data in the form of data sheets from MONITOUCH, register data sheet screens to this area.	Reference Manual 1
	0000 to 1023	-		

### 3.1.4 Toolbars

A wide variety of settings concerning the placement and editing of parts is provided. The following five types are provided.

- Standard
- Edit
- Layout
- Drawing/Parts
- Property



\* Those indicated with a checkmark are currently displayed.

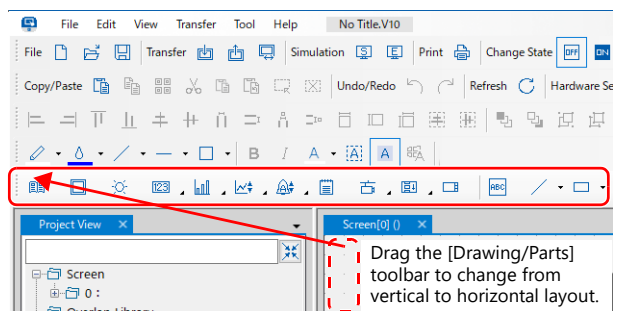
The layout of toolbars can be changed by dragging each toolbar at its handle.



[Drawing/Parts] toolbar

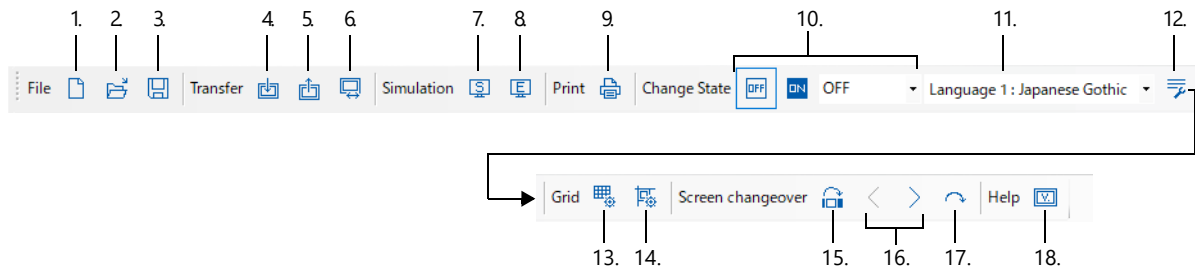


Drag this area. Movement is possible when the cursor is the 4-way arrow.



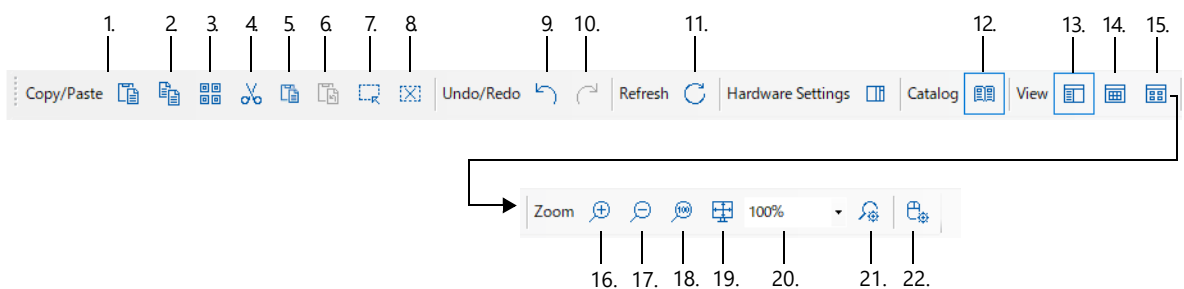
## Names and Functions of Each Tool

### Standard



Item	Description	
File	1. New	Opens a new screen program file.
	2. Open	Opens an existing screen program file.
	3. Save	Saves the screen program by overwriting.
Transfer	4. Download	Write the screen program to MONITOUCH.
	5. Upload	Read a screen program from MONITOUCH.
	6. File Comparing	Compare the program opened on Smart Editor with the program on MONITOUCH.
Simulation	7. Simulator	Starts the simulator. Check the operation of the screen program by connecting the computer and MONITOUCH when the PLC is not available.
	8. Emulator	Starts the emulator. Check the operation of the screen program when the PLC and MONITOUCH are not available.
Print	9. Print	Prints out the created screen program file from a printer connected to the computer.
Change State	10. OFF/ON	Used to change the display status of switches and lamps.
	11. Display Language	Used to change the displayed language number in the case of a multi-language screen program.
	12. Display Environment	Apply display environment settings such as status changes to all screens collectively.
Grid	13. Grid Setting	Configure settings such as grid color and grid interval.
	14. Guide Setting	Display and configure guides.
Screen changeover	15. Skip Screen	Selected: Screens with no registration are skipped. Deselected: Screens with no registration are also displayed.
	16. Previous Screen / Next Screen	Displays the previous or the next screen.
	17. Jump	Displays the specified screen.
Help	18. Version Information	Displays the version information.

### Edit

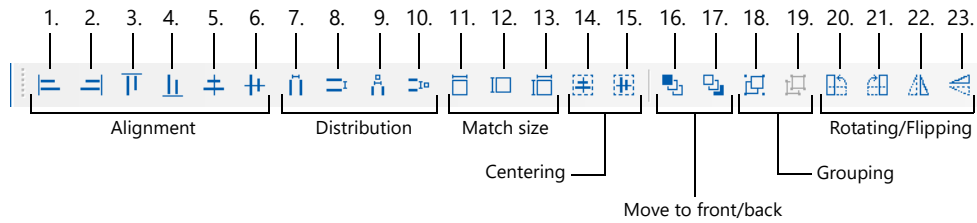


Item	Description	
Copy/Paste	1. Paste	Pastes the item on the clipboard onto the screen.
	2. Copy	Copies the selected item to the clipboard.
	3. Multi-copy	Copy the selected item and paste multiple instances of it onto the screen.
	4. Cut	Cuts the selected item and moves it to the clipboard.
	5. Paste to Selected Screens	Copy the selected item and paste it to multiple specified screens.
	6. Undo Paste	Undoes the paste operation performed by the [Paste to Selected Screens] command.
	7. Select All	Selects all items on the screen.
	8. Delete All	Deletes all items on the screen.
Undo/Redo	9. Undo	Undoes the last operation.
	10. Redo	Redoes the operation that was undone using the [Undo] command.

### 3. Layout and Basic Operations of Smart Editor

	Item	Description
Refresh	11. Refresh	Refreshes the screen.
Catalog	12. Catalog View	Displays the parts catalog.
View	13. Project View	This is for configuring a wide variety of settings, such as initial configuration items necessary for MONITOUCH to communicate with the PLC, MONITOUCH settings, and various function settings relating to each screen as a whole.
	14. Item Information	Displays the items placed on screens in list form.
	15. Screen List	Displays a list of screens being edited or overlap libraries.
Zoom	16. Zoom In	Increases the display magnification.
	17. Zoom Out	Decreases the display magnification.
	18. Zoom to 100%	Displays the screen at the 100% magnification.
	19. Fit	Fits the magnification to the display area of Smart Editor.
	20. Magnification	Used to increase/decrease the display magnification. (Selectable from 400%, 300%, 200%, 150% 100%, and 75%)
	21. Zoom	Used to increase/decrease the display magnification to the specified value. The setting can be applied to all screens.
	22. Selection Environment Setting	Limit the types of parts that can be selected using the mouse.

## Layout



	Item	Description
Alignment	1. Align Left	Aligns the position of the selected items to the left edge of the reference item.
	2. Align Right	Aligns the position of the selected items to the right edge of the reference item.
	3. Align Top	Aligns the position of the selected items to the top edge of the reference item.
	4. Align Bottom	Aligns the position of the selected items to the bottom edge of the reference item.
	5. Align Center	Aligns the position of the selected items to the vertical center of the reference item.
	6. Align Middle	Aligns the position of the selected items to the horizontal center of the reference item.
Distribution	7. Distribute Horizontally (Fixed-width)	Distributes the selected items at equal intervals horizontally.
	8. Distribute Vertically (Fixed-width)	Distributes the selected items at equal intervals vertically.
	9. Distribute Horizontally (Specified-width)	Distributes the selected items at the specified interval horizontally.
	10. Distribute Vertically (Specified-width)	Distributes the selected items at the specified interval vertically.
Match size	11. Match Width	Matches the width of the selected items to the width of the reference item.
	12. Match Height	Matches the height of the selected items to the height of the reference item.
	13. Match Whole	Changes the size of the selected items to the dimensions of the reference item.
Centering	14. Align Center in Edit Area	Aligns the position of the selected items to the vertical center of the edit area.
	15. Align Middle in Edit Area	Aligns the position of the selected items to the horizontal center of the edit area.
Move to front/back	16. Bring to Front	Moves the selected item to the top layer.
	17. Send to Back	Moves the selected item to the bottom layer.
Grouping	18. Group	Groups the selected items.
	19. Ungroup	Ungroups the grouped items.
Rotating/Flipping	20. Rotate 90- CCW	Rotates the selected item 90 degrees counterclockwise.
	21. Rotate 90- CW	Rotates the selected item 90 degrees clockwise.
	22. Flip Horizontal	Flips the selected item horizontally.
	23. Flip Vertical	Flips the selected item vertically.

## Drawing/Parts

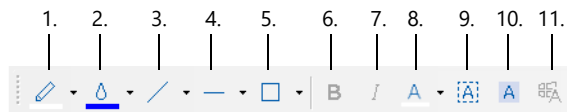
## Upper section: Parts

Item		Description	
1.	1. Catalog	Displays the parts catalog.	
2.	2. Switch	Refer to Reference Manual 1.	
3.	3. Lamp		
4.	4. Data Display		Num. Display
5.			Char. Display
6.			Message Display
7.			Table Data Display
8.			Time Display
9.	5. Entry		Key Pad
10.			List Box
11.			Drop-down List
12.			Slider Switch
	6. Graph		Bar Graph
		Pie Graph	
		Closed Area Graph	
		Panel Meter	
		Statistic Bar Graph	
		Statistic Pie Graph	
	7. Trend Graph	Logging Server	Trend Sampling
			Data Sampling
		Real Time	
	8. Alarm	Alarm Server	Alarm History
			Event History
			Real Time
		Edit Message	
		Flowing Message	
	9. Memo Pad		
	10. Multimedia	Network Camera Setting	Network Camera Display
		USB Camera Setting	USB Camera Display
		Video/RGB Settings	Video/RGB Display
			Video Overlap
		Remote Desktop Setting	Remote Desktop Display
		JPEG Display	
	2D Code Display		
	11. Block	Edit Message	Message
		Edit Comment	Comment
		Edit Graphic Library	Graphic
		Edit Data Block	Data Block
	12. Component Parts	Place component parts. Parts can be downloaded and added from our website.	

### Lower section: Drawing

Item		Description
13.	Text	Place text.
14.	Shape	Line
14.		Rectangle
15.		Circle
15.		Table
16.		Graph Scale
16.		Paint/Dot
15.	Image	Picture
		Pattern
		Parts
16.	Library	Pattern
		Graphic Library
		Screen Library

### Property



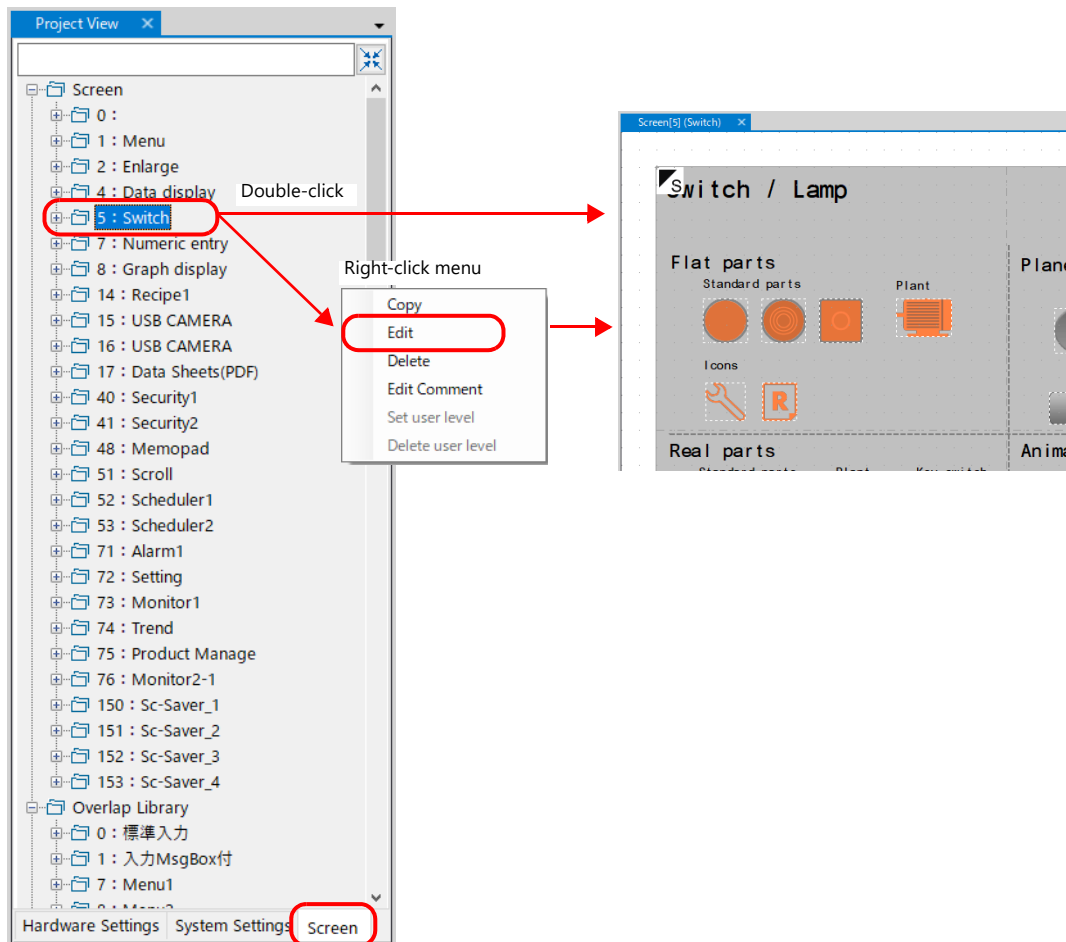
Item	Description
1. Line Color / Frame Color	Change the color of a line/frame.
2. Paint Color / Back Color	Change the color of a paint/background.
3. Arrow Type	Select the line end shape.
4. Line Type	Select the line type.
5. Frame Type	Select the frame type of rectangles and circular parts.
6. Bold	Change text to bold face.
7. Italic	Change text to italic face.
8. Character Color	Change the text color.
9. Transparent	Set the background color of a text part to transparent.
10. Not Transparent	Display the background color of a text part.
11. Windows Font	Add Windows font properties.

## 3.2 Basic Operation

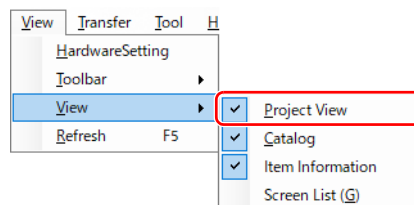
### 3.2.1 Switching Screens

#### Selecting from the Project View Pane

Display a screen by either double-clicking the desired screen number at the [Project View] pane → [Screen] tab → [Screen No.], or displaying the right-click menu of the desired screen number and selecting [Edit].



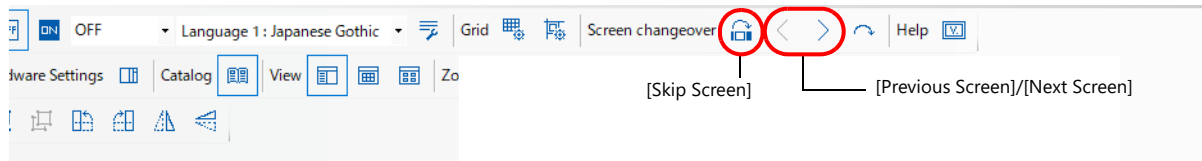
Displaying the [Project View] pane: [View] → [View] → [Project View]



## Switching Using the Toolbar

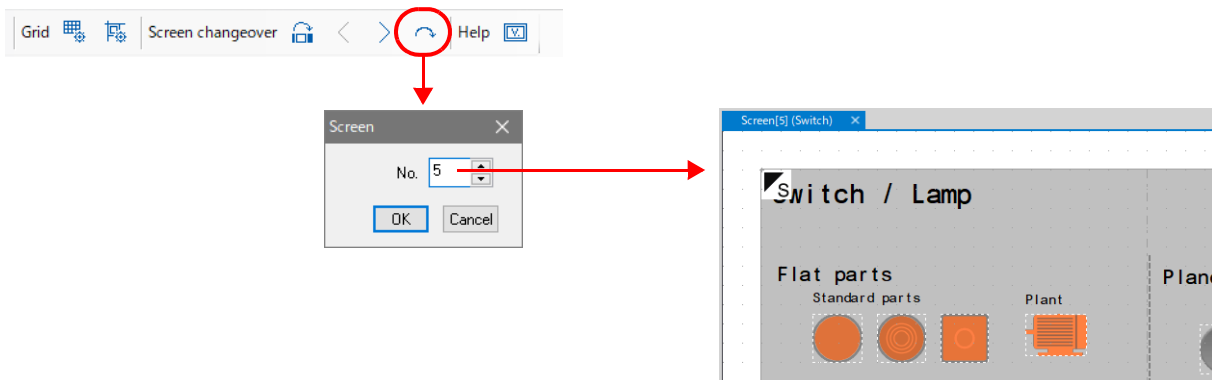
### Previous Screen / Next Screen

Click [Previous Screen]/[Next Screen] to switch the displayed screen.  
 If [Skip Screen] is enabled, screens with no registration are not displayed.



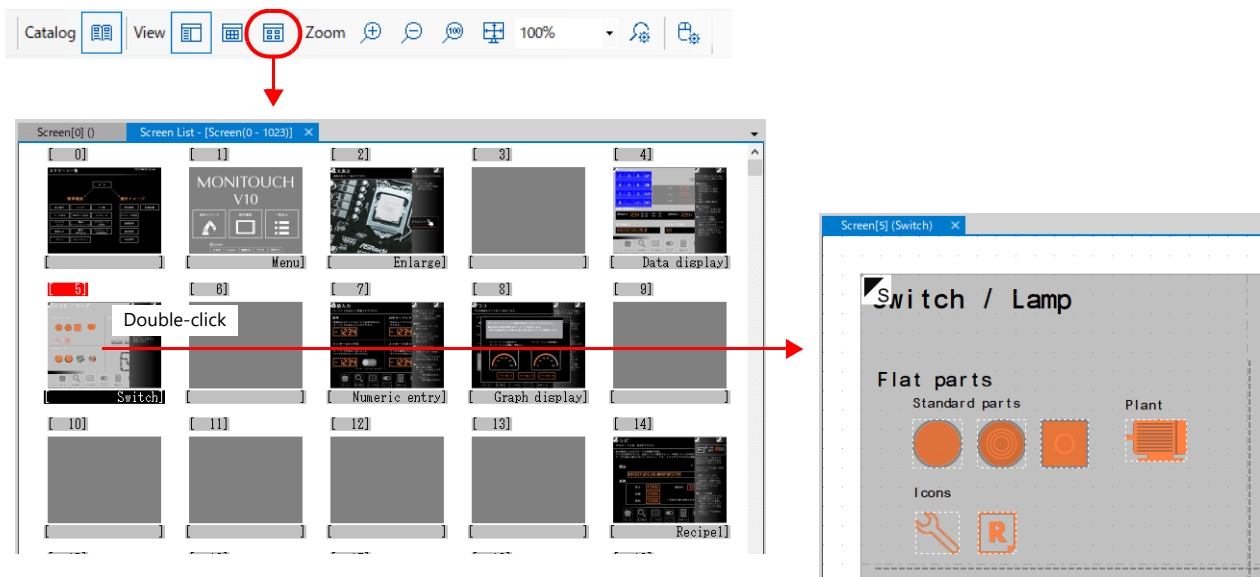
### Jump

Click [Jump] to specify a screen number and display that screen.



### Selecting from the Screen List

Click [Screen List] and double-click a screen number and display that screen.

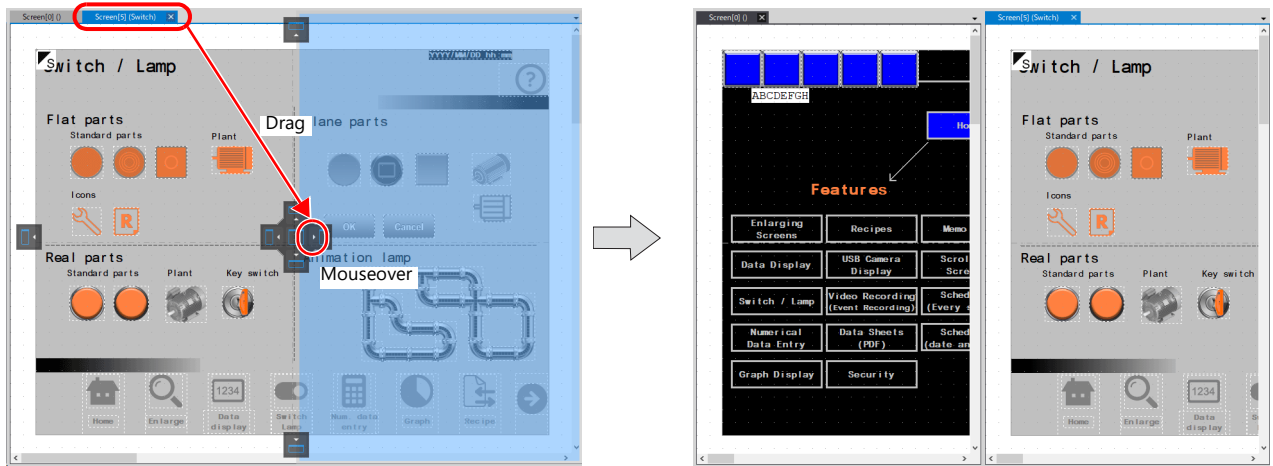


- The [Screen List] can be enlarged by right-clicking the [Screen List] window and selecting [Enlarged Display].
- Screens with no registration can be hidden from the [Screen List] by right-clicking the [Screen List] window and selecting [Hide unregistered screens].

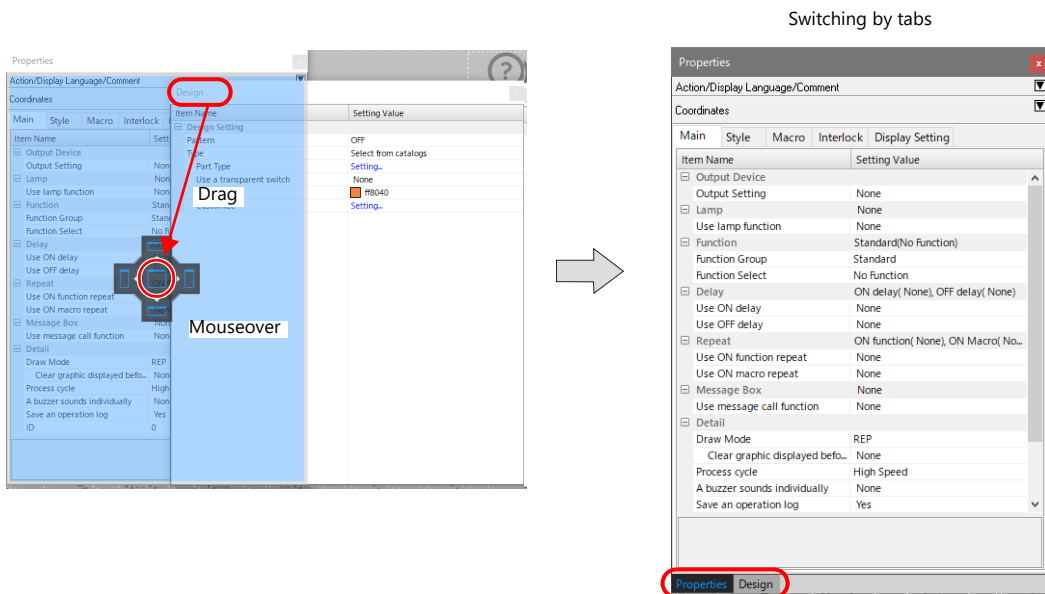
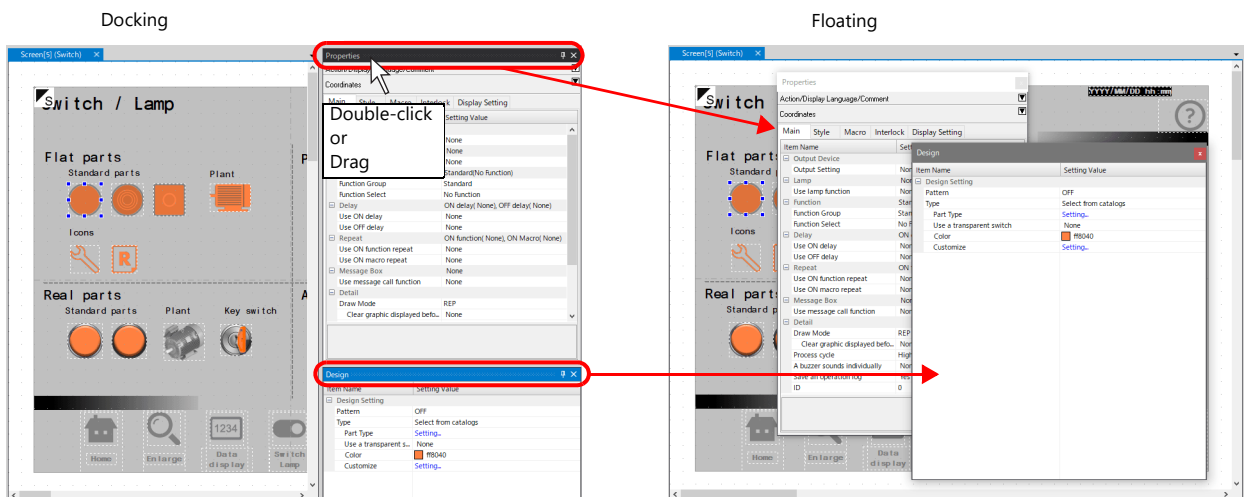
### 3.2.2 Changing the Layout

The layout of items such as screens, the [Item Information] pane, and property panes can be changed as desired.

#### Example: Displaying two screens



#### Example: Changing the layout of property panes



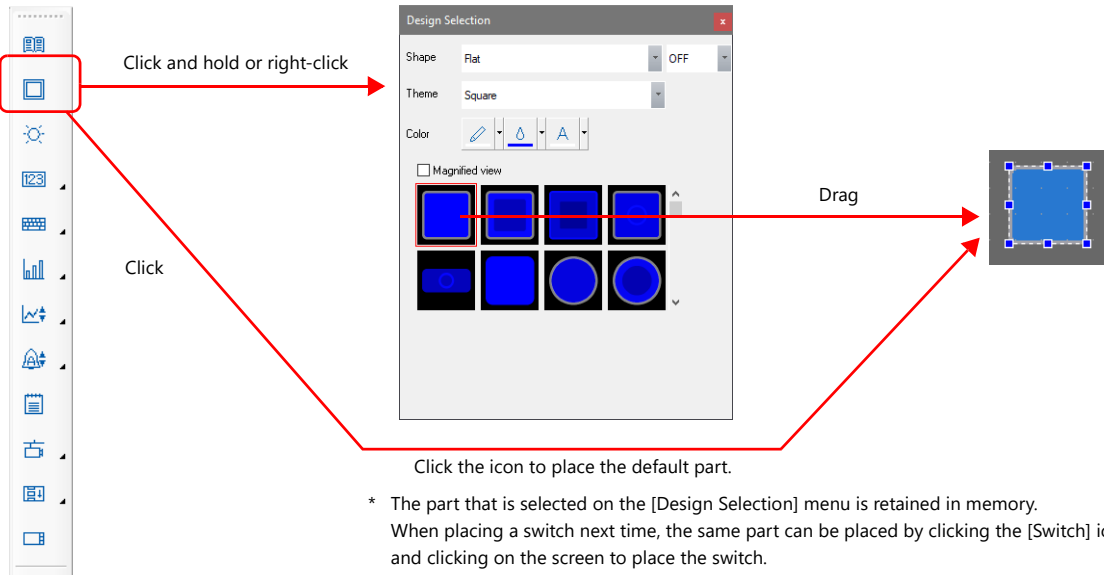
### 3.2.3 Placing Parts

Parts can be placed either from the parts bar or from the catalog.

#### Placing from the Parts Bar

##### Single Parts (Example: Switch)

Place a switch from the parts bar → [Switch].

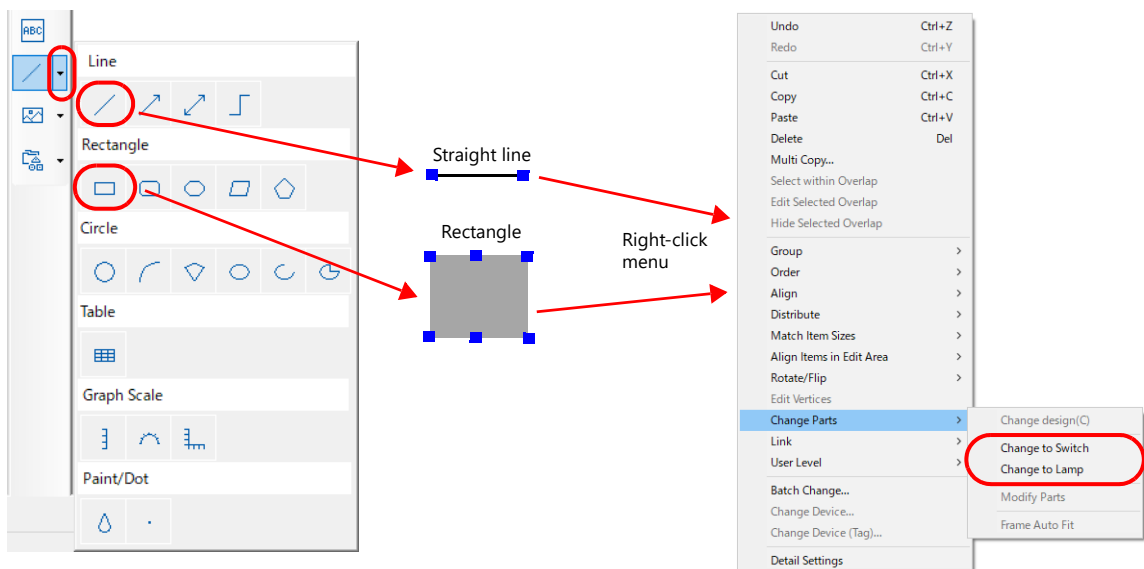


To change the design of a part after placement, refer to "3.2.4 Changing a Part After Placement" page 3-23.



Creating switches/lamps from shapes/picture in image

Rectangles, straight lines, or images placed from the parts bar can be converted and used as a switch or lamp.



## Linked Parts (Example: Alarm Part)

Place an alarm part from the parts bar → [Alarm].

Click and hold or right-click

Click and hold

Drag

- Click to place the default part or the part that was placed last.
- Click and hold to display the [Design Selection] menu.
- Click to place the default part or the part that was placed last.

To change the design after placement or delete unnecessary parts, refer to “3.2.4 Changing a Part After Placement” page 3-23.

## Placing from the Catalog

Click

1. Parts

2. Shape

3. Theme

4. Magnified view

5. Part list

6. Item

7. Pattern selector

8. Color selector

9. Copy icon

10. Add, Edit, Delete icons

11. Add, Edit, Delete icons

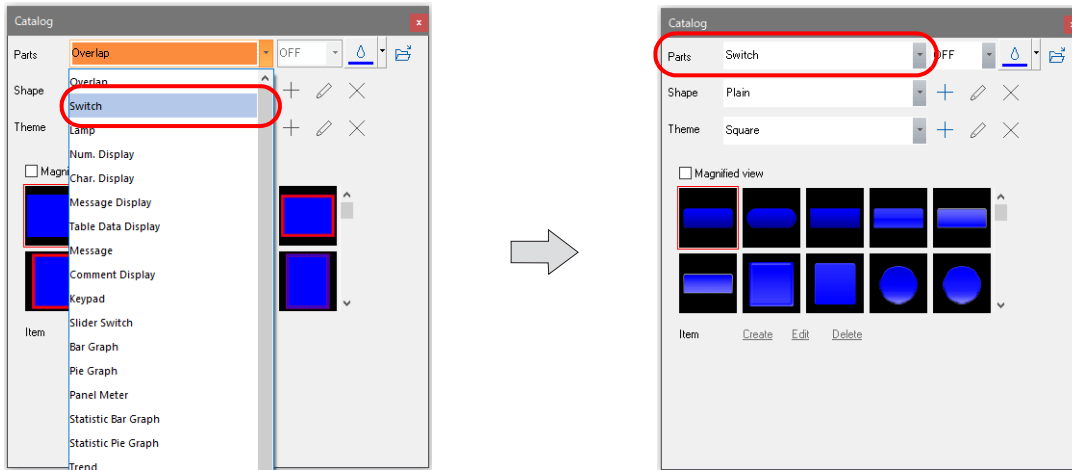
Item	Description
1. Parts	Click to display a pull-down menu. Select a part.
2. Shape	Click to display a pull-down menu. Select a shape.
3. Theme	Click to display a pull-down menu. Select a theme.
4. Magnified view	Enlarge the display of parts shown in the catalog.
5. Part list	Displays parts according to the selected shape and theme.
6. Item	This is available when creating a part using a PNG file.
7. Pattern selector	This is only available for switch and lamp parts. Use this to check the display of patterns such as OFF, ON, and P3.

### 3. Layout and Basic Operations of Smart Editor

Item	Description
8. Color palette	Select the display color of the part.
9. Open file	Open a part file.
10. Add custom shape	This is available when creating a part using a PNG file.
11. Add custom theme	

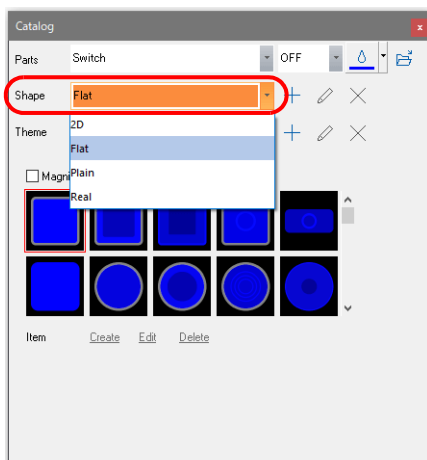
### Placement Procedure (Example: Switch)

1. Click [Catalog] on the parts bar to display the catalog.
2. Select [Switch] for [Parts]. (If it is already selected, proceed to step 3.)

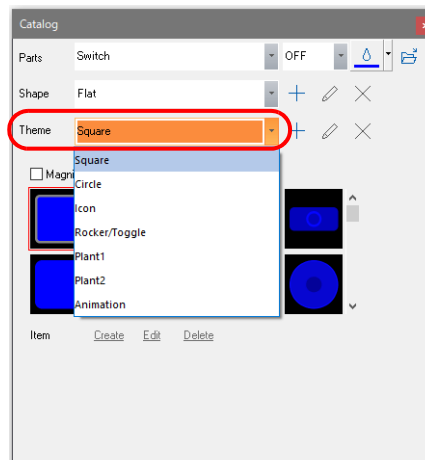


3. Change the switch list using [Shape] and [Theme] and find the desired part in the switch part list.

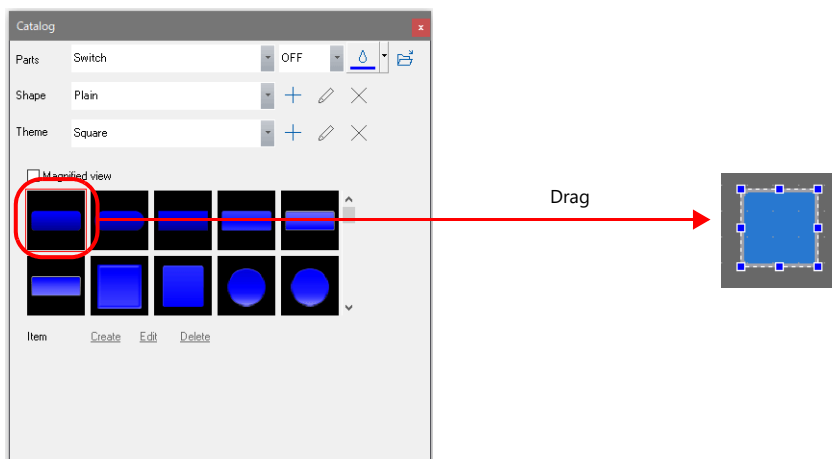
- Shape



- Theme



4. Select a switch and drag it onto the screen. This places the switch part on the screen.



## 3.2.4 Changing a Part After Placement

### Single Parts (Example: Switch)

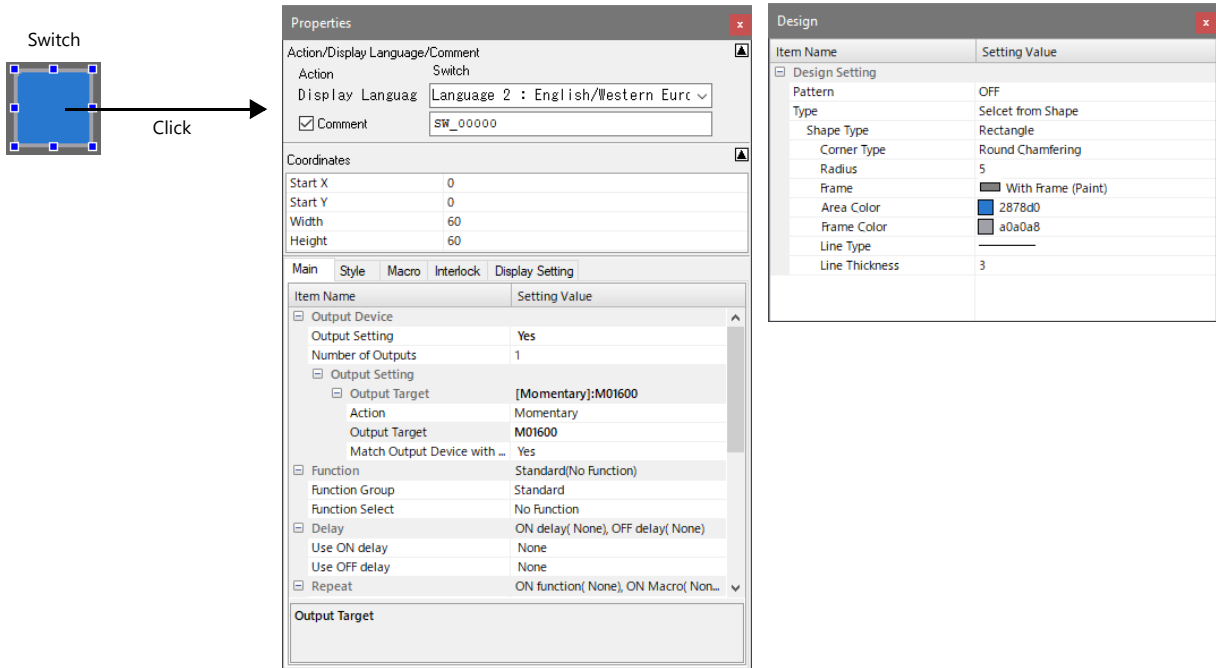
#### Properties

Placing a part or clicking a placed part displays the [Properties] pane and [Design] properties pane.

Settings can be changed and viewed using these property panes.

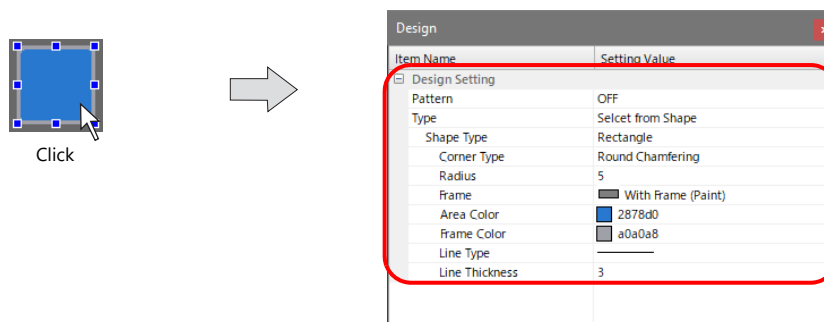
The available settings differ depending on the part, but the operation procedure is generally the same.

- [Properties] pane: Device memory assignment and operation settings of parts
- [Design] properties pane: Setting and changing the color and design of parts



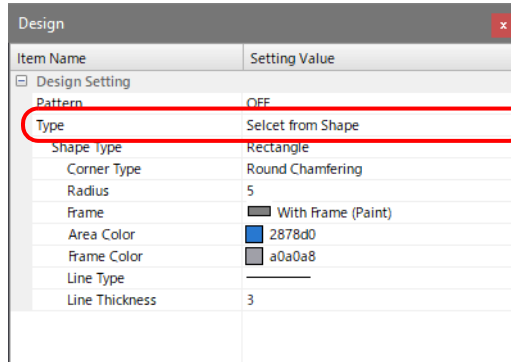
#### Changing the Part Design

The design of a part can be changed from the [Design] properties pane which is displayed when the part is clicked. (Example: Switch)



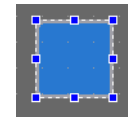
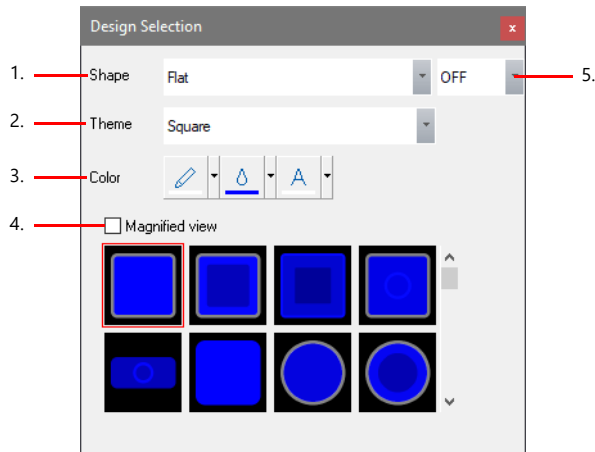
### Type: Select from catalogs

1. Click the part, and on the [Design] properties pane, set [Type] to [Select from catalogs].



Item Name	Setting Value
Pattern	Select a pattern (OFF, ON, etc.).
Type	Select from catalogs (fixed)
Part Type	Display the catalog.
Color	Set the color.
Customize	Change designs for ON or OFF, or select image files. (Not available for 2D parts)

2. Select the desired design from [Part Type] → [Setting].

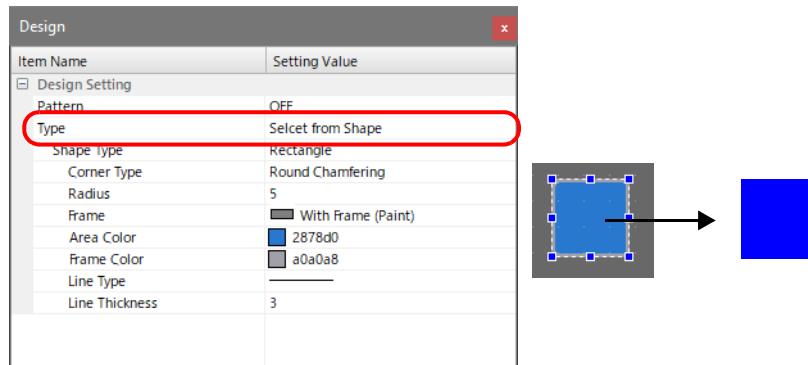


The design changes according to the selection.

Item	Description
1. Shape	Click to display a pull-down menu. Select a shape.
2. Theme	Click to display a pull-down menu. Select a theme.
3. Color palette	Select the display color of the part.
4. Magnified view	Enlarge the display of parts shown in the design selection area.
5. Pattern selector	Check the design of the ON and OFF patterns.

### Type: Select from Shape

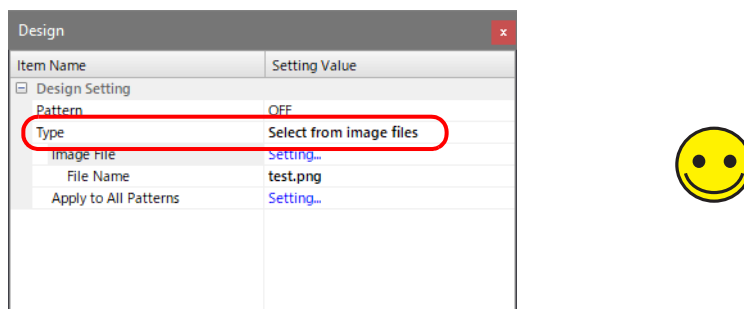
Click the part, and on the [Design] properties pane, set [Type] to [Select from Shape] and select a [Shape Type] (Rectangle, Circle, or None).



Item Name	Setting Value
Pattern	Select a pattern (OFF, ON, etc.).
Type	Select from Shape (fixed)
Shape Type	Select a shape type. When [None] is selected, the part is made transparent and therefore colors cannot be specified. Rectangle, Circle, None
Corner Type	Set a type when [Rectangle] is selected. No Chamfering: Corners are 90 degrees. Round Chamfering: Corners are round. Chamfering: Corners are diagonal.
Radius	Specify the size of the shape change when [Round Chamfering] or [Chamfering] is selected.
Frame	Select the frame type. With Frame (Unpaint): Only the frame color can be specified; specification of the area color is not possible. With Frame (Paint): Both the frame color and area color can be specified. No Frame (Paint): Only the area color can be specified; specification of the frame color is not possible.
Area Color	Select the area color.
Frame Color	Select the frame color.
Line Type	Select the line type for the frame.
Line Thickness	Select the line thickness for the frame.

### Type: Select from image files

1. The part design can be selected from an image file (\*.png / \*.bmp) created by the user.



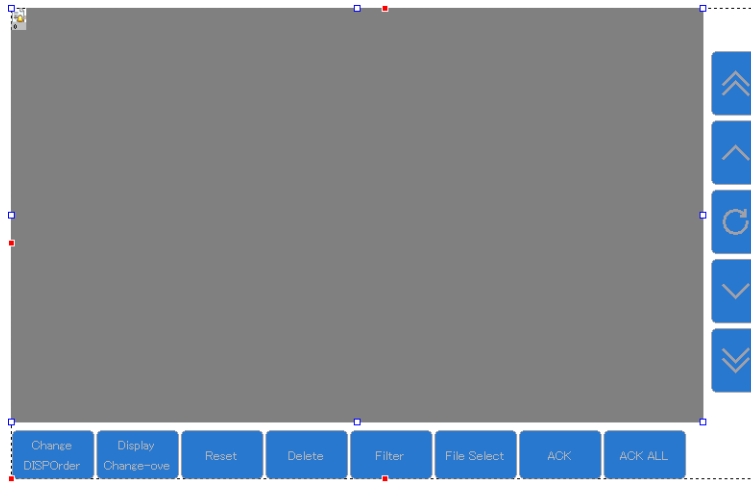
Item Name	Setting Value
Pattern	Select a pattern (OFF, ON, etc.).
Type	Select from image files (fixed)
Image File	Select an image file.
File Name	The selected filename is displayed.
Apply to All Patterns	Sets the same image file to all patterns.

- The OFF pattern design is changed.
- Select the image file to use for the ON and P3 to P128 patterns in the same way.

## Linked Parts

### What are "Linked Parts"?

"Linked parts" are placed parts that comprise multiple items (for example, alarm parts, trend parts, etc.). These are called "linked parts." When selected, the properties for the linked parts as a whole are displayed.

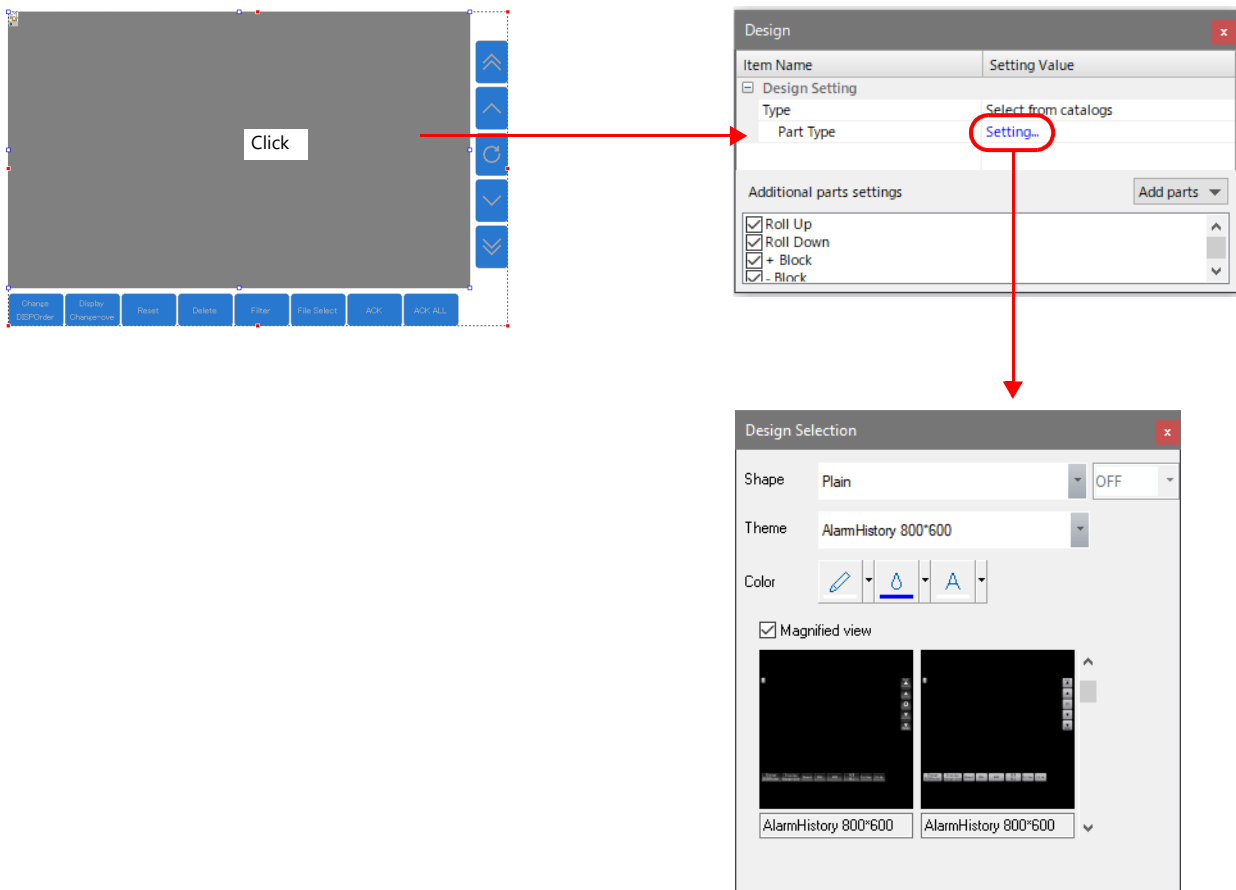


If red handles are displayed on the outer edges of a group of parts upon selection by clicking after placement, they are linked parts.

### Changing the Design of Linked Parts

The design of linked parts as a whole can be changed from the [Design] properties pane which is displayed when the linked parts are clicked.

Parts can be selected from [Design Setting] → [Type] → [Part Type] → [Setting]. (Example: alarm part)

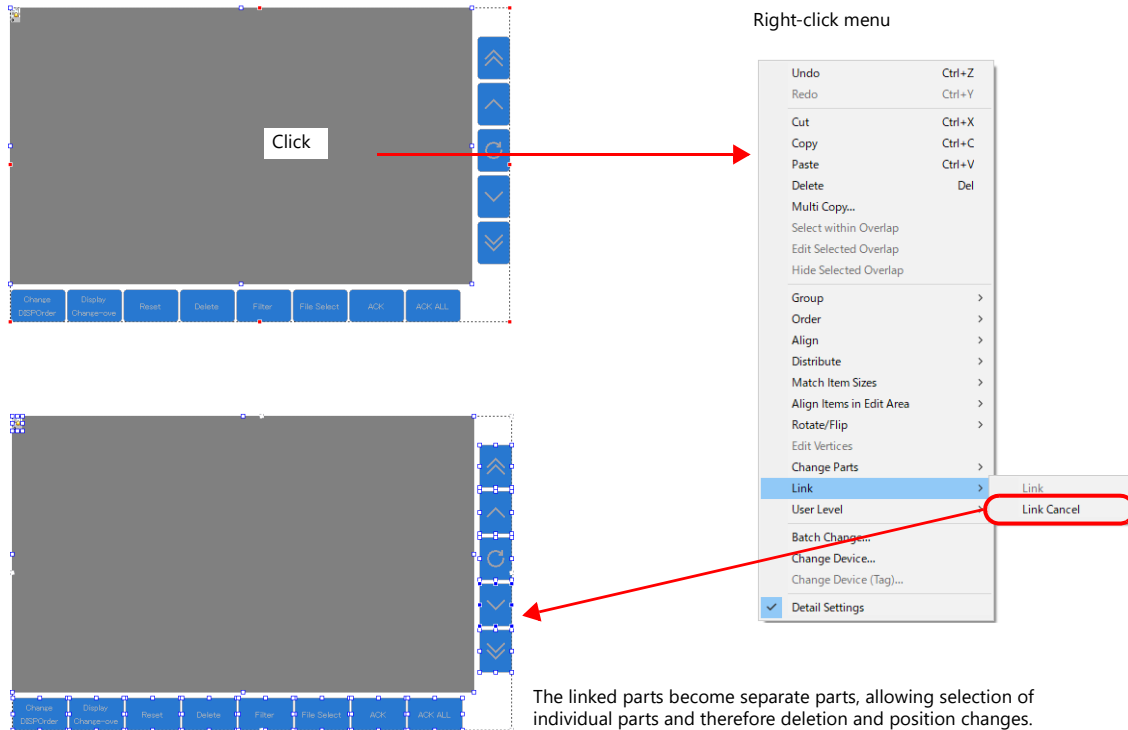


## Deleting Parts and Changing Positions by Canceling Links

The link of linked parts can be canceled so that unnecessary parts can be deleted and the position of parts can be changed.

### Canceling links

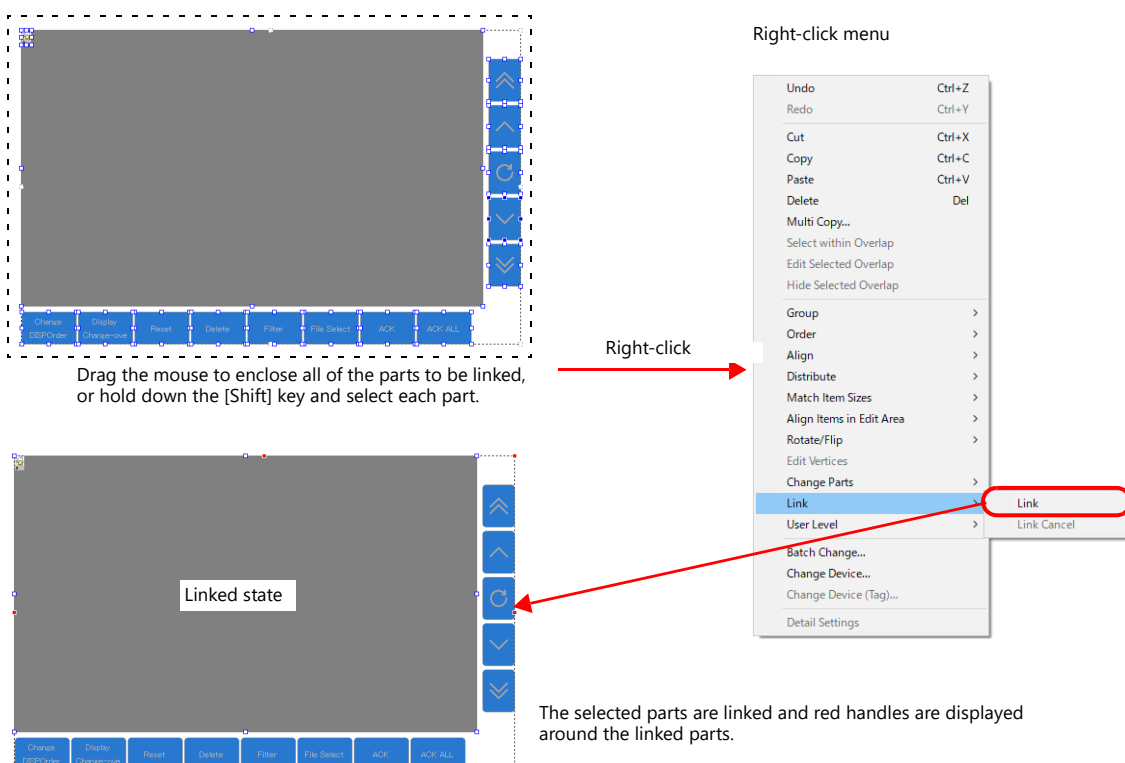
Click the linked parts, display the right-click menu, and select [Link] → [Link Cancel].



### Linking parts

After linked parts are separated into individual parts, it is recommended to link them again after editing. (If parts are missed when copying them, they cannot function correctly.)

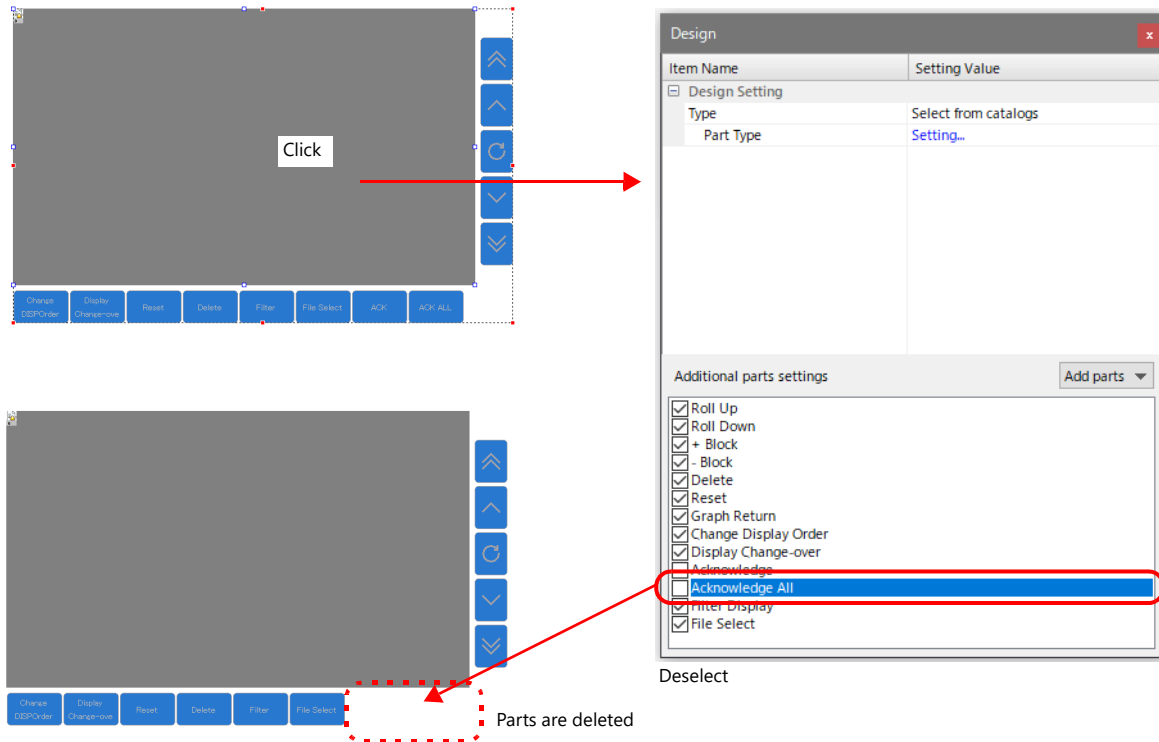
Select all of the parts to be linked, display the right-click menu, and select [Link] → [Link].



## Deleting and Adding Parts from the Design Properties

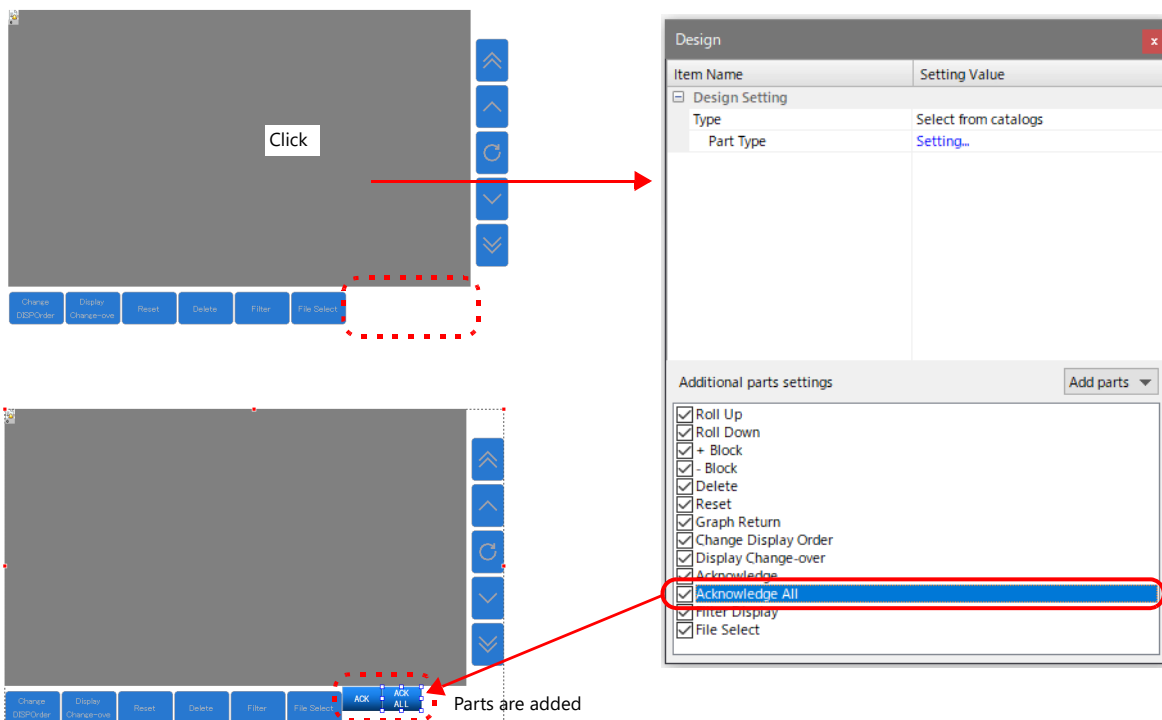
### Deleting parts

Click the linked parts to display the [Design] properties pane. Deselect the checkboxes of any unnecessary parts in the [Additional parts settings] list to delete them. (Example: alarm part)

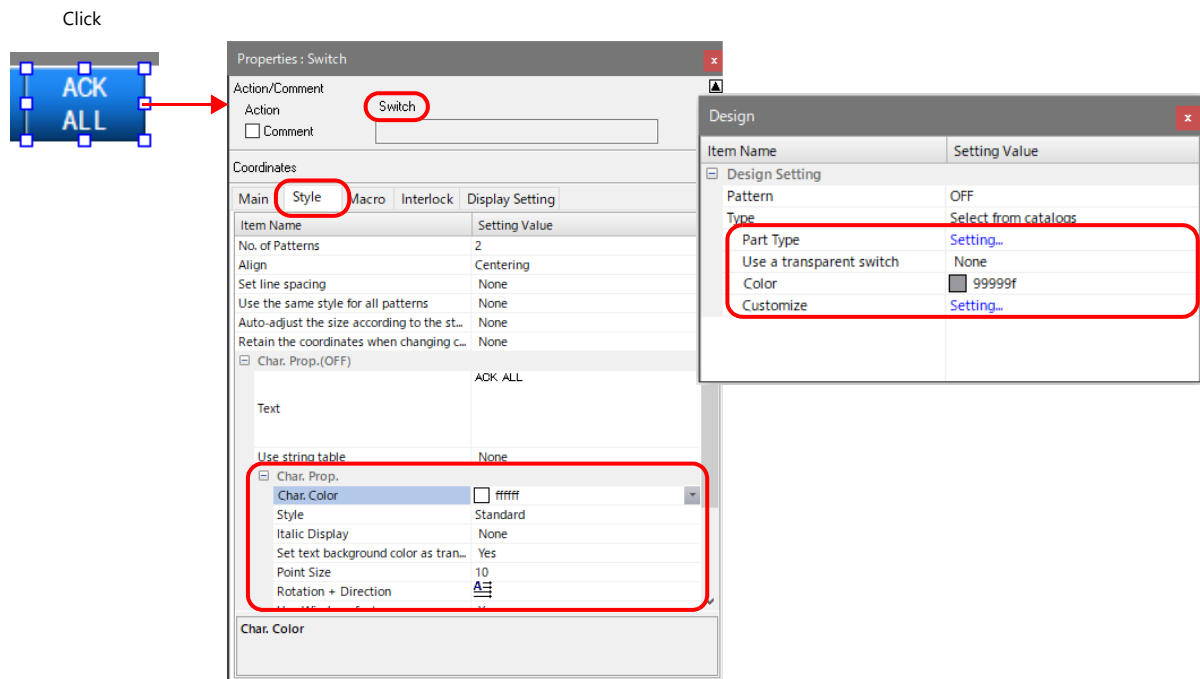


### Adding parts

1. Click the linked parts to display the [Design] properties pane. Select the checkboxes of parts in the [Additional parts settings] list to add them.



- Click the added parts to display the [Properties] pane and [Design] properties pane.  
Select the color and size of text in the [Char. Prop.] settings on the [Properties] pane.  
Change the color and design of part on the [Design] properties pane.



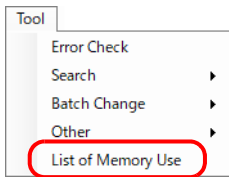
## 3.2.5 Checking the Registration Status of a Screen Program

### Overall Registration Status of a Screen Program

The overall registration status of screens, overlap libraries, logging/alarm servers, function switch settings, etc., for the screen program can be checked from [List of Memory Use] and the [Project View] pane → [Screen] tab.

### List of Memory Use

Check the registration from [Tool] → [List of Memory Use]. The remaining amount of memory for the file as a whole, and the amount of memory used for each item are displayed.



Registration Item	Numbe...	Memory Used
Screen	6	509952
Message	7	14336
Macro Block	75	157696
Overlap Library	4	22528
Screen Library	3	10240
Pattern	1	4096
Data Sheet	2	71680
Function Switch	1	2048
Bitmap Area	208	657408
Windows Font (Bitmap)	240	1425408
Windows Font (Registration)	22	55296
Picture Library	68	419840
Device Table	1	2048
Tag Database	1	10240
Recipe	2	4096
Scheduler	2	2048
Logging Server	2	4096
Alarm Server	3	6144

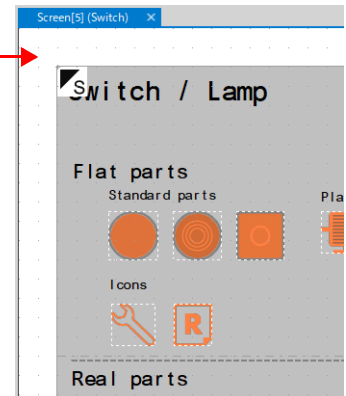
The amount of memory used is expressed in bytes.

Click the filename to return to displaying the overall usage status.

No.	Memory Used
0	10240
1	6144
2	4096
5	10240
71	6144
72	471040

A list of registered items is displayed.

Each editing screen can be displayed.



## Project View Pane

Check the registration status at the [Project View] pane → [Screen] tab. A rough setting status of each item can be checked in tree format.

Each editing screen can be displayed.

Double-click

OPEN macro configured

Alarm part configured (Block number 2 of the alarm server is used.)

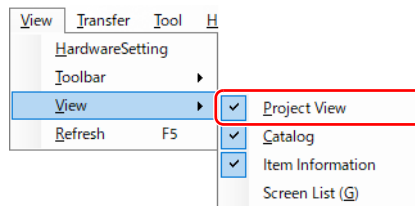
Multi-overlap used

No.	Occurrence	Time	Level
0	MM DD, YYYY HH:mm:ss		Warning
1	MM DD, YYYY HH:mm:ss		Warning
2	MM DD, YYYY HH:mm:ss		Caution
3	MM DD, YYYY HH:mm:ss		Warning
4	MM DD, YYYY HH:mm:ss		Warning
5	MM DD, YYYY HH:mm:ss		Info
6	MM DD, YYYY HH:mm:ss		Warning

3



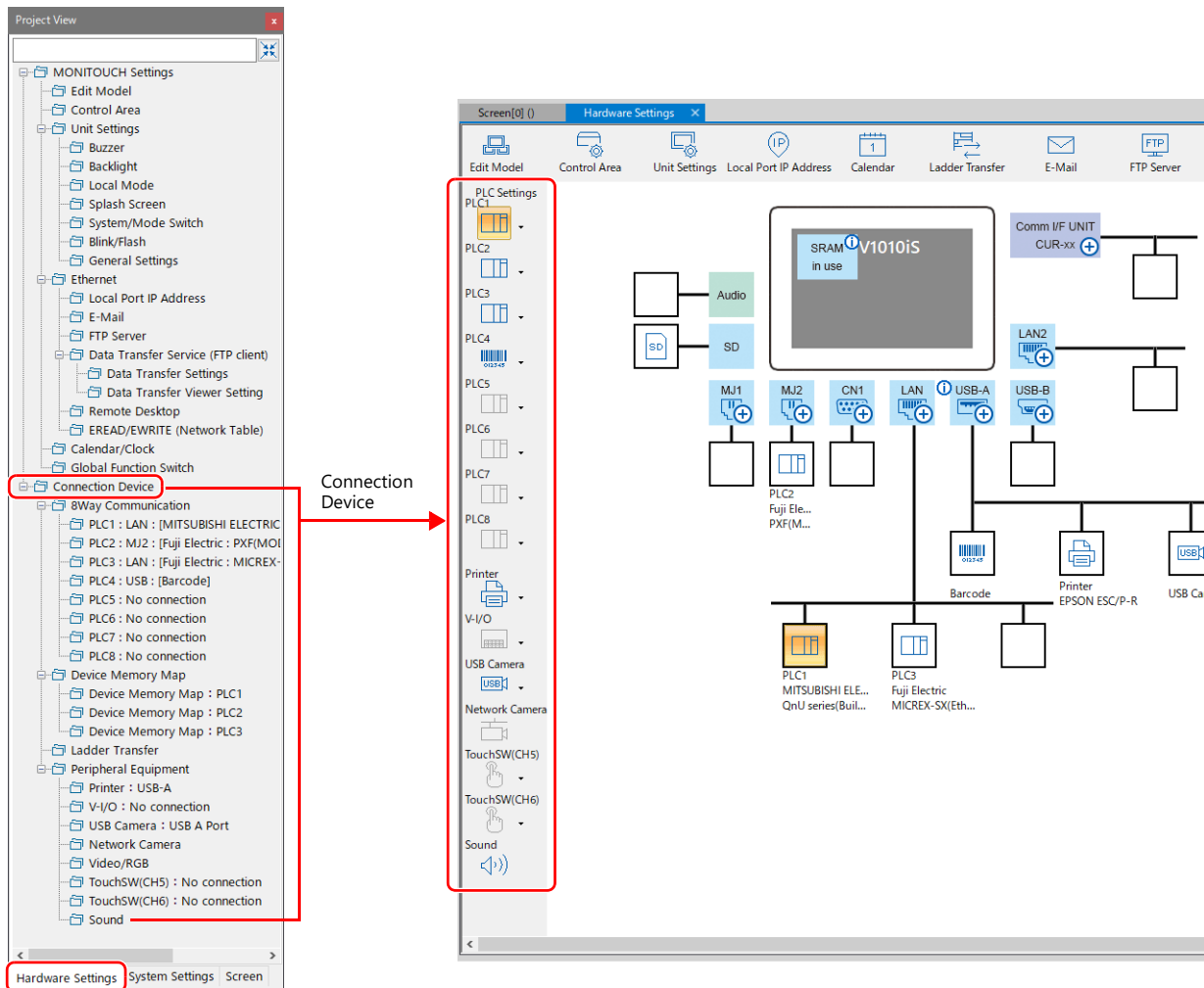
Displaying the [Project View] pane: [View] → [View] → [Project View]



## PLCs and Other Devices for Connection

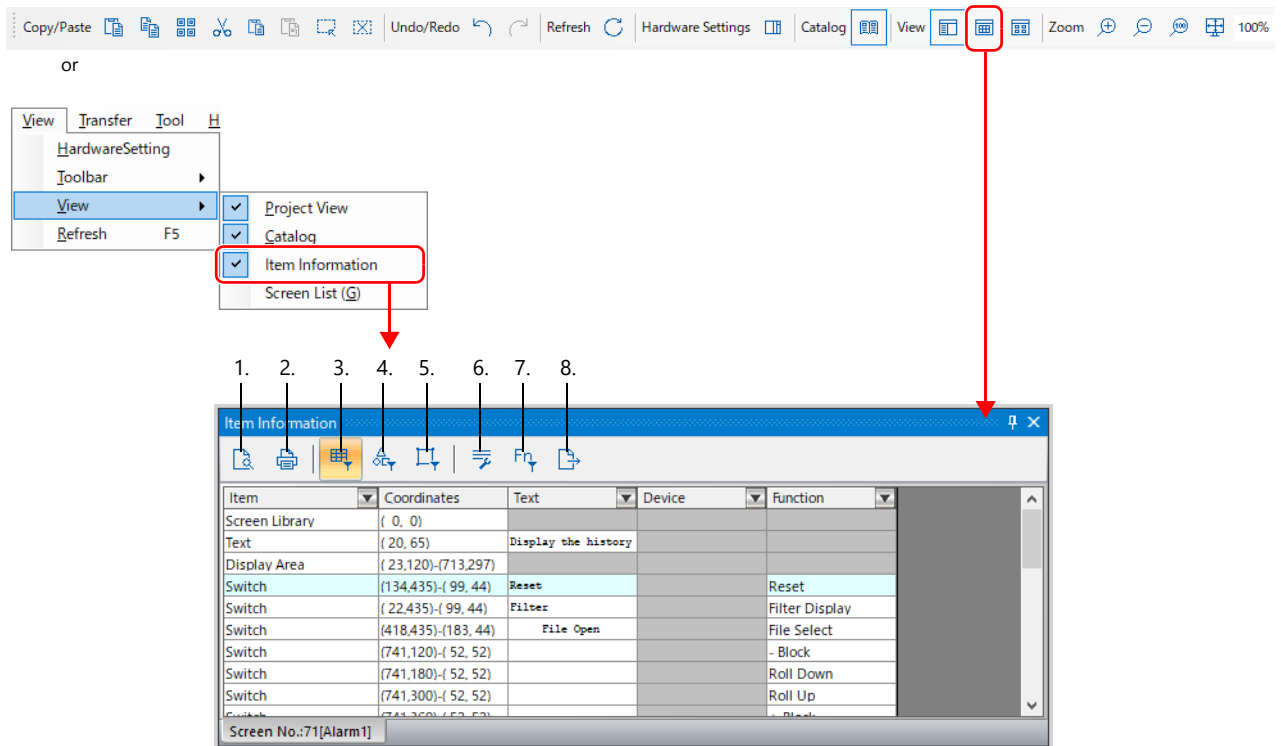
PLCs and peripheral equipment to be connected to MONITOUCH can be viewed from the [Project View] pane → [Hardware Settings] tab → [Connection Device].

New devices for connection can also be configured in these hardware settings.



## Individual Registration Statuses of Screens

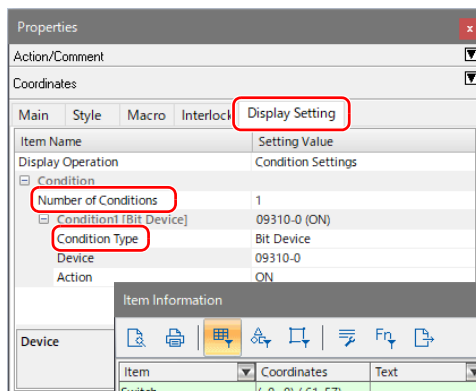
To check the items used on screens in a list, and configure settings, use the [Item Information] icon on the toolbar, or access [View] → [View] → [Item Information].



Item	Description
Print Preview	Displays a print preview of the item information.
Print Current Window	Prints item information.
By Registration	Sorts items in the order of registration.
By Graphic	Displays only drawing items.
Selected Item	Displays only the items selected on the base screen.
Display Setting	Select the items to be displayed on the [Item Information] pane and the order of display.
By Function	Displays only the items of the selected function.
CSV Export	Exports item information in CSV format.



Items with show/hide settings configured ([Display Setting] in the [Properties] pane) are indicated by color according to the number of conditions and type of condition.



- Green: Specification by device memory
- Light blue: Hide
- Yellow: Security level
- Pink: Two or more conditions
- White: Always show



## 4 Screen Program Configuration

### 4.1 Before Configuring Screen Programs

#### 4.1.1 Models and Screen Resolution

The screen resolution differs between MONITOUCH models.

Y coordinate (dots)	X coordinate (dots)	639	799	1023	1279	1365
0						
479	V9100iC / V9080iC / V9060iT		TS4070i V9071iW V9070iW			
599	V1012iS / V1010iS / V1008iS / V9120iS / V9100iS / V9080iS			TS4100i V9101iW V9100iW		
767				V1015iS / V9150iX		
799					TS4120i	TS4150i

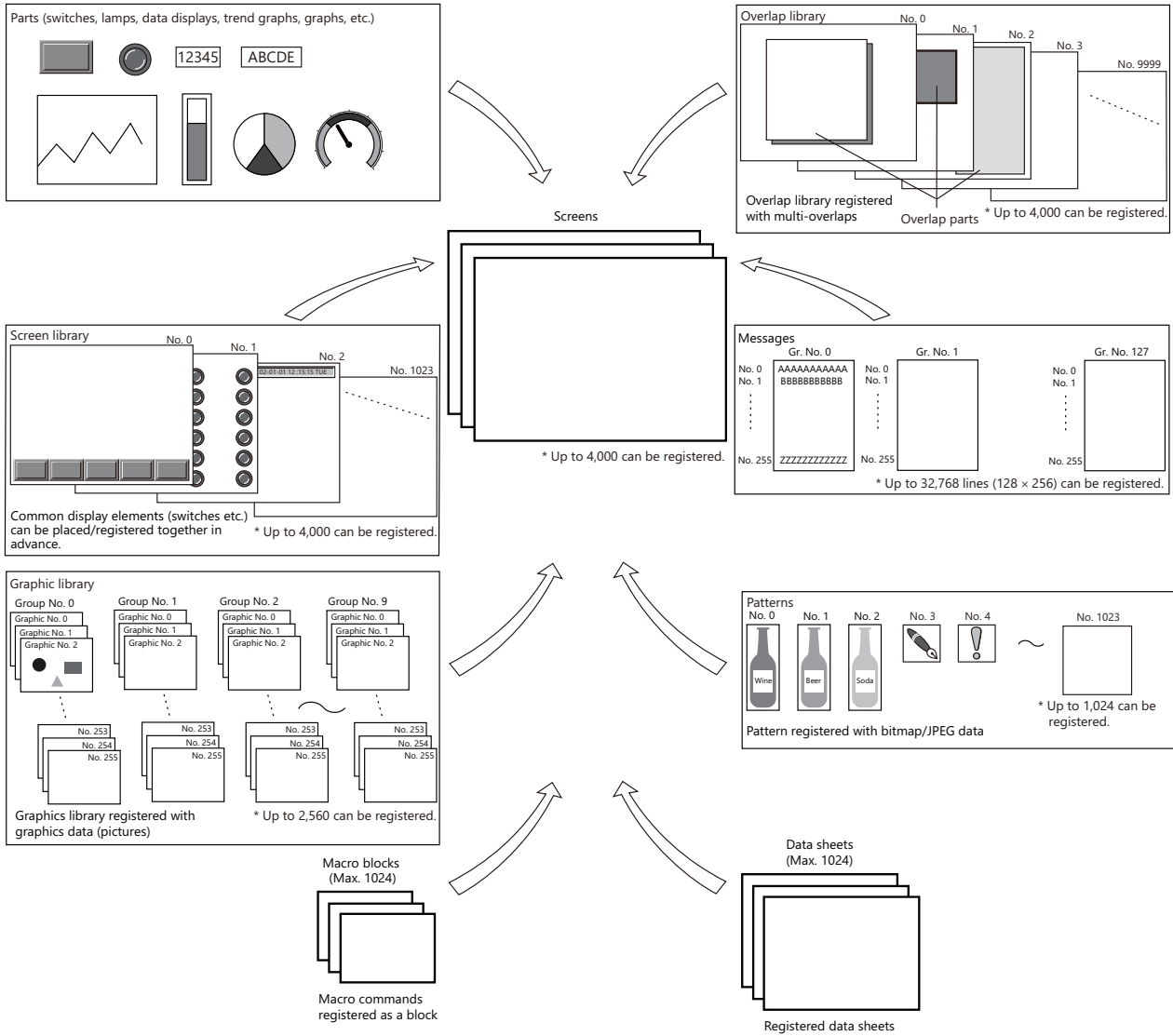
Series Name	Type	Inches	Resolution	Touch Switch
V10 Standard	V1015iS	15.0-inch	1024 × 768 (XGA)	Analog resistive film
	V1012iS	12.1-inch	800 × 600 (SVGA)	
	V1010iS	10.4-inch		
	V1008iS	8.4-inch		
V9 Advanced	V9101iW, V9100iW	10.1-inch	1024 × 600 (WSVGA)	Capacitive
	V9071iW, V9070iW	7.0-inch	800 × 480 (WVGA)	
V9 Standard	V9150iX	15.0-inch	1024 × 768 (XGA)	Analog resistive film
	V9120iS	12.1-inch	800 × 600 (SVGA)	
	V9100iS	10.4-inch		
	V9080iS	8.4-inch		
V9 Lite	V9100iC	10.4-inch	640 × 480 (VGA)	
	V9080iC	8.4-inch		
	V9060iT	5.7-inch		
TS4000	TS4150i	15.6-inch wide	1366 × 768 (FWXGA)	Analog resistive film
	TS4120i	12.1-inch wide	1280 × 800 (WXGA)	
	TS4100i	10.1-inch wide	1024 × 600 (WSVGA)	
	TS4070i	7.0-inch wide	800 × 480 (WVGA)	

## 4.1.2 Screen Program Structure

The screen program file for MONITOUCH is structured based on an area referred to as a "screen".

The "screen" is the area for placing various parts and graphic items.

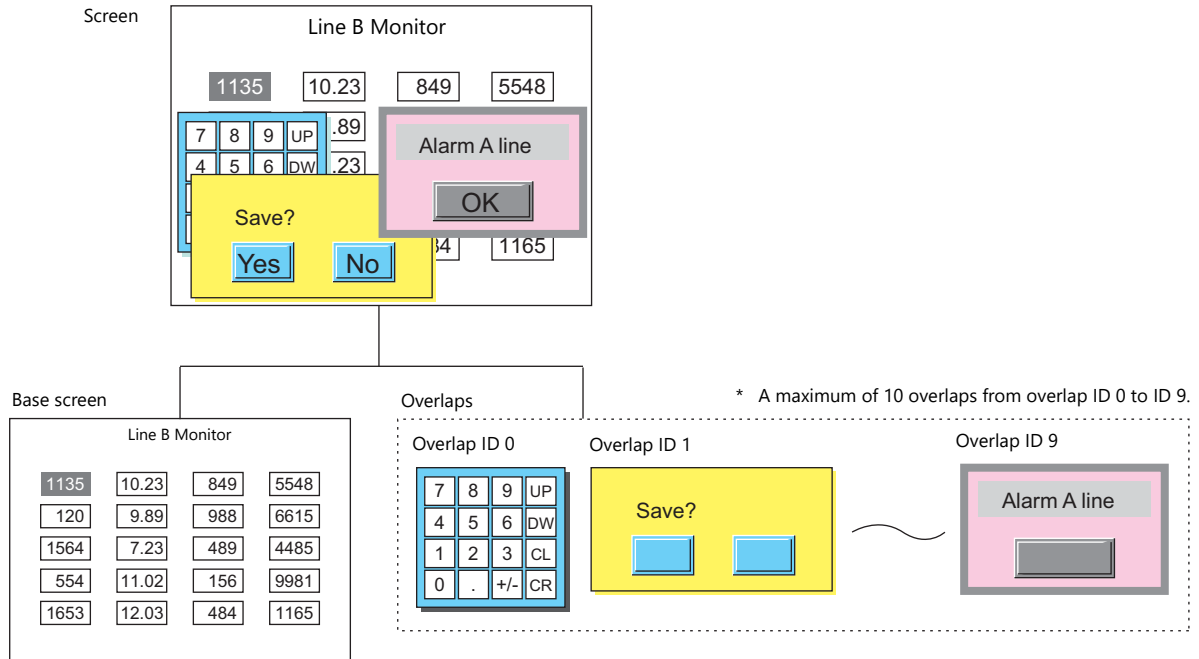
In addition, items such as data and graphics which change over time and that cannot be placed on a screen can be registered to a separate area and then combined for display on MONITOUCH.



\* A maximum of 4,000 screens numbered between 0000 and 9999 can be registered per file.

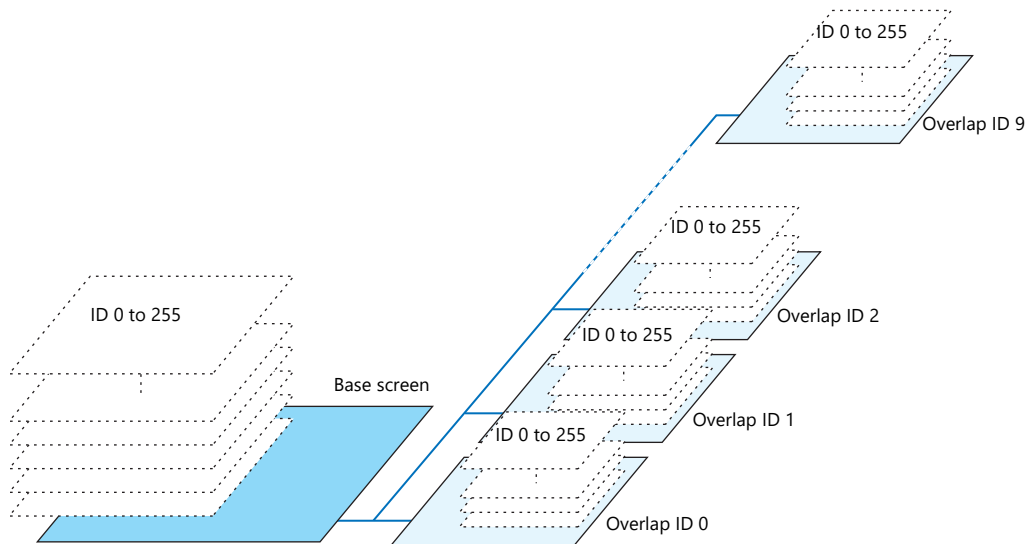
## Screen Structural Components

Each screen is composed of a base screen (mandatory) and overlaps (a maximum of 10 overlaps can be placed).



## Base Screen/Overlap Display Structure

Each base screen and overlap contains areas referred to as "IDs." There are 256 IDs overlaid like invisible sheets.



### What Is an ID?

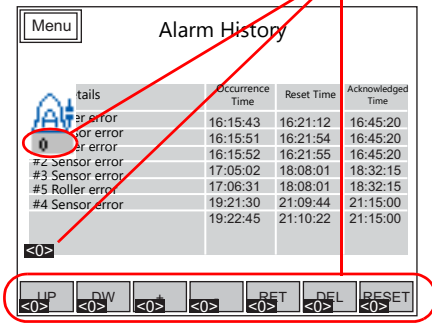
An "ID" is a number assigned to each invisible sheet. Each part that comprises a function on the screen is always placed on an invisible sheet. In order to discriminate between placed sheet numbers, each part is assigned an ID number. Whether a sheet can contain multiple parts or only one part depends on the types of parts.

The editor automatically performs ID number allocations. Normally, you do not need to worry about the allocation of ID numbers. A part that executes its function singly, such as a switch, lamp, numerical data display, or bar graph, has no limit on the number of parts per ID. ID numbers do not need to be taken into consideration when placing these types of parts.

## Necessity of ID agreement

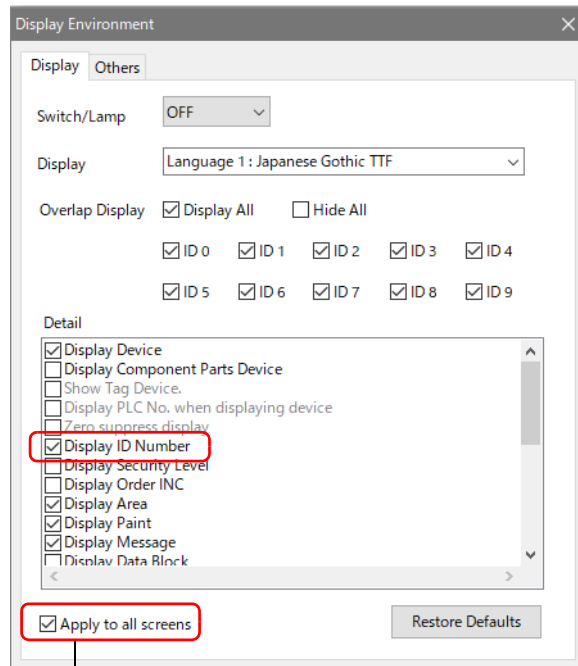
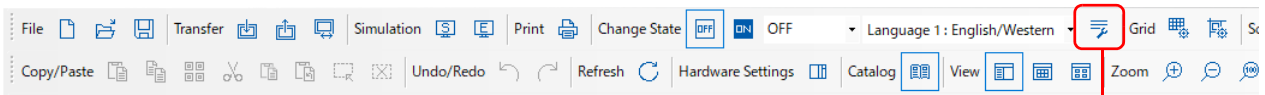
Different parts may be combined to execute a single function, as shown below. Such parts must share the same ID number.

Assign the same ID number to the icon, display area, and scroll switches.



\* If the parts are assigned different ID numbers, the function will not work correctly.

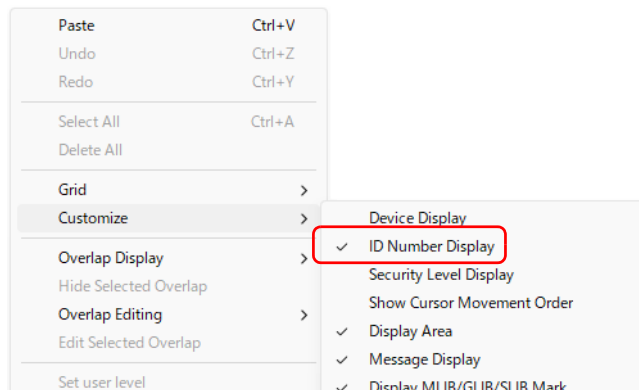
### \* Confirmation of ID Number



Select this checkbox to apply the configured display environment settings to all screens.

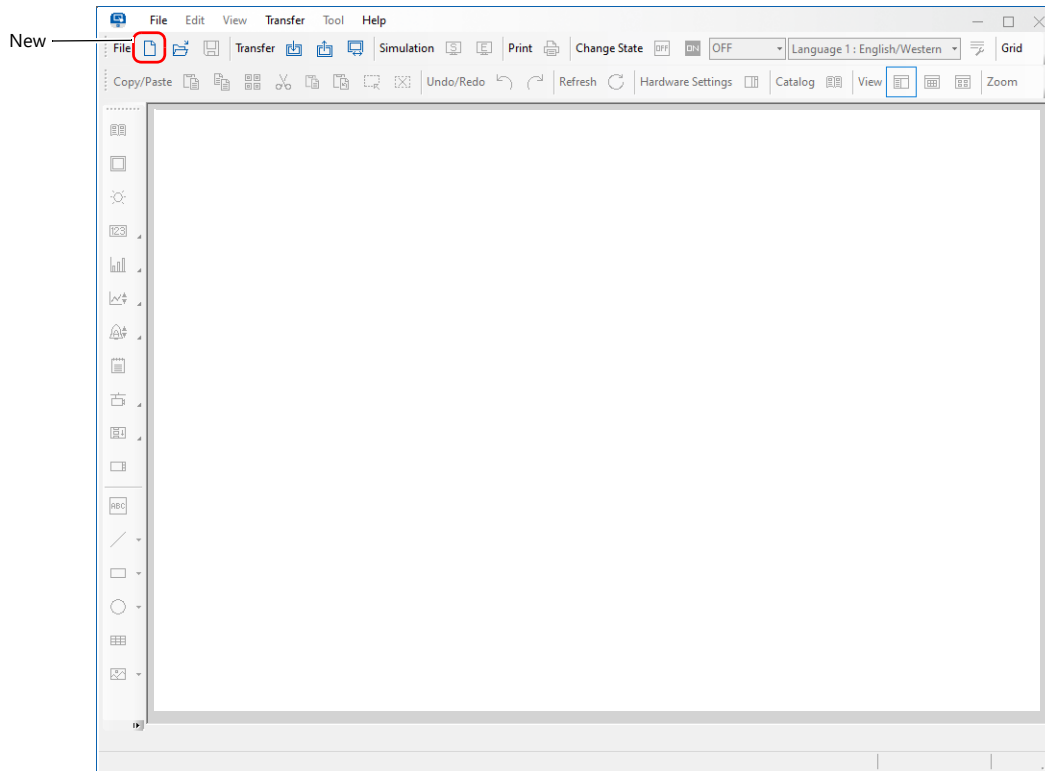


Display environment setting items can also be selected from the right-click menu.

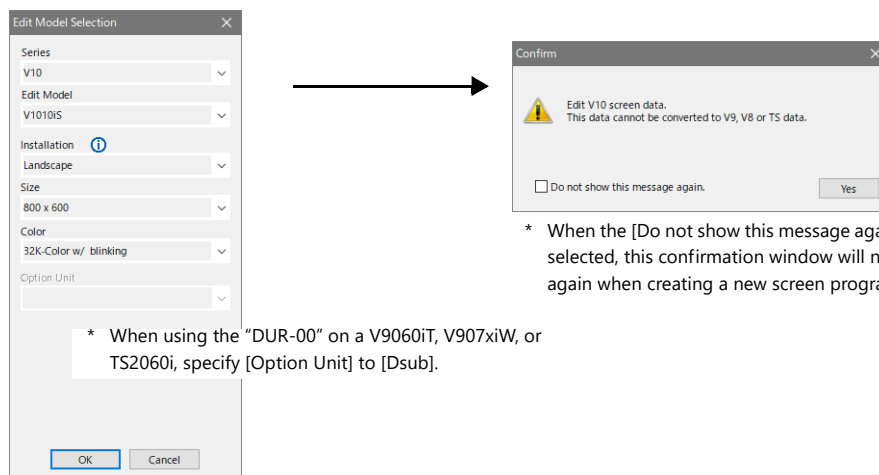


## 4.1.3 Creating a New Screen Program

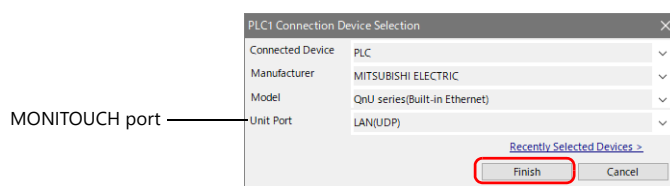
1. Click the [New] icon (or [File] → [New]) on Smart Editor.



2. Select the model for editing and click [OK]. The following window appears. Click [Yes].

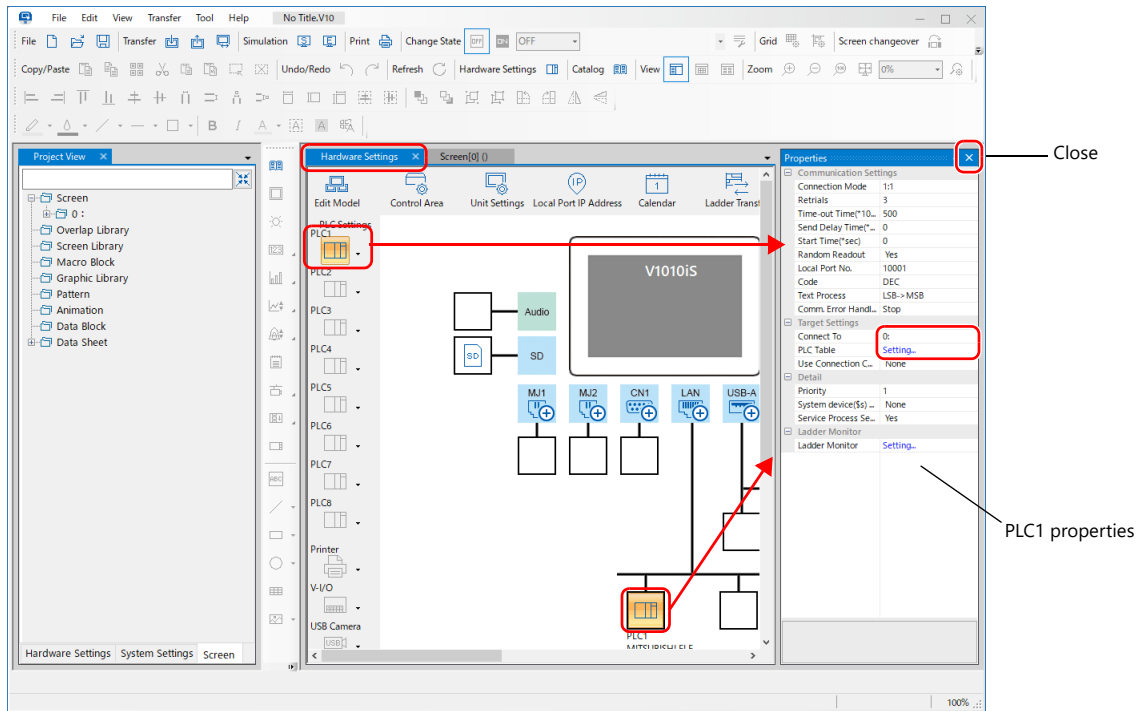


3. The [Connection Device Selection] window is displayed. Select the PLC model and connection port on MONITOUCH and click [Finish].

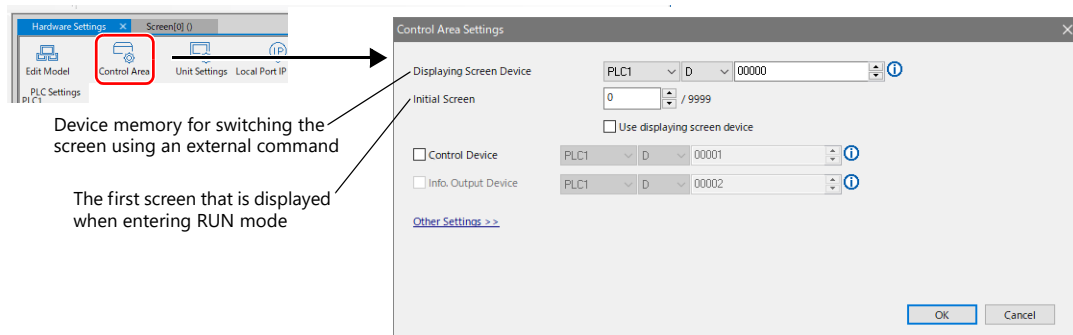


#### 4. Screen Program Configuration

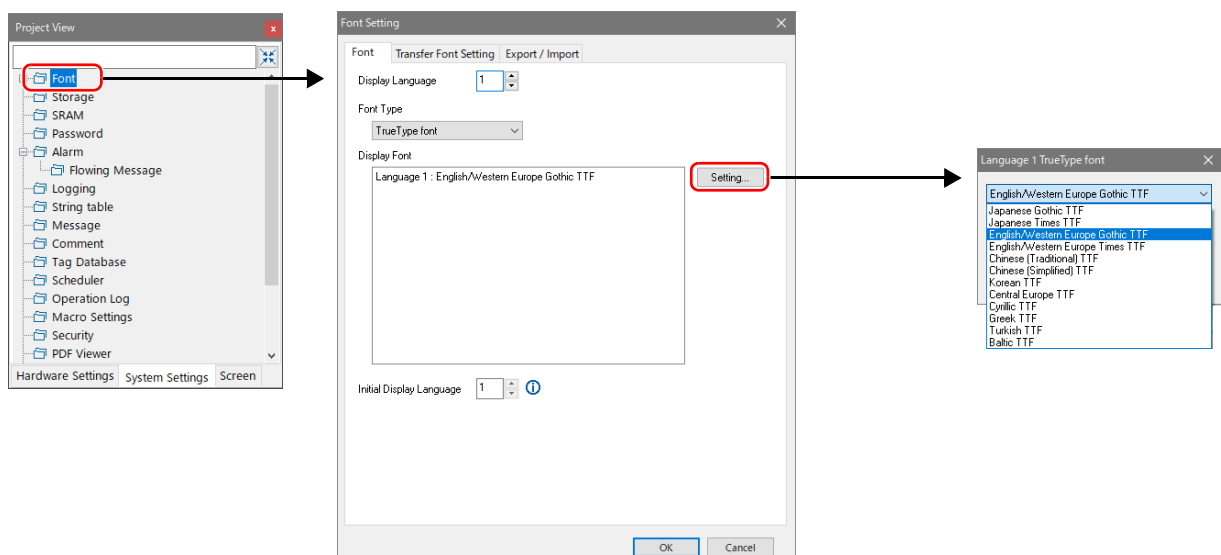
- The [Hardware Settings] window is displayed.  
Click the [PLC1] icon to display the PLC1 properties.  
Configure the communication settings in the PLC properties and then close the PLC properties pane. (Example: PLC1, Mitsubishi Electric QnU series (Built-in Ethernet))



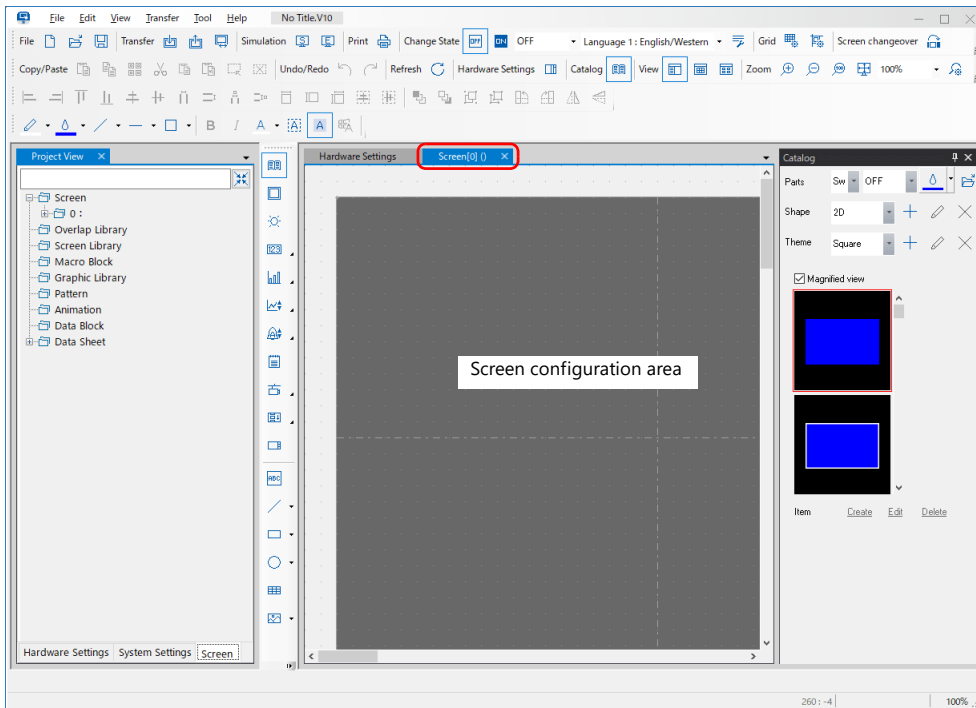
- Configure the following settings from [Control Area] on the upper menu of the [Hardware Settings] window.



- Double-click [Font] at the [Project View] pane → [System Settings] tab to display the [Font Setting] window. Configure font settings and then click [OK].



Display the [Screen [0]] window and start configuration of the new screen program.



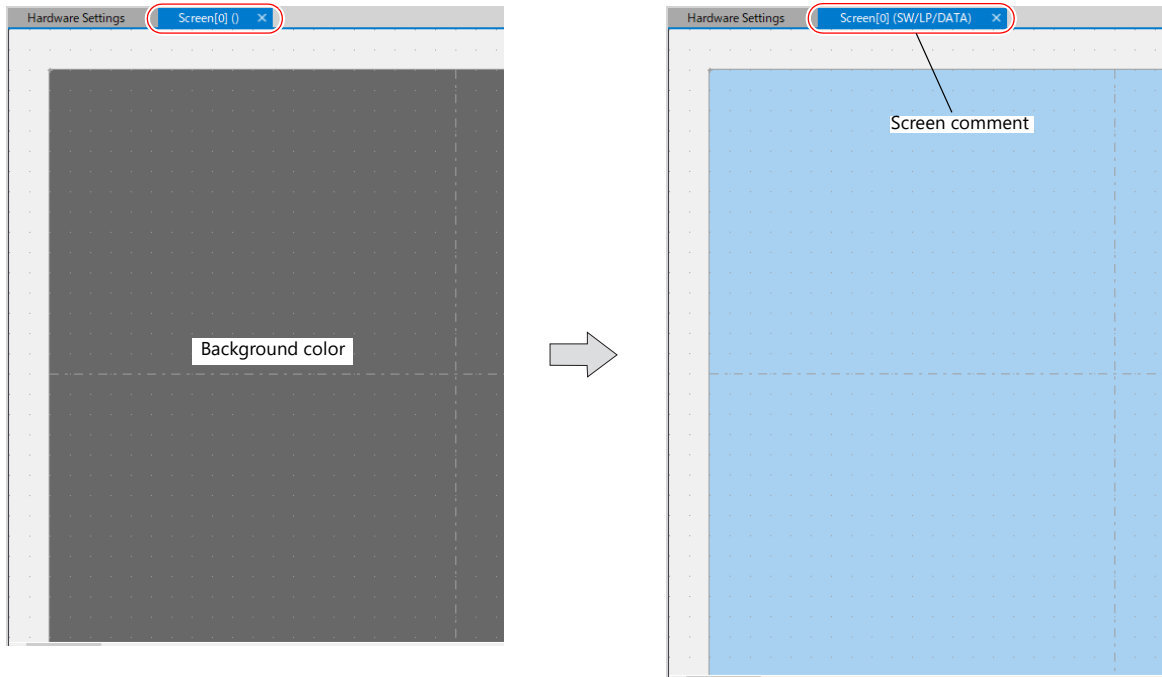
## 4.2 Screen Program Configuration

This section describes methods for configuring screens.

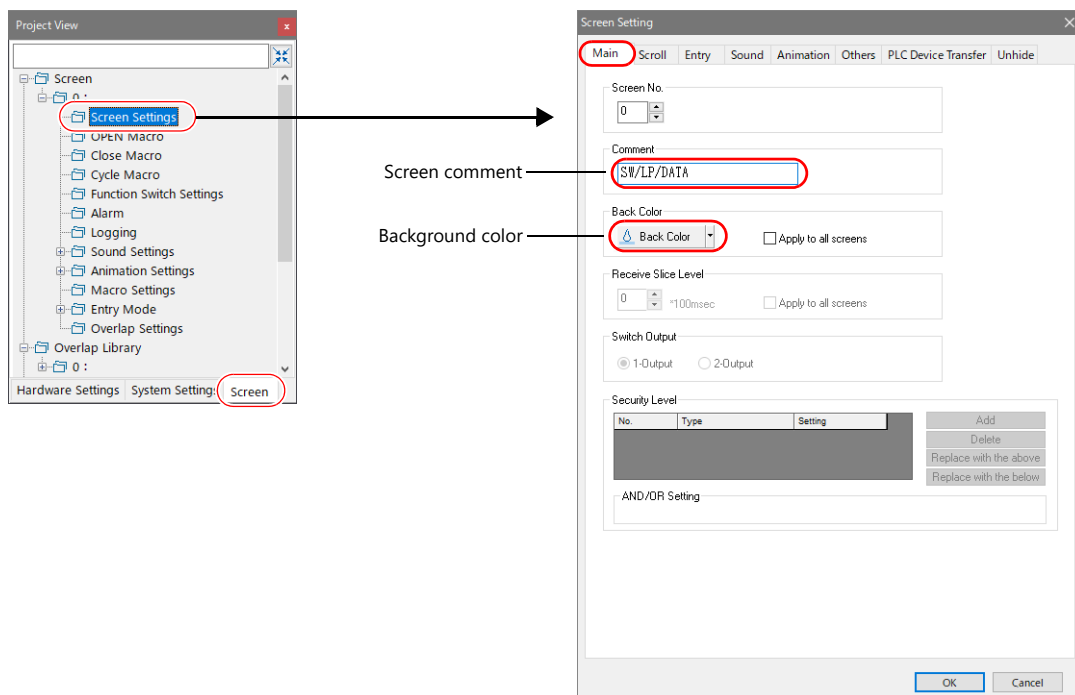
 For the procedure on creating a new screen program, refer to "4.1.3 Creating a New Screen Program".

### 4.2.1 Registering Screen Comments and Changing the Background Color

Add a comment to the screen and change the background color. (Example: Screen No. 0)



1. Set the screen comment and background color at the [Project View] pane → [Screen] tab → [Screen] → [0000] → [Screen Settings] → [Main].



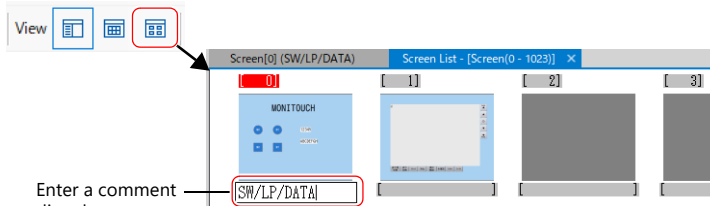
2. Click [OK].

This completes the procedure.



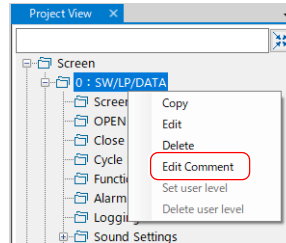
Screen comments can also be registered by the following methods.

- Toolbar → [Screen List]

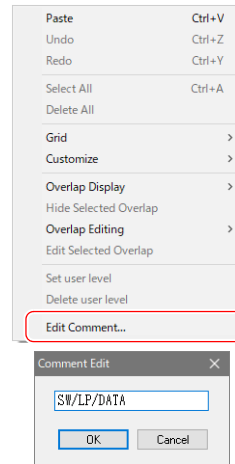


Enter a comment directly.

- [Project View] pane → [Screen] tab → [Screen] → right-click menu of [0000] → [Edit Comment]

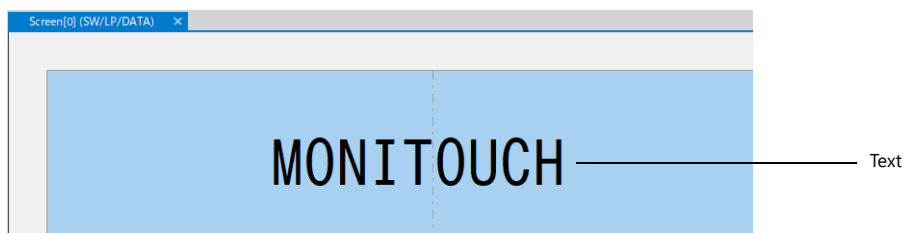


- Right-click menu of screen → [Edit Comment]

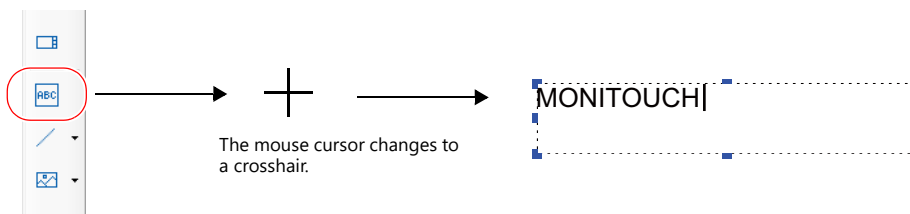


## 4.2.2 Creating Text

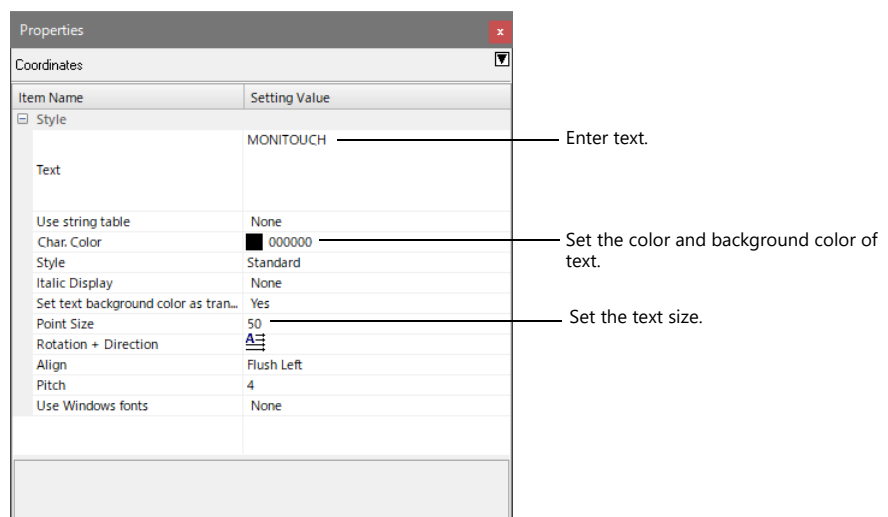
Create the following section.



1. Select [Text] on the parts bar, click a point on the screen, and enter text.



2. Click a location on the screen other than the text to accept the text entry.
3. Click the text to display the [Properties] pane. Change the color and size properties of the text.



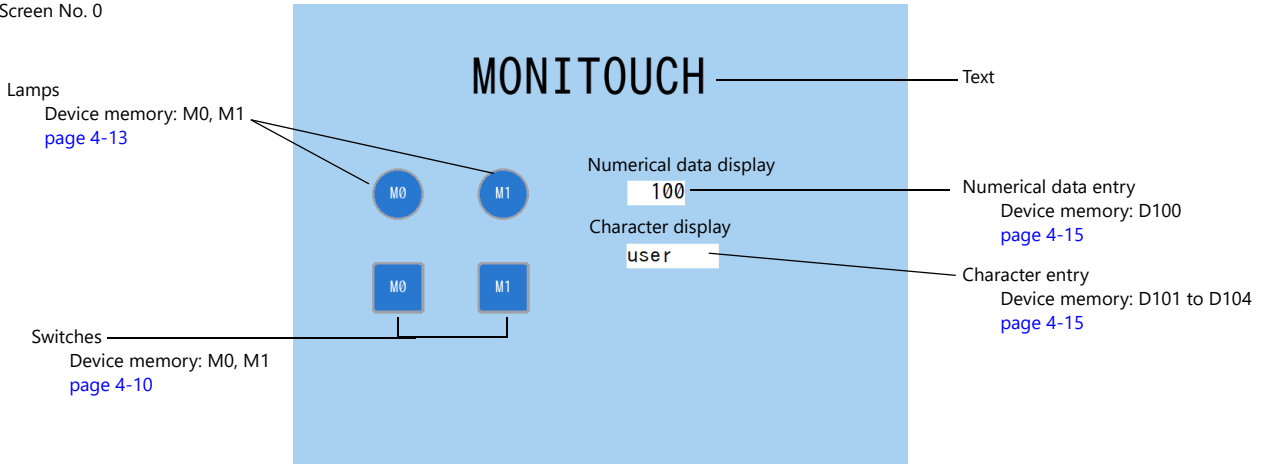
This completes the procedure.

## 4.2.3 Creating Switches and Lamps

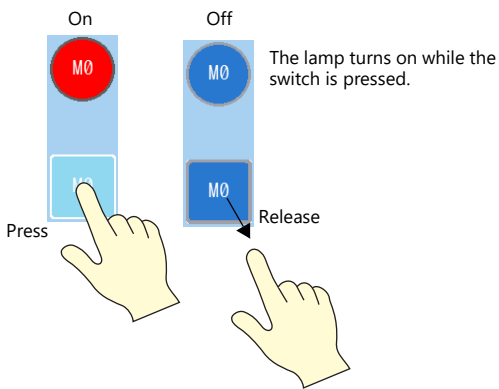
Create the following example screen that uses switch output to turn lamps on and off.

### Example Screen

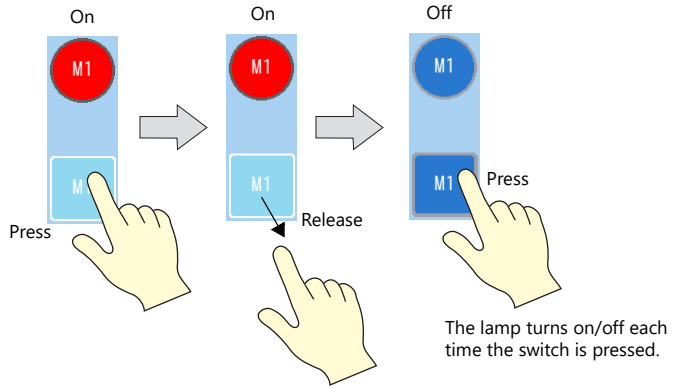
Screen No. 0



• M0: Momentary



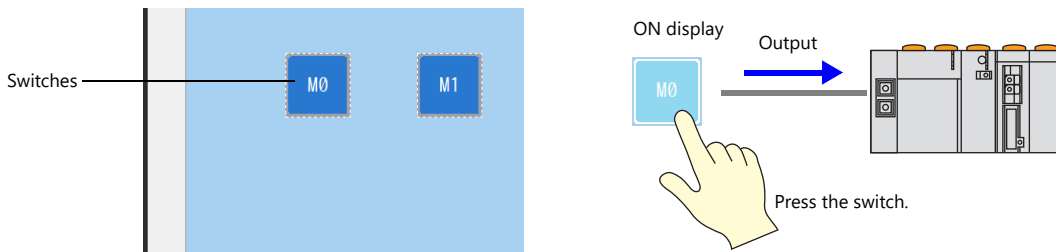
• M1: Alternate



### Creation Procedure

#### Switches

Create the following section.



1. Place a switch from the parts bar → [Switch].

Click and hold or right-click

Click

Click the icon to place the default part.

\* The part that is selected on the [Design Selection] menu is retained in memory. When placing a switch next time, the same part can be placed by clicking the [Switch] icon and clicking on the screen to place the switch.



A placed part can be enlarged or reduced. Click on the placed part to display its handles, and drag a handle with the mouse.



2. Configure the properties of the switch as shown below.

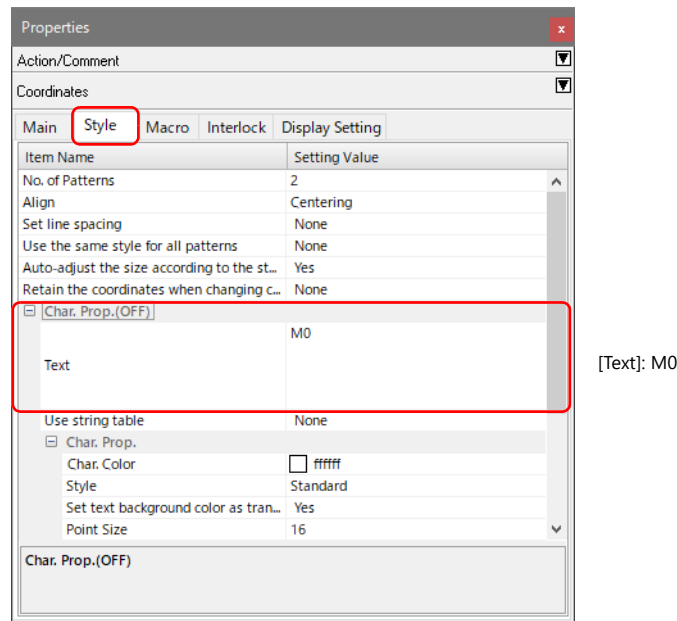
- [Main] → [Output Device] → [Output Setting] → [Output Target]  
Set the bit device memory for output and the operation to perform.

Item Name	Setting Value
Output Device	
Output Setting	Yes
Number of Outputs	1
Output Setting	
Output Target	[Momentary]:M00000
Action	Momentary
Output Target	M00000
Match Output Device with Lamp Device	Yes
Function	Standard(No Function)
Function Group	Standard
Function Select	No Function
Delay	ON delay( None), OFF delay( None)
Use ON delay	None
Use OFF delay	None
Repeat	ON function( None), ON Macro( None)
Use ON function repeat	None
Use ON macro repeat	None
Message Box	None

[Action]: Momentary  
[Output Target]: M0  
[Match Output Device with Lamp Device]: Yes

#### 4. Screen Program Configuration

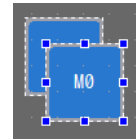
- [Style] → [Char. Prop. (OFF)]  
Set the text to display on the switch.



#### 3. Copy the switch.

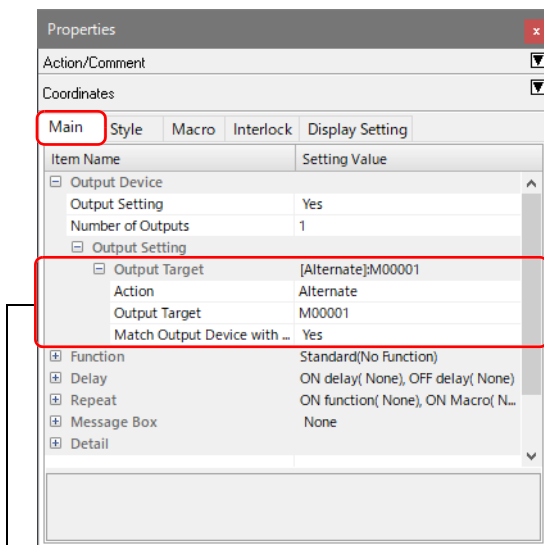


- Copy method
- [Edit] → [Copy]/[Paste]
  - Right-click menu → [Copy]/[Paste]
  - Shortcut keys Ctrl+C (copy) / Ctrl+V (paste)

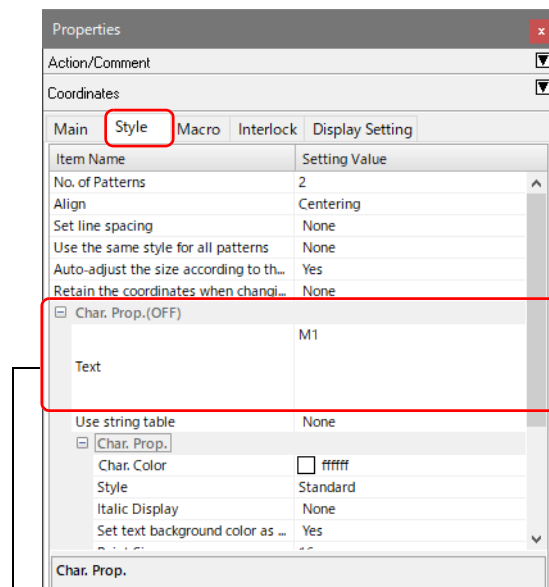


#### 4. Configure the following settings.

- [Main] → [Output Device] → [Output Setting] → [Output Target]
- [Style] → [Char. Prop. (OFF)]



[Action]: Alternate  
[Output Target]: M1  
[Match Output Device with Lamp Device]: Yes



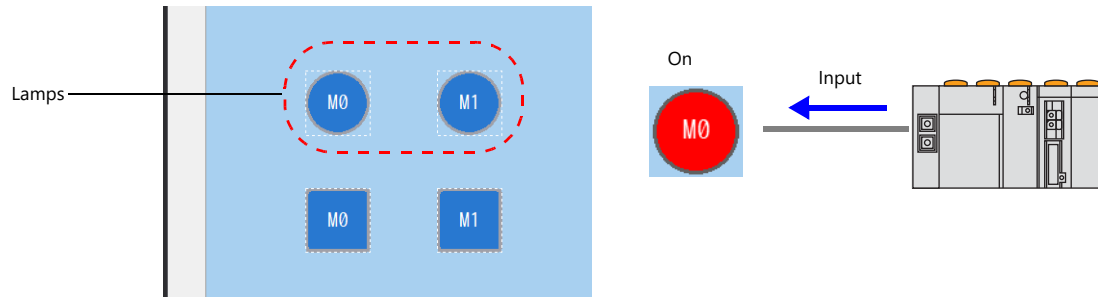
[Text]: M1

For details on other settings, refer to Smart Editor Reference Manual 1.

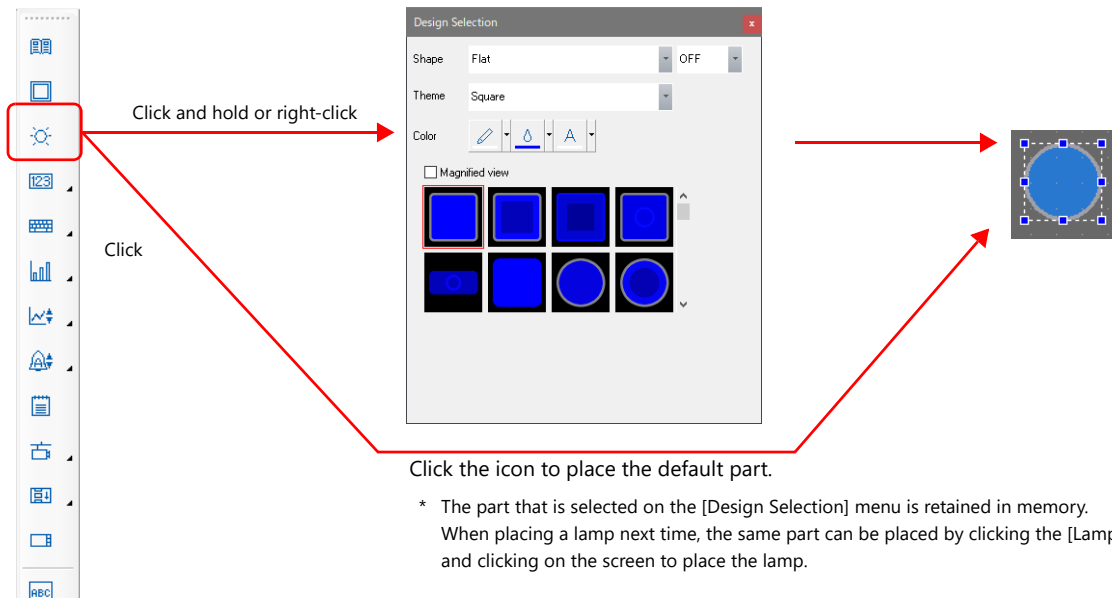
This completes the procedure.

## Lamps

Create the following section.

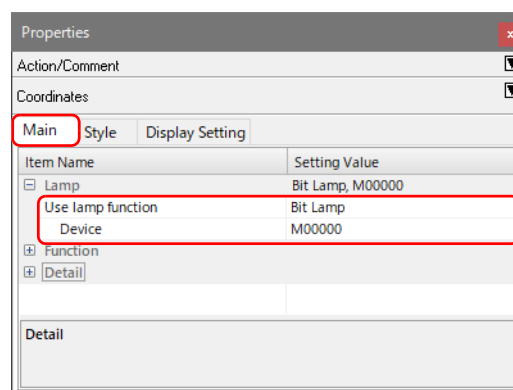


1. Place a lamp from the parts bar.



2. Configure the properties of the lamp as shown below.

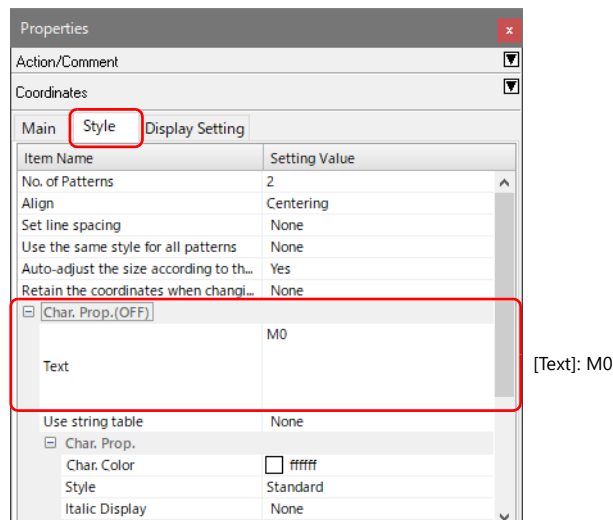
- [Main] → [Lamp] → [Device]  
Specify the lamp device memory.



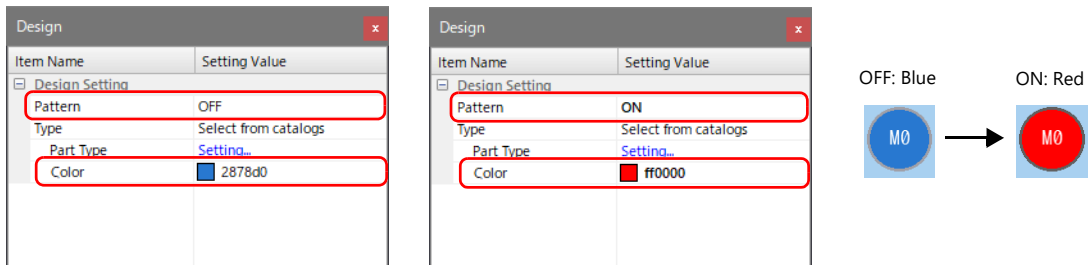
[Use lamp function]: Bit Lamp  
[Device]: M0

#### 4. Screen Program Configuration

- [Style] → [Char. Prop. (OFF)]  
Set the text displayed on the lamp.



3. Set the ON/OFF colors of the lamp in the design properties of the lamp.



4. Copy the lamp.

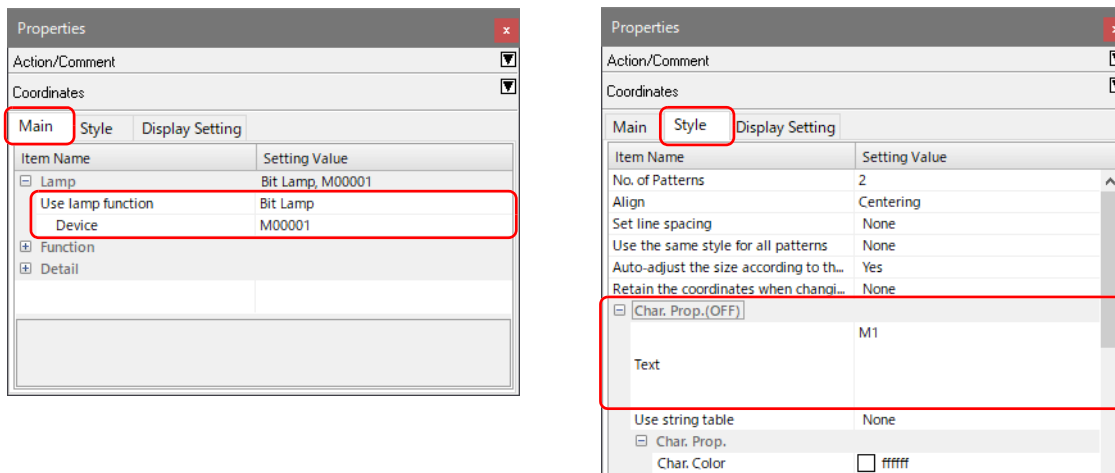


Copy method

- [Edit] → [Copy]/[Paste]
- Right-click menu → [Copy]/[Paste]
- Shortcut keys Ctrl+C (copy) / Ctrl+V (paste)

5. Configure the following settings.

- [Main] → [Lamp] → [Device]
- [Style] → [Char. Prop. (OFF)]



6. Set the ON/OFF colors of the lamp in the design properties of the lamp.

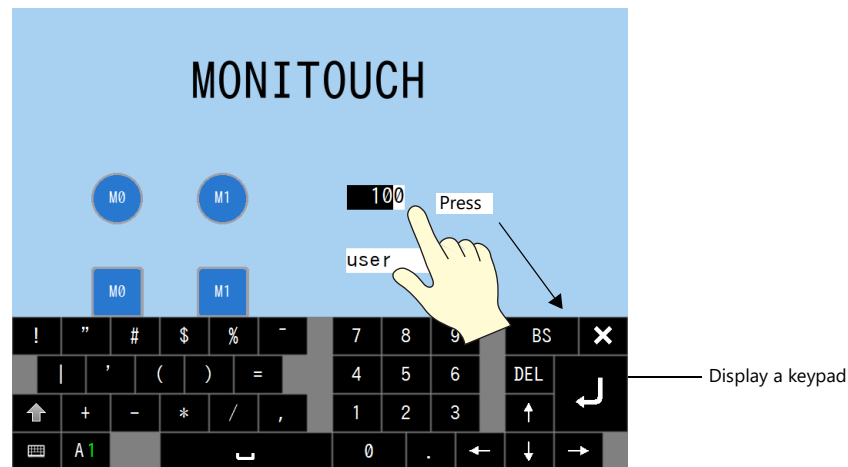


For details on other settings, refer to Smart Editor Reference Manual 1.

This completes the procedure.

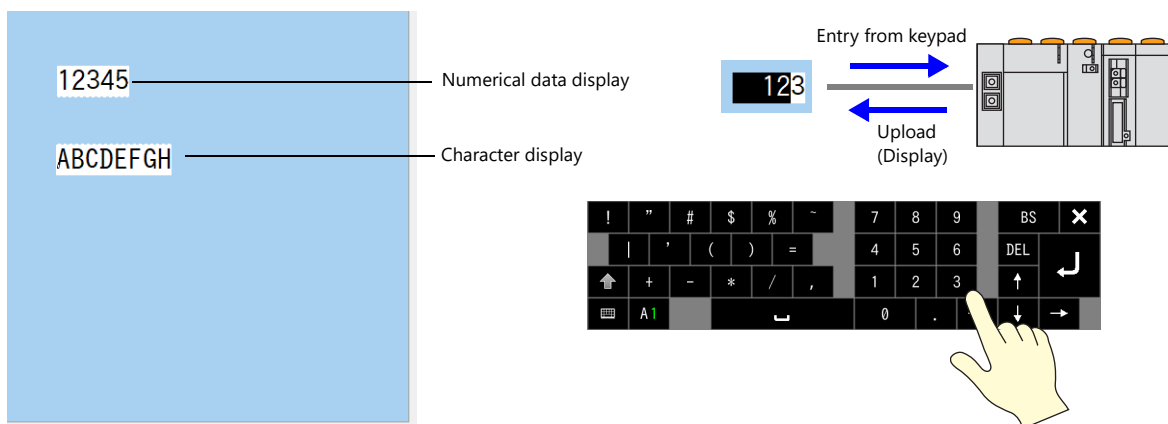
## 4.2.4 Creating a Data Entry: Keypad/keyboard Display (Numerical Data Display, Character Display)

### Example Screen



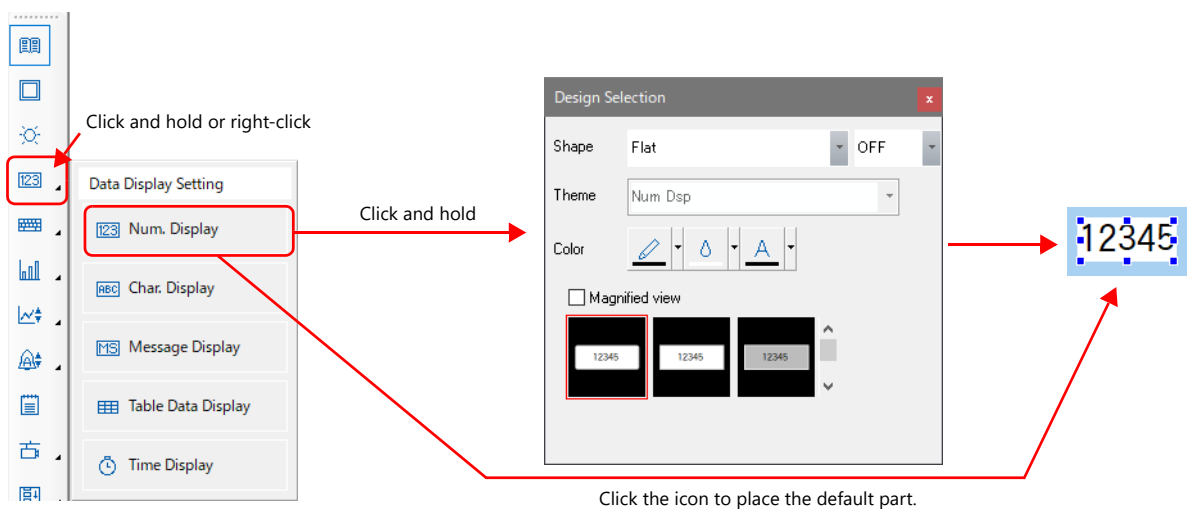
### Creation Procedure

Create the following section.



### Numerical Data Display

1. On the parts bar, click and hold the [Data Display] icon, and then click and place a [Num. Display] part.



\* The part that is selected on the [Design Selection] menu is retained in memory. When placing a data display part next time, the same part can be placed by clicking the [Data Display] icon and clicking on the screen to place the part.

## 4. Screen Program Configuration

2. Configure the following settings on the [Main] tab in the properties of the numerical data display.

- [Contents] → [Device]
- [Function]

Item Name	Setting Value
Device	D00100
Use offset value designation device	None
Data Length	1-Word
Display Type	
Input Type	DEC
Digits	
Decimal Point	
Auto-adjust the area according to th...	Yes
Device Specification Code	DEC
Function Group	Standard
Function Select	Entry Target
Advanced Function Settings	
Cursor movement order	0
Use Item Select	None
Display the keyboard	Yes
Keypad to Use	System Keyboard

[Device]: D100

[Function Group]: Standard  
[Function Select]: Entry Target  
[Display the keyboard]: Yes  
[Keypad to Use]: System Keyboard

For details on other settings, refer to Smart Editor Reference Manual 1.

This completes the procedure.

## Character Display

1. On the parts bar, click and hold the [Data Display] icon, and then click and place a [Char. Display] part.

Click and hold or right-click

Click and hold

Click the icon to place the default part.

- \* The part that is selected on the [Design Selection] menu is retained in memory. When placing a data display part next time, the same part can be placed by clicking the [Data Display] icon and clicking on the screen to place the part.


2. Configure the following settings on the [Main] tab in the properties of the character display.
  - [Contents] → [Device]
  - [Function]

The screenshot shows the 'Properties' dialog box for a character display. The 'Main' tab is selected. The settings are as follows:

Item Name	Setting Value
Device	D00101
Use offset value designation device	None
Bytes	8
Designate by device	None
Auto-adjust the area according to th...	Yes
Device Specification Code	DEC
Function	Standard(Entry Target)
Function Group	Standard
Function Select	Entry Target
Advanced Function Settings	
Cursor movement order	0
Use Item Select	None
Display the keyboard	Yes
Keypad to Use	System Keyboard

[Device]: D101

[Function Group]: Standard  
 [Function Select]: Entry Target  
 [Display the keyboard]: Yes  
 [Keypad to Use]: System Keyboard

 For details on other settings, refer to Smart Editor Reference Manual 1.

This completes the procedure.

## 4.2.5 Configuration for Saving Alarm History

### Example Screen

Screen No. 1

Error Messages	Occurrence time	Reset time	Acknowledge
Error A	2024/07/30 11:41:38	2024/07/30 11:41:46	*****
Error B	2024/07/30 11:41:38	2024/07/30 11:41:47	*****
Error C	2024/07/30 11:41:39	2024/07/30 11:42:05	*****
Error D	2024/07/30 11:41:55	2024/07/30 11:42:14	*****
Error E	2024/07/30 11:42:03	*****	*****
Error Stop!!	2024/07/30 11:42:12	*****	*****

When bits M1600 to M1605 turn ON, red records are displayed, and when they turn OFF, blue records are displayed.

### Creation Procedure

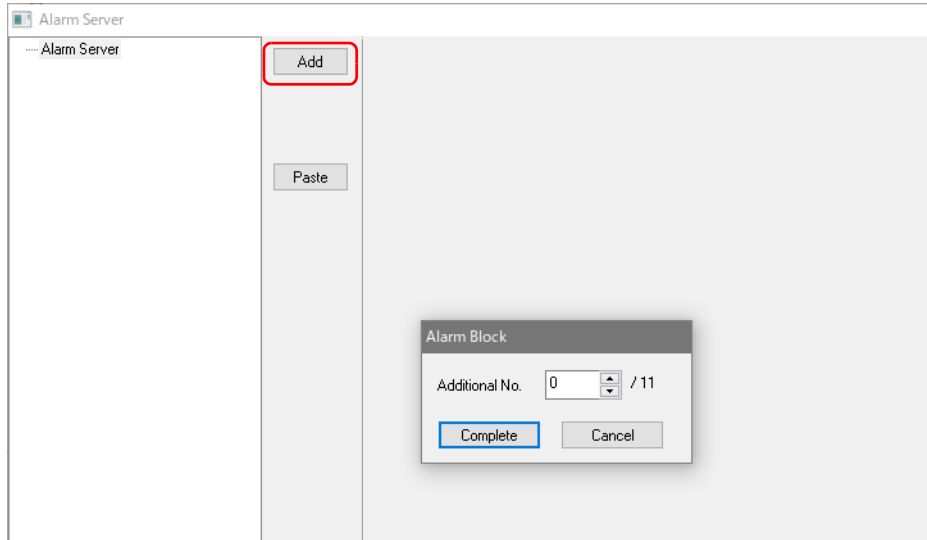
Create an alarm history screen.  
Configure alarm server settings and place an alarm part.

### Alarm Server Settings

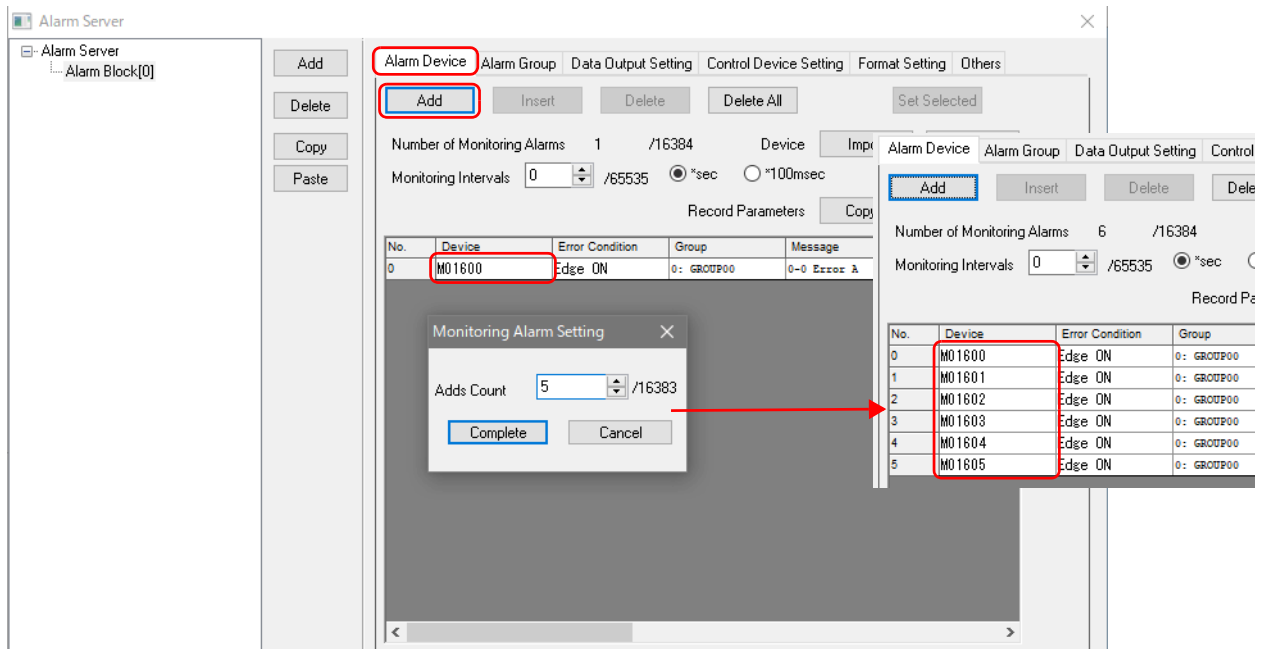
1. On the parts bar, click and hold the [Alarm] icon, and then select [Alarm Server] to display the [Alarm Server] window.

Click and hold or right-click

- Click [Add] and add alarm block number 0.

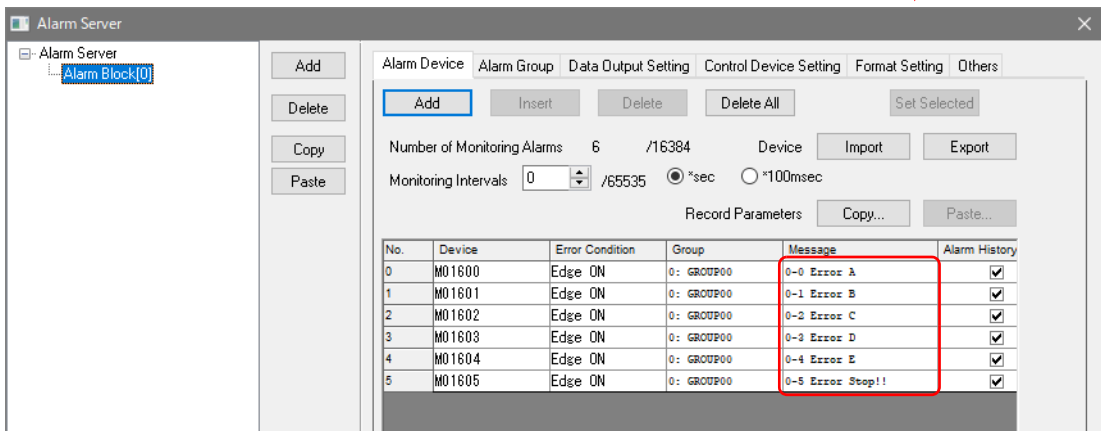
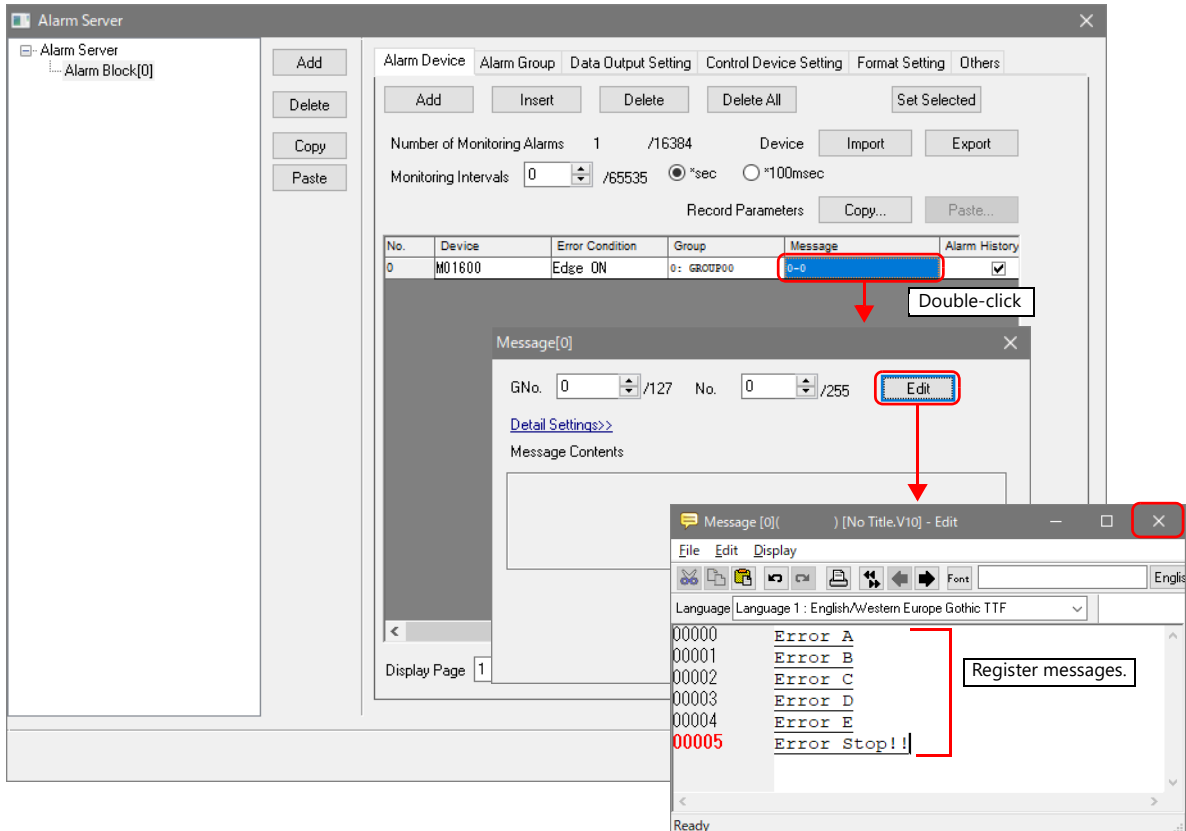


- Configure device memory settings on the [Alarm Device] tab, and then click [Add] to increase the number of alarms. Device memory addresses are allocated sequentially.

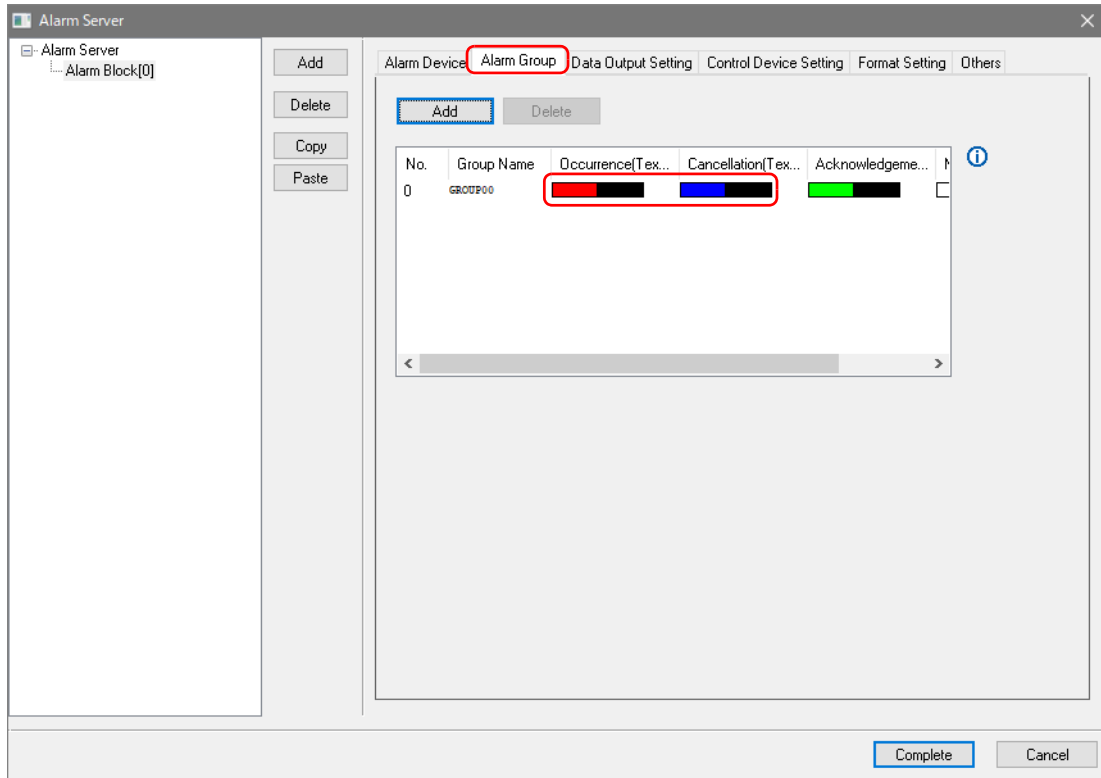


#### 4. Screen Program Configuration

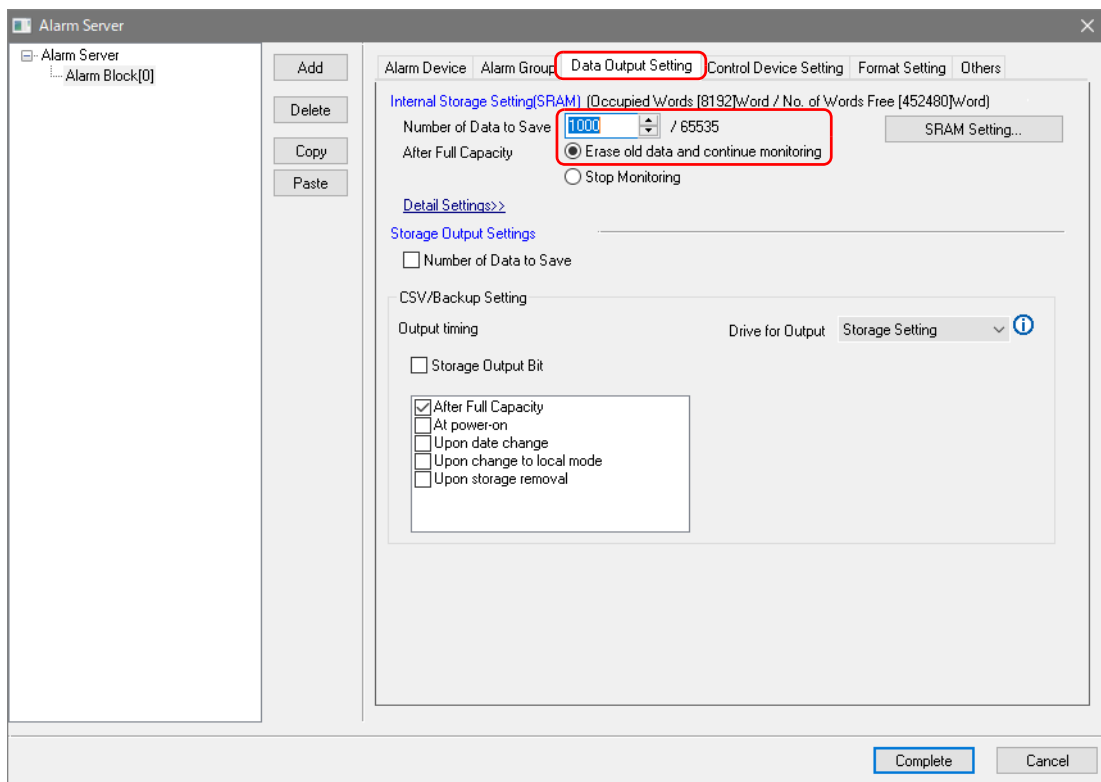
4. Double-click on a "Message" cell, click [Edit], and then register alarm messages on the [Message Edit] window.




5. Set the message color for when an alarm has occurred and when it is reset on the [Alarm Group] tab.



6. Set the number of records to retain on the [Data Output Setting] tab.

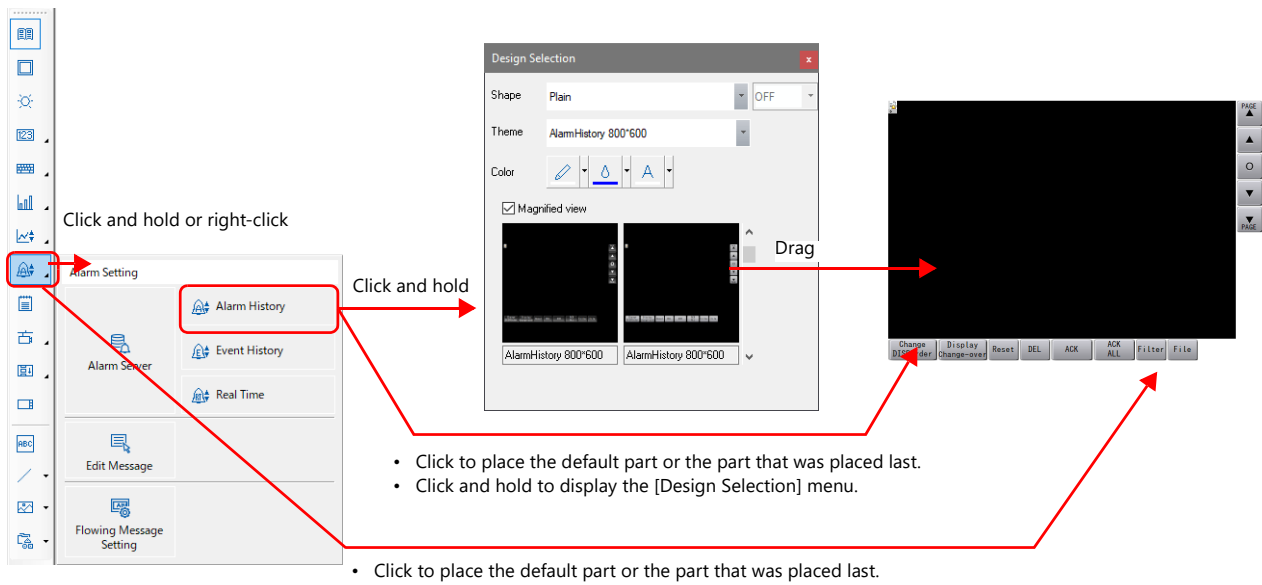


 For details on other settings, refer to Smart Editor Reference Manual 1.

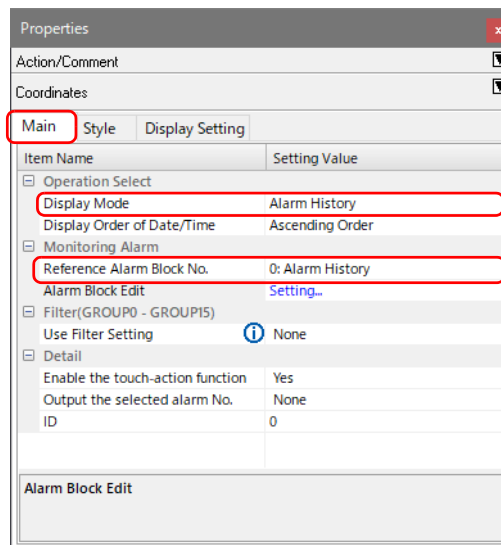
This completes the procedure.

## Placing an Alarm Part

1. Place an alarm part from the parts bar → [Alarm].

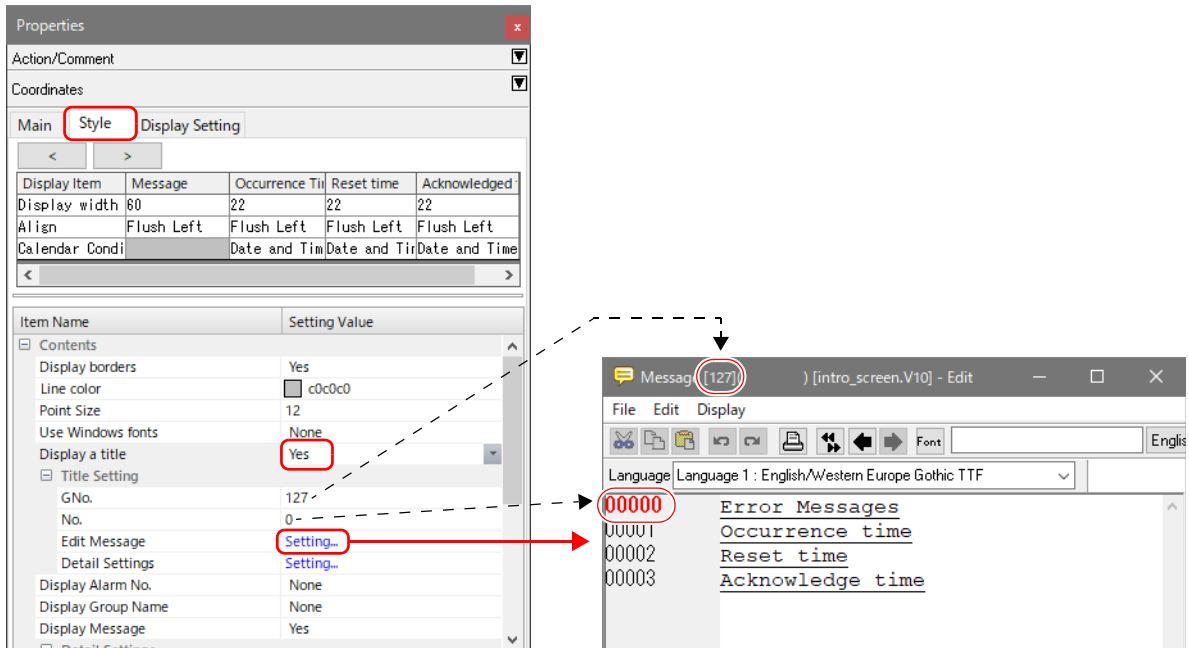


2. Configure the following settings on the [Main] tab in the properties of the alarm history part.
  - [Operation Select] → [Display Mode] → [Alarm History]
  - [Monitoring Alarm] → [Reference Alarm Block No.] → [0: Alarm History]

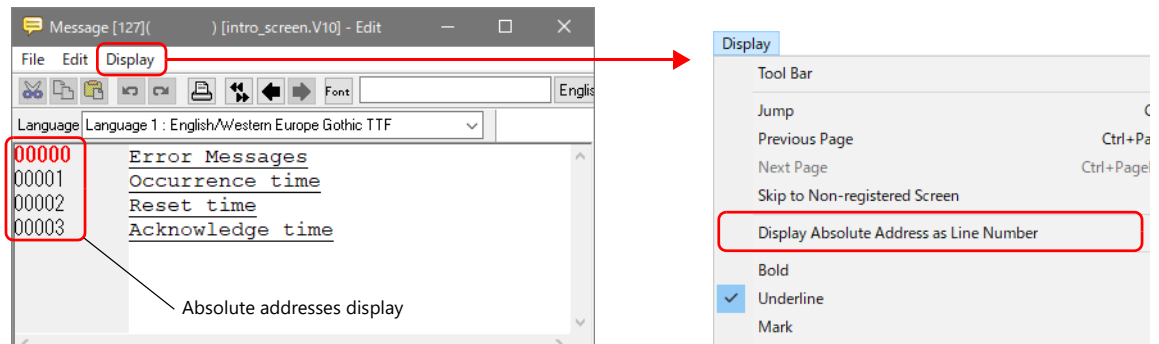


“Alarm Server Settings” page 4-18  
Specify the same block number as the above.  
(Example: 0)

3. Set the title on the [Style] tab.



If absolute address display is used on the [Message Edit] window, deselect [Display] → [Display Absolute Address as Line Number].



For details on other settings, refer to Smart Editor Reference Manual 1.

This completes the procedure.  
Transfer the screen program to MONITOUCH.

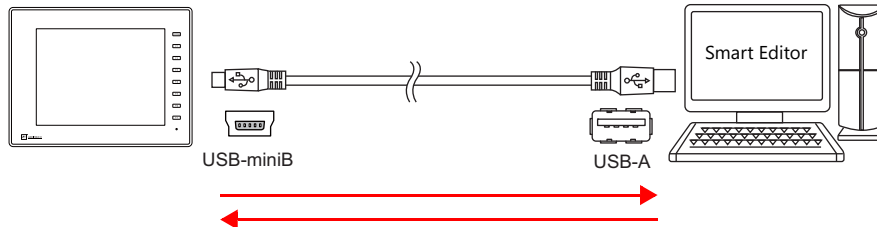


# 5 Screen Program Transfer

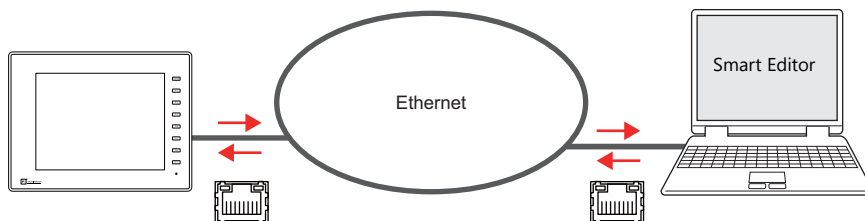
## 5.1 Overview

This chapter explains how to transfer screen programs to MONITOUCH and export screen programs from MONITOUCH. Transfer methods include USB transfer by connecting MONITOUCH and the computer with a USB cable, Ethernet transfer, serial transfer, and storage transfer using an SD card or USB flash drive.

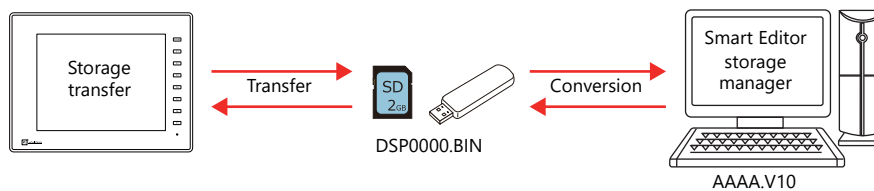
- USB transfer . . . . . Refer to [“5.2 USB Transfer”](#) page 5-2.



- Ethernet transfer . . . . . Refer to [“5.3 Ethernet Transfer”](#) page 5-8.



- Storage transfer  
There are two methods of storage transfer: “manual update”, in which the screen program is transferred by on-screen operations, and “automatic update”, in which the screen program is automatically transferred when the power is turned on.



### Updating the OS

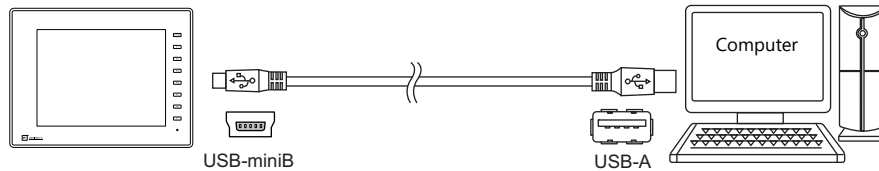
The version of the MONITOUCH operating system (OS) needs to be updated if using new functions. Update the OS using a storage device. For details, refer to [Updating the OS page 5-18](#).

## 5.2 USB Transfer

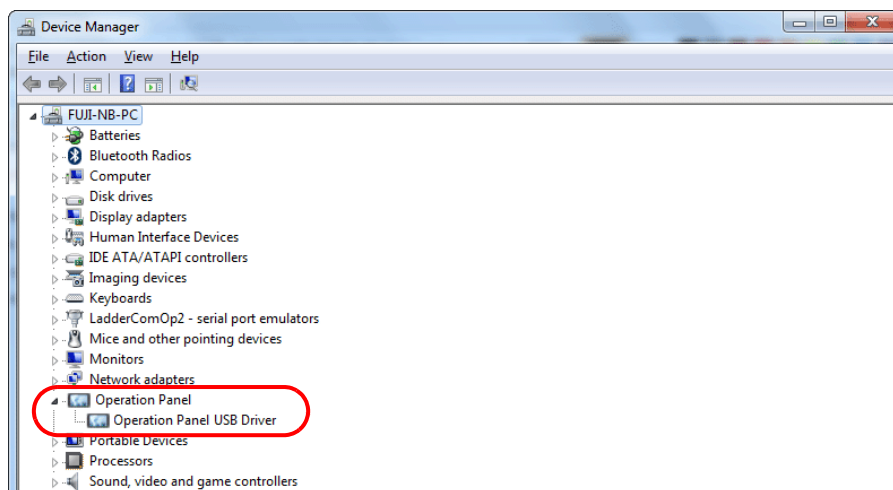
### 5.2.1 Installing the USB Driver

A USB driver must be installed on the computer in advance to perform transfer using a USB cable. Install the driver according to the following procedure.

1. Connect the USB-mini-B port of MONITOUCH (with power on) to the USB-A port of the computer using a USB cable.



2. The USB driver is automatically installed. When the driver has been installed successfully, "Operation Panel - Operation Panel USB Driver" appears in the [Device Manager] window.



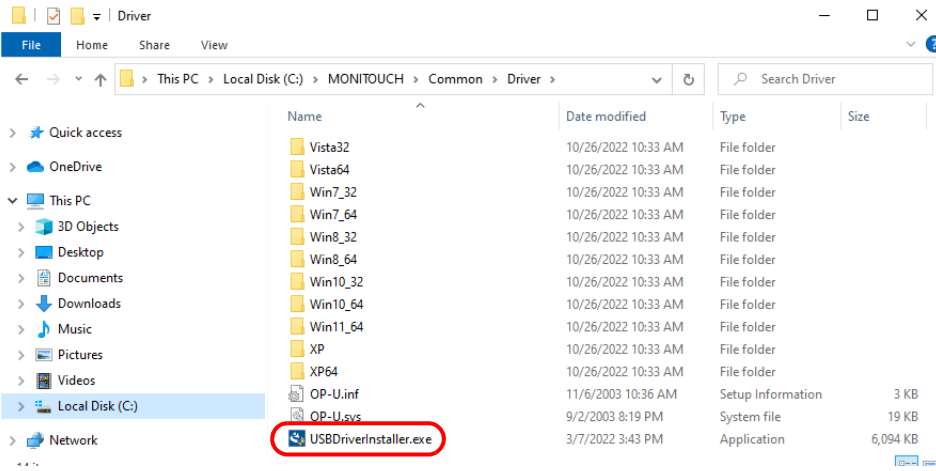
This item disappears when the USB cable is removed from a powered MONITOUCH. If [Other Device] or a mark other than shown above is displayed even during USB connection, the USB driver is not recognized. If this happens, uninstall the USB driver and reinstall it. For details, refer to "When USB Driver Installation Fails" [page 5-3](#).

USB driver installation is complete. Transfer the screen program.

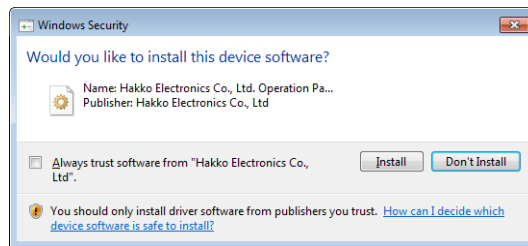
## When USB Driver Installation Fails

If automatic installation of the USB driver fails, perform installation according to the following procedure.

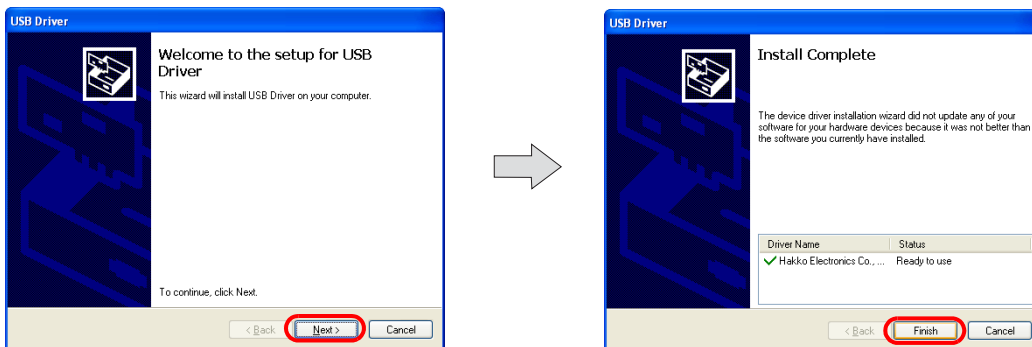
1. Open the following folder from [My Computer] or Explorer.  
C:\MONITOUCH\Common\Driver
2. Double-click "USBDriverInstaller.exe".



Depending on your computer, the following window may be displayed. Click [Install].



3. Click [Next] on the window shown below to install the USB driver.



4. Check if the driver has been installed successfully by checking for the "Operation Panel - Operation Panel USB Driver" indication on the [Device Manager] window.

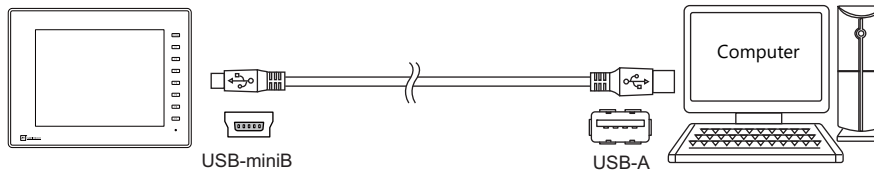


Refer to [page 5-2](#) for details on checking the installation of the driver.

USB driver installation is complete. Transfer the screen program.

## 5.2.2 Transfer

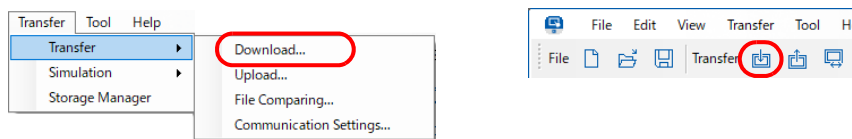
Connect the USB-mini-B port of MONITOUCH to the USB-A port of the computer using a USB cable.



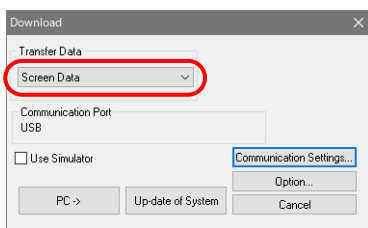
### Download

Transfer a screen program from the computer.

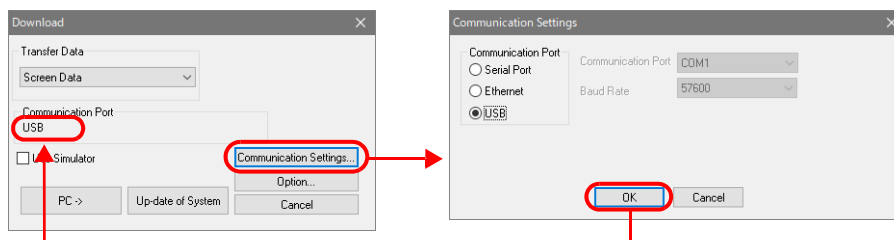
1. Click [Transfer] → [Transfer] → [Download], or click the [Download] icon on the toolbar.




2. Set [Transfer Data] to "Screen Data" on the [Download] window.



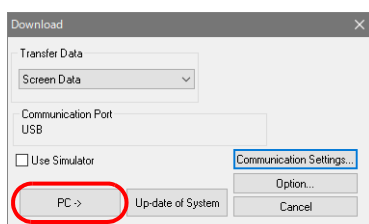
3. Check the [Communication Port] setting.  
If the setting is "USB", proceed to step 5.  
If the setting is a serial port or Ethernet IP address, click the [Communication Settings] button and select "USB" under [Communication Port].



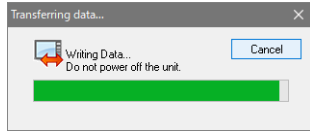
4. Select the [Use Simulator] checkbox to use the simulator.

 **Simulator**  
If a PLC is not available during debugging, use the simulator to check screen operation with only MONITOUCH and no PLC.  
The simulator that runs on the computer acts as the PLC. For details, refer to "6.1 Simulator".

5. Click [PC →] to start transfer.



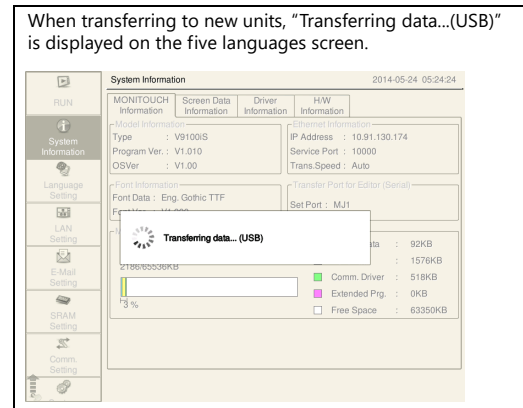
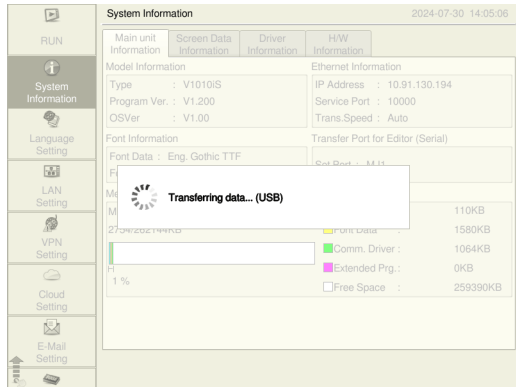
6. The following window appears on the computer during transfer.



MONITOUCH switches to Local mode and "Transferring data...(USB)" is displayed.

- \* If MONITOUCH does not switch to Local mode and the transfer does not start, manually switch to Local mode and execute the transfer.

 Refer to "5.5 Switching to Local mode".

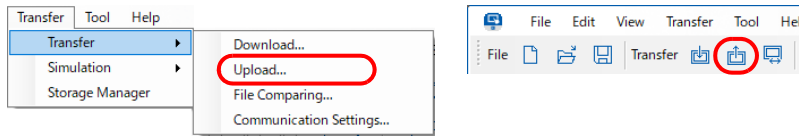


7. When transfer is complete, the "Transferring data" indication disappears and communication with the PLC starts. Check the operation on MONITOUCH.

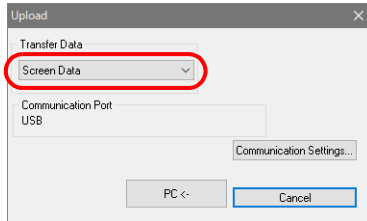
## Upload

Export the screen program from MONITOUCH to the computer.

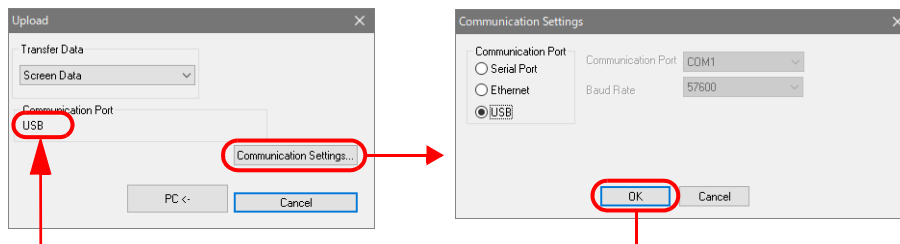
1. Click [Transfer] → [Transfer] → [Upload], or click the [Upload] icon on the toolbar.



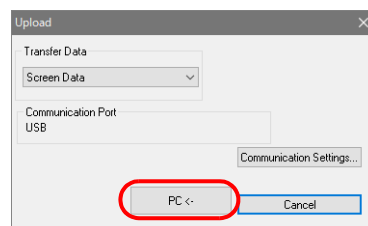
2. Set [Transfer Data] to "Screen Data" on the [Upload] window.



3. Check the [Communication Port] setting.  
If the setting is "USB", proceed to step 4.  
If the setting is a serial port or Ethernet IP address, click the [Communication Settings] button and select "USB" under [Communication Port].



4. Click [PC ←] to start export.

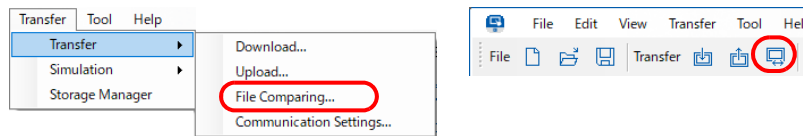


5. When export is complete, the "Transferring data" indication disappears and the exported program is displayed. Name and save the program.

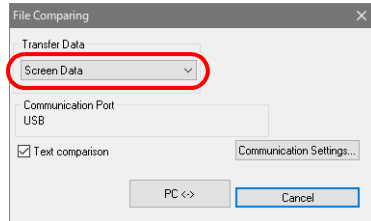
## File Comparing

Compare the program on the computer with the program on MONITOUCH.

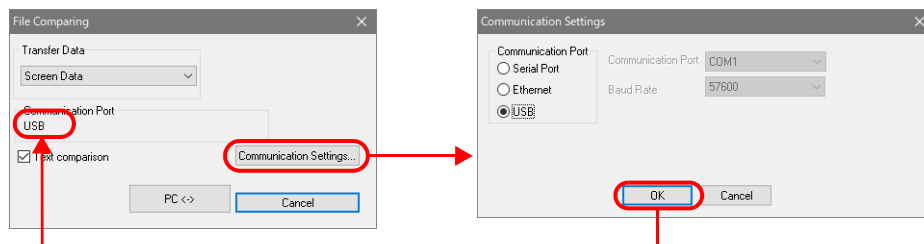
1. Click [Transfer] → [Transfer] → [File Comparing], or click the [File Comparing] icon on the toolbar.



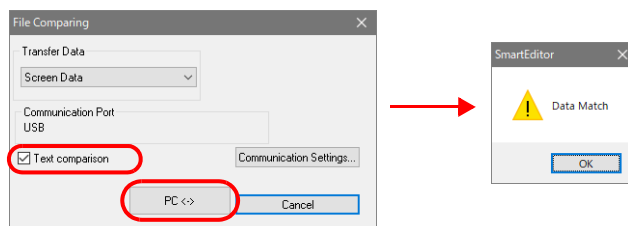
2. Set [Transfer Data] to "Screen Data" on the [File Comparing] window.



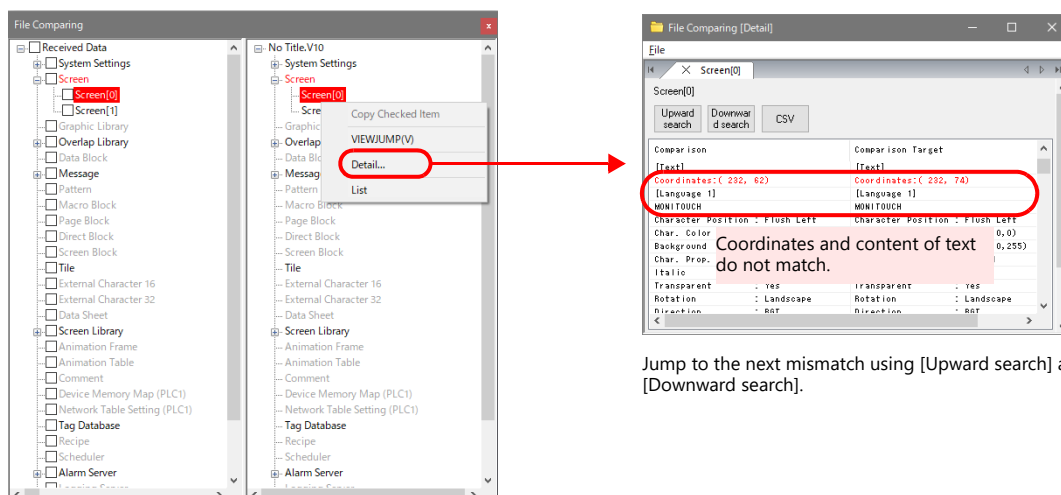
3. Check the [Communication Port] setting.  
If the setting is "USB", proceed to step 5.  
If the setting is a serial port or Ethernet IP address, click the [Communication Settings] button and select "USB" under [Communication Port].



4. Select the [Text comparison] checkbox, and click [PC ↔] to start comparison.  
When the comparison is complete, the "Transferring data" indication disappears and the comparison results are displayed.



Any mismatches are indicated in red. Click [Detail] on the right-click menu for a more detailed display.



Jump to the next mismatch using [Upward search] and [Downward search].

## 5.3 Ethernet Transfer

### 5.3.1 IP Address Settings

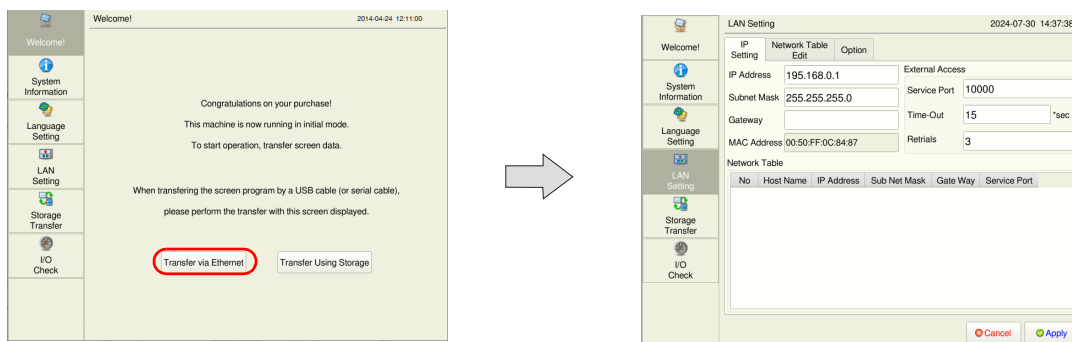
The IP address of MONITOUCH must be configured in advance to allow Ethernet communication.

#### Configuring a New MONITOUCH Unit

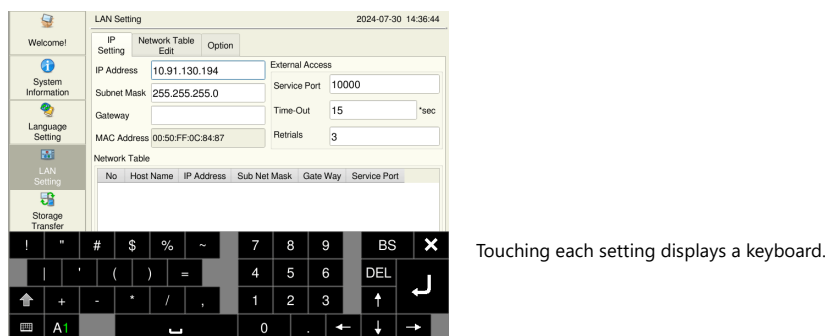
1. The following screen is displayed after the power is turned on. Selecting a language displays the "Welcome!" screen.



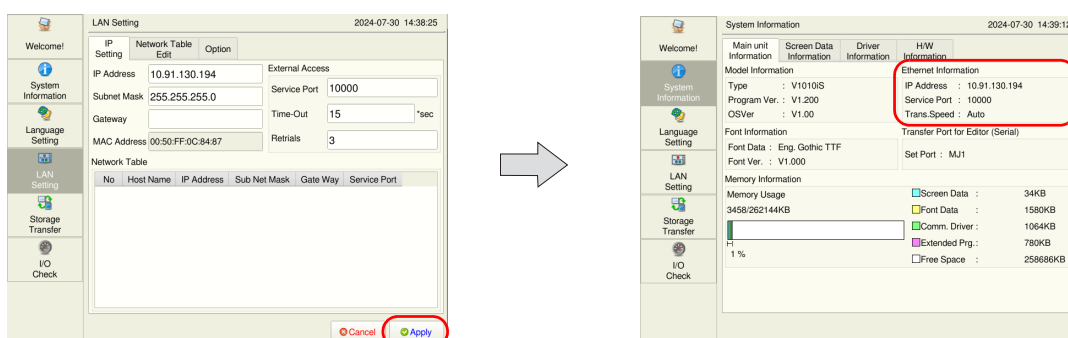
2. Press the [Transfer via Ethernet] switch to display the LAN Setting screen.



3. Configure each setting.



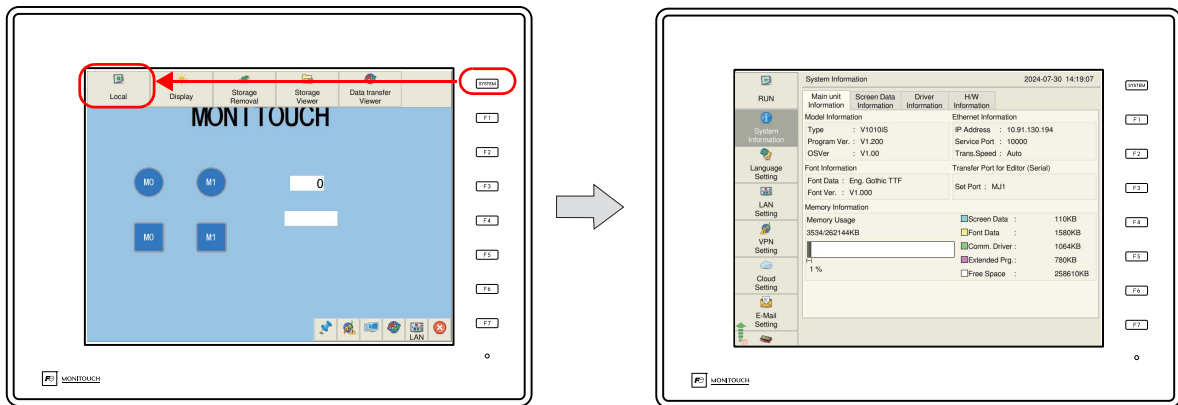
4. Press the [Apply] switch to confirm the IP address. Press [System Information] and check the IP address displayed under [Ethernet Information].



This completes the IP address settings. Next, perform screen program transfer.

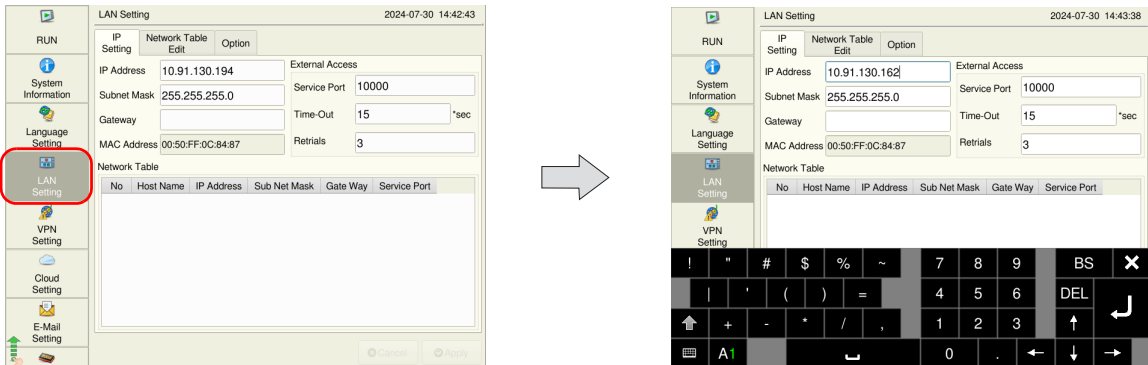
## Configuring an Existing MONITOUCH Unit

1. The PLC communication screen is displayed after the power is turned on. If a PLC is not connected, the [Communication Error: Time-Out] screen is displayed.
2. MONITOUCH switches to Local mode.



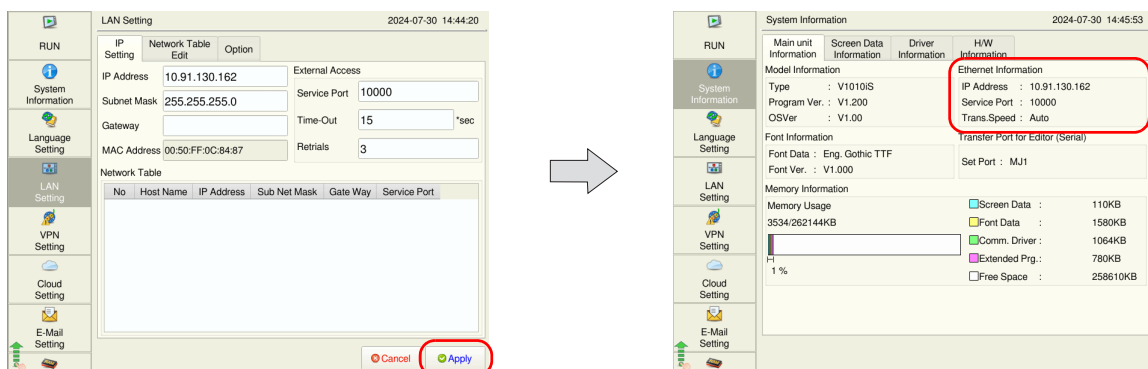
Refer to "5.5 Switching to Local mode".

3. Configure each setting on the LAN Setting screen.



Touching each setting displays a keyboard.

4. Press the [Apply] switch to confirm the settings. Press [System Information] and check the IP address displayed under [Ethernet Information].



This completes the IP address settings. Next, perform screen program transfer.

## Network Test

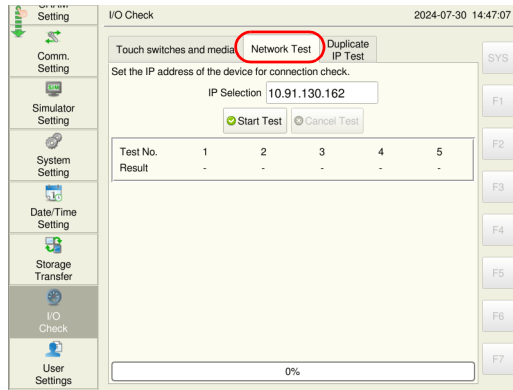
The following two methods can be used to check whether there is a problem with the Ethernet connection.

- Testing in Local mode on MONITOUCH
- Testing by sending a ping command from the computer

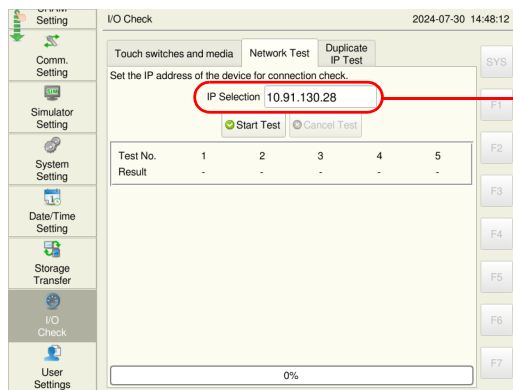
### Testing in Local mode on MONITOUCH

- Network test  
Test whether a communication route is established with connected devices.

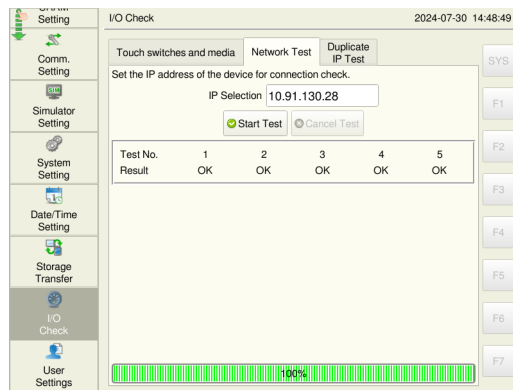
1) Select [I/O Check] → [Network Test].



2) Set the IP address of the computer to [IP Selection] and press the [Start Test] switch.

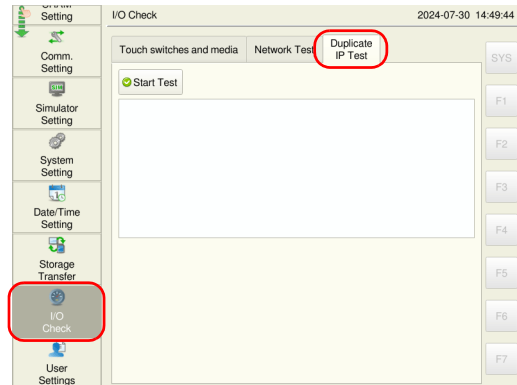


3) The test results are displayed.

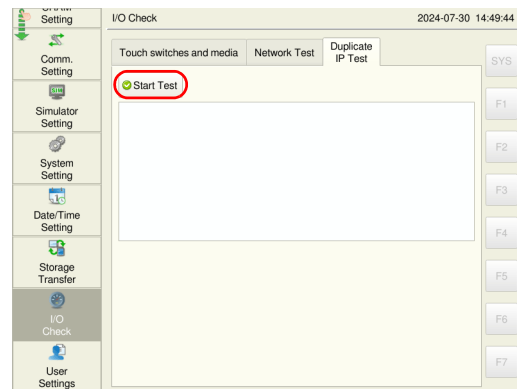


- Duplicate IP address test  
Check whether any devices having a duplicate IP address are on the network.

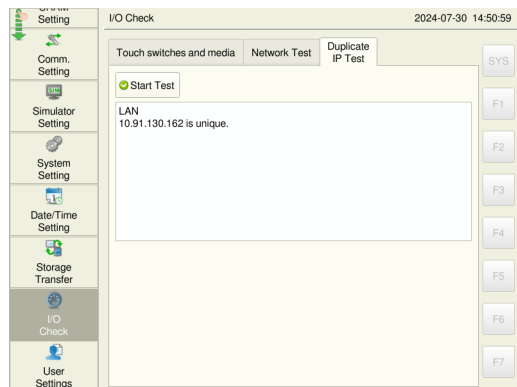
1) Select [I/O Check] → [Duplicate IP Test].



2) Press the [Start Test] switch.



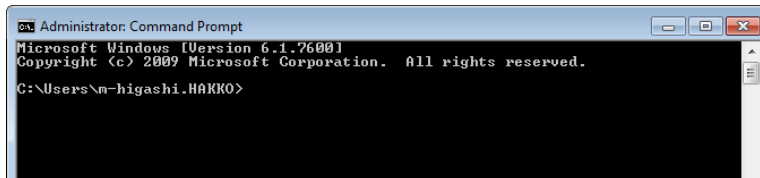
3) The test results are displayed.



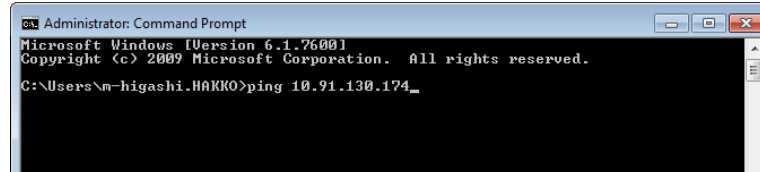
## Testing using the ping command on the computer

Example: Check the connection state from the computer when the IP address of MONITOUCH is "10.91.130.174".

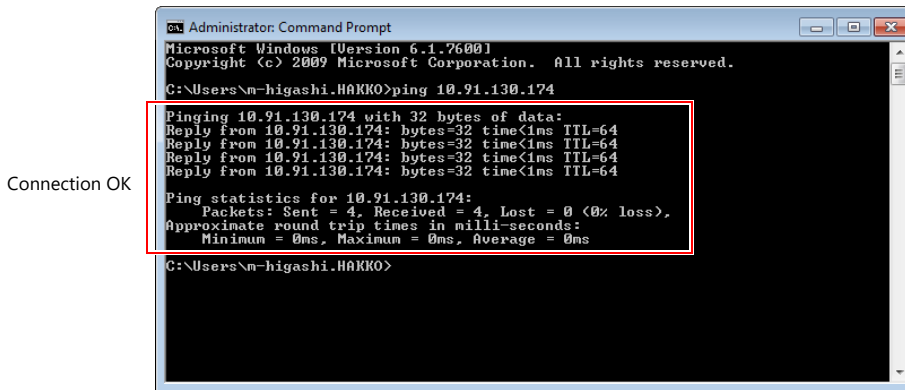
1. Open a [Command Prompt] window on the computer.



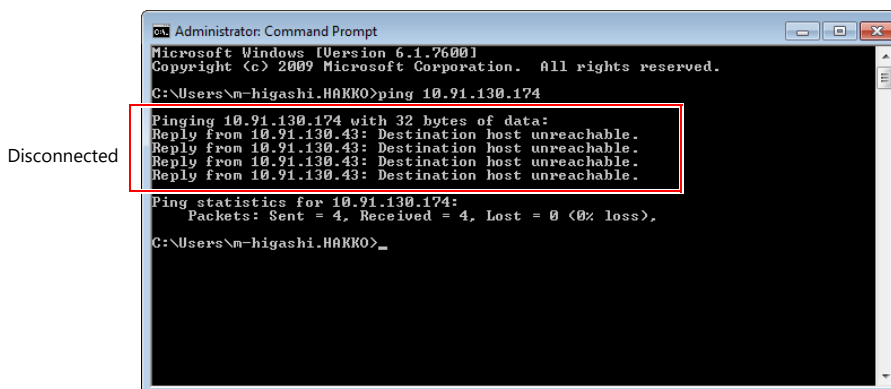
2. Enter "ping 10.91.130.174" on the command line using the keyboard and press the [Enter] key.



3. The following result is displayed if MONITOUCH is connected.

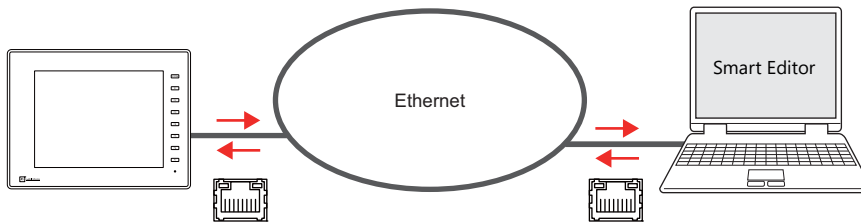


4. The following result is displayed if MONITOUCH is disconnected.  
Check the IP address of MONITOUCH and the computer as well as the connection cable.



### 5.3.2 Transfer

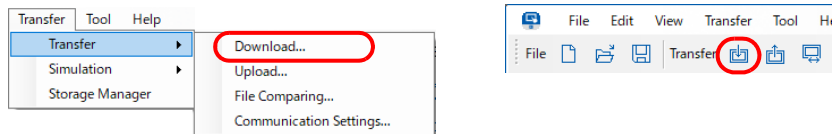
Connect the LAN port on MONITOUCH to the computer using a LAN cable.



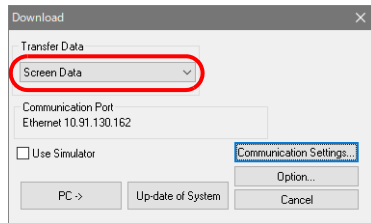
#### Download

Transfer a screen program from the computer.

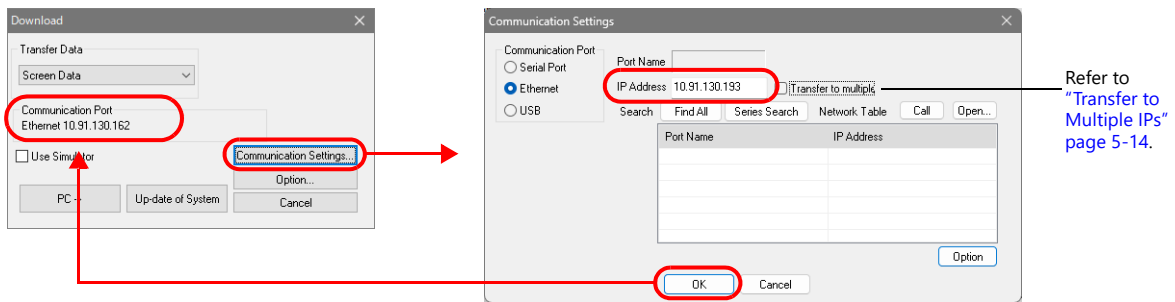
1. Click [Transfer] → [Transfer] → [Download], or click the [Download] icon on the toolbar.



2. Set [Transfer Data] to "Screen Data" on the [Download] window.



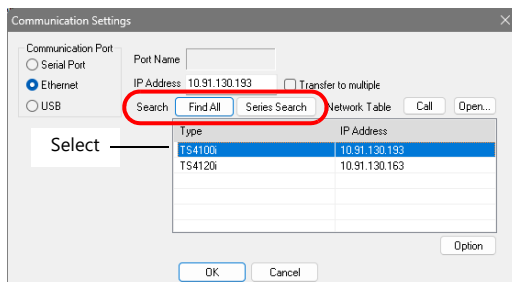
3. Check the [Communication Port] setting.  
 If the setting is Ethernet and the IP address is correct, proceed to step 4.  
 If the setting is a serial port or USB, click the [Communication Settings] button, select "Ethernet" under [Communication Port], and set the IP address of MONITOUCH.



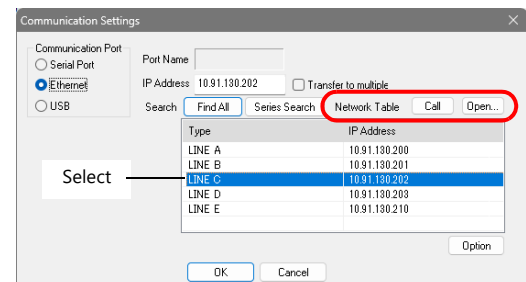
There are three ways to select the IP address.

- Direct input of IP address (see above)
- Search (MONITOUCH on the same network group)
- Select from the registered network table

#### Search



#### Select from the registered network table




Find All	Search for MONITOUCH
Series Search	Search for the same series as the screen data being edited

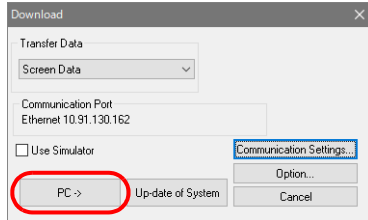
Call	Refer to the network table registered in the screen data
Open	Refer to the file (*.ntb) exported from the network table of another screen data

## 5. Screen Program Transfer

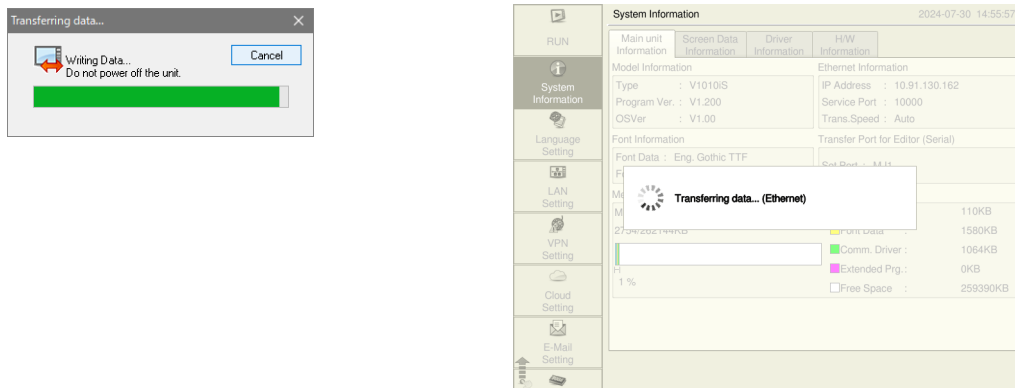
- Select the [Use Simulator] checkbox to use the simulator.

 **Simulator**  
 If a PLC is not available during debugging, use the simulator to check screen operation with only MONITOUCH and no PLC.  
 The simulator that runs on the computer acts as the PLC. For details, refer to "6.1 Simulator".

- Click [PC →] to start transfer.



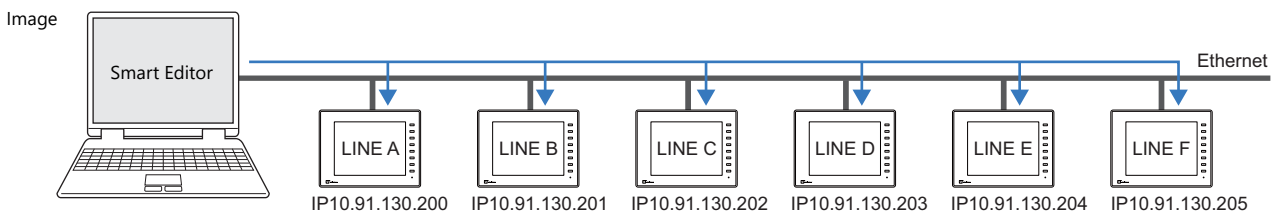
- The following window appears on the computer during transfer. MONITOUCH switches to Local mode and "Transferring data... (Ethernet)" is displayed.



- When transfer is complete, the "Transferring data" indication disappears and communication with the PLC starts. Check the operation on MONITOUCH.

## Transfer to Multiple IPs

The same screen data can be transferred to multiple devices.



- Check [Transfer to multiple], click [PC →], and then [Transfer Target Setting] will appear.
- Select the IP address of the MONITOUCH from [Find All] / [Series Search] or [Read Network Table], and transfer the screen data.

**Transfer Target Setting**

Transfer No.	Port Name	IP Address
<input checked="" type="checkbox"/>	0 LINE A	10.91.130.200
<input checked="" type="checkbox"/>	1 LINE B	10.91.130.201
<input checked="" type="checkbox"/>	2 LINE C	10.91.130.202
<input checked="" type="checkbox"/>	3 LINE D	10.91.130.203
<input checked="" type="checkbox"/>	4 LINE E	10.91.130.204
<input checked="" type="checkbox"/>	5 LINE F	10.91.130.205
<input type="checkbox"/>	6	
<input type="checkbox"/>	7	
<input type="checkbox"/>	8	
<input type="checkbox"/>	9	
<input type="checkbox"/>	10	
<input type="checkbox"/>	11	
<input type="checkbox"/>	12	
<input type="checkbox"/>	13	

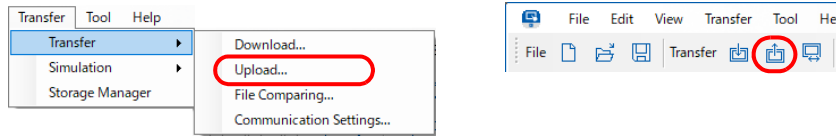
Direct input is also possible.

Transferred in order of No.

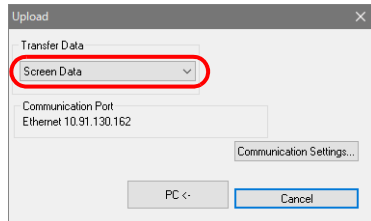
## Upload

Export the screen program from MONITOUCH to the computer.

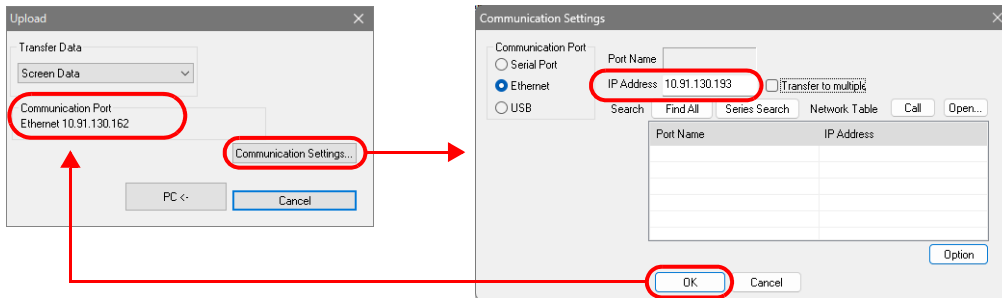
1. Click [Transfer] → [Transfer] → [Upload], or click the [Upload] icon on the toolbar.



2. Set [Transfer Data] to "Screen Data" on the [Upload] window.



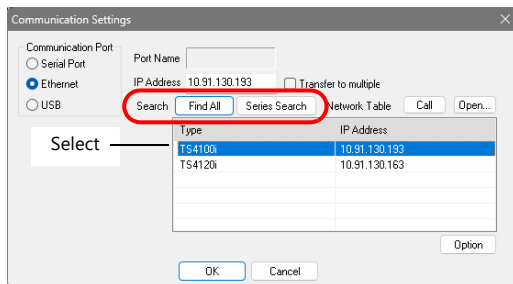
3. Check the [Communication Port] setting.  
 If the setting is Ethernet and the IP address is correct, proceed to step 4.  
 If the setting is a serial port or USB, click the [Communication Settings] button, select "Ethernet" under [Communication Port], and set the IP address of MONITOUCH.



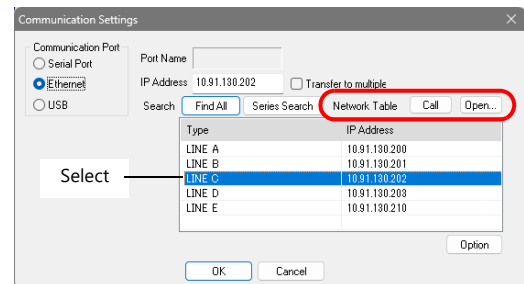
There are three ways to select the IP address.

- Direct input of IP address (see above)
- Search (MONITOUCH on the same network group)
- Select from the registered network table

Search



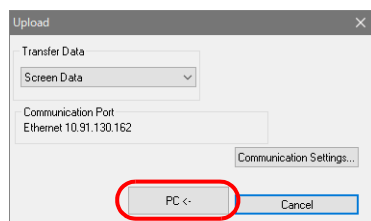
Select from the registered network table



Find All	Search for MONITOUCH
Series Search	Search for the same series as the screen data being edited

Call	Refer to the network table registered in the screen data
Open	Refer to the file (*.ntb) exported from the network table of another screen data

4. Click [PC ←] to start export.

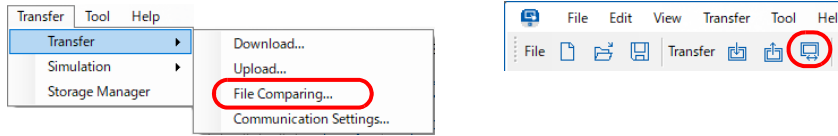


5. When export is complete, the "Transferring data" indication disappears and the exported program is displayed. Name and save the program.

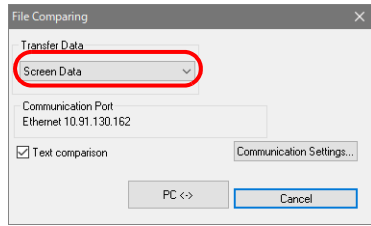
## File Comparing

Compare the program on the computer with the program on MONITOUCH.

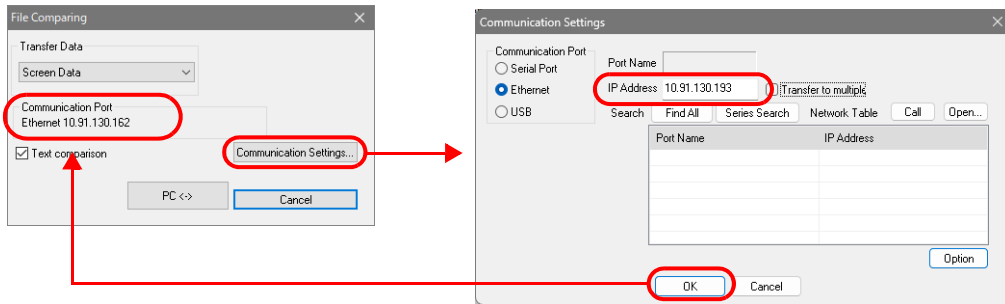
1. Click [Transfer] → [Transfer] → [File Comparing], or click the [File Comparing] icon on the toolbar.



2. Set [Transfer Data] to "Screen Data" on the [File Comparing] window.



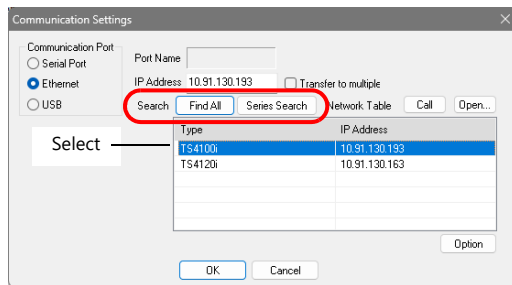
3. Check the [Communication Port] setting.  
If the setting is Ethernet and the IP address is correct, proceed to step 4.  
If the setting is a serial port or USB, click the [Communication Settings] button, select "Ethernet" under [Communication Port], and set the IP address of MONITOUCH.



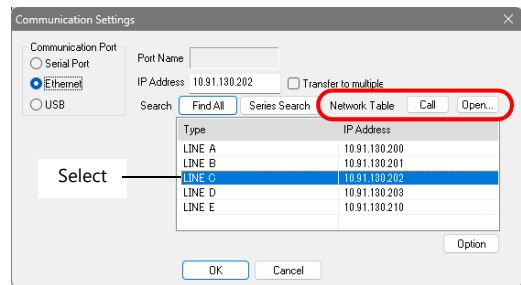
There are three ways to select the IP address.

- Direct input of IP address (see above)
- Search (MONITOUCH on the same network group)
- Select from the registered network table

### Search



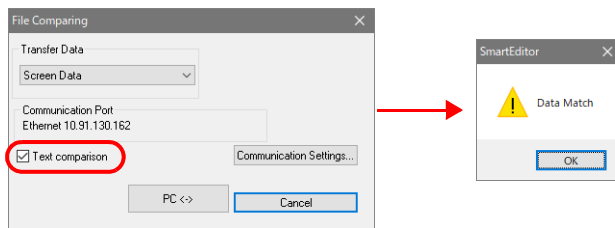
### Select from the registered network table



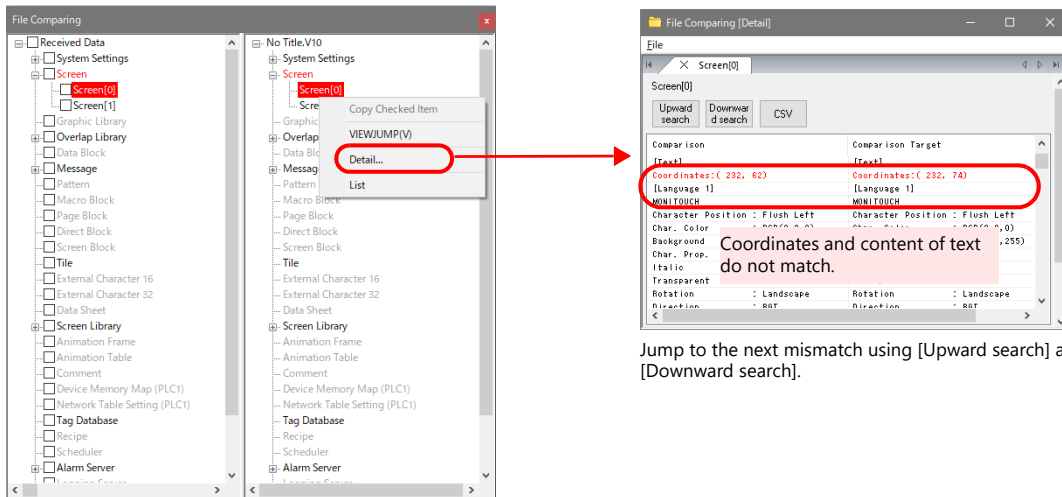
Find All	Search for MONITOUCH
Series Search	Search for the same series as the screen data being edited

Call	Refer to the network table registered in the screen data
Open	Refer to the file (*.ntb) exported from the network table of another screen data

4. Select the [Text comparison] checkbox, and click [PC ↔] to start comparison.  
When the comparison is complete, the "Transferring data" indication disappears and the comparison results are displayed.



Any mismatches are indicated in red. Click [Detail] on the right-click menu for a more detailed display.

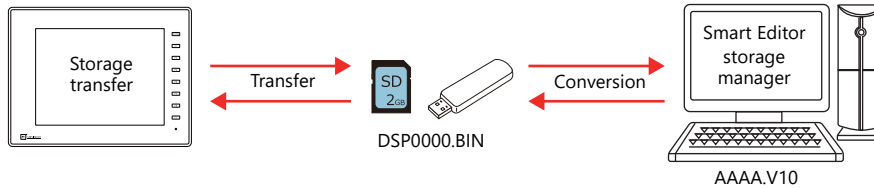


Jump to the next mismatch using [Upward search] and [Downward search].

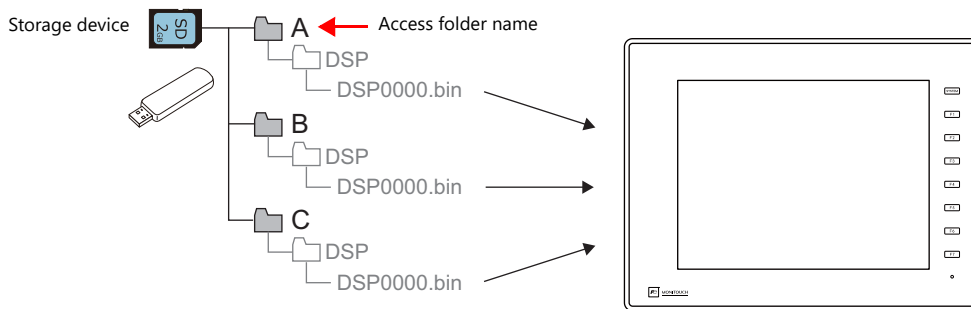
## 5.4 Storage Transfer

### Transferring Screen Programs

- Screen programs can be transferred using a storage device (SD card or USB flash drive).
- By using a storage device, screen programs can be transferred without a computer.
- To transfer data between the computer and a storage device, use the Smart Editor storage manager. Screen programs can be transferred between MONITOUCH and a storage device from the Storage Transfer screen in Local mode.



- Because multiple screen programs can be saved on a storage device, the screen program for display can be switched as required.



- There are two methods of storage transfer: "manual update", in which the screen program is transferred by on-screen operations, and "automatic update", in which the screen program is automatically transferred when the power is turned on.

### Updating the OS

- MONITOUCH has a system program and OS program. The system program and OS may need to be updated in order to use new functions. Update the OS using a storage device.

This block contains three parts related to OS updating. On the left, a storage device is shown with folders: 'EXT0000 Access folder', 'OSUPDATE For V9', 'OSUPDATE\_100 For V10', and 'OSUPDATE\_900 For TS4000'. In the center, the MONITOUCH screen displays an 'OS' update message: 'Updating OS, please do not turn off the power. OSの更新中です。電源を切断しないでください。正在更新操作系统。请不要关闭电源。OS 업데이트 중입니다. 전원을 끄지 마십시오.' On the right, a screenshot of the 'System Information' screen shows 'Program Ver. : V1.200' and 'OSVer : V1.00' circled in red.



Files transferred when transferring a screen program and when updating the OS

	Screen program	Font data	System program	Configuration file	OS program	Remarks
Screen program transfer	○	○	○ *1	○	-	MONITOUCH ← storage device: Batch/individual transfer MONITOUCH → storage device: Batch transfer
Manual OS update	-	-	○ *1	-	○ *1	MONITOUCH ← storage device: Batch transfer
Auto OS update	○	○	○ *1	-	○ *1	MONITOUCH ← storage device: Batch transfer

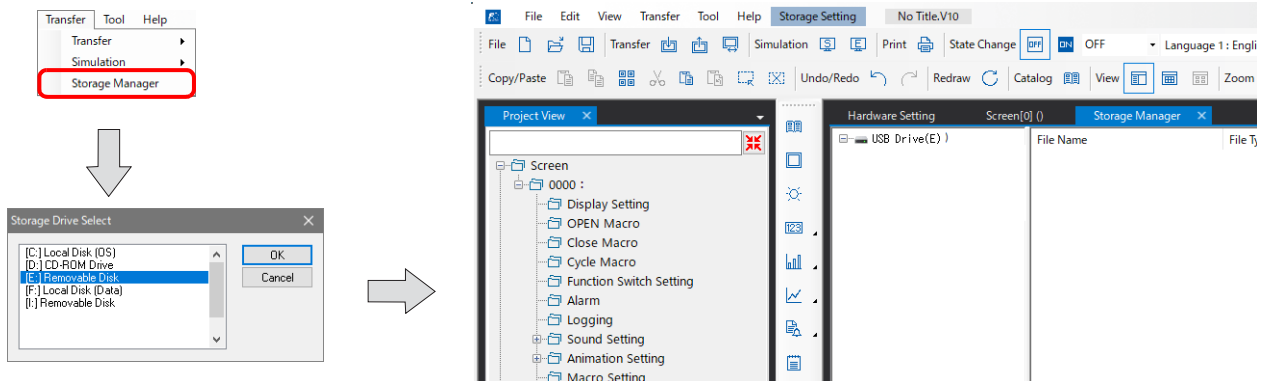
\*1 Depending on the files on the storage device, the version may be lowered.

## 5.4.1 Storage Manager

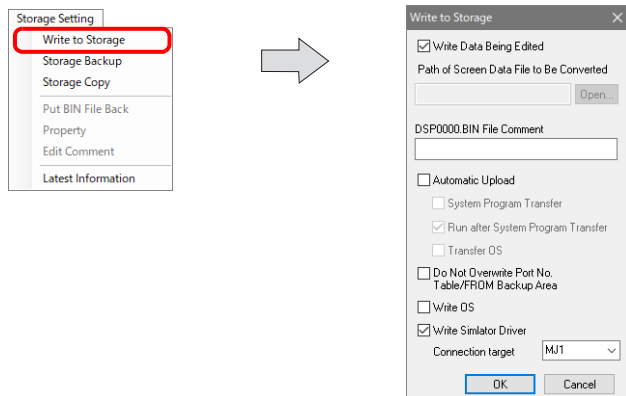
The storage manager is an application that facilitates writing of screen programs to a storage device, and importing of data from a storage device for conversion into other file formats.

### Writing from a PC to Storage

1. Start Smart Editor and open the screen program.
2. Click [Transfer] → [Storage Manager]. The window for specifying a drive is displayed.
3. Specify the drive where the storage device is connected and click [OK]. The [Storage Manager] window is displayed.



4. Click [Storage Setting] → [Write to Storage]. The [Write to Storage] window is displayed.
5. Configure the following settings according to the intended functions and click [OK]. The necessary files are saved.



Item Name	Screen Program Transfer		OS Update	
	Manual	Auto	Manual	Auto
Write Data Being Edited	Select either one	Select either one	Select either one	Select either one
Path of Screen Data File to Be Converted				
Automatic Upload	-	Selected	-	Selected
System Program Transfer	-	-	-	(Selected)
Run after System Program Transfer	-	-	-	-
Transfer OS	-	-	-	Selected
Write OS	-	-	Selected	(Selected)
Folder created on storage device:	- Access folder *1	- Access folder *1 - DSPDEF *2	- Access folder *1 - OSUPDATE_xxx *3 (Manual)	- Access folder *1 - DSPDEF *2 - OSUPDATE_xxx *3 (Auto)

\*1 A "DSP0000.BIN" file converted from a screen program is saved in the access folder → "DSP" folder.

\*2 A "DSPDEF.BIN" file converted from a screen program is saved in the "DSPDEF" → "DSP" folder.

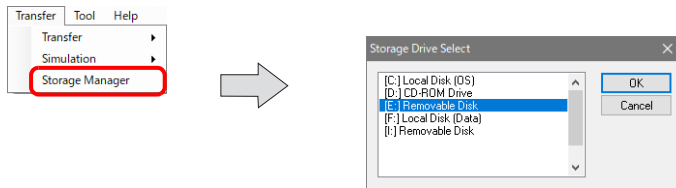
\*3 V10 : OSUPDATE\_100, V9 : OSUPDATE, TS4000 : OSUPDATE\_900



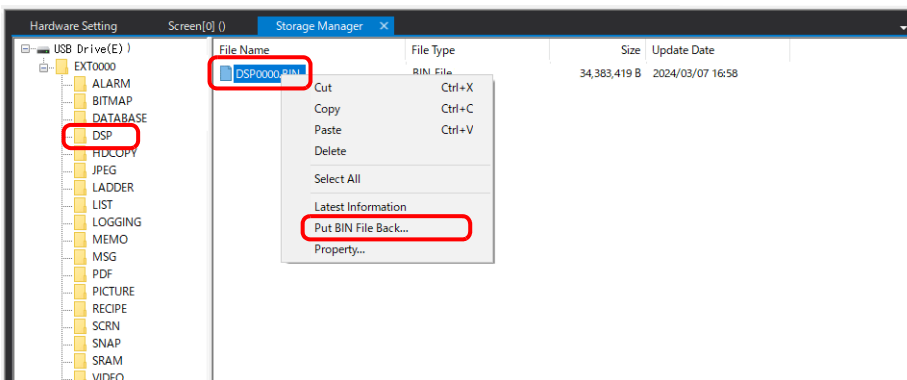
Auto update cannot be performed using a storage device that contains files for manual update. Manual update can be performed using a storage device that contains files for auto update.

## Reading from Storage to a PC

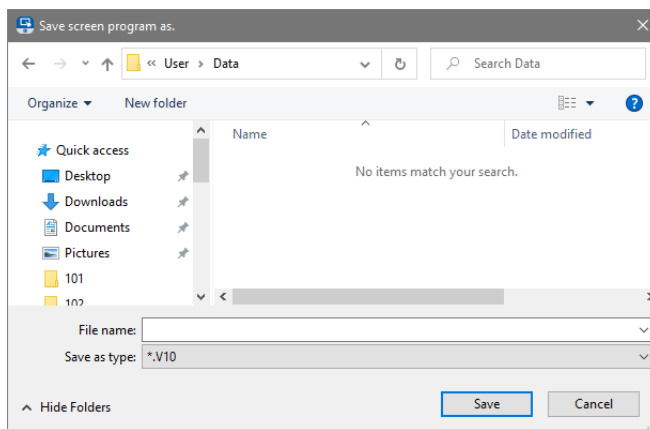
1. Start Smart Editor.
2. Click [Transfer] → [Storage Manager]. The window for specifying a drive is displayed.
3. Specify the drive where the storage device is connected and click [OK]. The [Storage Manager] window is displayed.



4. Check that "DSP0000.BIN" exists in the "DSP" folder in the access folder, and select the file.
5. Right-click on the file and select [Put BIN File Back].



6. The following window is displayed. Specify the folder to save in and the filename and click [Save].



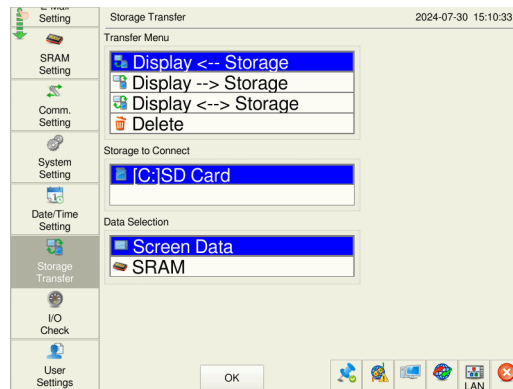
## 5.4.2 MONITOUCH Operations

### Transferring a Screen Program from Storage to MONITOUCH (Manual)

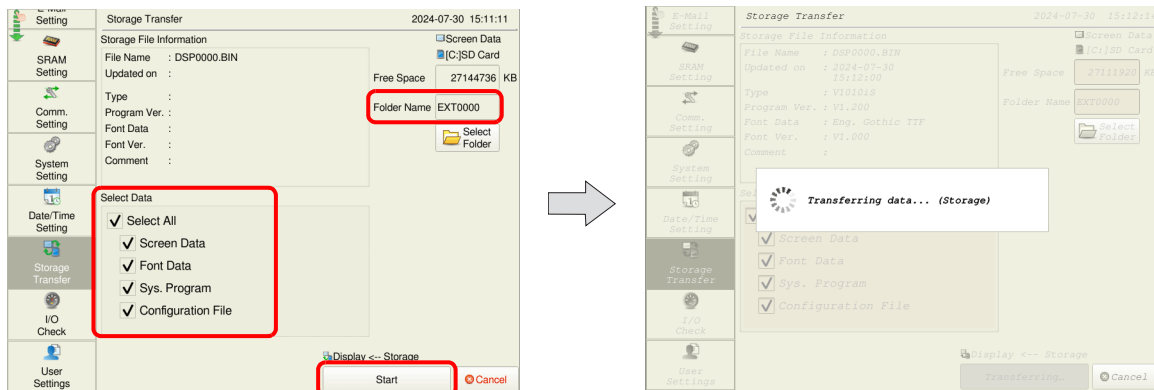
1. Connect the storage device to MONITOUCH.
2. Press the [SYSTEM] switch to display the system menu and then press the [Local] switch. MONITOUCH switches to Local mode.

 Refer to "5.5 Switching to Local mode".

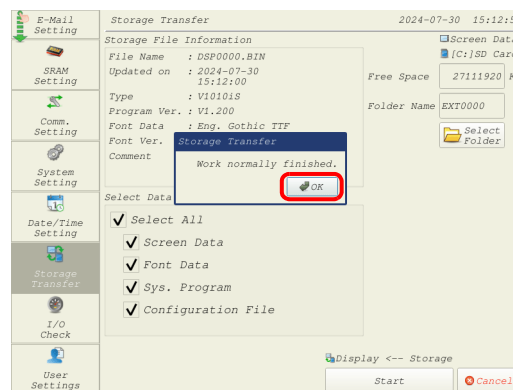
3. Make the following settings on the Storage Transfer screen, and then press the [OK] switch.
  - Transfer Menu: Display ← Storage
  - Storage to Connect: SD card or USB flash drive
  - Data Selection: Screen Data




4. Check the indicated [Folder Name].  
If not the intended folder, select the correct folder from [Select Folder].  
If the folder name is correct, check the [Storage File Information].
5. Select the data to transfer at [Select Data].
6. Press the [Start] switch. The indication on the switch changes to read [Transferring].



7. When transfer is complete, the following message is displayed. Press the [OK] switch. The System Information screen is displayed.



 For the operation when selecting [Display → Storage] or [Display ↔ Storage], refer to the following.

- TS4000 Series Unit Operation / Local Mode / Error Screen Manual
- V10 Series Unit Operation / Local Mode / Error Screen Manual
- V9 Series Troubleshooting/Maintenance Manual

## Transferring a Screen Program from Storage to MONITOUCH (Auto)

---

1. Turn off the power of MONITOUCH.
2. Set DIPSW1 on MONITOUCH to the ON position.
3. Connect the storage device to MONITOUCH.
4. Turn on the power of MONITOUCH. The "Loading from Storage" message is soon displayed, and then the screen program saved to the storage device is loaded.  
When transfer is complete, the RUN screen (or Local mode screen) is displayed automatically.

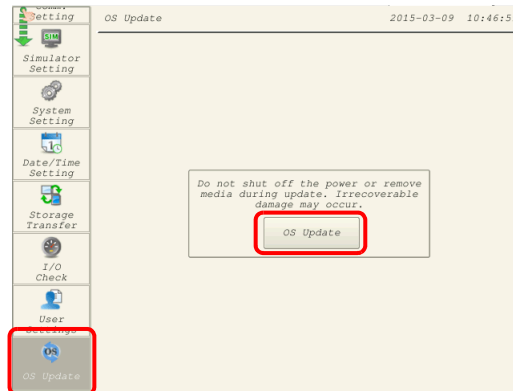
### Notes

- When using the "DSPDEF" screen program for automatic uploading, only one program can be stored per storage device.
- If the storage device is removed after automatic uploading and the power is turned off and on again, the message "Insert Storage in xxx (xxx: V10, V9 or TS4000)." is displayed and MONITOUCH does not start correctly. Either connect the storage device or set DIPSW1 to the OFF position and then turn the power off and back on.
- When automatic uploading is performed, the screen program that exists on MONITOUCH (including I/F drivers, fonts, etc.) is overwritten by the screen program that is automatically uploaded newly. Note that even if the storage device is removed and DIPSW1 is set to OFF again, it is not possible to restore the state before the upload.

## Updating the OS (Manual)

1. Turn off the power of MONITOUCH.
2. Connect the storage device to MONITOUCH and turn on the power.
3. Press the [SYSTEM] switch to display the system menu and then press the [Local] switch. MONITOUCH switches to Local mode.
4. Check the [Program Ver.] and [OSVer] on the System Information screen.
5. Press the [OS Update] switch on the OS Update screen \*1.

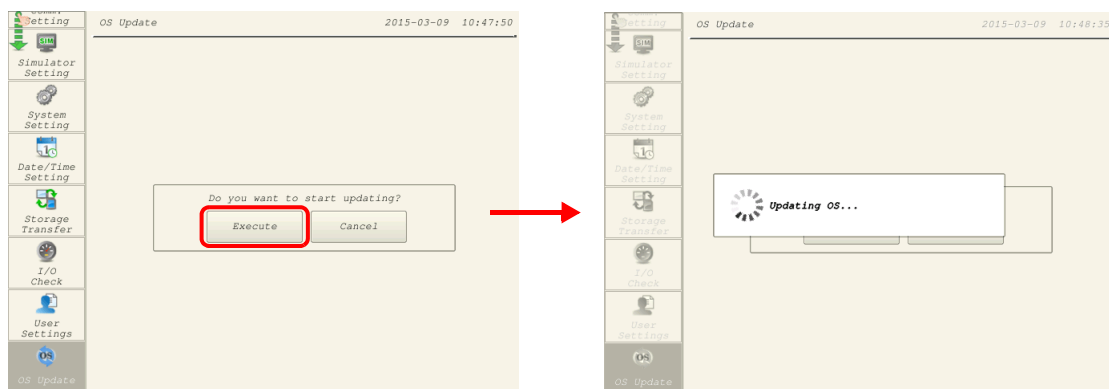
\*1 The [OS Update] switch for displaying the OS Update screen is displayed at the very bottom of the screen switches only when a storage device containing an "OSUPDATE" folder is connected.



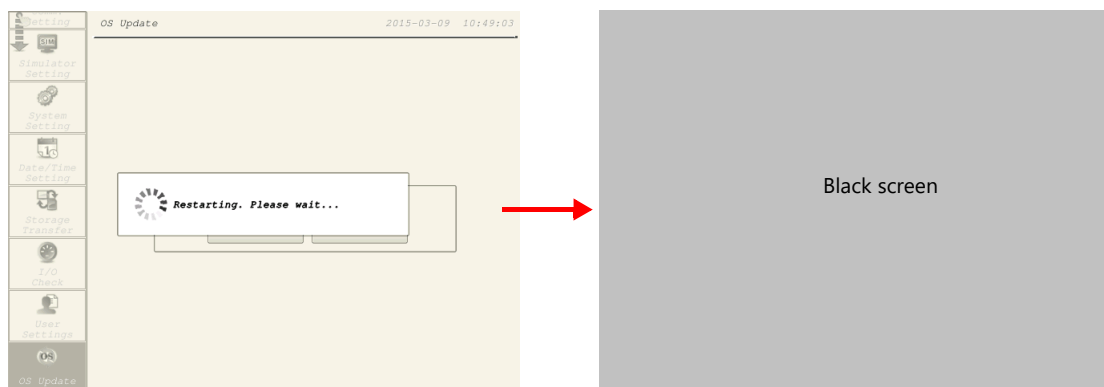
6. The following confirmation message appears. Press [Execute]. Updating of the operating system starts.



While the operating system is being updated, never turn off the power of MONITOUCH or remove the storage device.



7. MONITOUCH reboots and the screen will be black briefly.



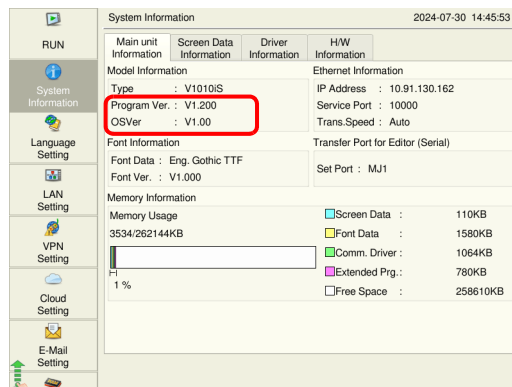
8. The following screen is displayed while the operating system is being updated. (Approximately 3 minutes)



9. When the update completes without any errors, the following screen is displayed and MONITOUCH automatically reboots.



10. Press the [SYSTEM] switch and switch to Local mode from the displayed system menu. Check that the [Program Ver.] and [OSVer] have respectively been updated.



## Notes

- Before updating the operating system, creating a backup of the screen program and other data such as SRAM data is recommended to guard against data loss.
- When the operating system is updated, the system program is automatically updated as well.
- It takes a few minutes to update the operating system. During the update, never turn off the power of MONITOUCH or remove the storage device.
- When both an SD card and a USB flash drive are connected to MONITOUCH, the SD card takes priority.
- Only one instance of the "OSUPDATE" \* folder for the V10 series and the "OSUPDATE" folder for the V9 series, which are used for updating the operating system, can be stored per storage device.
  - \* V10 : OSUPDATE\_100, V9 : OSUPDATE, TS4000 : OSUPDATE\_900 folder

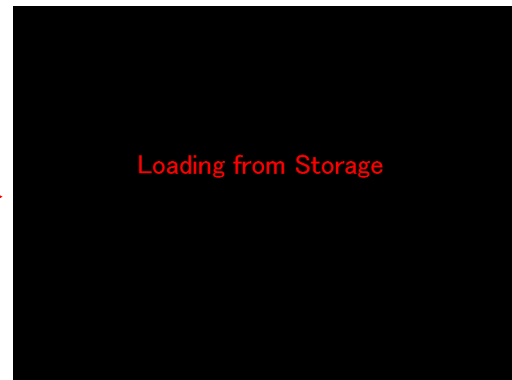
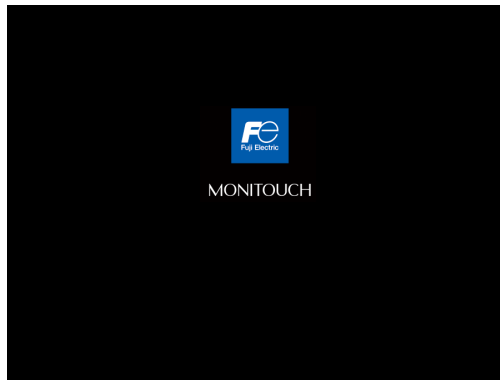
## Updating the OS (Auto)

1. Turn off the power of MONITOUCH.
2. Connect the storage device to MONITOUCH.
3. Set DIPSW1 on MONITOUCH to ON.
4. Turn on the power of MONITOUCH. The following screen is displayed.
  - \* In some cases, the "Loading from Storage" message may be displayed.

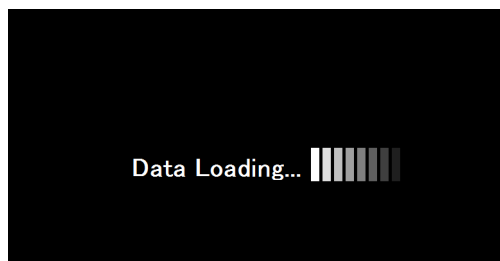


Never turn off the power of MONITOUCH or remove the storage device until the update is completed.

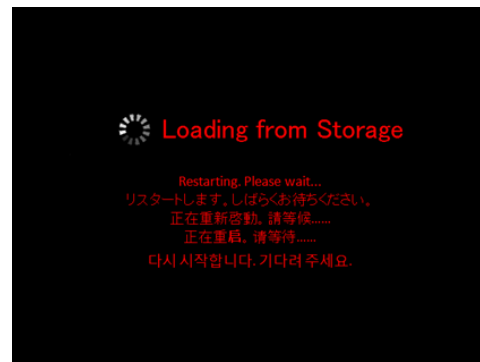
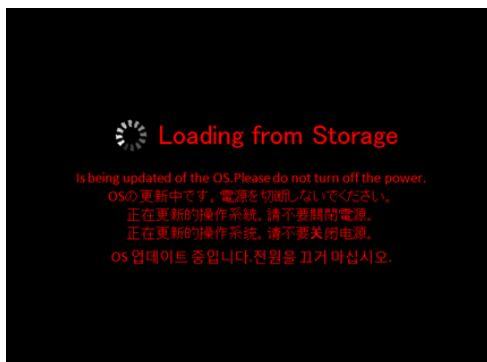
V10/TS4000



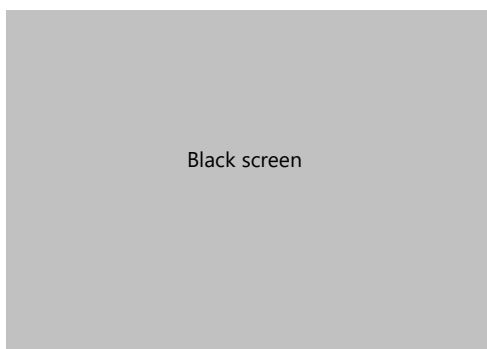
V9



5. The following message appears.

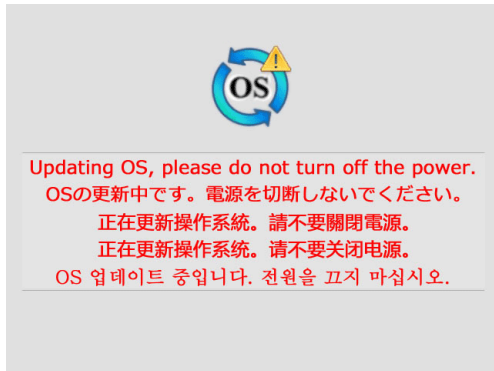


6. The screen turns black briefly.

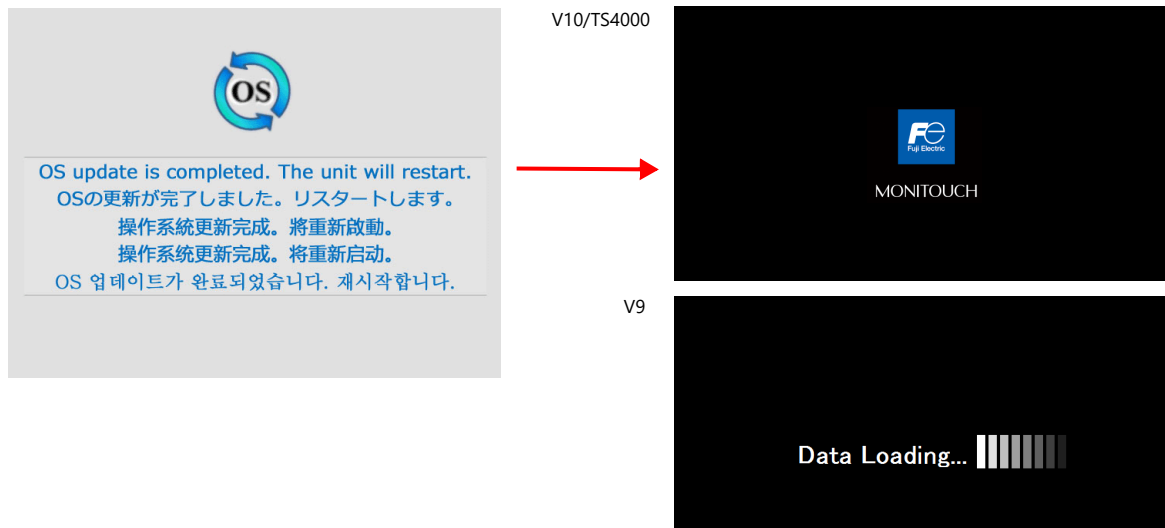


5. Screen Program Transfer

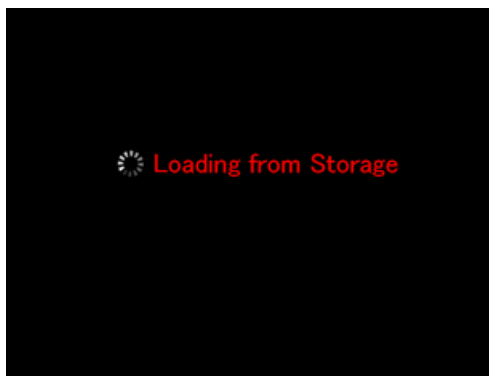
7. The following screen is displayed while the operating system is being updated. (Approximately 3 minutes)



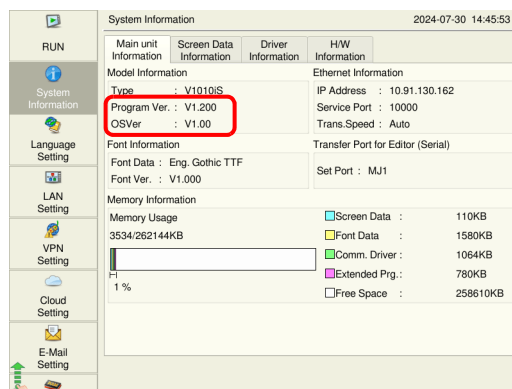
8. When the update completes without any errors, the following screen is displayed and MONITOUCH automatically reboots.



9. The "Loading from Storage" message is displayed again, and then the screen program saved to the storage device is written. When transfer is complete, MONITOUCH automatically switches to RUN mode.



10. Switch to Local mode from the system menu. Check that the [Program Ver.] and [OSVer] have respectively been updated.



---

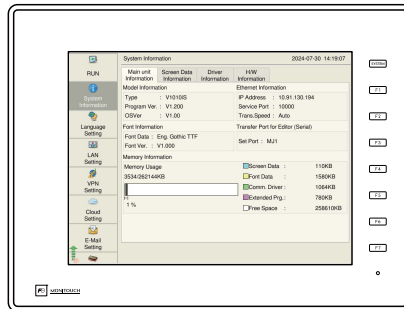
## Notes

---

- Before updating the operating system, creating a backup of the screen program and other data such as SRAM data is recommended to guard against data loss.
- When the operating system is updated, the system program is automatically updated as well.
- It takes a few minutes to update the operating system. During the update, never turn off the power of MONITOUCH or remove the storage device.
- When both an SD card and a USB flash drive are connected to MONITOUCH, the SD card takes priority.
- If the storage device is removed with DIP switch 1 left ON after automatic updating and the power is turned off and on again, the message "Insert Storage in xxx (xxx: V10, V9 or TS4000)." is displayed and MONITOUCH does not start correctly. If the storage device is left connected with DIP switch 1 left ON and the power is turned off and on again, automatic updating is performed again. Be sure to set DIP switch 1 to OFF after updating and then turn on the power.

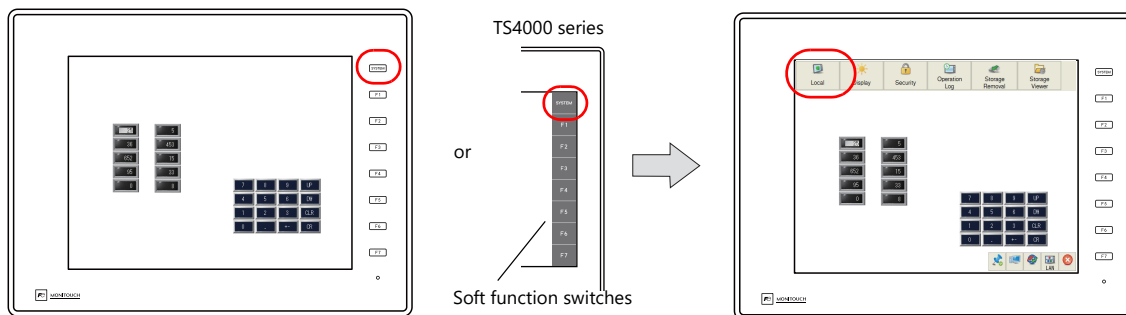
## 5.5 Switching to Local mode

There are two ways to switch from the RUN screen to the [Local mode screen].



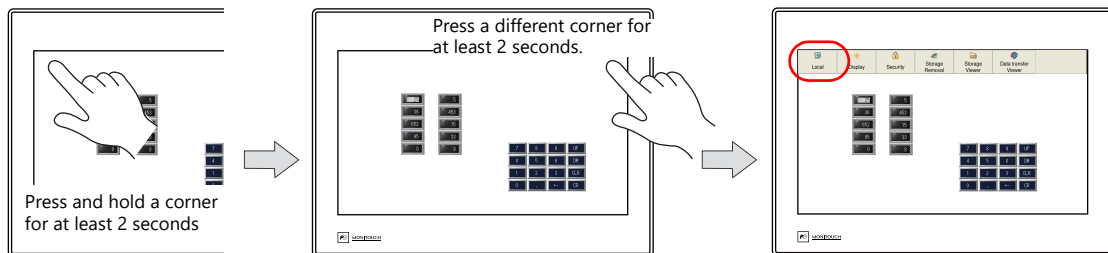
### Method 1 : System Menu

Press the [SYSTEM] switch to display the system menu, and press the [Local] switch.



### If there are no function switches (TS4000/V9 Advanced)

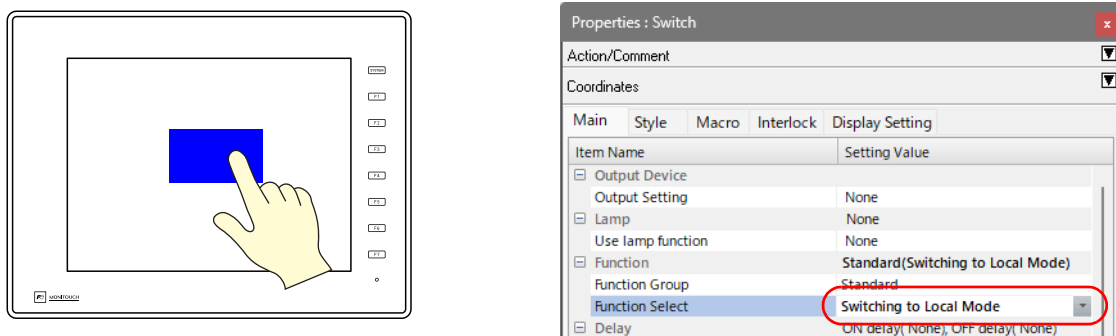
Press one of the four corners for more than 2 seconds, and when you hear a “beep”, press the other corner for more than 2 seconds within 1 second to display the system menu.



\* The system menu will not be displayed if there is a switch, data display part with a switch, display area, slider switch, scroll bar, or a table data display part in the pressed corner. Press a corner where these items are not located. If any of these items are placed in all four corners of the screen, switch the screen to one that has open corners and perform the above procedure to display the system menu.

### Method 2 : Created Switch

Press a switch with [Function Select] set to [Switching to Local Mode].



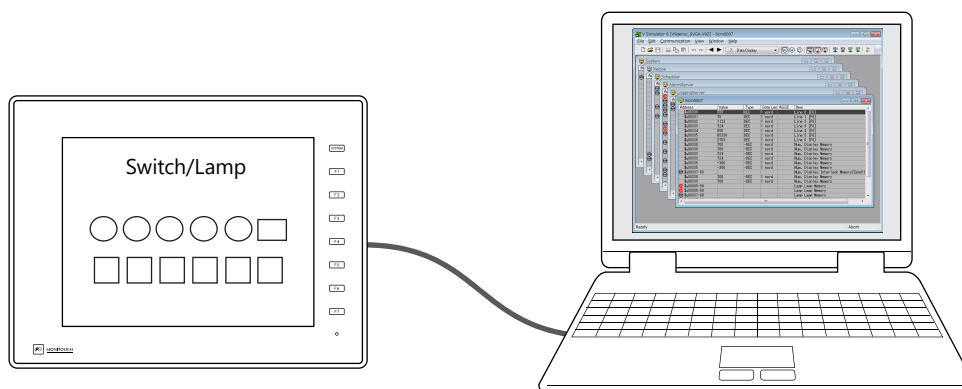
## 6 Useful Display and Editing Menus

### 6.1 Simulator

#### 6.1.1 Overview

Screen program operation on MONITOUCH is usually checked using a connection to a PLC.

By using the simulator, checking of the screen program operation can be done during debugging using just MONITOUCH and a computer, without the need for a PLC. The simulator that runs on the computer serves as a substitute for the PLC and allows entry of ON/OFF values for bit device memory and word device memory data.



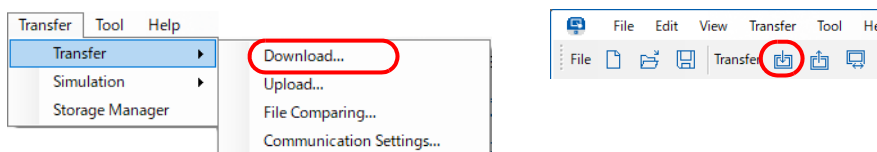
- \* The simulator can be used for only 1:1 connections. It cannot be used for 1:n and n:1 connections.
- \* The simulator cannot be used when the connection device is a barcode reader or slave communication device (V-Link, MODBUS slave).

#### 6.1.2 Usage Procedure

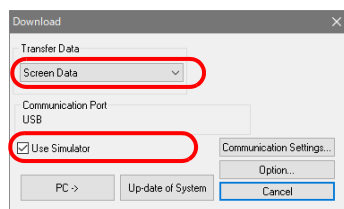
##### 1. Transferring the Simulator Driver

To use the simulator function, the simulator driver must be transferred to MONITOUCH. The simulator driver is transferred at the same time as the screen program.

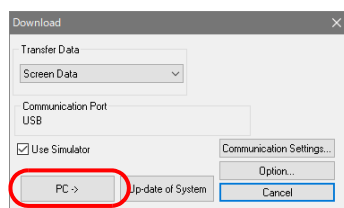
1. Click [Transfer] → [Transfer] → [Download], or click the [Download] icon on the toolbar.



2. On the displayed [Download] window, set [Transfer Data] to "Screen Data" and select the [Use Simulator] checkbox.



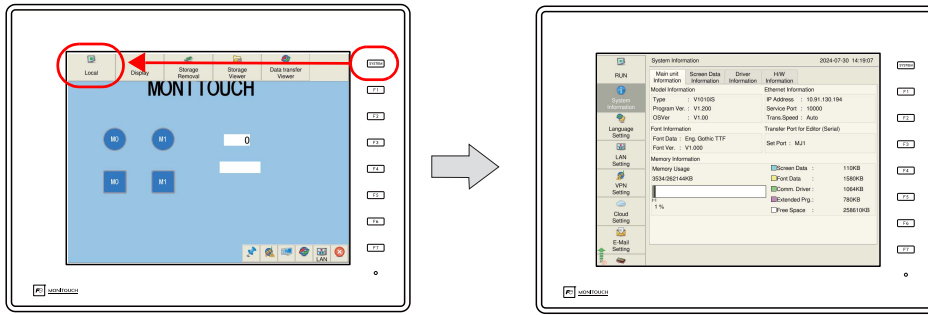
3. Click [PC →] to start transferring the screen program.



This completes the transfer procedure.

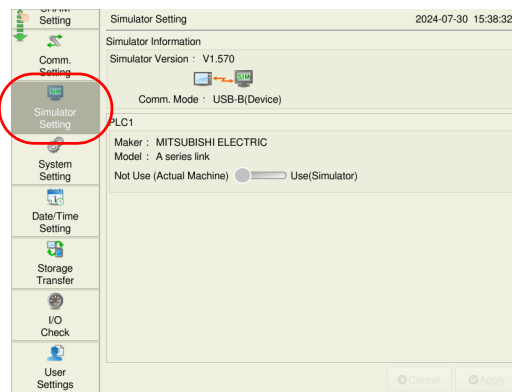
## 2. Settings on MONITOUCH

1. Switch MONITOUCH to Local mode.

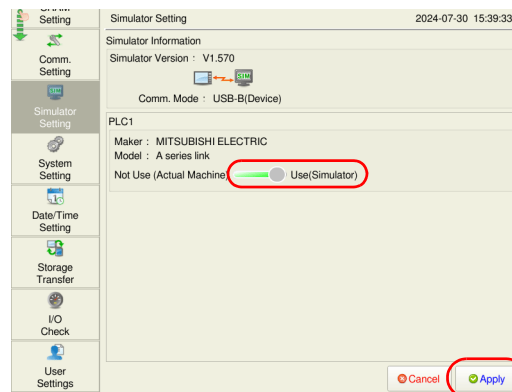


☞ Refer to, "5.5 Switching to Local mode".

2. Scroll the left-side menu and press the [Simulator Setting] switch. The [Simulator Setting] screen is displayed.

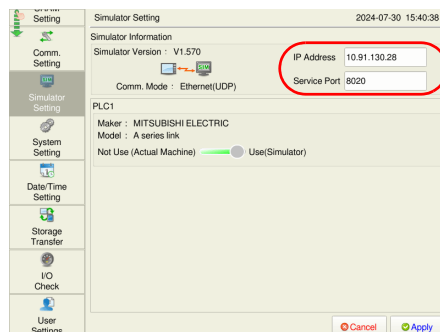


3. Select [Use] for the PLC1 setting and then press [Apply].



### Ethernet connection

The IP address of the computer must be entered in the simulator information on the [Simulator Setting] screen. Set the service port to "8020".



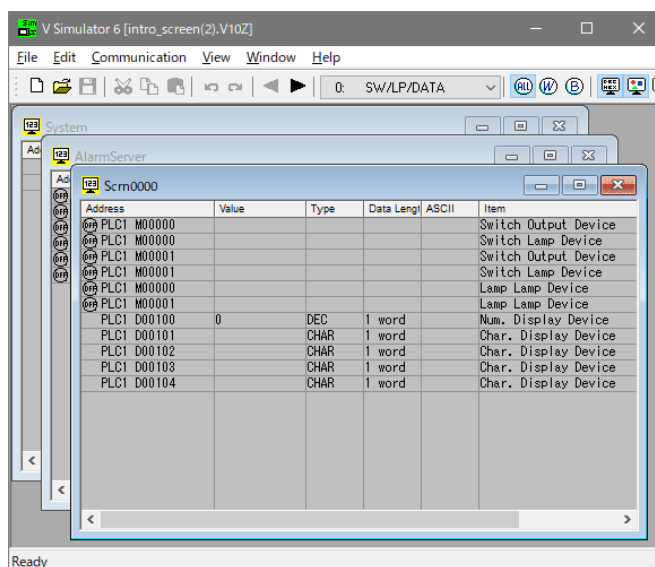
This completes the settings on MONITOUCH. Press [RUN] on the left-side menu in Local mode. MONITOUCH switches to RUN mode.

### 3. Starting the Simulator

1. Click [Transfer] → [Simulation] → [Simulate], or click the [Simulator] icon.



2. The simulator starts. Communication with the touch panel starts at this time. Also, the address associated with the screen program currently open in Smart Editor is automatically displayed on a sheet in the simulator.



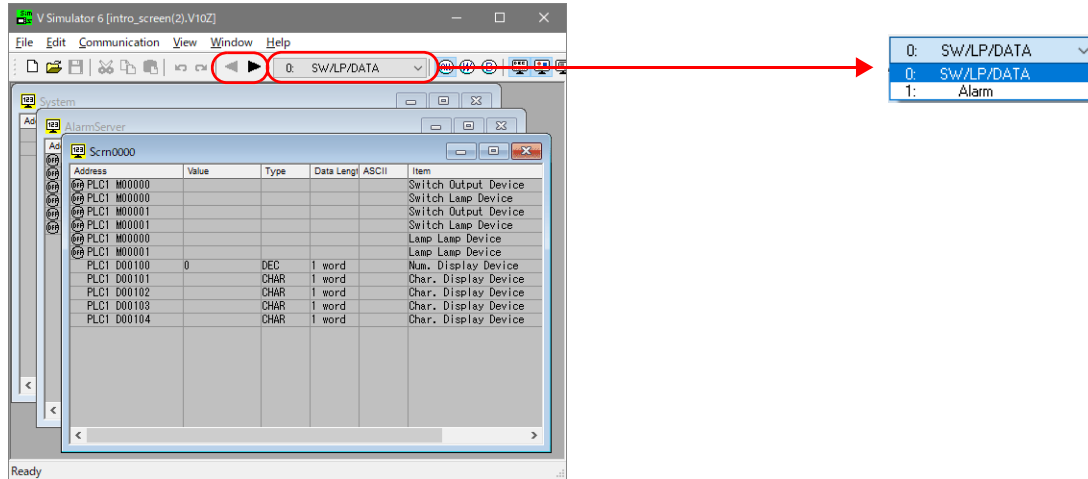
\* If MONITOUCH is in Local mode, it must be switched to RUN mode by pressing [RUN].

The above operations allow communication between MONITOUCH and the simulator and screen program operation can be checked.

## 6.1.3 Operating the Simulator

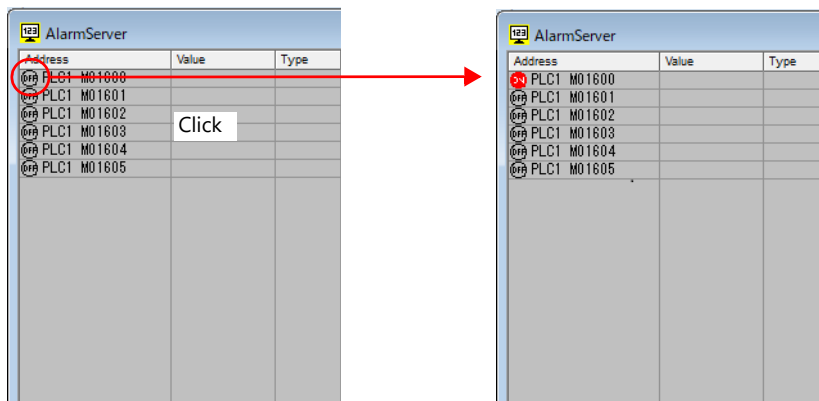
### Screen Changeover

Click the [◀] and [▶] buttons in the simulator window to change the screen displayed on MONITOUCH. The screen for display can also be selected from the pull-down menu that shows screen numbers and screen comments.



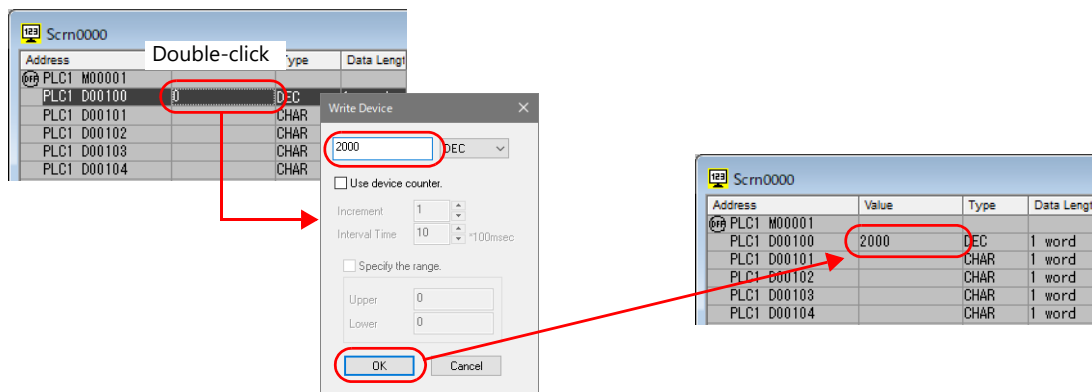
### Bit Operations

Click the [ON]/[OFF] mark of bit device memory to invert the bit state.



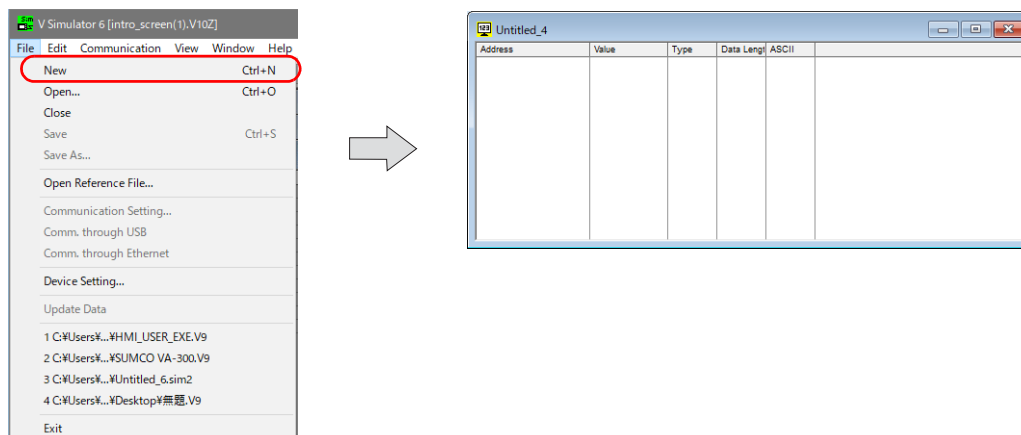
### Writing to Device Memory

Double-click the value field of the device memory for changing to display the [Write Device] window. Enter a value and click [OK].

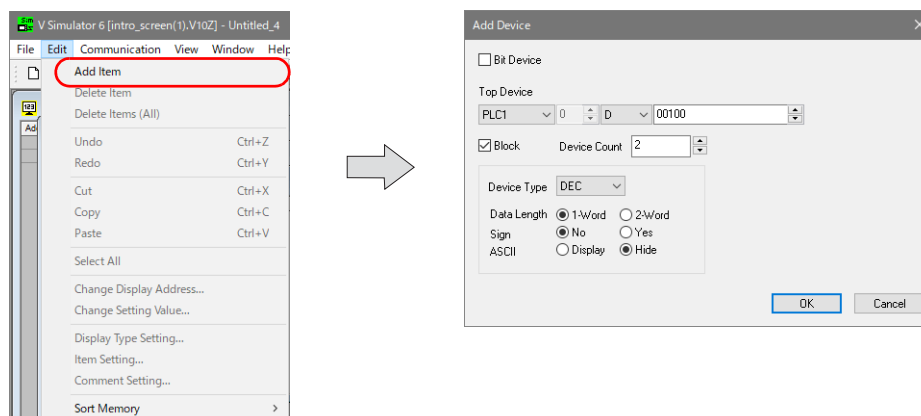


## Adding Device Memory Addresses

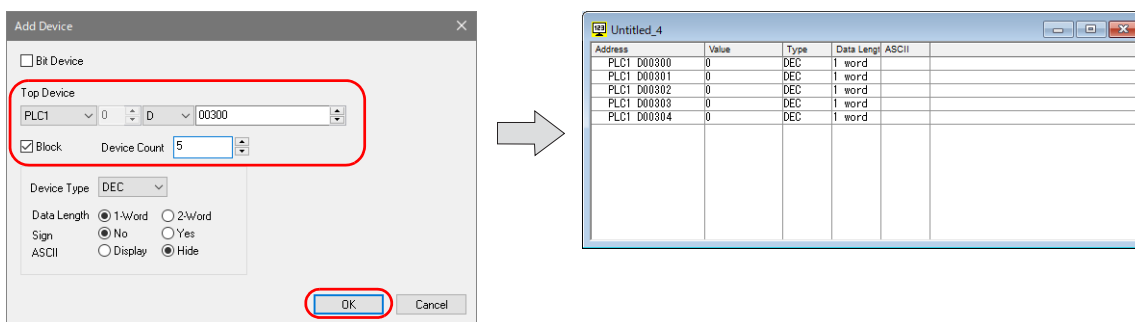
1. Add a new sheet by clicking [File] → [New].



2. Click [Edit] → [Add Item] to display the [Add Device] window.



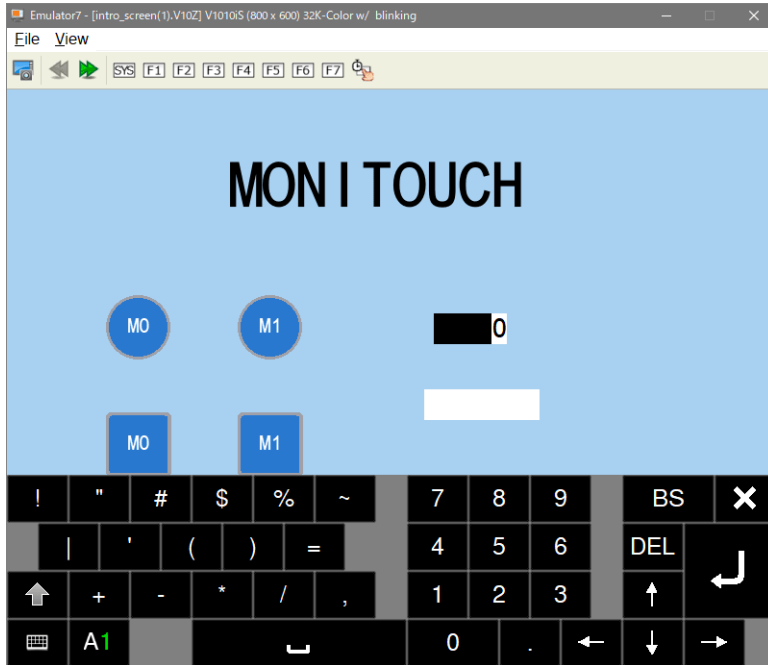
3. Specify the device memory to add and the number of addresses and click [OK]. The device memory addresses are added.



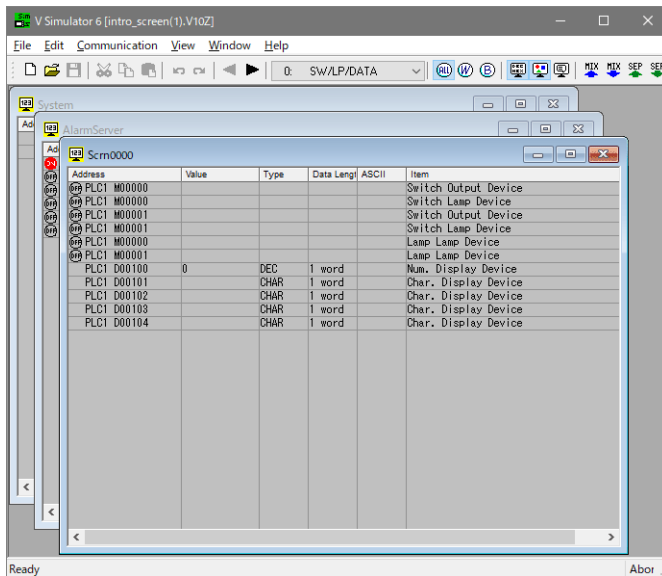
## 6.2 Emulator

The operation of created screen programs can be checked even when MONITOUCH is not available. Check operation by starting both the emulator and simulator on the computer. The emulator acts as a substitute for MONITOUCH and the simulator as a substitute for the PLC.

- Emulator Shows a representation of the MONITOUCH screen display on the computer



- Simulator Implements memory operations in place of the PLC

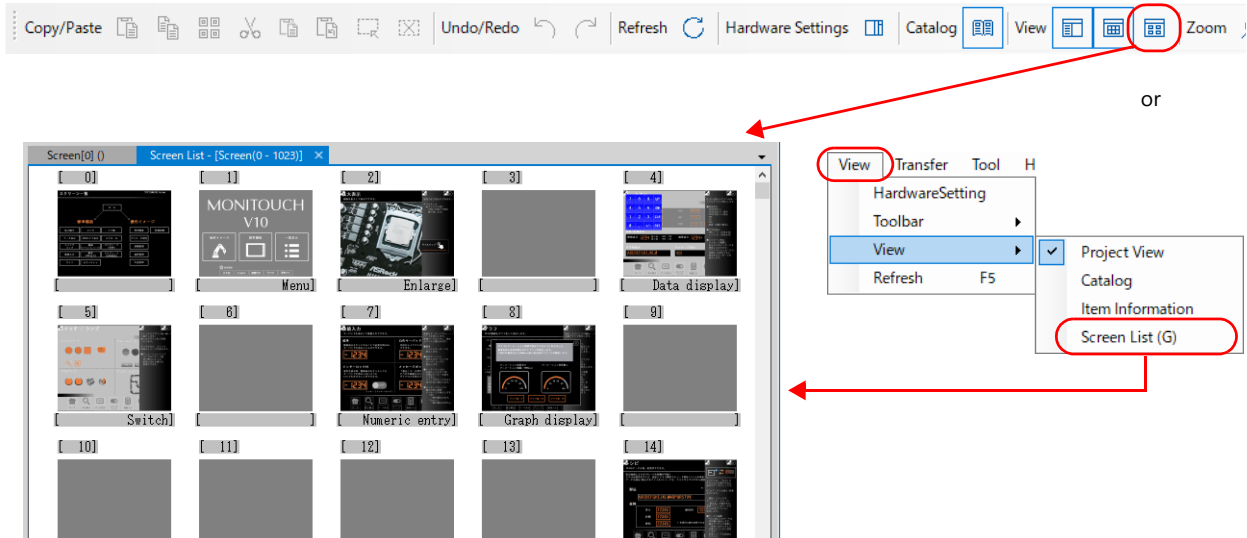


## 6.3 Screen List

This section explains how to display a list of screens that can be selected for editing or copied.

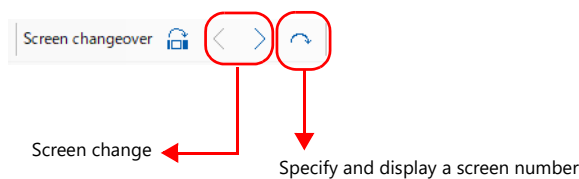
### Display Method

Click the [Screen List] icon on the toolbar, or click [View] → [View] → [Screen List].

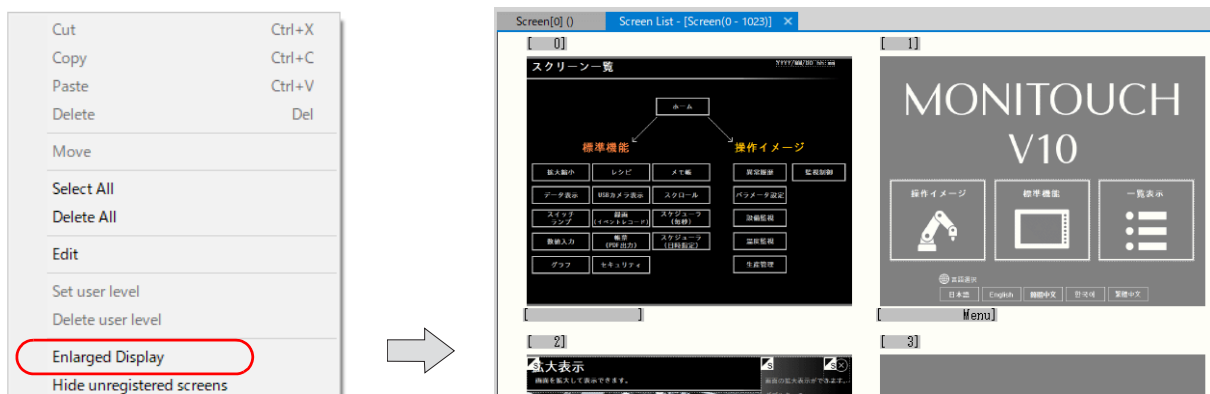


### Usage

- Searching screens  
The [Screen List] displays 1024 screens. For screen numbers 1024 and after, use the [Previous Screen]/[Next Screen] icons on the toolbar or the [Jump] icon to specify and display a particular screen number.



- Enlarged display of the screen list  
Select [Enlarged Display] on the right-click menu to show screens enlarged.

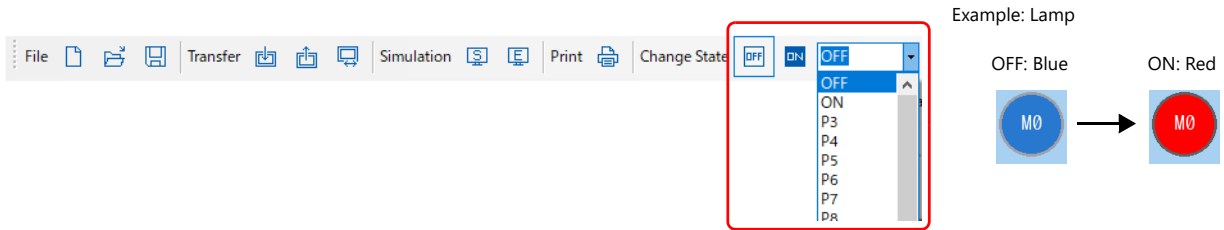


- Copying and deleting
  - Using the right-click menu  
Click on a screen in the [Screen List] window to highlight its corresponding number. The right-click menu contains [Copy], [Paste], and [Delete] operations. Select the desired operation to execute it.
  - Using drag and drop  
Select the screen to copy and drag it to the copy destination to copy the screen.

## 6.4 Change State

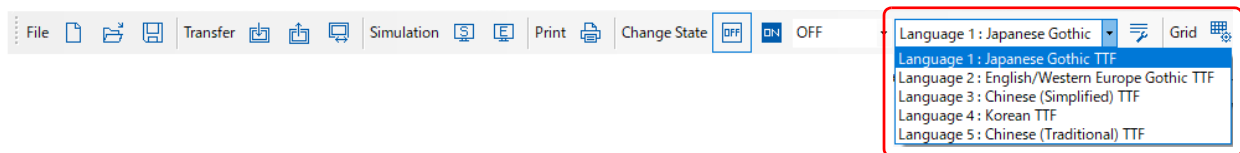
### 6.4.1 Changing Switch and Lamp States

The ON/OFF state of switches and lamps placed on the screen can be changed.



### 6.4.2 Changing Languages

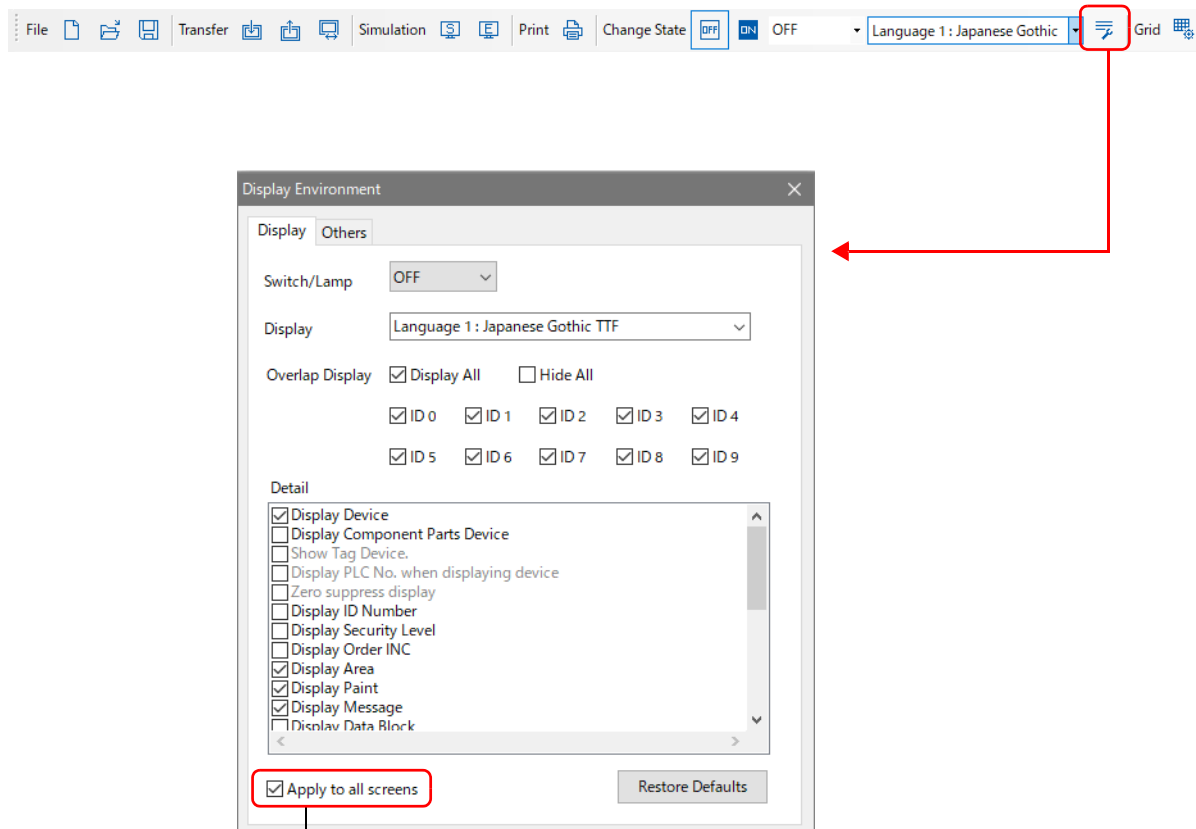
For screens with multiple display languages, the text on items placed on the screen can be changed to the text registered for each language.



## 6.5 Display Environment

The content displayed on screens can be batch configured.

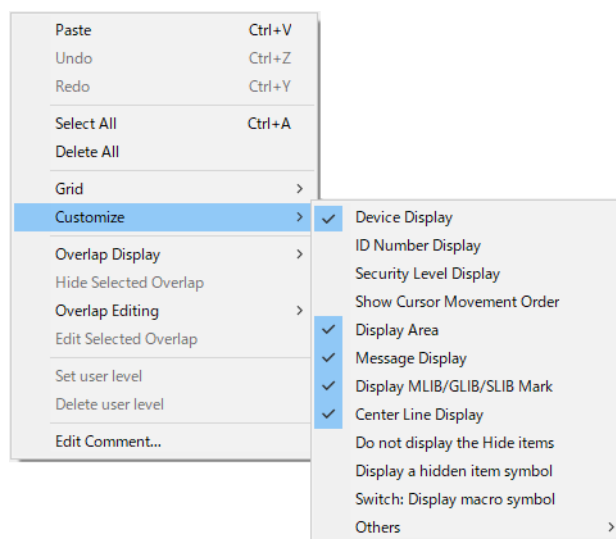
### Display Method



Select this checkbox to apply the configured display environment settings to all screens.

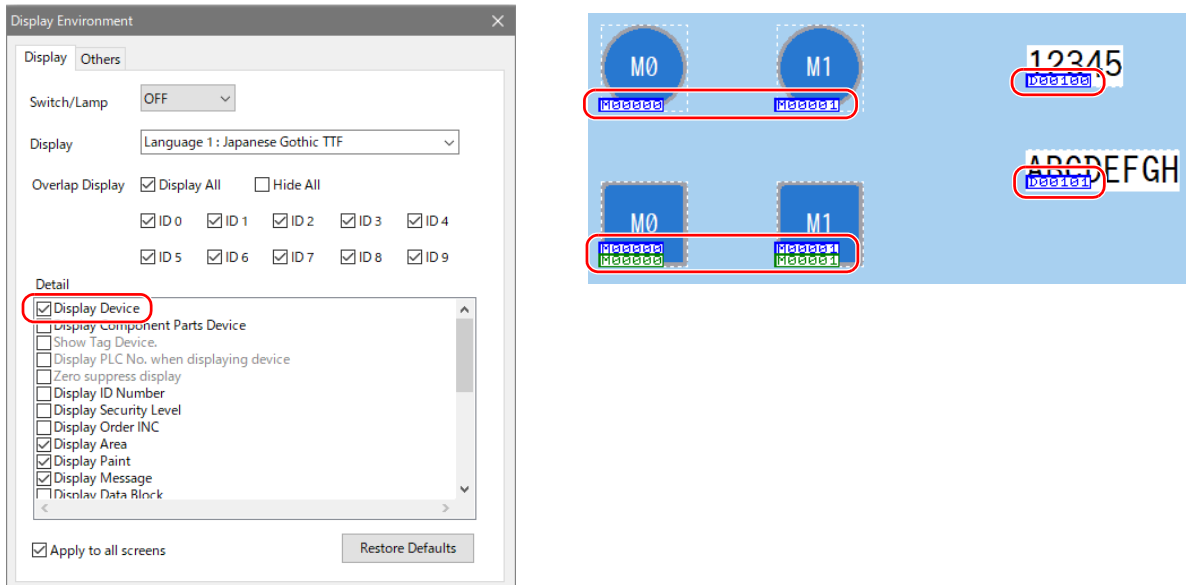


Display environment setting items can also be selected from the right-click menu.



## 6.5.1 Device Memory

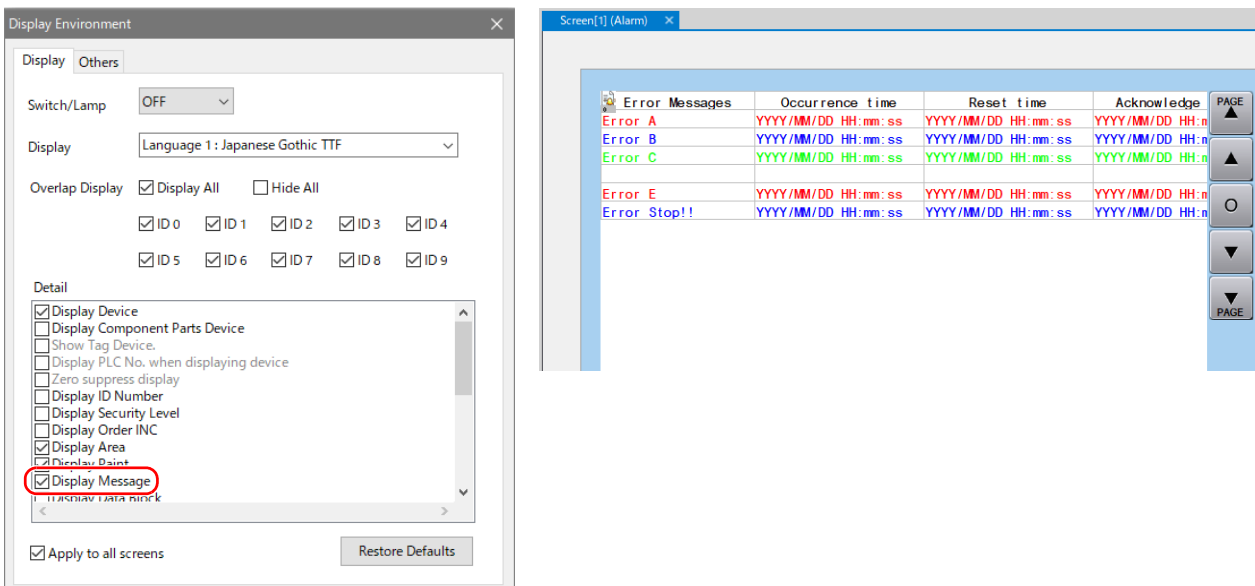
Display the device memory addresses set to items placed on the screen.



For the methods for displaying the display environment settings, refer to “Display Method” page 6-9.

## 6.5.2 Message

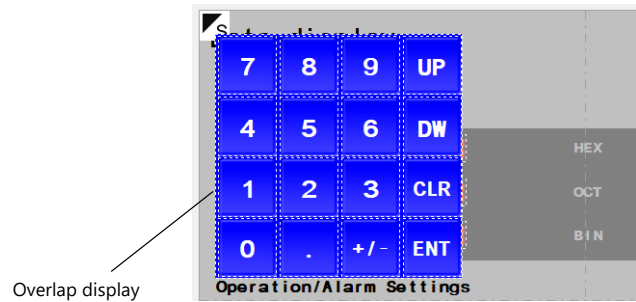
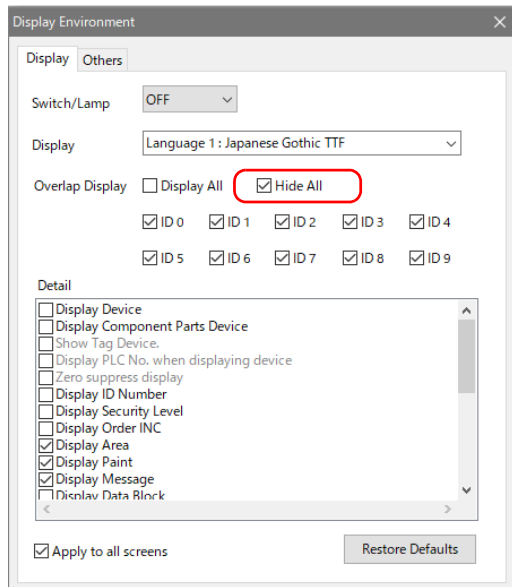
Messages specified using the alarm function etc. can be checked on the screen.



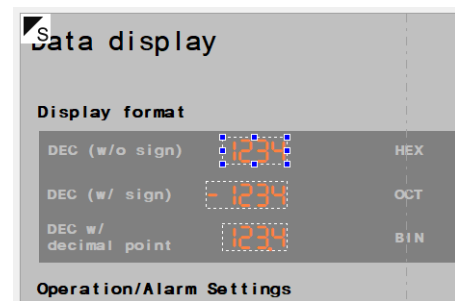
For the methods for displaying the display environment settings, refer to “Display Method” page 6-9.

## 6.5.3 Showing and Hiding Overlap Displays

If any items placed on a screen are hidden by an overlap display, such overlap displays can be hidden temporarily.



Overlap display is hidden while retaining settings.



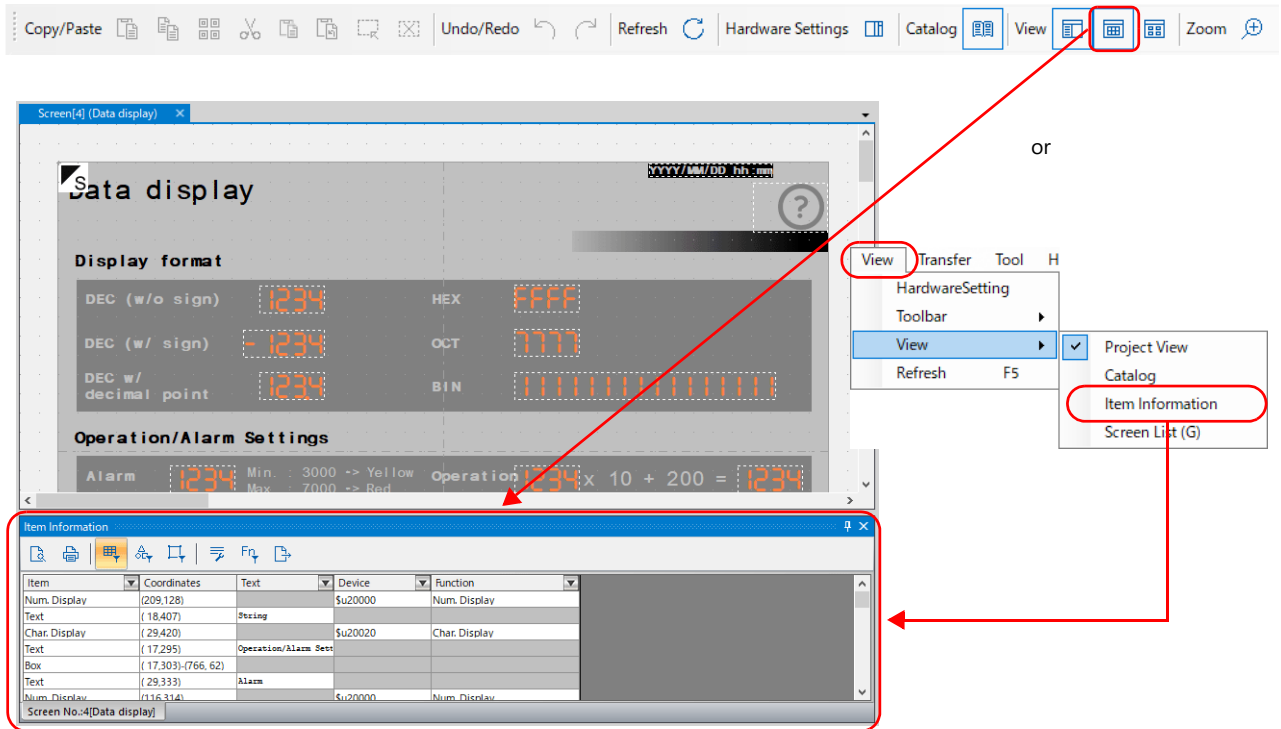
For the methods for displaying the display environment settings, refer to "Display Method" page 6-9.

## 6.6 Item Information

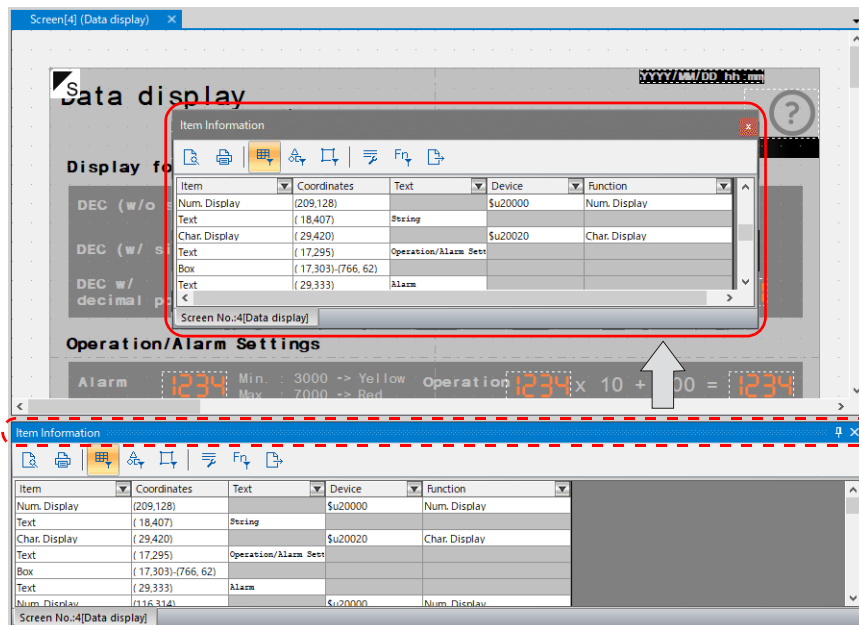
Items on the screen for editing can be checked or configured from a list.

### Display Method

Click the [Item Information] icon on the toolbar, or click [View] → [View] → [Item Information].

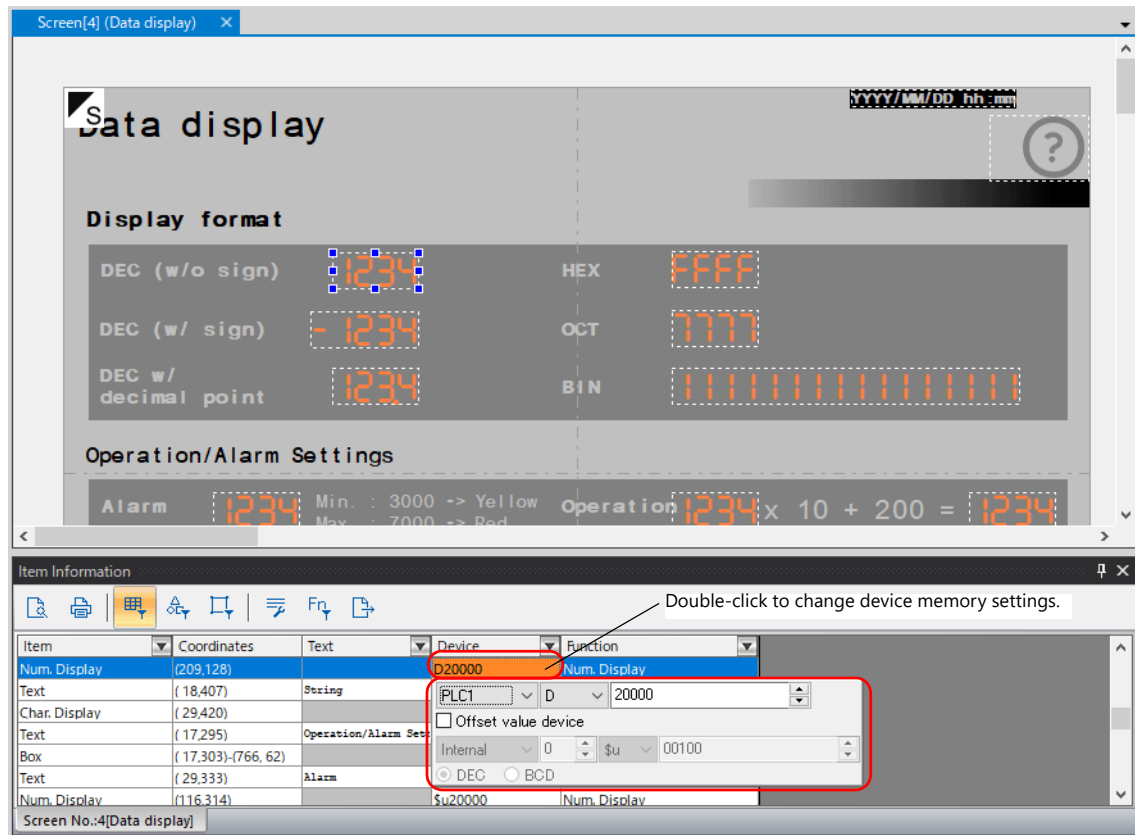


Double-click on the title bar of the view pane or drag the title bar and move it to another position to change the pane to the floating state.

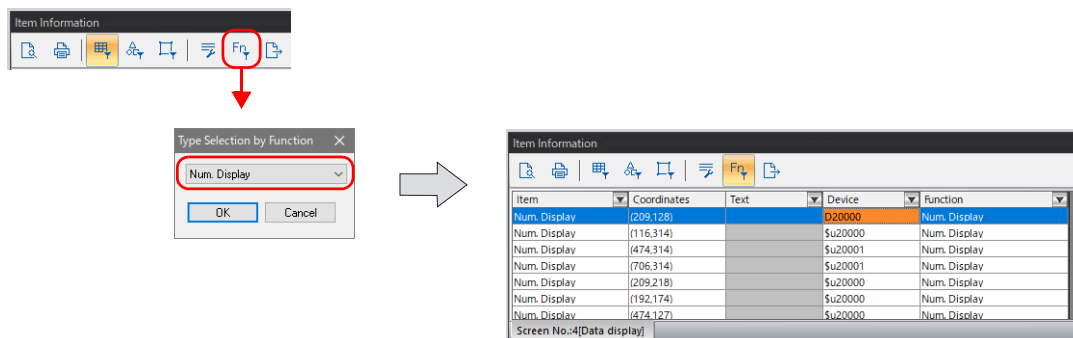


## Utilizing Item Information

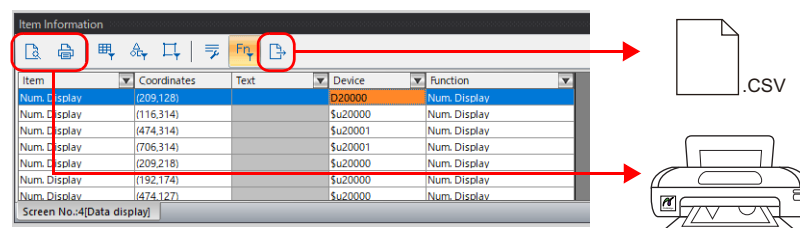
- Selecting items  
Click the name of an item on the [Item Information] pane to select the item. Settings can be changed directly from the [Item Information] pane.



- Filter function  
By using the function for type selection according to function, a list of items that only correspond to the selected function can be displayed.



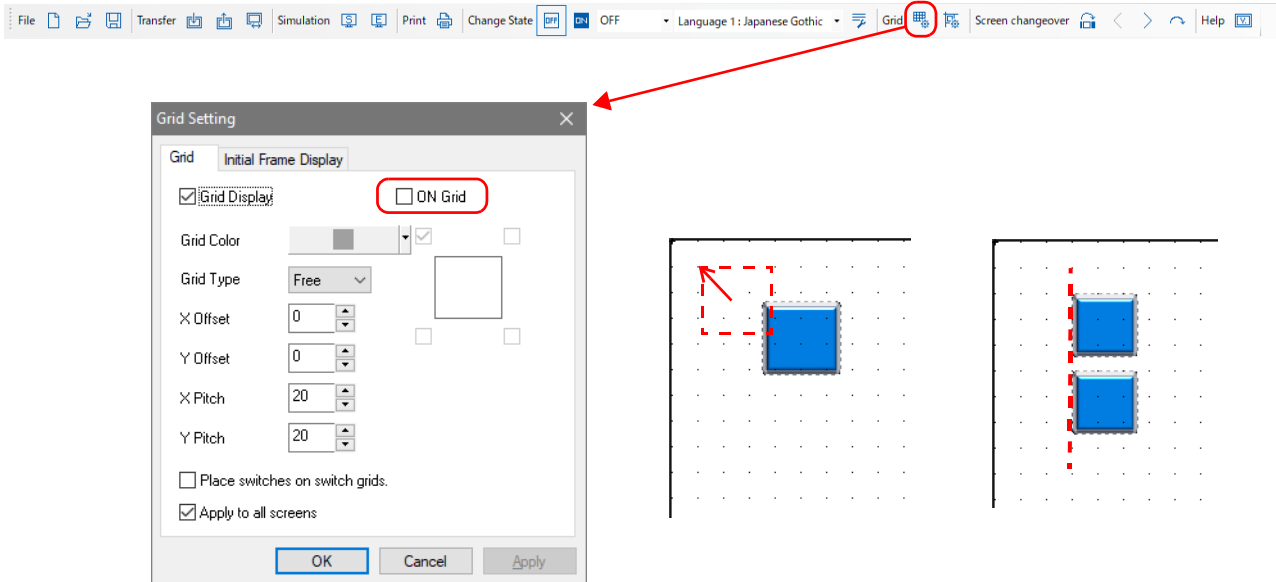
- Exporting to CSV and printing  
The content displayed on the [Item Information] pane can be exported to a CSV file or printed out.



## 6.7 Grid/Guides

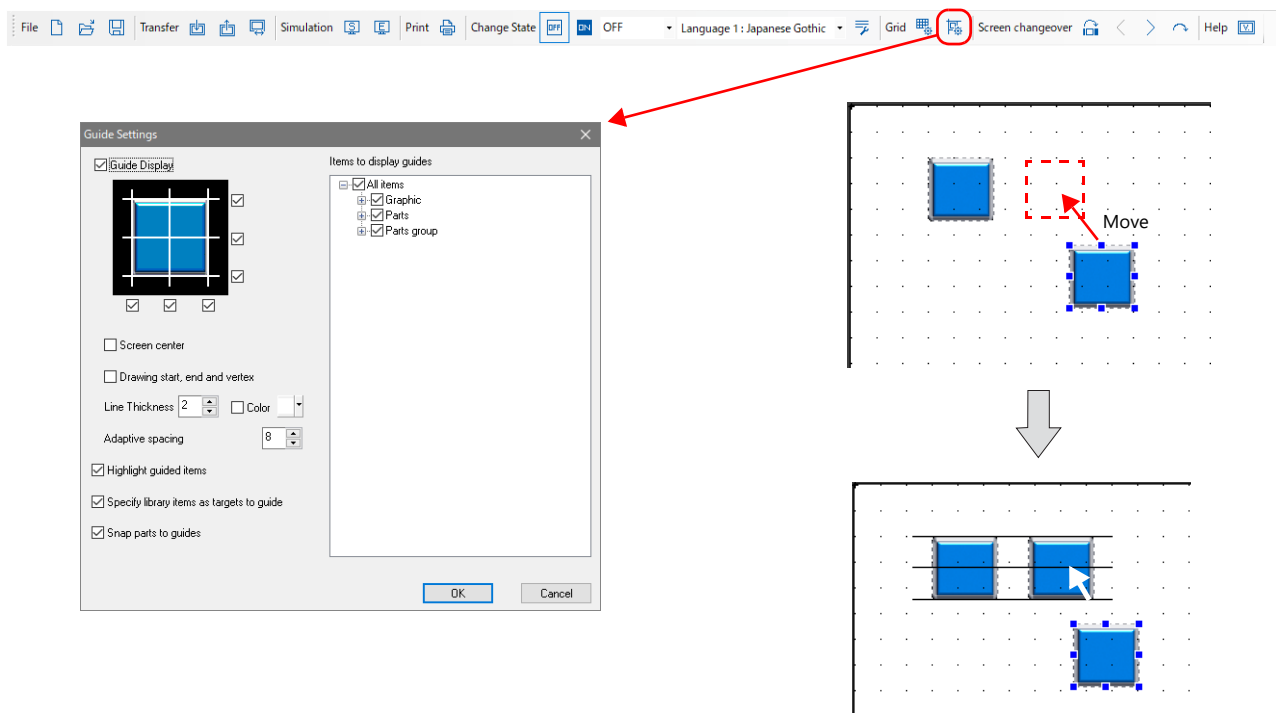
### 6.7.1 Grid Display

A grid can be displayed in the editing area.  
Place and move items along the grid on the screen.



### 6.7.2 Guides

Display guides for placing items and adjusting the size of items.

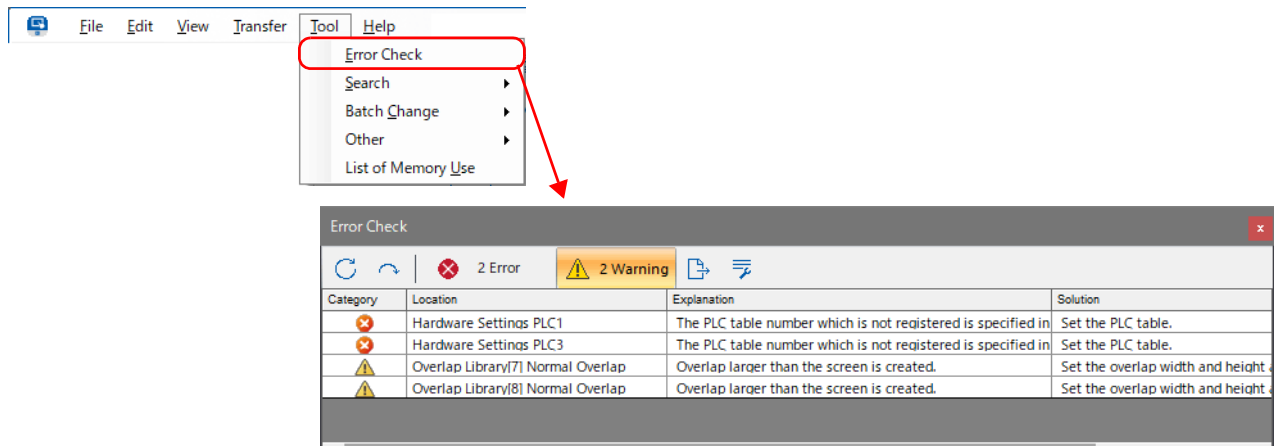


## 6.8 Error Check

Check the entire file currently being edited for errors and if any errors are found, display the error details and corrective measures.

### Display Method

Click [Tool] → [Error Check]. The [Error Check] pane is displayed.



\* Double-click an error item to jump to the location of the error.

Category	Description
✘	Error When transferred to MONITOUCH, this type of error will prevent the screen program from operating.
⚠	Warning A warning does not have any effect on screen program operation. This is a comparatively low-grade error.

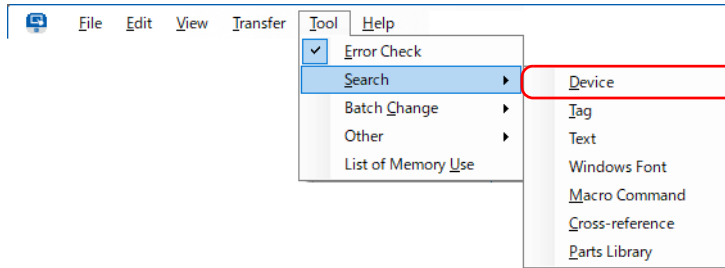
## 6.9 Search

### 6.9.1 Device Memory

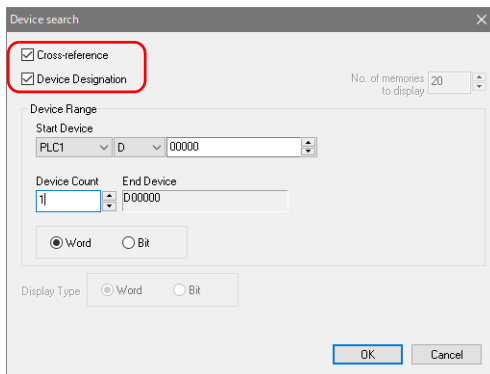
Search the device memory addresses used in the entire file and check the locations of use.

#### Search Method

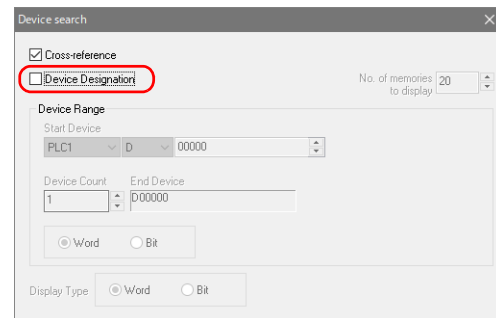
1. Click [Tool] → [Search] → [Device]. The [Device search] window appears.



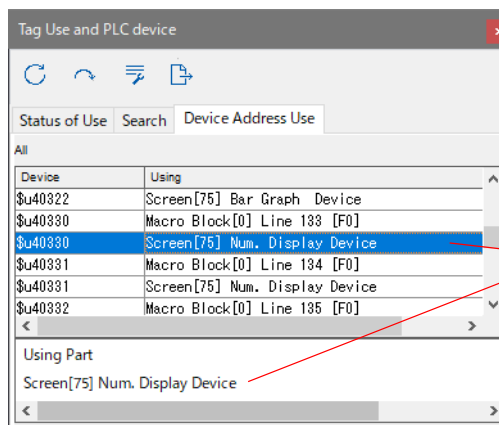
2. Select [Cross-reference] and [Device Designation], and specify the range of device memory addresses to search.



\* To search all of the device memory addresses, deselect [Device Designation].



3. Click [OK] to display a window that shows the usage status of device memory addresses in the specified range.

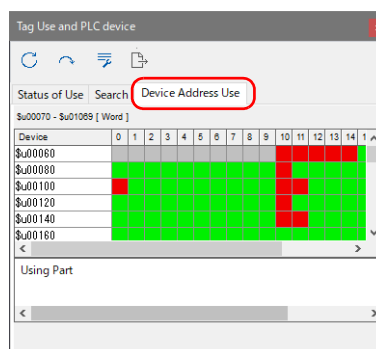


Double-click to jump to the location of use.



Deselect the [Cross-reference] checkbox to check the usage status in table format.

- \* The area outside the search range is grayed out.



■ Red: Used  
■ Blue: Selected  
■ Green: Not used

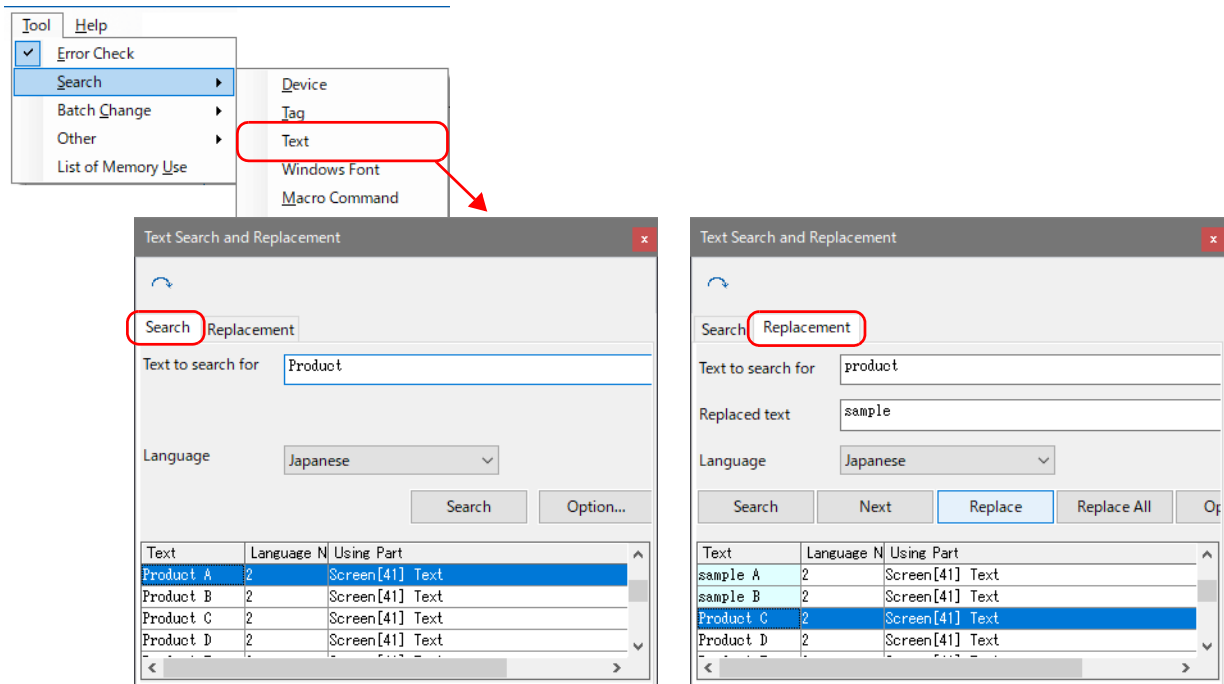
## 6.9.2 Text

Search the entire file for locations of use of the specified text. The specified text can also be replaced with other text if required.

### Search Method

Click [Tool] → [Search] → [Text]. The [Text Search and Replacement] window is displayed.

- Search only  
Specify text on the [Search] tab and click [Search].
- Replace text  
Specify text on the [Replacement] tab and click [Replace] or [Replace All], as required.



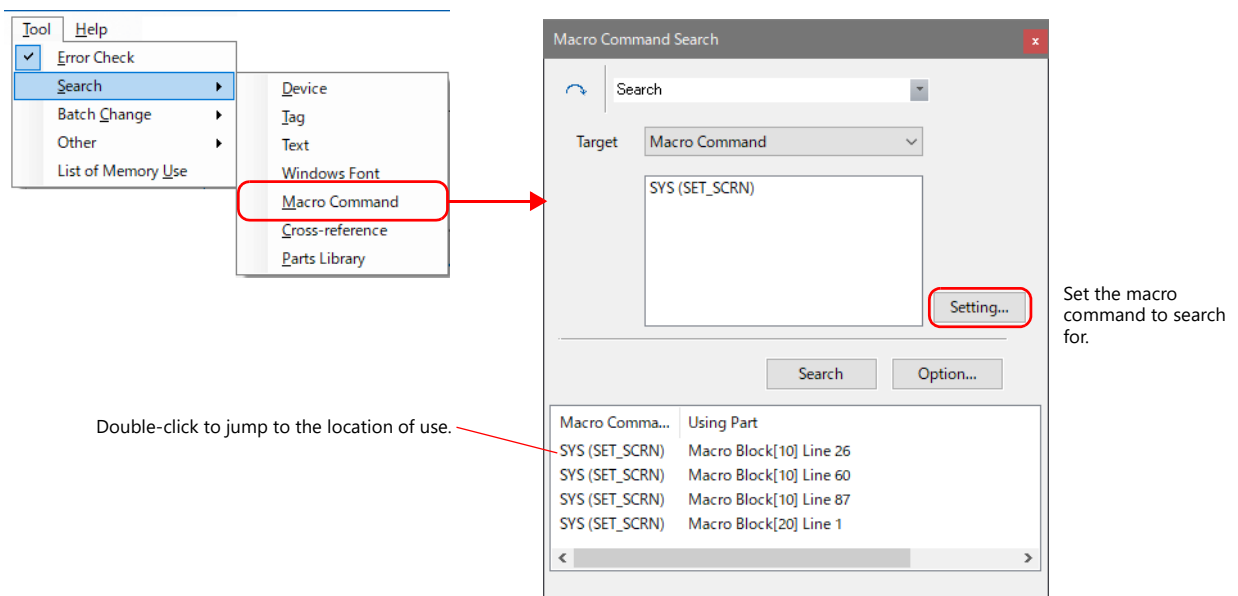
## 6.9.3 Macro Command

Search the entire file for locations of use of the specified macro command.

### Search Method

Click [Tool] → [Search] → [Macro Command]. The [Macro Command Search] window is displayed.

Specify the macro command to search for from [Setting].



Double-click to jump to the location of use.

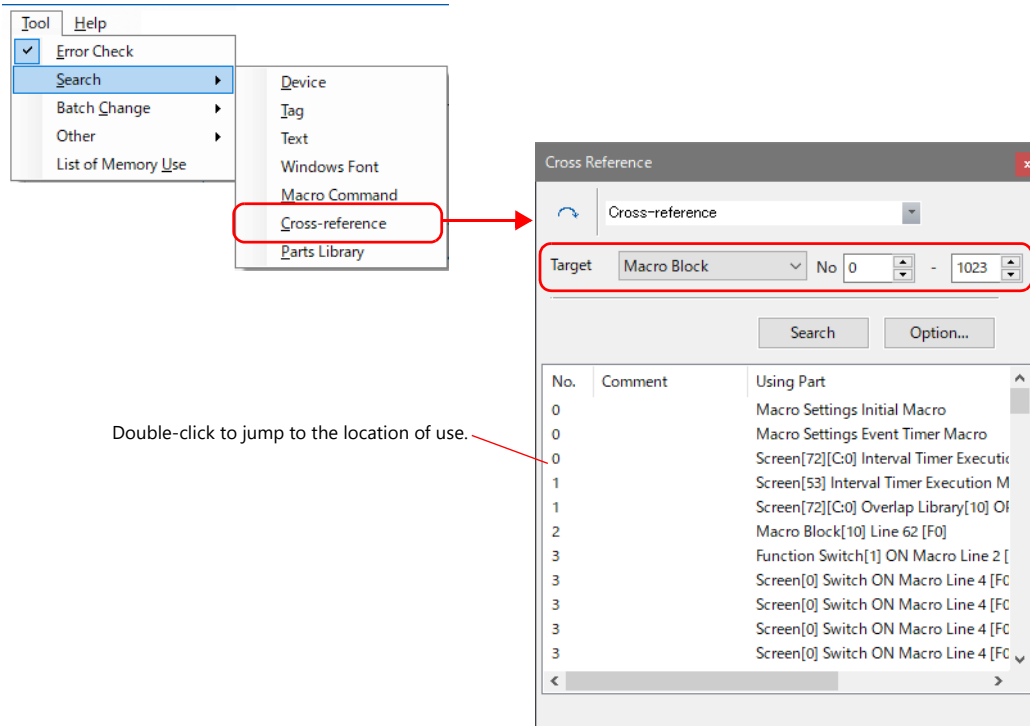
Set the macro command to search for.

## 6.9.4 Cross-reference

Search where screen, macro block, overlap library, screen library, graphic library, and pattern numbers are used.

### Search Method

Click [Tool] → [Search] → [Cross-reference]. The [Cross Reference] window is displayed.  
Select [Macro Block] for [Target] and specify a range.



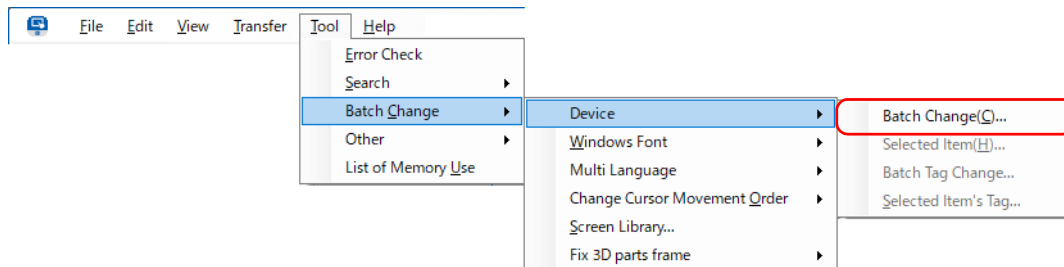
## 6.10 Batch Change

### 6.10.1 Device Memory

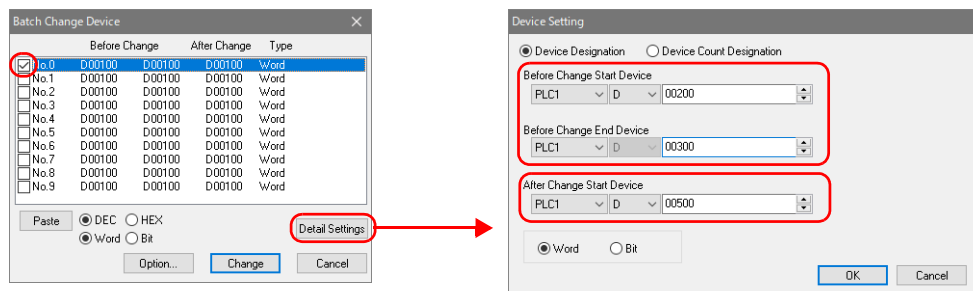
Collectively change multiple device memory addresses used in the file to other addresses.

#### Operation Method

1. Click [Tool] → [Batch Change] → [Device] → [Batch Change].



2. The [Batch Change Device] window is displayed. Select the [No. 0] checkbox, click [Detail Settings], and specify the device memory addresses before and after change.



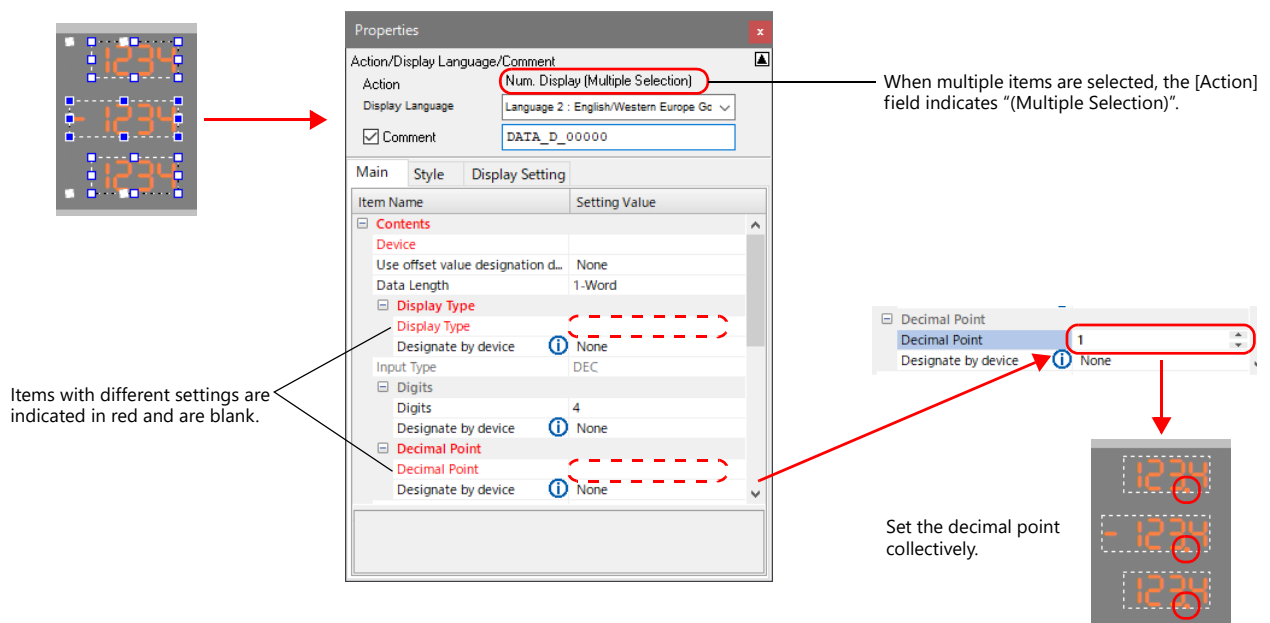
3. Click the [Change] button.

### 6.10.2 Properties

Collectively change the properties of parts of the same type.

#### Operation Method

Select multiple parts of the same type (numerical data display, etc.) and then change the properties (items with different settings: red).

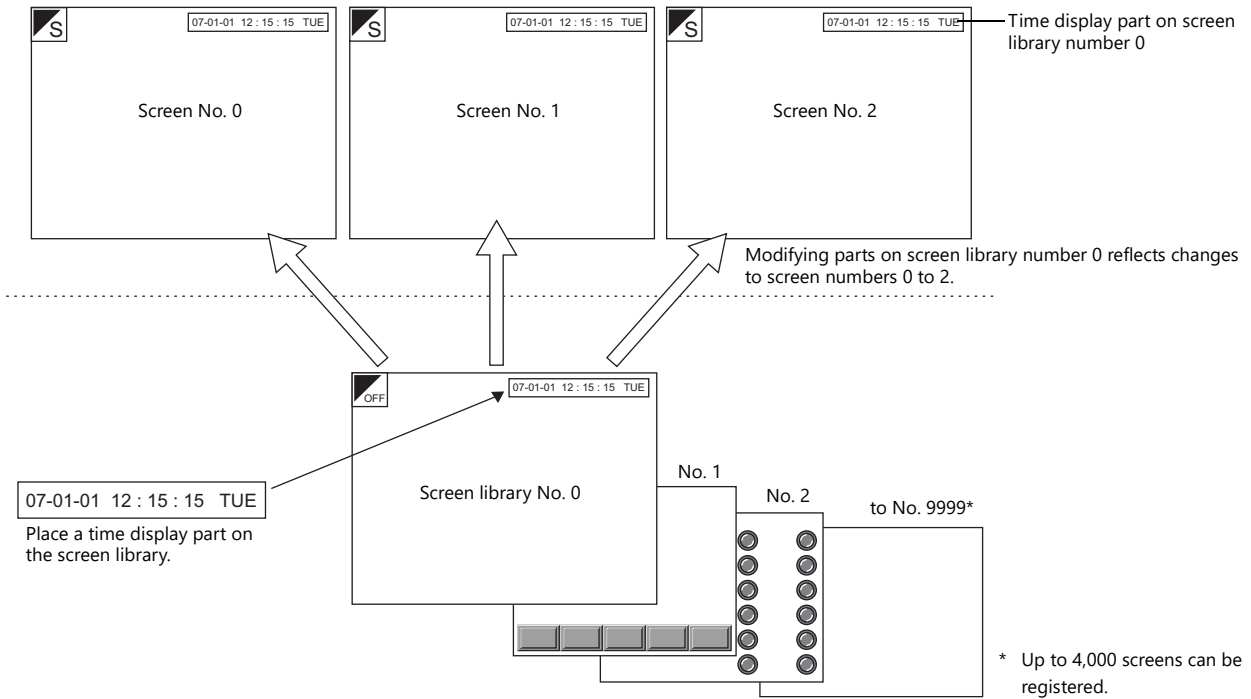


## 6.11 Screen Library

If there are parts such as switches, lamps, entry parts, and time display parts which are to be used across multiple screens, such parts can be registered in a screen library and then placed on base screens and overlap libraries, thereby facilitating screen configuration procedures.

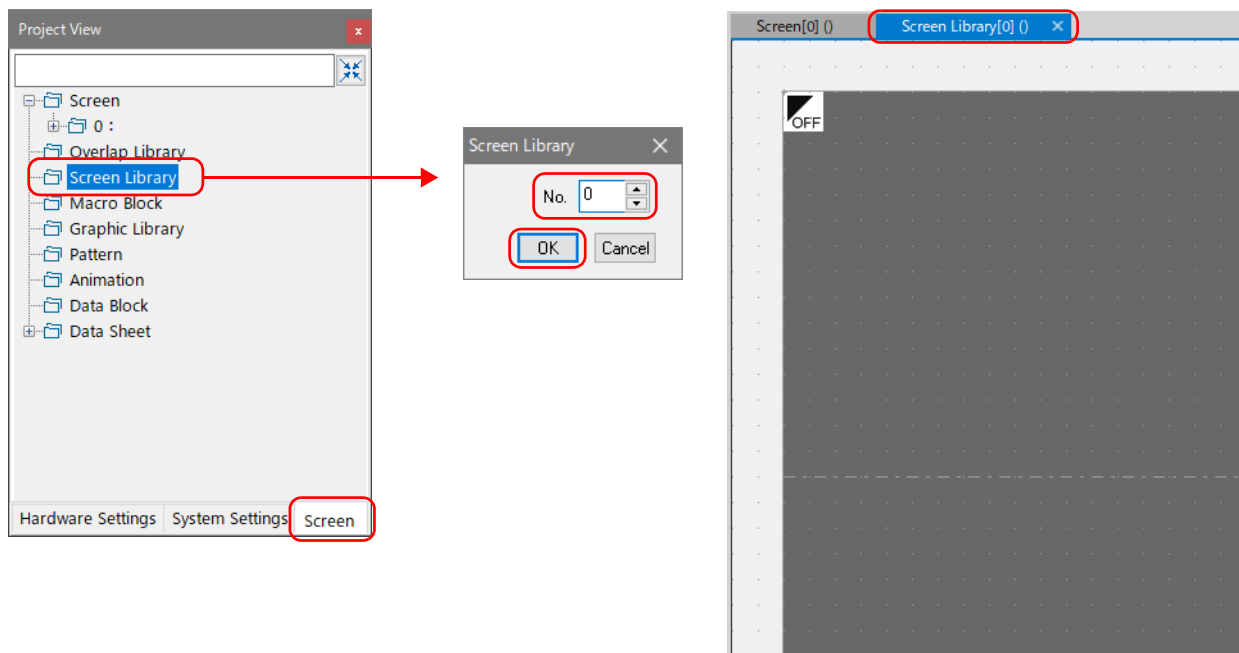
This helps to reduce the size of screen programs and enables centralized management of registered parts.

Example: Centralized management of registered parts by placing screen library number 0 on screen numbers 0 to 2

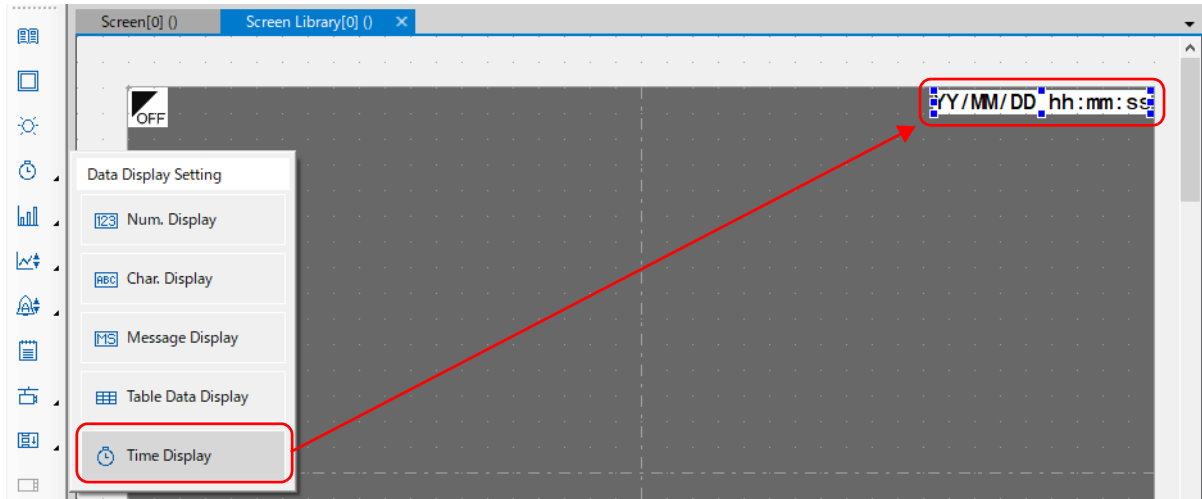


### Editing a Screen Library

1. Double-click [Screen Library] at the [Project View] pane → [Screen] tab, enter "0" at [No.], and then click [OK]. The [Screen Library [0]] editing window is displayed.

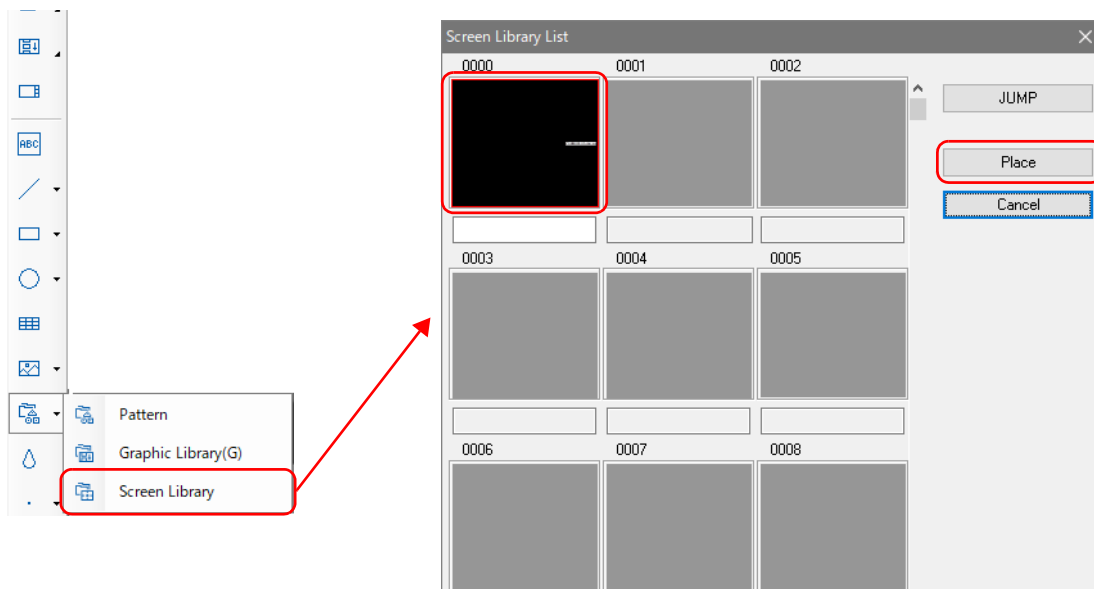


- On the parts bar, click and hold the [Data Display] icon, and then click and place a [Time Display] part.

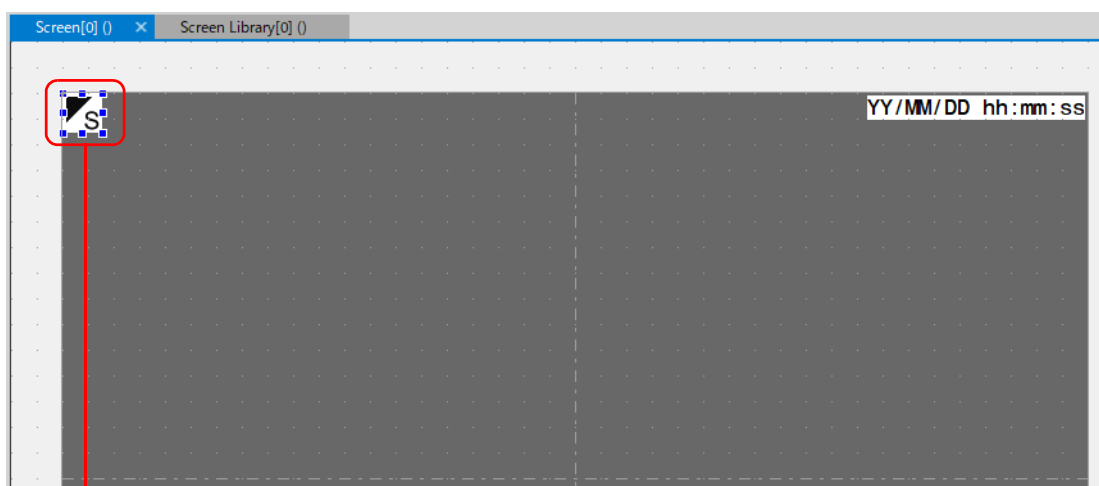


## Placing a Screen Library on a Screen

- On the parts bar, click the [▼] button of the [Library] icon → [Screen Library], select "0000" in the list, and then click [Place].



- Place the "S" mark of the screen library at the top left of the screen.



When editing the time display part, double-click the "S" mark to go to the editing window for screen library number 0.

## 6.12 Password

The security of a screen program itself can be enhanced by requiring entry of a password when opening the screen program file on a computer.

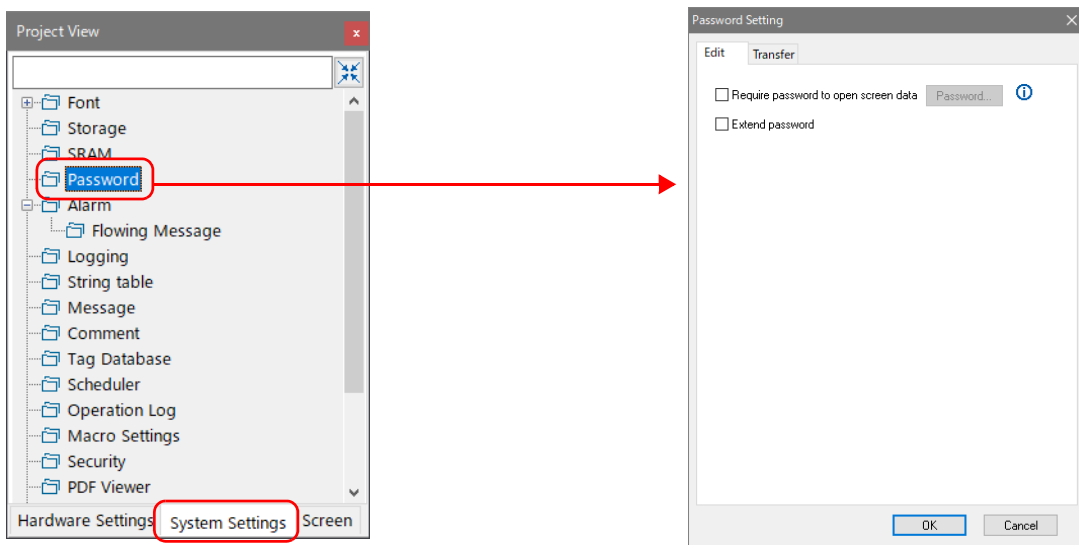
In addition, a password can be set for exporting a screen program from MONITOUCH, thereby preventing leakage of a screen program to a third party.



Take appropriate measures to avoid forgetting the password.

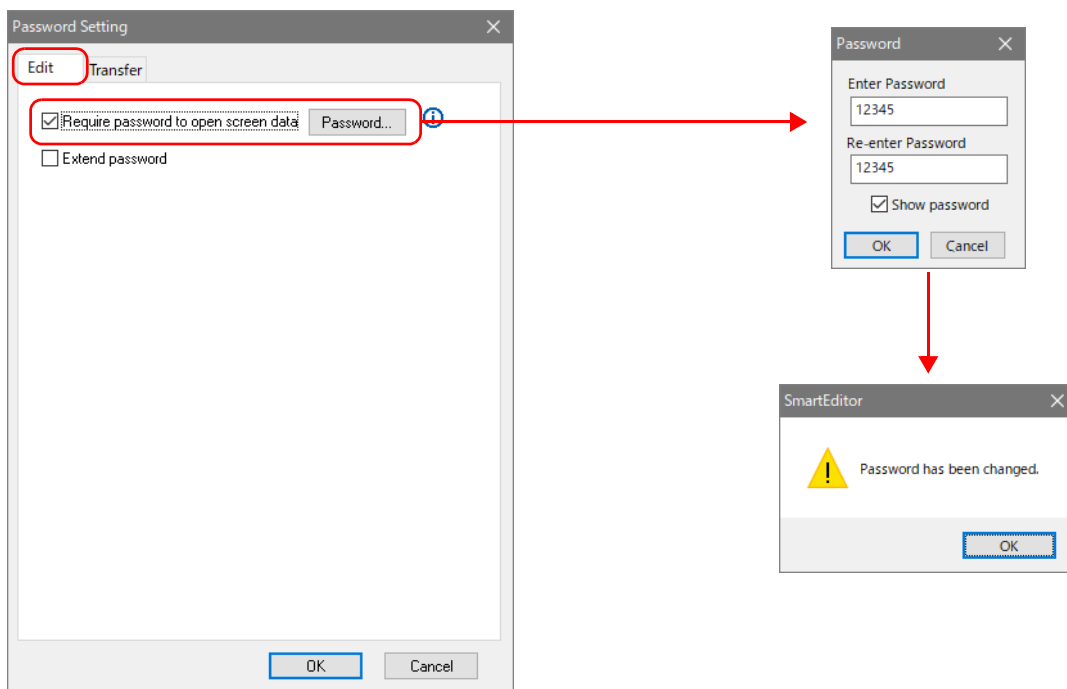
### Location of Settings

Double-click [Password] at the [Project View] pane → [System Settings] tab.



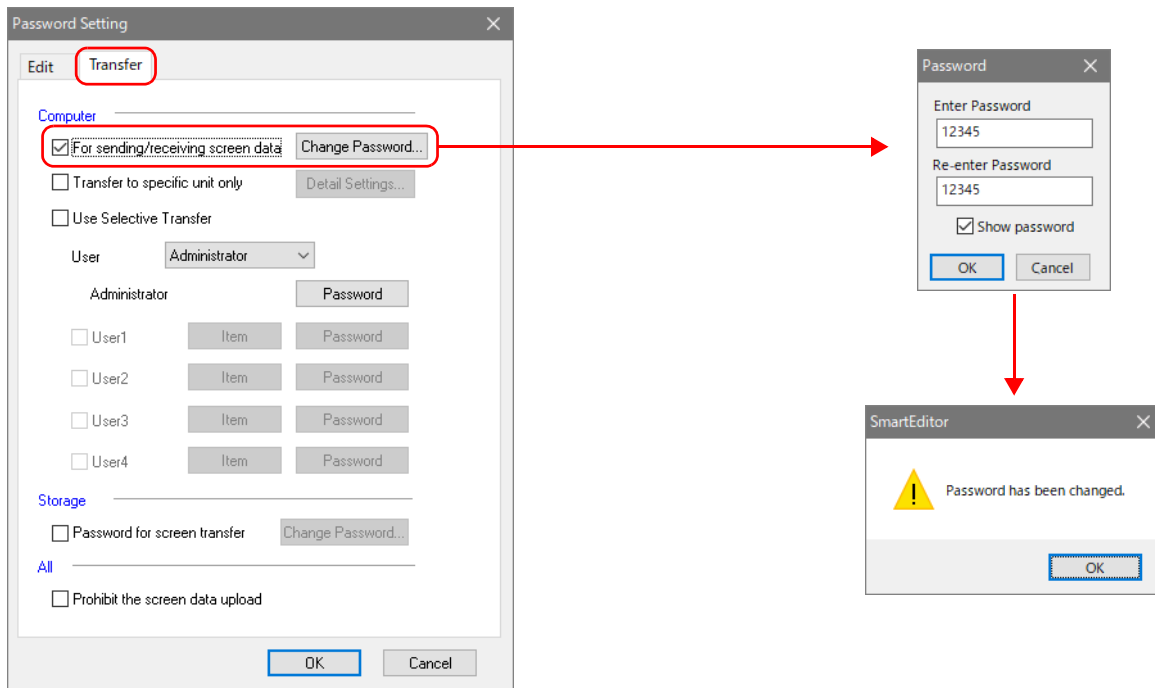
### For Opening a Screen Program File

Select the [Password Setting] → [Edit] → [Require password to open screen data] checkbox, and then register a password from [Password].

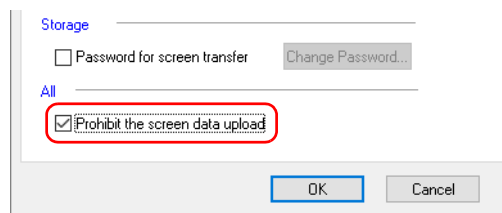


## For Transferring a Screen Program File (Download/Upload)

Select the [Password Setting] → [Transfer] → [For sending/receiving screen data] checkbox, and then register a password from [Change Password].



Select the [Prohibit the screen data upload] checkbox to completely prohibit exporting of the screen program file. In this case, the manager of the screen program must keep a backup of the program.





# 7 Appendix

## 7.1 Windows Font

Fonts such as TrueType font are provided for display on MONITOUCH, but Windows fonts available on the computer can be used as well. Because Windows font settings can be changed for individual parts and messages, a high degree of flexibility is available for screen creation.

Windows fonts also allow for multi-language display on one screen.

### Windows フォント

MS ゴシック  
MS 明朝  
Arial  
Century  
Dial  
Comic Sans MS  
Monotype Corsiva



By using Windows fonts, it becomes possible to display multiple languages on one screen and also to switch the language (switch only the displayed characters while the screen layout remains the same).

When creating such a multi-language screen program, set the number of languages to "2" or more, select the same font (such as Japanese Gothic TTF) for the languages, and use necessary Windows fonts respectively for each of the languages (refer to [page 7-8](#)).

### 7.1.1 Setting Items

The required settings differ depending on what part Windows fonts will be used for. Refer to the following table and configure settings.

○: Required, ---: Not required

Parts		Required Settings	
		Windows Font Setting for Individual Part ( <a href="#">page 7-2</a> )	Edit Message ( <a href="#">page 7-3</a> )
Text <sup>*1</sup>		○	---
Text on a switch		○	---
Text on a lamp		○	---
Data display	Numerical data display <sup>*2</sup>	○	---
	Character display <sup>*2</sup>	○ + Windows font registration <sup>*9</sup>	---
	Message display <sup>*10</sup>	○	○
Table Data Display	Numerical data display <sup>*3</sup>	○	---
	Character display	○ + Windows font registration <sup>*9</sup>	---
	Message display <sup>*10</sup>	○	○
	Text	○	---
Logging <sup>*4</sup>	Display Method: Data Display	○ <sup>*5</sup> + Windows font registration <sup>*9</sup>	---
Alarm <sup>*6 *7 *10</sup>		○ <sup>*5</sup>	○
Time Display		○	---
Calendar		○	---
Message display <sup>*10</sup>		○	○
Comment		---	○ <sup>*8</sup>

<sup>\*1</sup> There is a limit on the text size as follows: Height × length = 120,000 bytes or less per single instance of text

<sup>\*2</sup> [Function Select] must be set to [Num. Display], [Char. Display], [Entry Display Part], [Entry Target], [Max. Value Display Part], [Min. Value Display Part] or [Digital Switch]. Note that setting is not possible for data display in graphic libraries.

<sup>\*3</sup> Setting is not possible when [Function Select] is set to [Max. Value Display Part], [Min. Value Display Part], or [Total Value Display] is selected.

<sup>\*4</sup> When logging data is printed out, Windows fonts are not available.

<sup>\*5</sup> For trend graphs (data history display) or alarms, configure settings on the [Properties] pane → [Style].

<sup>\*6</sup> Set the character ON and OFF colors in the alarm server settings. The color settings made on the [Message Edit] window are disabled.

<sup>\*7</sup> Set the text size for the message display area on the [Properties] pane → [Style]. The text size settings made on the [Message Edit] window are disabled.

<sup>\*8</sup> Register on the [Project View] pane → [System Settings] tab → [Comment].

<sup>\*9</sup> If no font is registered for a part that requires Windows font registration, spaces are displayed in place of characters. (For details, refer to [page 7-4](#).)

<sup>\*10</sup> For parts that require configuration of both the [Use Windows fonts] setting of each part and settings on the [Message Edit] window, the part will be displayed using the font specified on the [Project View] pane → [System Settings] tab → [Font] settings if settings are inadequate or a part does not support Windows fonts.

## 7.1.2 Setting Procedure



- Windows fonts can be set collectively. For details, refer to "7.1.4 Batch Changing Windows Fonts" page 7-6.

### Windows Font Settings for Individual Parts

- Set [Use Windows fonts] to [Yes] or set [Font] to [Windows Font] in the properties of each part.



For details on Windows font registration, refer to [Font Registration](#) page 7-4.

<Switch>

<Numerical data display>

\* Click the ellipsis [...] next to the Windows font name and set the font, size, and character set.



Parts that require settings on the [Message Edit] window need only set [Use Windows fonts] to [Yes]. Windows font settings are to be made on the [Message Edit] window.

- To smooth the edges of text, set [Smooth Font] to [Yes].

\* When [Smooth Font] is enabled, the [Set text background color as transparent] will be set to [None].

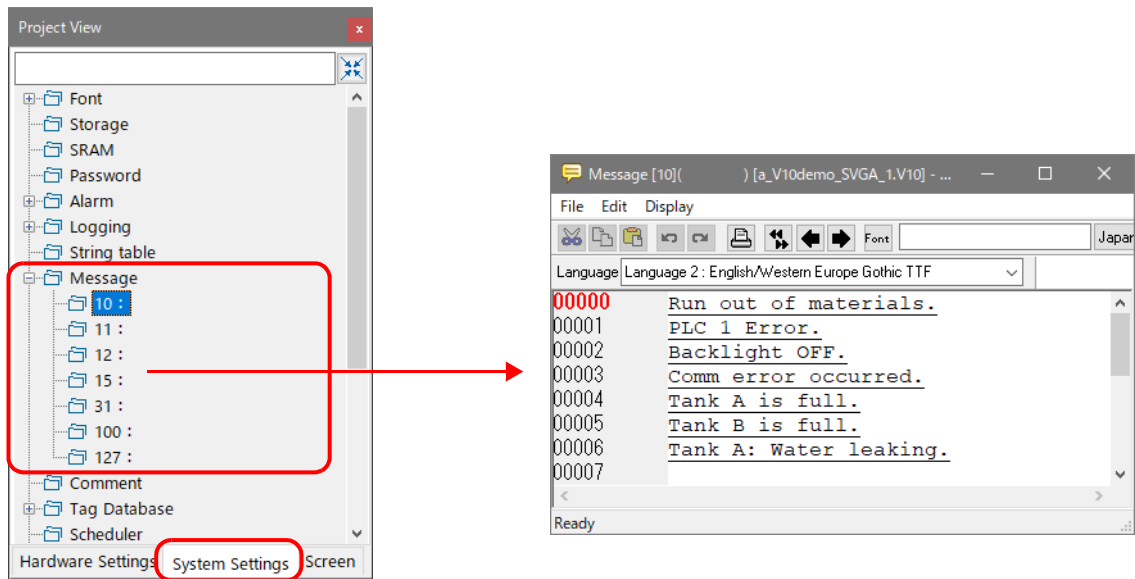


Only monospaced Windows fonts can be used for numerical data and character display parts. Proportional fonts are not available.

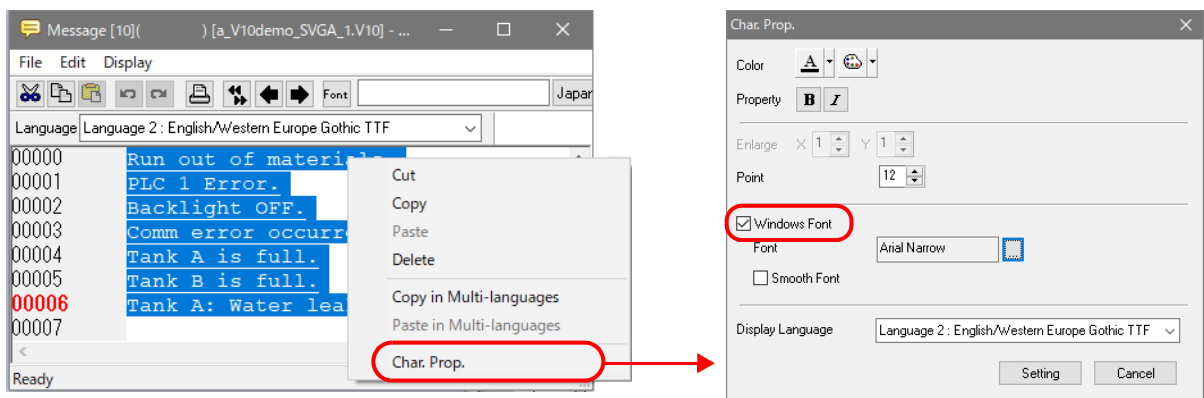
Font	Usable
MS Gothic	○
MS PGothic	×
Courier	○
Arial	×

## Message Editing

1. Display the [Message Edit] window from the [Project View] pane → [System Settings] tab → [Message].  
(The window can also be displayed from the properties of parts and from alarm blocks (page 4-18).)

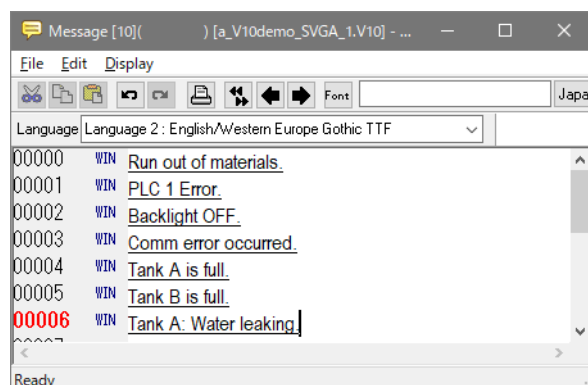


2. Select the target messages and click [Char. Prop.] on the right-click menu.  
Select the [Windows Font] checkbox, and set the font, color, point size, etc.  
To smooth the edges of text, select the [Smooth Font] checkbox.



Right-click while messages are selected.

3. Click [Setting] to return to the [Message Edit] window. The window shows the messages in the Windows font as set.



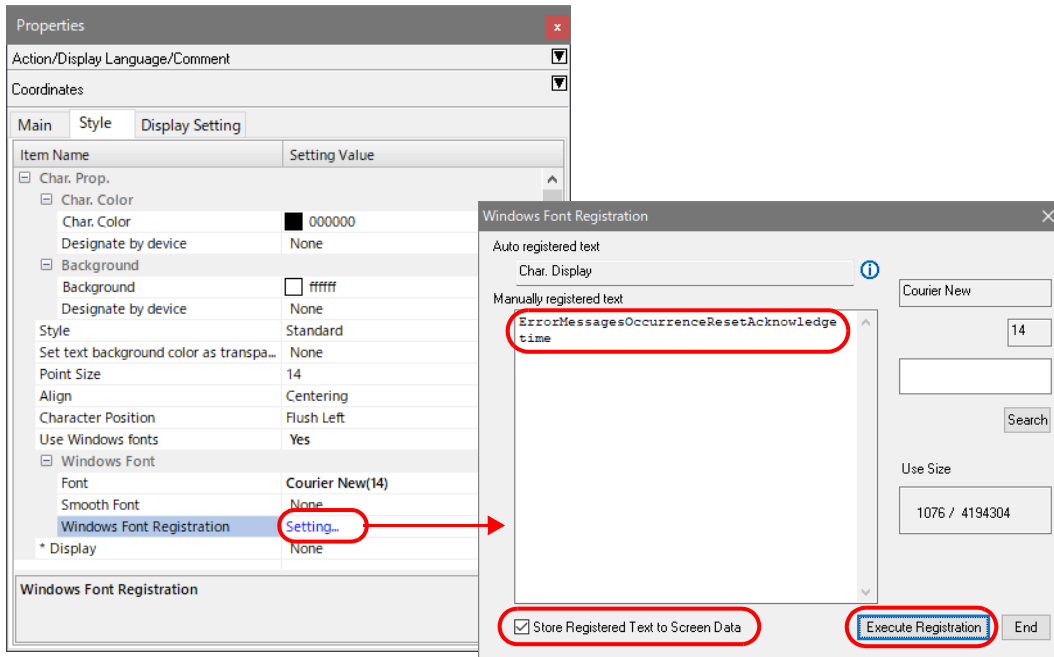
## Font Registration

When [Use Windows fonts] is set to [Yes] for a character display, the [Windows Font Registration] setting appears. This is because unlike fixed text used for text in drawing parts or message display parts, the part is likely to display varied characters. Register all such probable characters through [Windows Font Registration] so as to make them displayable on MONITOUCH.



Characters that are not registered are displayed as spaces on MONITOUCH.

1. Set [Style] → [Char. Prop.] → [Use Windows fonts] to [Yes] on the [Properties] pane of the character display.
2. Click the ellipsis [...] next to the Windows font name and set the font, size, and character set.
3. Click [Windows Font Registration] → [Setting]. The [Windows Font Registration] window is displayed.



\* One-byte alphanumeric characters A to Z, a to z, and 0 to 9 do not need to be input.

Item	Description
Registration Range Select	Register the text to display using Windows font.
Search	This button searches the area under [Registration Range Select] for the text entered in the box. The text will be highlighted if found. Once you have registered text, you do not need to repeat its registration.
Use Size	The data size of the registered text in the currently selected font is displayed. The maximum size is 256 kB. The data size of characters in the same font and the same point size is displayed. If there are characters in the same font but in different point sizes, they are assumed to be different. These characters must be registered separately.
Store Registered Text to Screen Data	When this checkbox is selected, a font registration file <sup>*1</sup> (with an extension .txw) will not be stored on MONITOUCH. Because the file will be necessary when the screen program is exported from MONITOUCH, be sure to store the file together with the screen program. <sup>*2</sup> When this checkbox is selected, a font registration file (with an extension .txw) will be stored together with the screen program on MONITOUCH. Note that the larger the file size, the less memory available for the screen program.
Execute Registration	This button registers the text entered under [Registration Range Select].
End	This button ends font registration.

<sup>\*1</sup> For details on the font registration file (with an extension \*.txw), refer to "Windows font registration list" page 7-5.

<sup>\*2</sup> If the txw file is lost, the registered text will be rebuilt from the screen program. However, in this case, the text is registered in character code order. A txw file is created when saving the screen program.

## Font registration file

When a screen program that has Windows font registered is saved, a file named as shown below will be saved in the same place as the screen program.

XXXXXXXX.txw

Filename same as the screen program

This file contains the text registered through font registration. When storing a screen program, make sure to store the font registration file with it. Be sure not to make any changes to the file.

Note that if the font registration file is lost or modified, the registered font data may be deleted or altered. Registration will be required again in such a case.

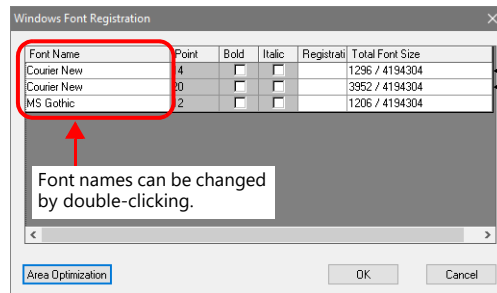
## Windows font registration list

The [Windows Font Registration] window lists the fonts registered in the screen program and their memory sizes. Font names can also be changed.



The [Windows Font Registration] window only lists the fonts registered through [Windows Font Registration] for character display parts. To see Windows fonts used in drawing parts (example: text, text on switches) etc., check [Windows Font List].

- Location  
[Tool] → [Batch Change] → [Windows Font] → [Register Windows Font]



Characters of the same font but in different point sizes are registered separately.



The [Point], [Bold], and [Italic] settings cannot be changed in the above window. If necessary, configure these settings in the settings of the relevant part.

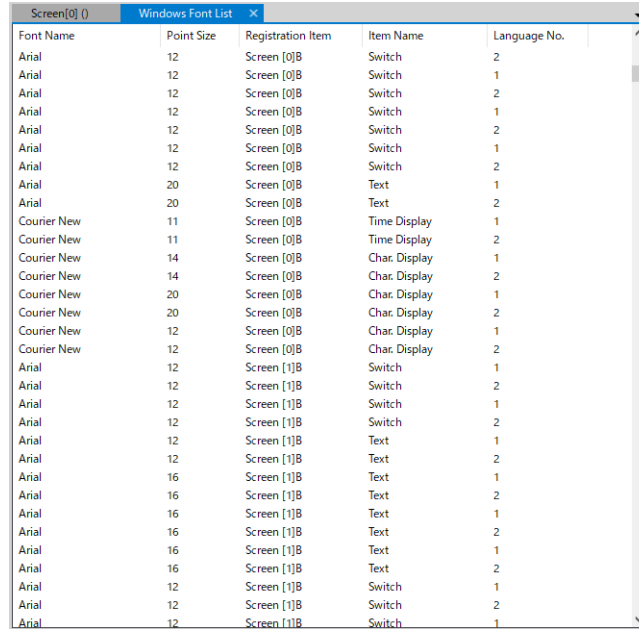
- Area optimization  
If any font is changed, the data size of the text is changed accordingly by optimization.

### 7.1.3 Displaying the Windows Font List

The Windows font names used in the screen program, setting locations, point sizes, language numbers, etc, can be displayed in list form.

#### Location

[Tool] → [Search] → [Windows Font]



- Double-click a font name in the window to jump to the screen where the font is used.
- If a font that is not installed on your computer is used in the screen program, its name is colored red. For details, refer to [Windows Fonts Used in a Screen Program but Not Installed on the Computer](#) (page 7-9).

### 7.1.4 Batch Changing Windows Fonts

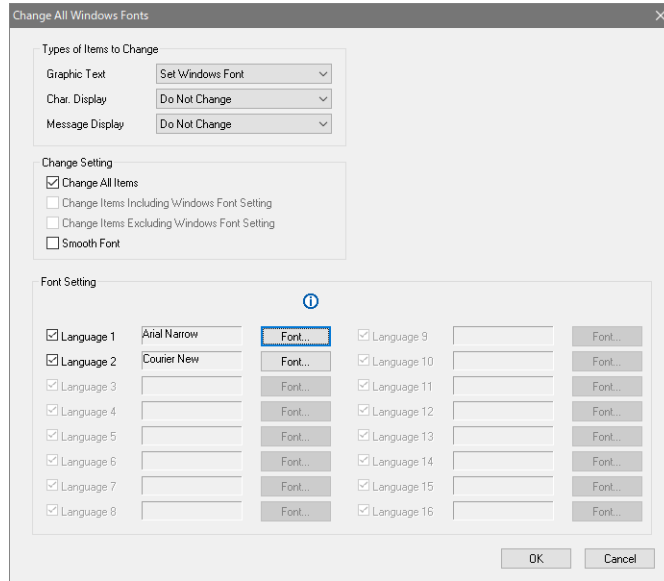
Windows fonts can be set, canceled, or changed collectively.

#### Procedure

1. Select [Tool] → [Batch Change] → [Windows Font].
2. From the displayed sub-menu, select an item according to your purpose.

Item	Description
Change All	Select this item when making changes to all items in the screen program you are currently editing.
Current Window Change	Select this item when making changes to all items in the window you are currently editing.
Selected Item	Select this item when making changes to selected items.

3. The [Change All Windows Fonts] window is displayed.

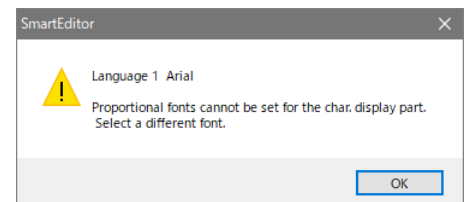


Item	Description						
Types of Items to Change	<p>Select items to which batch setting applies.</p> <ul style="list-style-type: none"> <li>Do Not Change</li> <li>Reset Windows Font</li> <li>Set Windows Font</li> </ul> <p>The applicable items and their categories are:</p> <table border="1"> <tbody> <tr> <td>Graphic Text</td> <td>Text Comment display Text on switch/lamp Table data display (text)</td> </tr> <tr> <td>Char. Display *1</td> <td>Numerical data display Character display Table data display (numerical data/character) Logging parts Time display Calendar</td> </tr> <tr> <td>Message Display *2</td> <td>Message display Table data display (message) Message mode Alarm parts</td> </tr> </tbody> </table>	Graphic Text	Text Comment display Text on switch/lamp Table data display (text)	Char. Display *1	Numerical data display Character display Table data display (numerical data/character) Logging parts Time display Calendar	Message Display *2	Message display Table data display (message) Message mode Alarm parts
Graphic Text	Text Comment display Text on switch/lamp Table data display (text)						
Char. Display *1	Numerical data display Character display Table data display (numerical data/character) Logging parts Time display Calendar						
Message Display *2	Message display Table data display (message) Message mode Alarm parts						
Change Setting	<ul style="list-style-type: none"> <li>Change All Items</li> <li>Change Items Including Windows Font Setting</li> <li>Change Items Excluding Windows Font Setting</li> <li>Smooth Font</li> </ul>						
Font Setting	Press [Font], and then select the desired font for each language.						

\*1 Proportional fonts are not available for character displays (page 7-2).

An error message will be displayed. Select a non-proportional font instead.

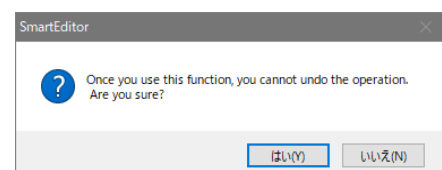
\*2 For messages, only the [Yes]/[None] state of the [Use Windows fonts] setting on the [Properties] pane → [Style] of each part is changed. Settings on the [Message Edit] window ([Project View] pane → [System Settings] tab → [Message]) need to be changed manually.



4. Configure settings and click [OK].



Note that once a batch change is executed, it is not possible to undo the operation.



5. Batch change is completed.

## 7.1.5 Windows Fonts for Multi-Language Screen Programs

When using Windows fonts for multi-language screen programs, some limitations apply.

### Conditions for Multi-Language Editing Using Windows Fonts

- [Project View] pane → [System Settings] tab → [Font]  
Set the same font settings for each language on the [Font Setting] window.
- Screen program capacity  
Windows fonts will occupy a large memory space in the screen program. Check available memory constantly.  
In comparison to the amount of memory consumed for a screen program without Windows fonts, the amount may double if Windows fonts are used.
- Using Windows fonts for all languages  
When using a Windows font for a part, Windows font must be specified for all languages of that part. For example, it is not possible to use Windows fonts for just the second language.

### Multi-Language Editing Using Windows Fonts

- In general, configure settings on the [Project View] pane → [System Settings] tab → [Font] → [Multi-language] window.



Settings can also be exported as a TXT file and edited using Excel, etc.  
Set the [Project View] pane → [System Settings] tab → [Font] → [Export/Import] → [File format] to [Unicode text (\*.txt)] and export.

- If any language is incorrectly displayed on the [Multi-language] window, click the [Multi-language Setting] icon at the top and select the respective font.

The image shows two screenshots. The top screenshot is the 'Multi-language Edit Setting' dialog box. It has a table with columns for languages: 1.Japanese, 2.English, 3.Chinese (Simplified), 4.Korean, and 5.Chinese (Traditional). Below the table are dropdown menus for Language 1 through Language 16. Language 1 is set to Japanese, Language 2 to English/Western Europe, Language 3 to Chinese (Simplified), Language 4 to Korean, and Language 5 to Chinese (Traditional). The bottom screenshot shows a project view window with a screen titled 'Screen[8] (Graph display)'. The text 'Graph display' is highlighted with a red circle. A red arrow points from the 'Multi-language Edit Setting' dialog to the project view window.

\* Double-click either the [Using Part] column or the column of the first language to jump to the location where the item is used.

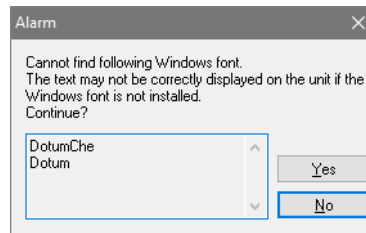
## 7.1.6 Windows Fonts Used in a Screen Program but Not Installed on the Computer

If any Windows fonts that are not installed on your computer are used in a screen program, the text in such fonts cannot be edited or modified.

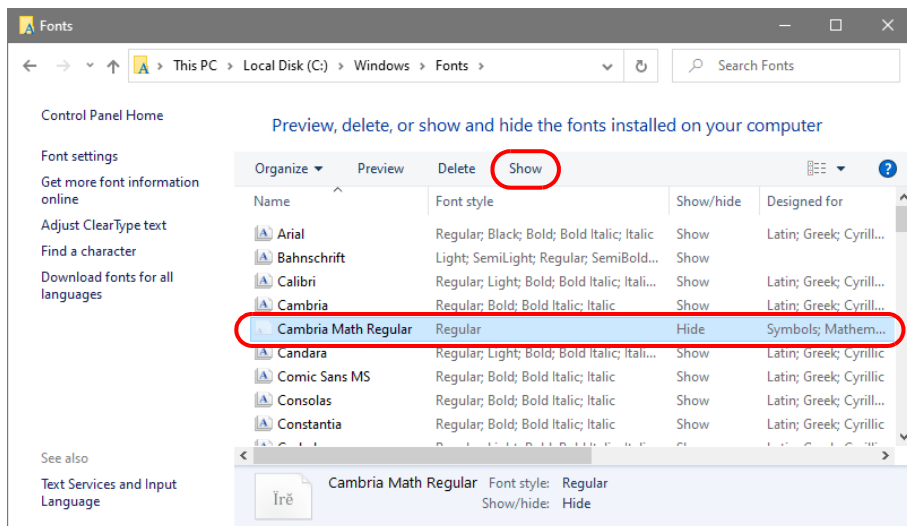
Check and search for such Windows fonts.

### When Opening a File

When a screen program file that uses a Windows font not installed on the computer is opened, the following message is displayed. To open the file, click [Yes].



- The alarm window will not be displayed once the Windows fonts that are indicated on the alarm window are installed on the computer.
- Check the "C:\Windows\Fonts" folder and change the setting of a Windows font from "Hide" to "Show" to enable selection of the font.



Select a Windows font set to "Hide", and then click "Show".

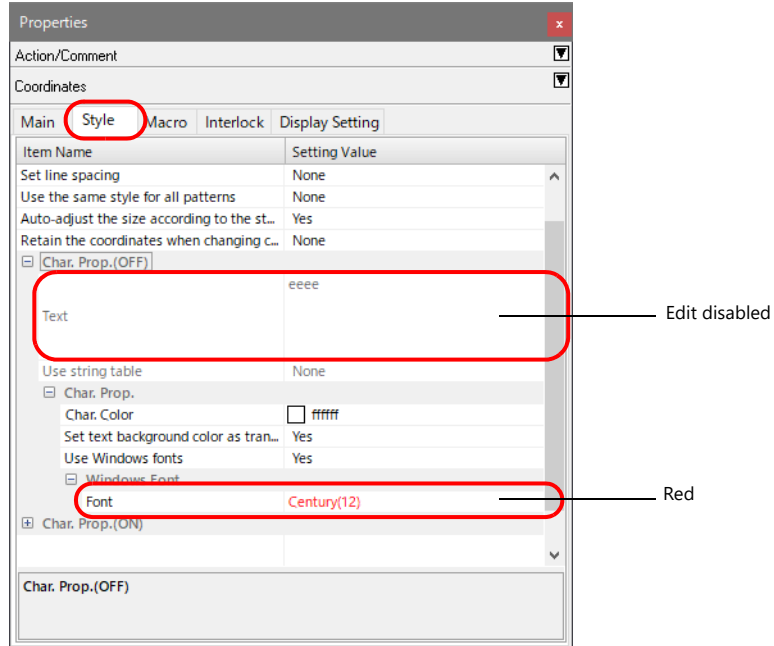
### When Error Checking is Performed

The execution of an error check detects any fonts that are not installed on your computer. Editing and modification of relevant locations is not possible.

Category	Location	Explanation	Solution
	Screen[72][C:0] Overlap Library[0] Switch	An uninstalled Windows font has been specified. [DotumChe]	Set Windows font again.
	Screen[72][C:0] Overlap Library[0] Switch	An uninstalled Windows font has been specified. [DotumChe]	Set Windows font again.
	Screen[72][C:0] Overlap Library[0] Switch	An uninstalled Windows font has been specified. [DotumChe]	Set Windows font again.
	Screen[72][C:0] Overlap Library[0] Switch	An uninstalled Windows font has been specified. [DotumChe]	Set Windows font again.
	Screen[72][C:0] Overlap Library[0] Switch	An uninstalled Windows font has been specified. [DotumChe]	Set Windows font again.
	Screen[72][C:0] Overlap Library[0] Switch	An uninstalled Windows font has been specified. [DotumChe]	Set Windows font again.
	Screen[72][C:0] Overlap Library[0] Switch	An uninstalled Windows font has been specified. [DotumChe]	Set Windows font again.
	Screen[72][C:0] Overlap Library[0] Switch	An uninstalled Windows font has been specified. [DotumChe]	Set Windows font again.
	Screen[72][C:0] Overlap Library[0] Switch	An uninstalled Windows font has been specified. [DotumChe]	Set Windows font again.

## When Viewing Text Properties

Any Windows font name that is not installed on your computer is colored red. While such a font is selected, registered text cannot be modified or added, and point sizes cannot be changed either.



## When Enlarging/Reducing

If you try to enlarge or reduce any item for which a font that is not installed on your computer is used, the following error message appears and the item is restored to the original size.



## Windows Font List

If any Windows font used in a screen program is not installed on your computer, the location where the font is set is shown on the [Windows Font List] window.

Location: [Tool] → [Search] → [Windows Font]

Font Name	Point Size	Registration Item	Item Name	Language No.
Microsoft YaHei	12	Screen [1]B	Switch	5
DotumChe	12	Screen [1]B	Switch	1
DotumChe	12	Screen [1]B	Switch	2
DotumChe	12	Screen [1]B	Switch	3
DotumChe	12	Screen [1]B	Switch	4
DotumChe	12	Screen [1]B	Switch	5
DotumChe	12	Screen [1]B	Switch	1
DotumChe	12	Screen [1]B	Switch	2
DotumChe	12	Screen [1]B	Switch	3
DotumChe	12	Screen [1]B	Switch	4
DotumChe	12	Screen [1]B	Switch	5
Microsoft JhengHei	12	Screen [1]B	Switch	1
Microsoft JhengHei	12	Screen [1]B	Switch	2
Microsoft JhengHei	12	Screen [1]B	Switch	3

## Windows Font Registration List

Windows fonts used for character displays are listed in the [Windows Font Registration] window.

Any Windows font name that is not installed on your computer is colored red. Size change and additional registration are not allowed for the font.

Location: [Tool] → [Batch Change] → [Windows Font] → [Register Windows Font]

Font Name	Point	Bold	Italic	Registrati	Total Font Size
MS Gothic	10	<input type="checkbox"/>	<input type="checkbox"/>		288 / 4194304
DotumChe	10	<input type="checkbox"/>	<input type="checkbox"/>		288 / 4194304
DotumChe	12	<input type="checkbox"/>	<input type="checkbox"/>		468 / 4194304
MS Gothic	16	<input type="checkbox"/>	<input type="checkbox"/>		988 / 4194304
MS Gothic	16	<input type="checkbox"/>	<input type="checkbox"/>		988 / 4194304
DotumChe	14	<input type="checkbox"/>	<input type="checkbox"/>		2588 / 4194304
MS Gothic	10	<input type="checkbox"/>	<input type="checkbox"/>		408 / 4194304
MS Gothic	12	<input type="checkbox"/>	<input type="checkbox"/>		468 / 4194304
Courier New	14	<input type="checkbox"/>	<input type="checkbox"/>		2792 / 4194304
DotumChe	14	<input type="checkbox"/>	<input type="checkbox"/>		2588 / 4194304

### 7.1.7 Limitations



Note that if your computer is not installed with the Windows fonts that are used in the screen program, the editing and changes related to those Windows fonts are not possible.

The following limitations apply when using Windows fonts.

- Windows fonts occupy a large memory space in the screen program.
- Available Windows fonts differ between text in drawing parts / message display parts, and variable text.
- On a multi-language screen program, the same Windows font properties are applied to all languages.

## 7.2 Function Performance Specifications

### 7.2.1 Display Function Specifications

Item		Specifications
Interface language <sup>*1</sup>		Japanese, English/Western Europe, Chinese (Traditional), Chinese (Simplified), Korean, Central Europe, Cyrillic, Greek, Turkish, and Baltic
Font types		TrueType fonts, Bitmap fonts, Windows fonts, Gothic fonts, Stroke fonts
Character properties	Display properties	Normal, blink, bold, shadow, transparent, italic
	Colors	65,536 colors (without blinking), 32,768 colors (with blinking)
External character registration <sup>*2</sup>	16-dot fonts	2-byte 16 × 16 dots, 63 characters
	32-dot fonts	2-byte 32 × 32 dots, 63 characters
Graphics	Lines	Straight line, continuous line, rectangle, parallelogram, polygon
	Circles	Circle, arc, sector, ellipse, elliptical arc
	Other	Pattern, "picture" image, data display (graphics library, data sheets)
Graphic properties	Line types	6 types (thin, thick, dotted, chain, dashed, two-dot chain) Line thickness can be selected from 1 to 8 points (excluding thick lines).
	Tile	16 types (including 8 user-definable patterns)
	Display properties	Normal, blinking
	Colors	65,536 colors (without blinking), 32,768 colors (with blinking)
	Color selection	Foreground, background, boundary (line)

\*1 For details, refer to Reference Manual 1.

\*2 This can only be set for Japanese language display (bitmap font / gothic font).

## 7.2.2 Function Performance Specifications

Item		Specifications
Screens		Max. 4,000
Switches		Max. 4,096 per screen <sup>*1</sup> (including slider switches and scroll bars)
Switch actions		Set, reset, momentary, alternate, illuminated It is possible to press a function switch and a switch on the display at the same time.
Lamps		Reverse, blinking, exchange of graphics Max. 4,096 per screen <sup>*1</sup>
Graphs		Pie, bar, panel meter and closed area graphs: Max. 4,096 per screen <sup>*1</sup> Statistic and trend graphs: Max. 256 per layer <sup>*2</sup>
Data setting	Numerical data display	Max. 4,096 per screen <sup>*1</sup>
	Character display	Max. 4,096 per screen <sup>*1</sup>
	Message display	Max. 4,096 per screen <sup>*1</sup> Maximum number of characters per line: 100 one-byte characters
Messages		Max. 32,768 lines
Macro blocks		Max. 1,024
Graphic library		Max. 2,560
Overlap library		Max. 4,000
Screen library		Max. 4,000
Data block		Max. 1,024
Pattern		Max. 1,024
Data sheet		Max. 1,024
Tags		Max. 65,536 lines
Page block		Max. 2,048
Direct block		Max. 1,024
Screen block		Max. 1,024
Comment		Max. 32,767
Logging server		Max. 12, Fixed cycle, trigger
Alarm server		Max. 12, Real time, alarm, event
Recipe		Max. 256
Scheduler		Max. 64
MES settings		Max. 256
Device memory map		Max. 32 × 8 (PLC1 to PLC8)
Time display		Provided
Hard copy		Provided
Buzzer		Provided, 3 sounds (short beep, long beep, continuous beep)
Auto OFF function		Always ON, custom setting
Self-diagnostic function		Touch switch test function <sup>*3</sup> Confirmation function that uses the status bar <sup>*3</sup> Network diagnostic functions (network test, duplicate IP address test) <sup>*3</sup>

<sup>\*1</sup> The maximum number of parts that can be placed on one screen is 4,096.  
For more information on limitations regarding part placement, refer to the Operation Manual.

<sup>\*2</sup> Layer: 11 layers per screen (base screen and 10 overlap displays)

<sup>\*3</sup> For details, refer to the following.

- TS4000 Series Unit Operation / Local Mode / Error Screen Manual
- V10 Series Unit Operation / Local Mode / Error Screen Manual
- V9 Series Troubleshooting/Maintenance Manual

## 7.2.3 Limits on Maximum Number of Placeable Parts

The maximum number of parts permitted on one screen is determined depending on the type of parts. Limitations and the maximum number of the parts are listed below.

Part Name		Limit per ID	Limit per Base Screen/Overlap	Limit per Screen	
				V10 / TS4000	V9
Overlap	Normal Overlap	-	-	10	
Switch (*1)		None	None	4096 (*2)	
Lamp		None	None	4096 (*2)	
Data Display	Numerical Display	None	None	4096 (*2)	
	Character Display	None	None	4096 (*2)	
	Message Display	None	None	4096 (*2)	
	Table Data Display	1	256	2816	
	Time Display	None	None	4096 (*2)	
Entry	Key Pad	1	1	11	
	List Box	None	None	4096 (*2)	-
	Drop-down List	None		4096 (*2)	-
	Slider Switch	None	None	4096 (*2)	
Graph	Bar Graph	None	None	4096 (*2)	
	Pie Graph	None	None	4096 (*2)	
	Closed Area Graph	None	None	4096 (*2)	
	Panel Meter	None	None	4096 (*2)	
	Statistic Bar Graph	1	256	2816 (*3)	
	Statistic Pie Graph	1	256	2816 (*3)	
Trend		1	256	2816 (*3)	
Alarm		1	256	2816 (*3)	
Memo Pad		1	1	1	
Multimedia	Network Camera Display	1	4	4	
	USB Camera Display	1	1	1	-
	Video/RGB Display	1	1	1	-
	Remote Desktop Display	1	1	11	
	JPEG Display	1	256	2816 (*3)	
	2D Code Display	1	256	2816 (*3)	-
Graphic		1	256	2816 (*3)	
Function Item	Sound	1	256	2816 (*3)	-
	Animation	1	256	256	
	Macro	1	256	2816 (*3)	
	Interval Timer	1	256	2816 (*3)	
Screen Library		None	None	(*4)	

\*1 Including slider switches and scroll bars

\*2 The maximum total number of all parts that can be used on a single screen is 4096.

\*3 Max. number placeable on base screen:  $256 + (\text{max. number placeable on overlap} \times \text{max. number of overlaps})$ :  $256 + (256 \times 10) = 2816$

\*4 When a screen library is placed on the screen, the parts registered in the screen library are subject to the same item limit in the chart above.



There is no limit on the number of device memory addresses that perform reading on a single screen.

 **Hakko Electronics Co., Ltd.**  
**[www.monitouch.com](http://www.monitouch.com)**

**Sales**      890-1, Kamikashiwano-machi, Hakusan-shi, Ishikawa,  
924-0035 Japan  
Tel +81-76-274-2144  
E-mail [support@hakko-elec.co.jp](mailto:support@hakko-elec.co.jp)