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Screen Configuration Software

# Smart Editor

Training Manual Beginner's Guide

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# 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	1213NE0	First edition

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## Preface

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Thank you for selecting the MONITOUCH V10/V9 series.

For correct setup of the V10/V9 series, you are requested to read through this manual to understand more about the product.

For details on other operating procedures for the V10/V9 series, 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 series.	1210NE
Smart Editor Reference Manual 2		1211NE
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
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
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

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

Notes:


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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.


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# Notes on Safe Usage of MONITOUCH

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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 V10/V9 series 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.
- 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 V10/V9 series 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 series: 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 V10/V9 series 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 V10/V9 series 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 V10/V9 series uniformly to the specified torque indicated below. Improper tightening of screws may result in fire, malfunction, or other serious trouble.
  - V10 series: 7.1 lbf-in (0.8 N·m)
  - V9 series: 7.1 to 8.8 lbf-in (0.8 to 1.0 N·m)
- The V10/V9 series 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 V10/V9 series 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 V10/V9 series. The FG terminal must be used exclusively for the V10/V9 series 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 V10/V9 series 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 V10/V9 series. Operation with the dust cover attached may result in accidents, fire, malfunction, or other trouble.
- Do not attempt to repair, disassemble, or modify the V10/V9 series unit yourself. Contact Hakko Electronics or the designated contractor for repairs.
- Do not repair, disassemble, or modify the V10/V9 series 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 V10/V9 series 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 V10/V9 series unit, it must be treated as industrial waste.
- Before touching the V10/V9 series 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.
- 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.
- 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.
- When using V10 series and an analog resistive-film type V9 series 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 V9 series 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 V10/V9 series 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 V10/V9 series 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.
- Do not use thinners for cleaning because it may discolor the V10/V9 series 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 V10/V9 series 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 V10/V9 series. Discharging static electricity on the mounting panel may cause malfunction to occur due to noise.
- The V10/V9 series 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 V10/V9 series is equipped with a battery that contains lithium metal and therefore observance of transport regulations is necessary. Hakko Electronics ships V10/V9 series units packed in accordance with transport regulations. If there is a need to transport a V10/V9 series 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 V10/V9 series 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 V9 Series]

- 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.

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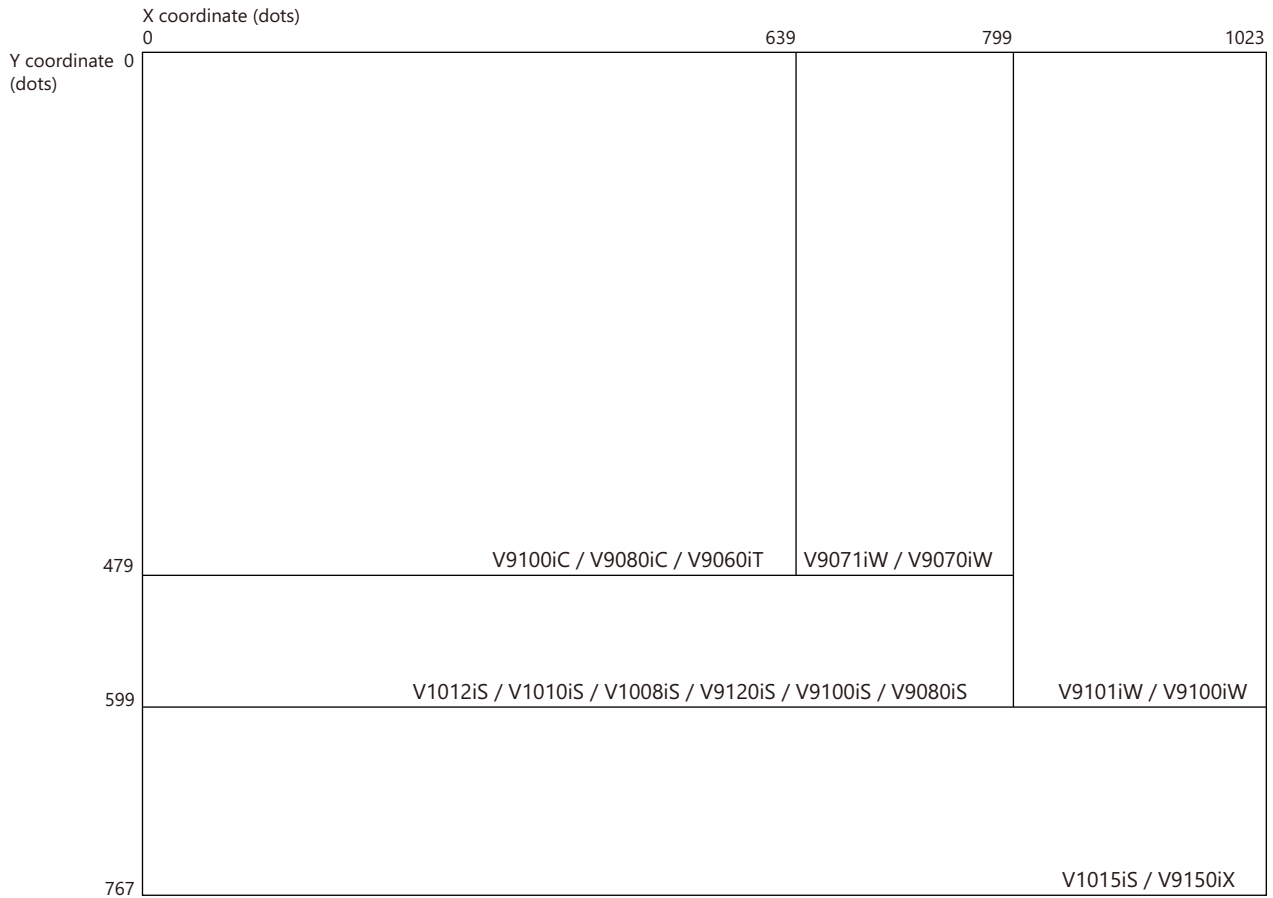
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# 1 Before Configuring Screens

## 1.1 Models and Screen Resolution

The screen resolution differs between MONITOUCH models.



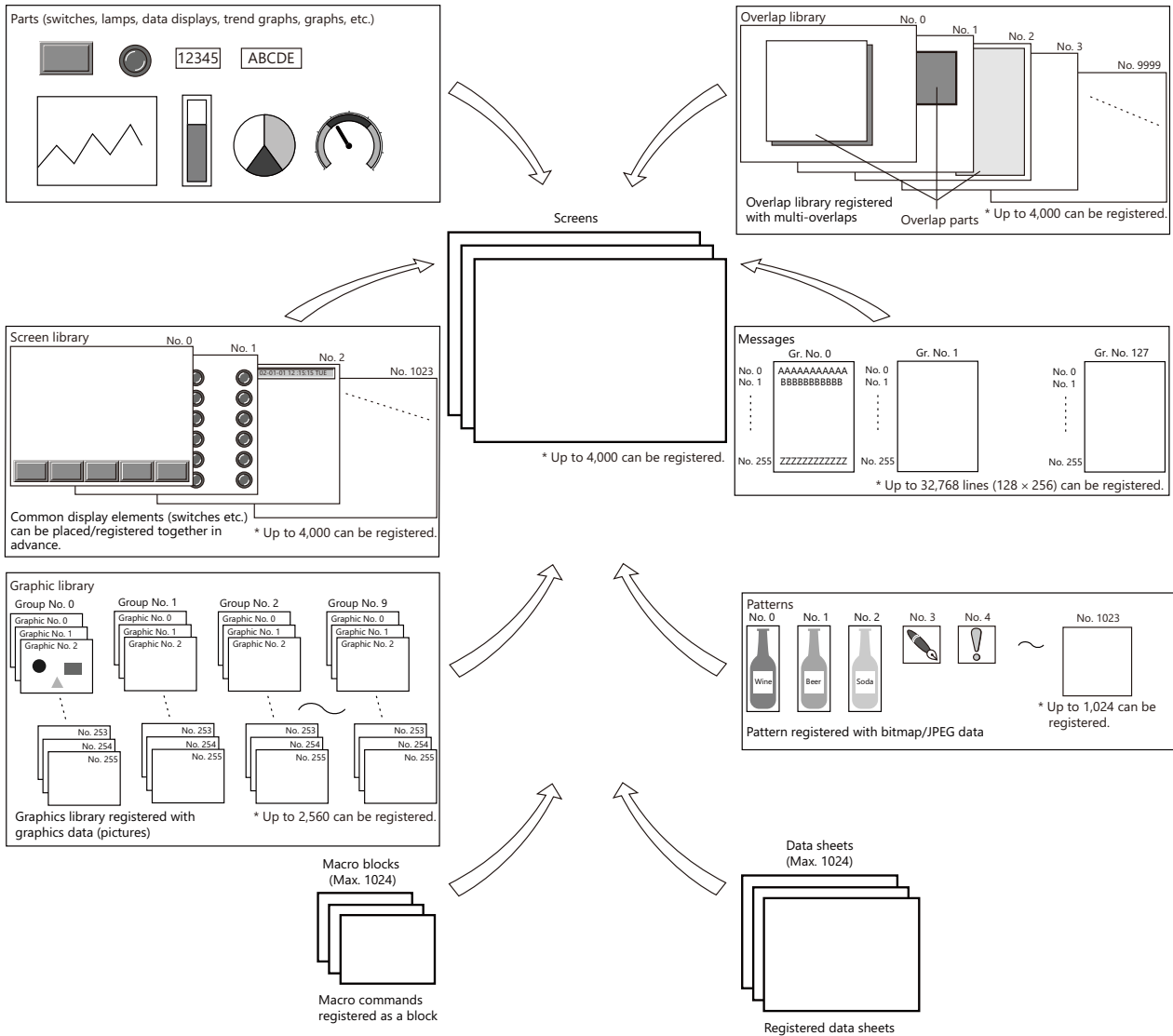
Series Name	Type	Inches	Resolution	Touch Switch
V10 Standard	V1015iS	15.0-inch	1024 × 768 (XGA)	Analog resistive film
	V1012iS	12.1-inch	800 × 600 (SVGA)	
	V1010iS	10.4-inch		
	V1008iS	8.4-inch		
V9 Advanced	V9101iW, V9100iW	10.1-inch	1024 × 600 (WSVGA)	Capacitive
	V9071iW, V9070iW	7.0-inch	800 × 480 (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		

## 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.

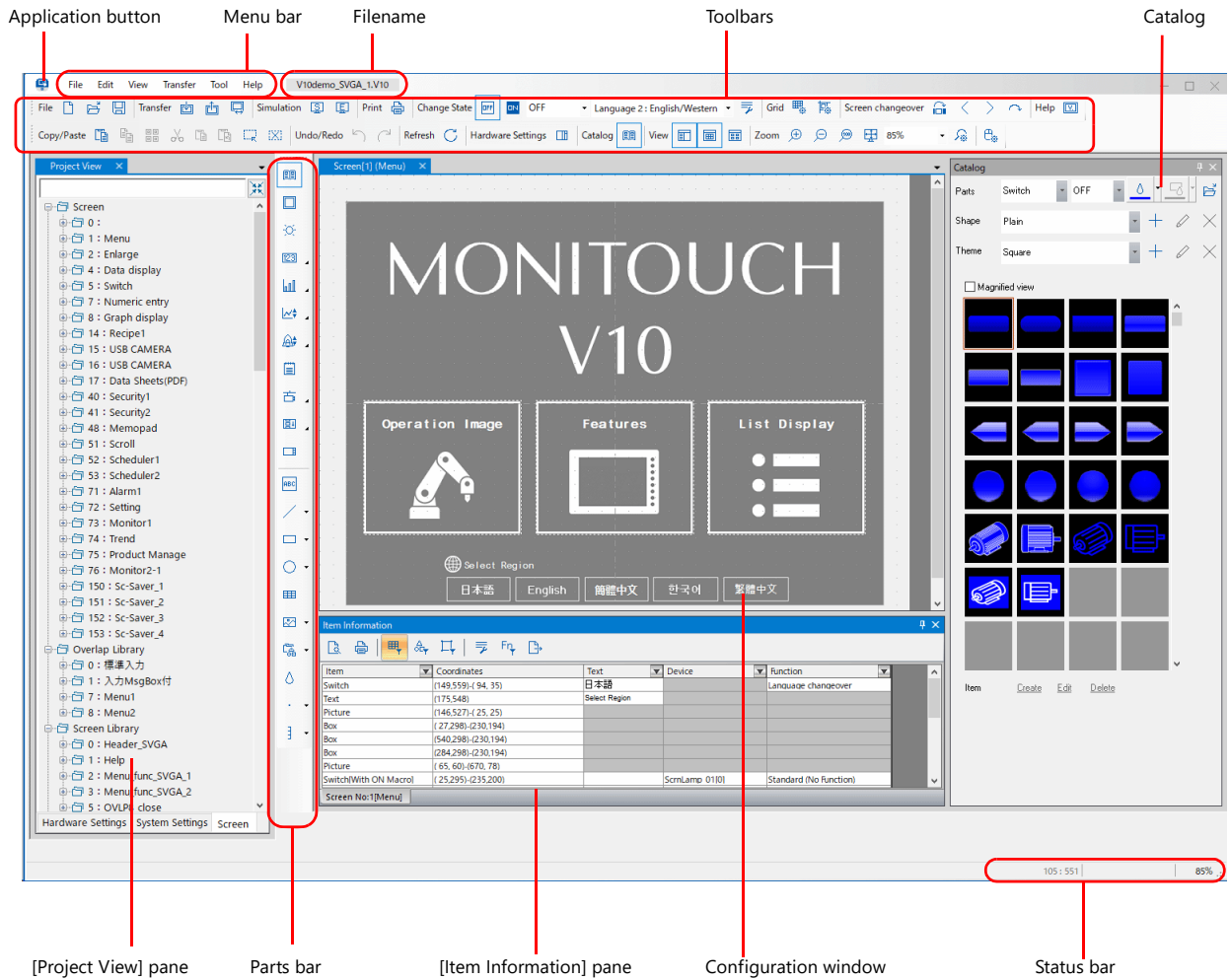
In addition, items such as data and graphics which change over time and that cannot be placed on a screen can be registered to a separate area and then combined for display on MONITOUCH.



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

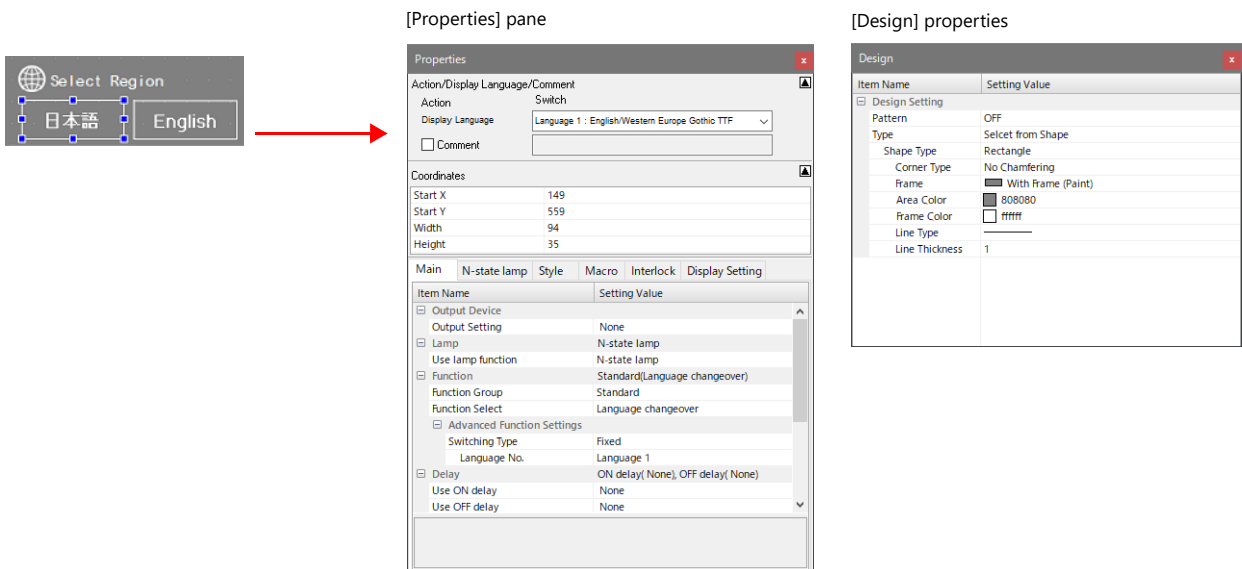
# 1.3 Layout of Smart Editor Configuration Software

The layout of Smart Editor is shown below.

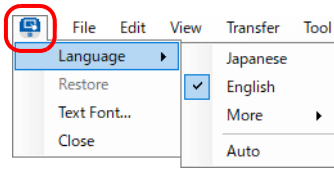


Clicking a placed part displays the [Properties] pane and [Design] properties pane.

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

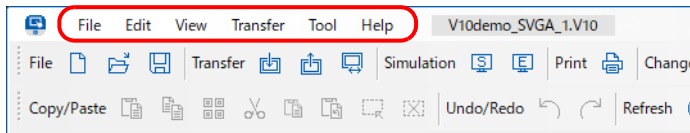


### 1.3.1 Application Button



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 to use for text registered on the [Properties] pane of a part, and text on the [Message Edit] window. When using Windows fonts, the font set here is the default font setting.
Close	Closes Smart Editor.

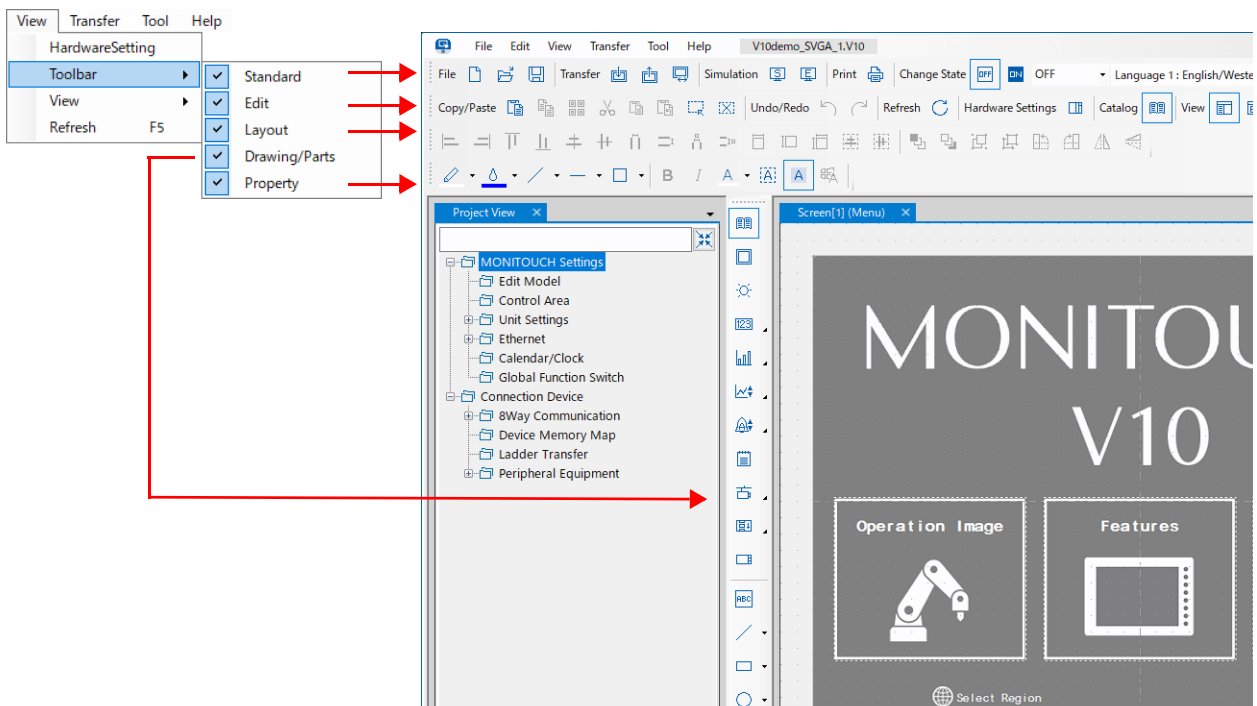
### 1.3.2 Menu Bar



Item	Description
File	Perform operations including new file creation, printing, file comparison, component parts editing, and property configuration.
Edit	Perform operations for editing, such as copying, cutting, and pasting.
View	Set whether to show or hide toolbars and view panes.
Transfer	Transfer screen programs, execute the simulation function, and start the storage manager.
Tool	Execute helpful functions including error checking, search, and batch device memory change.
Help	Refer to manuals and check version information.

### 1.3.3 Toolbars

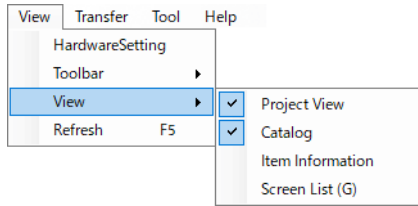
A wide variety of settings concerning the placement and editing of parts is provided. The following five types are provided.  
Standard, Edit, Layout, Drawing/Parts, Property



For details, refer to "12.2 Toolbars" page 12-7.

### 1.3.4 View Panes

#### Types of View Panes



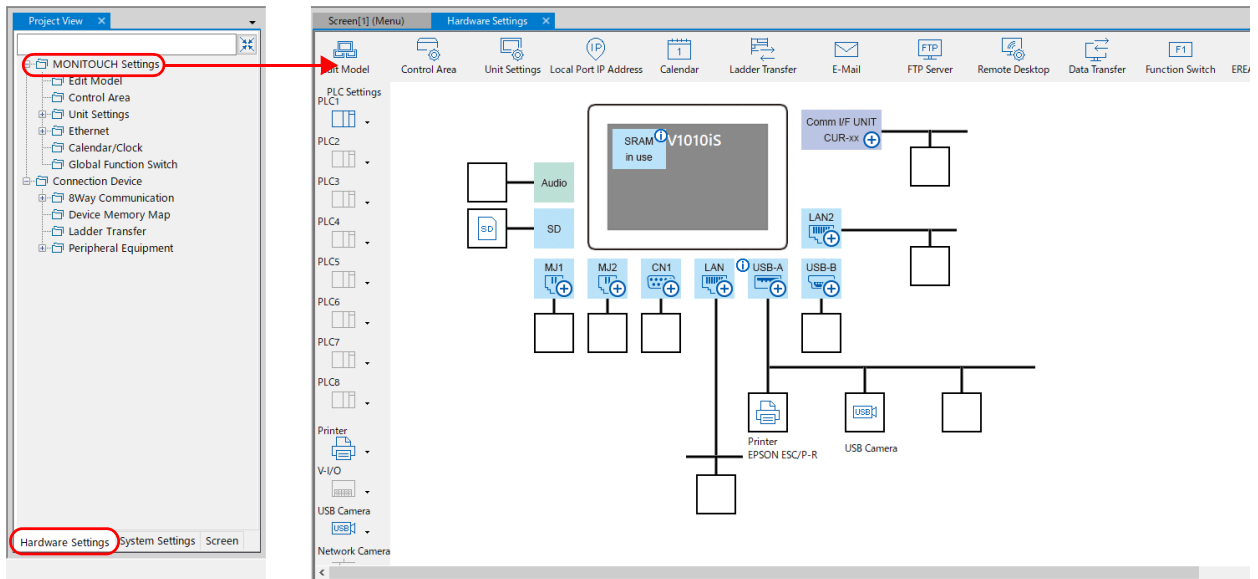
Item	Description	
Project View Pane	Hardware Settings	Configure settings for devices to connect to MONITOUCH, Ethernet settings, and initial settings for MONITOUCH.
	System Settings	Configure fonts and the various functions that affect the screen program as a whole.
	Screen	Configure settings concerning screen configuration, such as individual screens and overlap displays.
Catalog	View the type of parts to place on a screen. The displayed parts can be selected and placed by dragging with the mouse.	
Item Information	Displays the items placed on screens and overlaps in list form.	
Screen List	Displays a list of screens being edited or overlap libraries.	

#### Project View

Double-click on items to check and change settings.

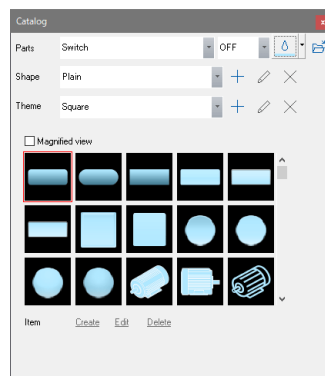
Example: Hardware settings

Double-click



#### Catalog

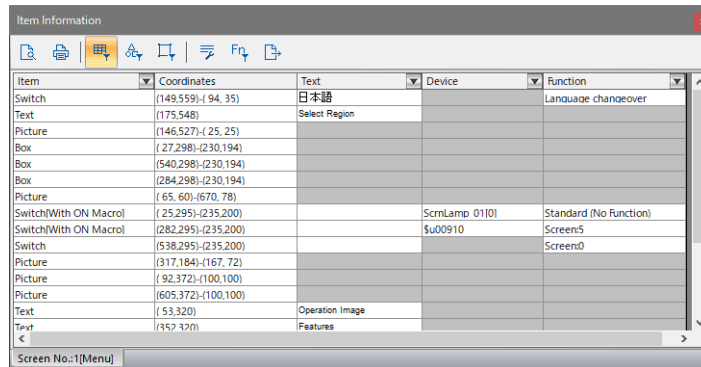
Use this view pane when placing parts. Choose parts and place them on the screen.



Place by dragging and dropping

## Item Information

This view pane displays a list of items placed on the screen. Coordinates, device memory addresses, and text can be changed as well. To change the settings of items that are difficult to locate or select, use this window to easily select the desired item.

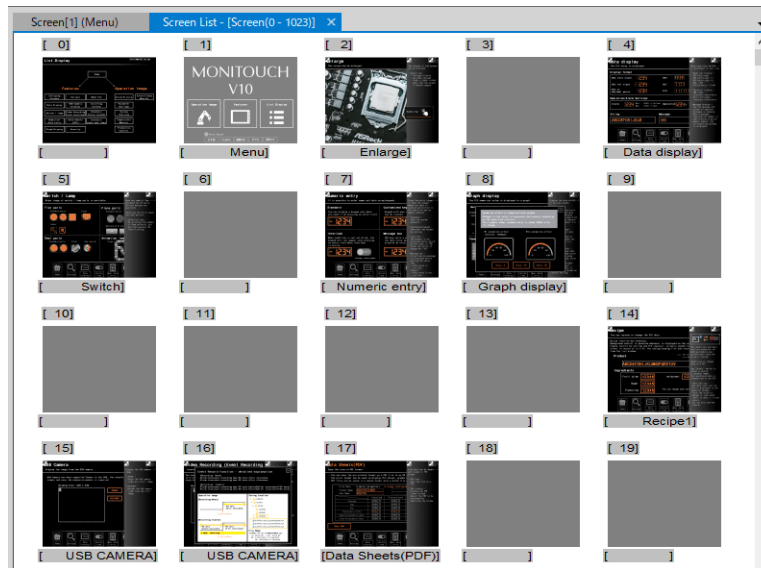


Item	Coordinates	Text	Device	Function
Switch	(149,559)-(194, 35)	日本語		Language changeover
Text	(175,548)	Select Region		
Picture	(146,527)-(125, 25)			
Box	(27,298)-(230,194)			
Box	(540,298)-(230,194)			
Box	(284,298)-(230,194)			
Picture	(65, 60)-(1670, 78)			
SwitchWith ON Macro	(25,295)-(235,200)		ScrnLamp 01101	Standard (No Function)
SwitchWith ON Macro	(282,295)-(235,200)		\$u00910	Screens5
Switch	(538,295)-(235,200)			Screens0
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Picture	(92,372)-(100,100)			
Picture	(605,372)-(100,100)			
Text	(53,320)	Operation Image		
Text	(157,320)	Features		

☞ For details, refer to "12.1.2 Item Information" page 12-5.

## Screen List

A list of screens and overlap libraries is displayed.

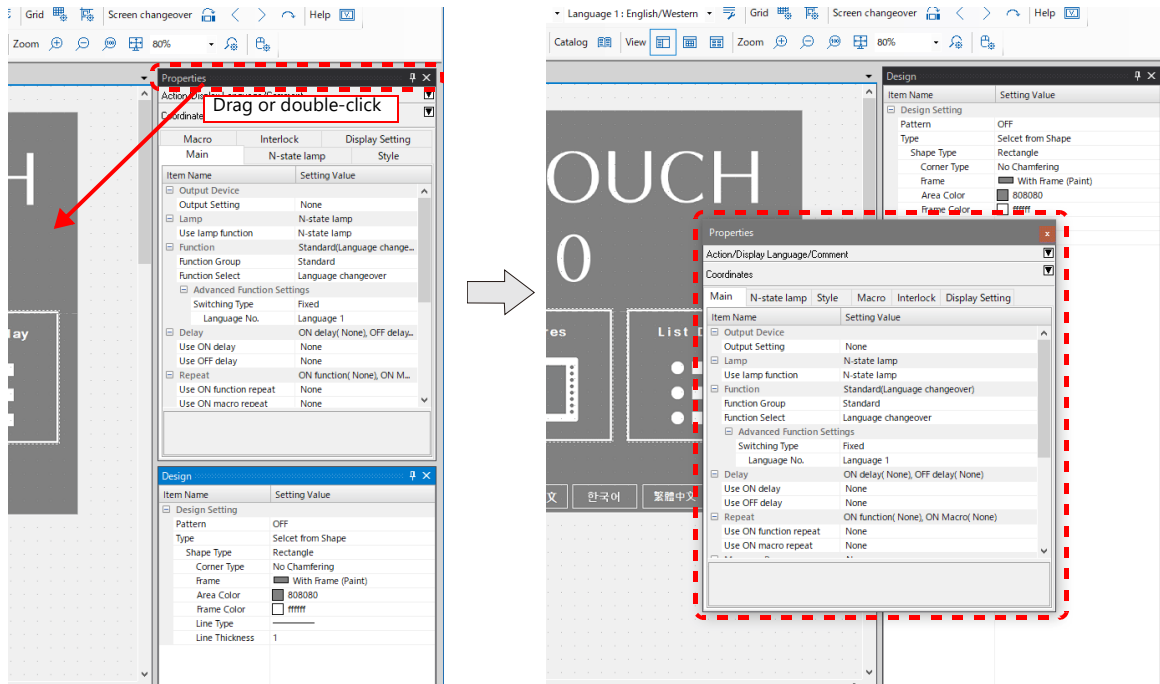


☞ For details, refer to "12.1.1 Screen List" page 12-1.

## Movement Method

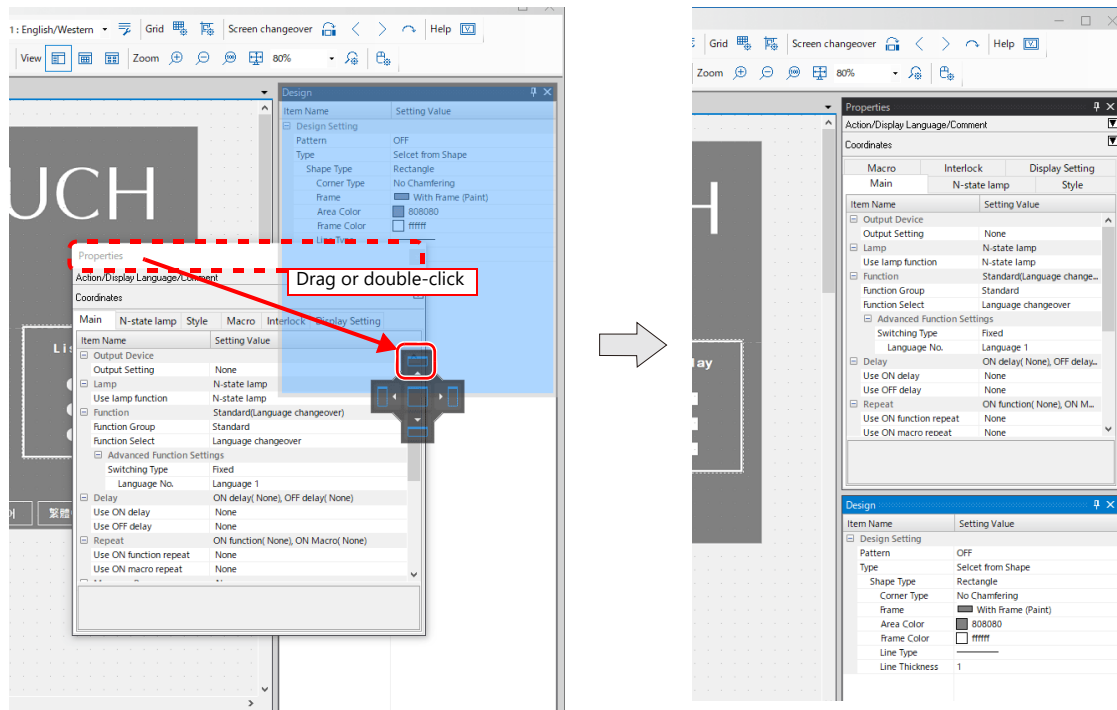
Displayed view panes can be moved on Smart Editor.

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.



## Docking

Double-click on the title bar of a view pane or drag the title bar and move it to dock the pane on Smart Editor.

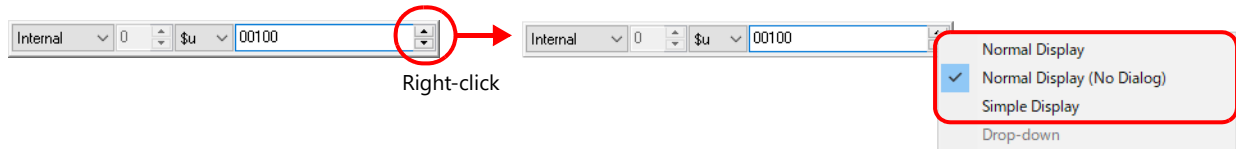


## 1.4 Device Memory Specification Method

There are three methods for specifying device memory such as PLC device memory and internal device memory. Select a method that facilitates configuration.

### 1.4.1 Changing the Specification Method

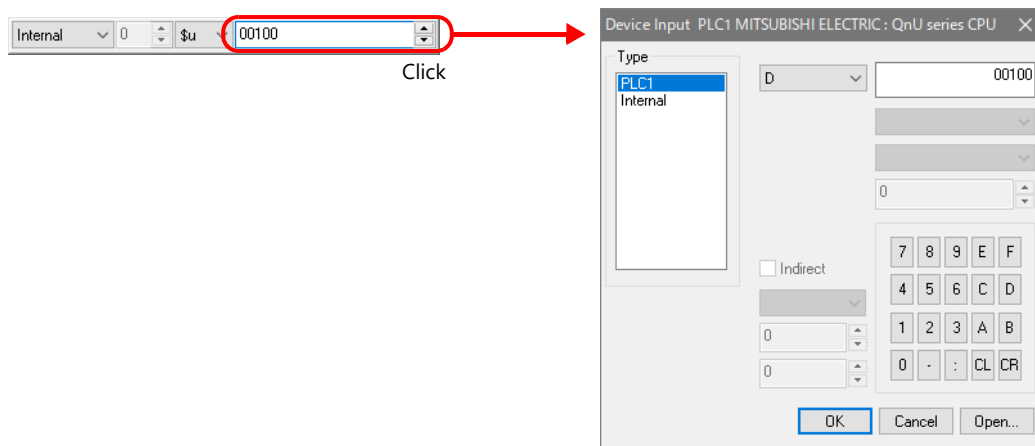
Right-click on the following location of a device memory setting to show the display selection menu for device memory. The specification method can be changed by selecting the desired display type.



### 1.4.2 Device Memory Display Types and Specification Methods

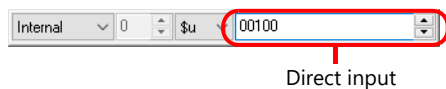
#### Normal Display

Clicking on a device memory setting item displays the [Device Input] window. Specify the device memory in this window.



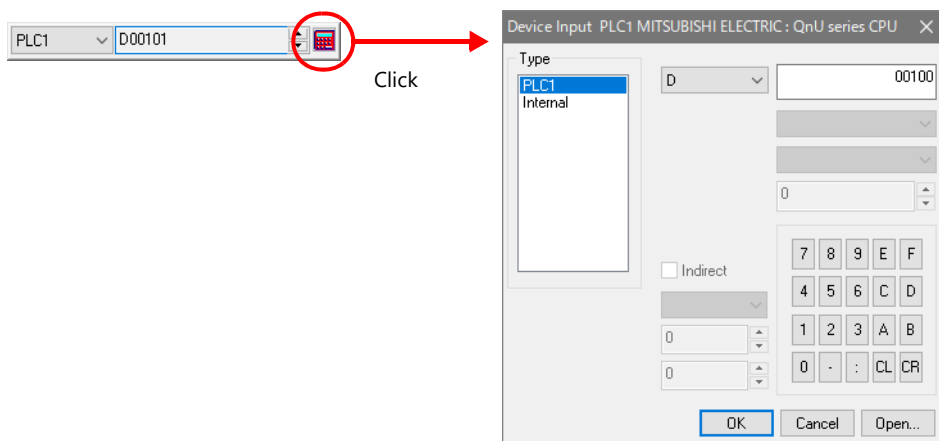
#### Normal Display (No Dialog)

Directly specify the device memory using the device memory setting item. The [Device Input] window is not displayed.



#### Simple Display

A red keypad icon is displayed next to the device memory setting item. Clicking on the keypad icon displays the [Device Input] window. Specify the device memory in this window.



## 2 Screen Creation

### 2.1 Overview of Screen Program to Create

This manual will describe the procedure for creating a screen program of the following configuration.

#### Edit Model

V1010iS or V9100iS (800 × 600 dots)

#### Connected Devices

PLC1: MITSUBISHI ELECTRIC QnU series CPU  
Connection port CN1

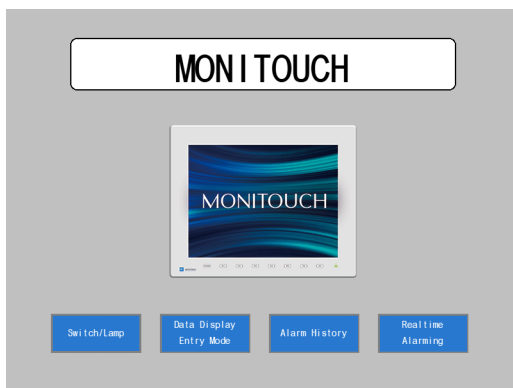
PLC2 to 8: Not used.

#### Screen Configuration

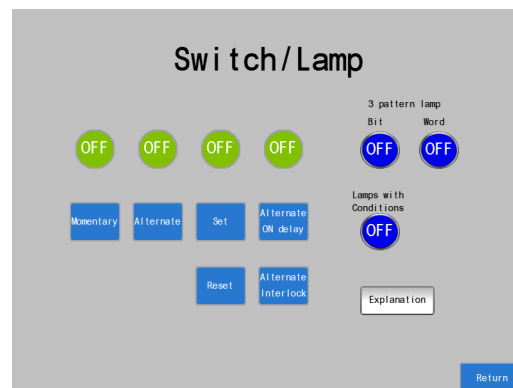
Create the following five screens and two overlap libraries.

#### Screens

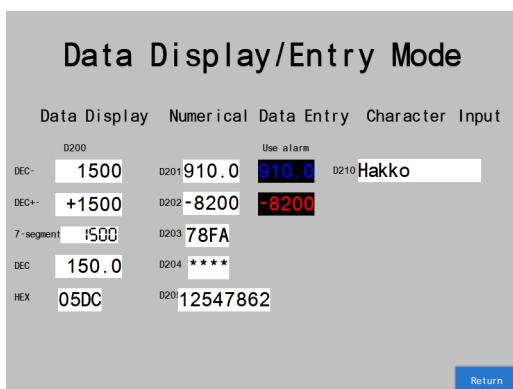
- Screen 0



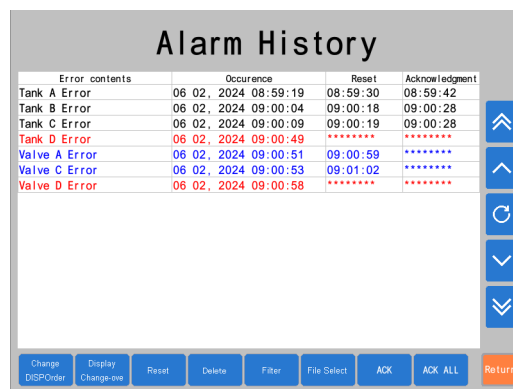
- Screen 1



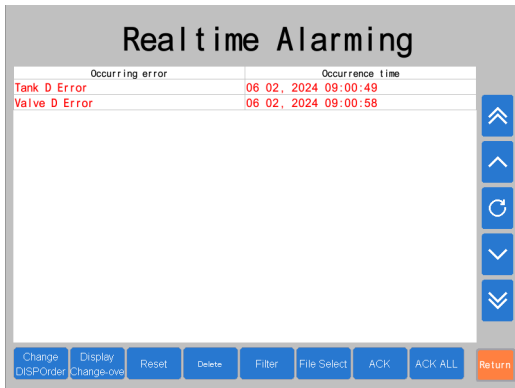
- Screen 2



- Screen 3

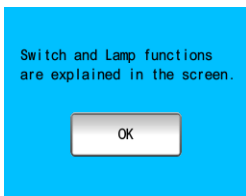


- Screen 4

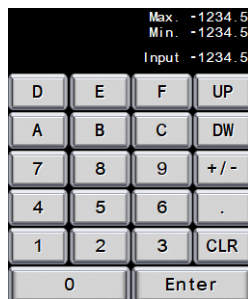


## Overlap

- Overlap library 0



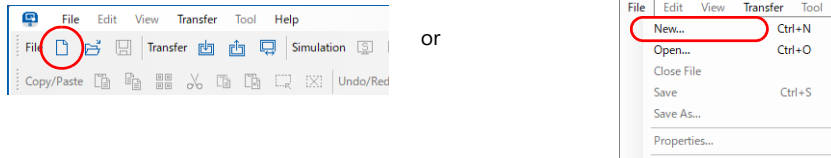
- Overlap library 1



## 3 Initial Settings

### 3.1 Procedure for Creating a New File

1. Start Smart Editor.
2. Click [New].



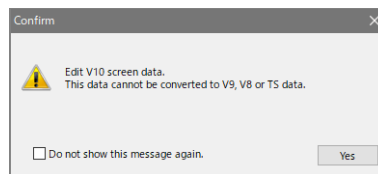
3. The [Edit Model Selection] window is displayed. Select the model for editing and click [OK].  
For the example in this manual, use the following settings.

V1010iS

V9100iS

Item	Details	Settings
Series	Select the MONITOUCH series.	V10 or V9
Edit Model	Select a model.	V1010iS or V9100iS
Installation	Select the installation direction of MONITOUCH.	Landscape
Size	The display resolution of the selected model is displayed.	800 × 600
Color	Select the number of display colors.	32K-Color w/ blinking

4. Click [Yes] on the confirmation window. If the message is not necessary, select the [Do not show this message again.] checkbox.

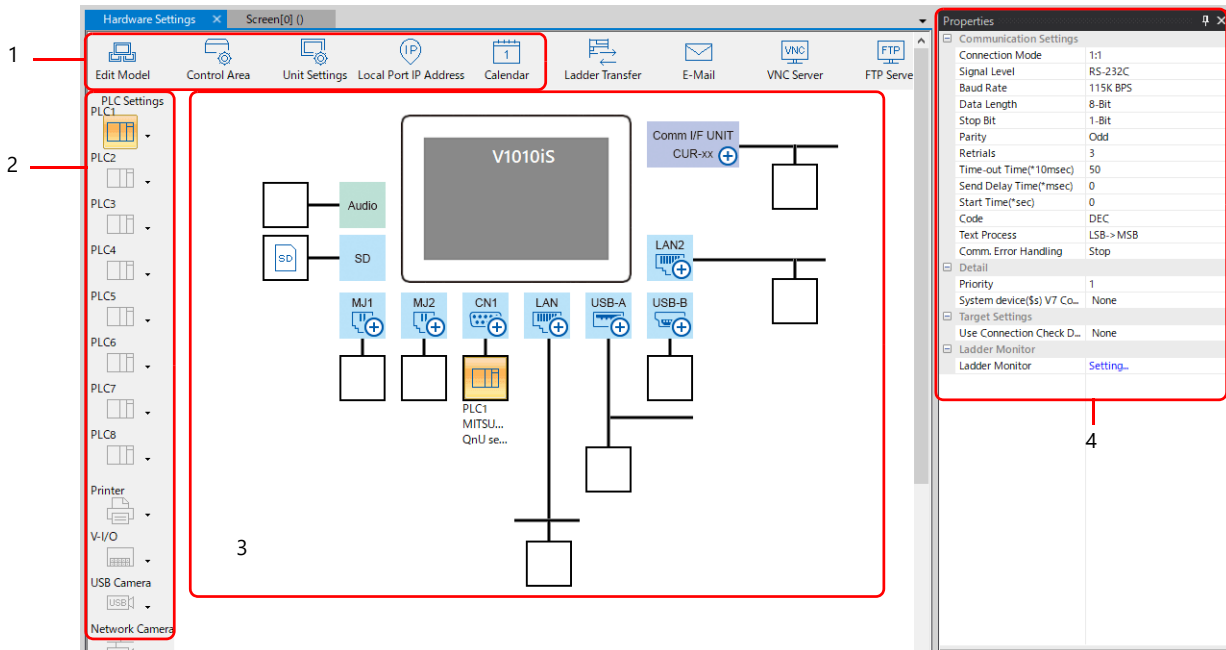


5. The [Connection Device Selection] window is displayed. Select the PLC model and connection port and click [Finish].  
For the example in this manual, use the following settings.

Item	Details	Settings
Connection Device	Select the devices to connect (PLC, temperature controller, etc.).	PLC
Manufacturer	Select the manufacturer and model of the connected device.	MITSUBISHI ELECTRIC
Model		QnU series CPU
Unit Port	Select the connection port on the V10/V9 series unit.	CN1

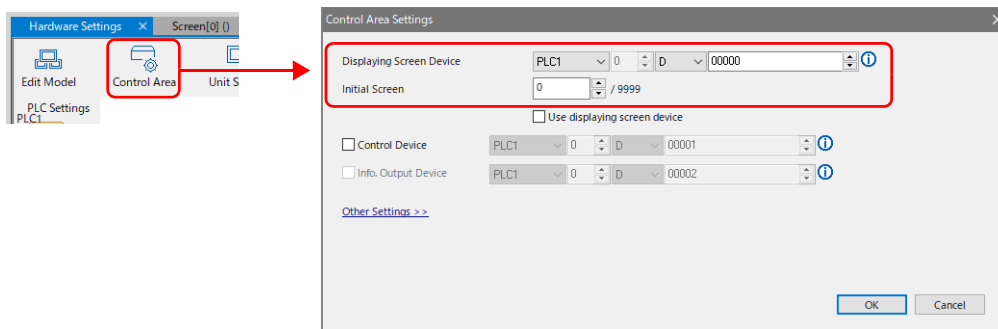
### 3. Initial Settings

6. The [Hardware Settings] window and the [Properties] pane of PLC1 are displayed.  
Configure communication settings and then settings for devices to connect and MONITOUCH.



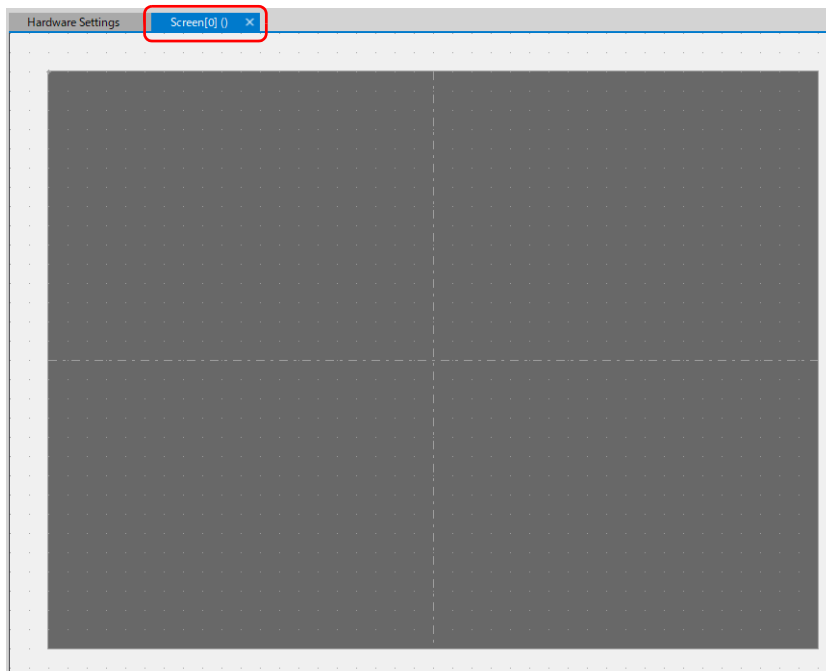
Item	Description
1.	MONITOUCH Settings Configure the model for editing, control area, MONITOUCH settings, local IP address, calendar, and global function switch settings.
2.	Connection Device 8 Way Communication Peripheral Equipment Configure the devices to connect to PLC1 to PLC8 (PLC, temperature controller, servo, inverter, barcode reader, etc.) and other peripheral equipment.
3.	Connection diagram Displays the devices specified for connection. Settings for a registered device can be changed by clicking the device and displaying the [Properties] pane. If not registered, double-click to add a new one.
4.	Properties The property settings of the device selected in the connection diagram can be checked and changed.

7. Click [Control Area] and configure the following settings.

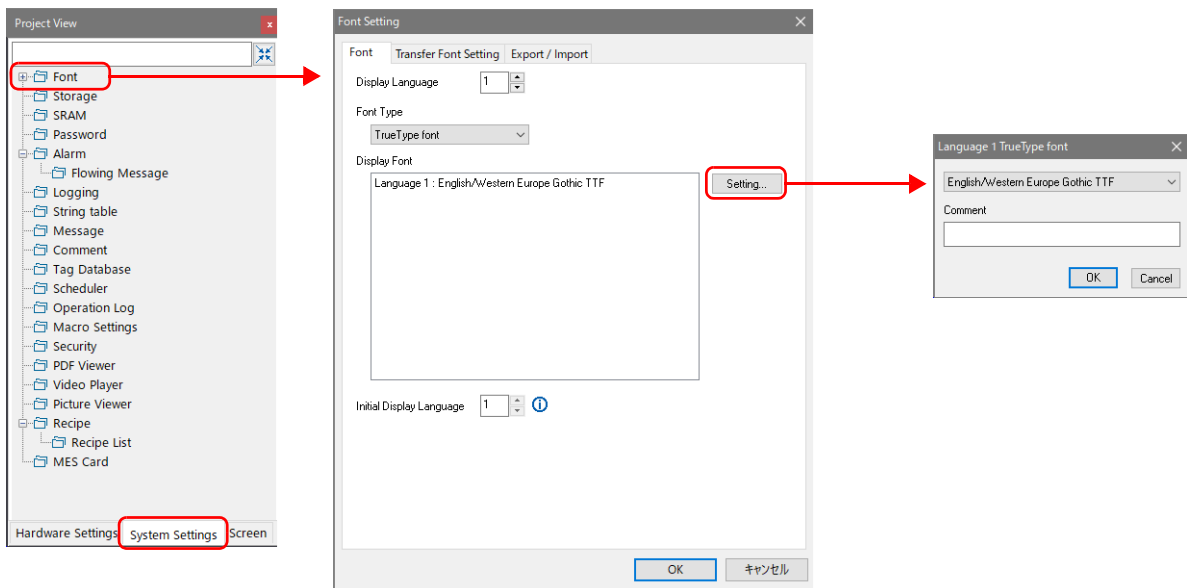


Item	Description	Settings
Screen	Displaying Screen Device This device memory is used to switch over the screen by an external command. When the screen number to show is specified, the display switches to the corresponding screen. If a screen was switched using an internal switch, the current display screen number is stored in this device memory.	PLC1 D00000
	Initial Screen Set the screen number to display at startup. If the [Use displaying screen device] checkbox is selected, the screen number set for [Displaying Screen Device] is displayed as the initial screen.	0
	Control Device For details, refer to "1. System" in Reference Manual 1.	-
	Info. Output Device	-
Other Settings	Watchdog Device When data is saved in this area, the same data is written to the [Answer-back Device] after the screen is displayed.	-
	Answer-back Device By utilizing this function, these bits can be used for watch dog monitoring or display scanning.  * For more information, refer to the Connection Manual.	-

8. Click the [Screen [0]] tab. The window is displayed.



9. Double-click [Font] at the [Project View] pane → [System Settings] tab.  
The [Font Setting] window is displayed.
10. Set the font from the [Setting] button and click [OK] to close the window.



Item	Details	Settings
Display Language	Set the number of languages for display.	1
Font Type	Select the type of font to use.	TrueType font
Display Font	Use the [Setting] button to select the display font of languages 1 to 32.	English/Western Europe Gothic TTF
Initial Display Language	Select the initial interface language to use after transferring a screen program.	1

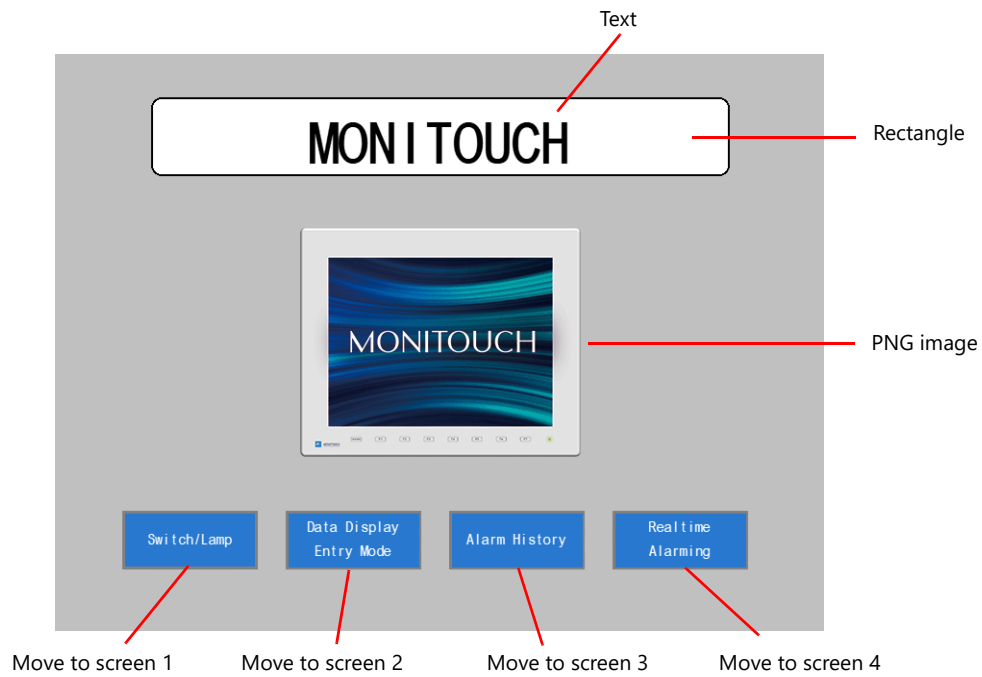
This completes the settings required to create a new screen program.



# 4 Creating a Menu Screen

## 4.1 Example Screen

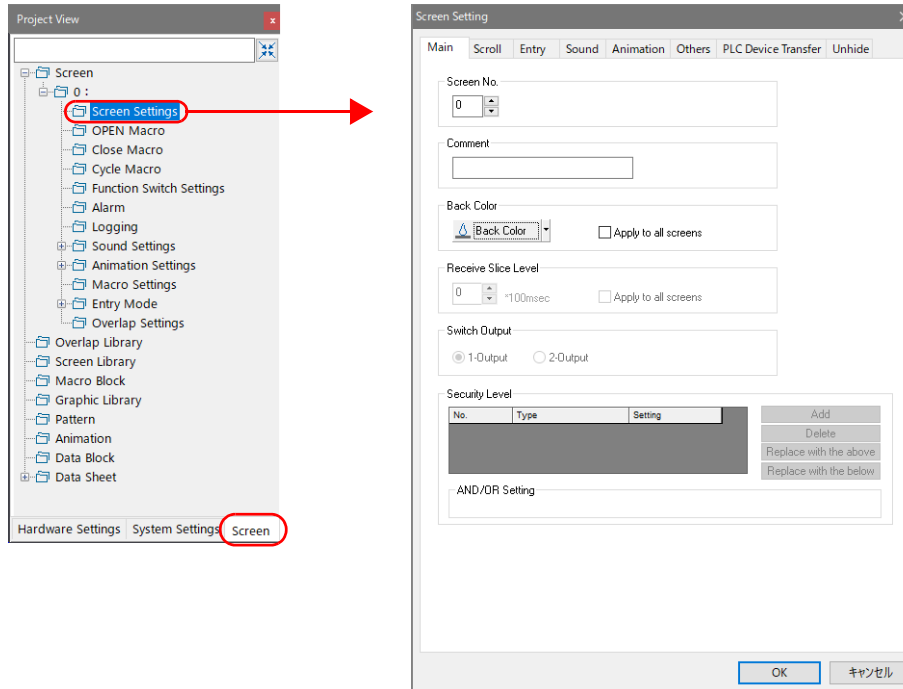
Create a menu screen using the drawing tools and switches.



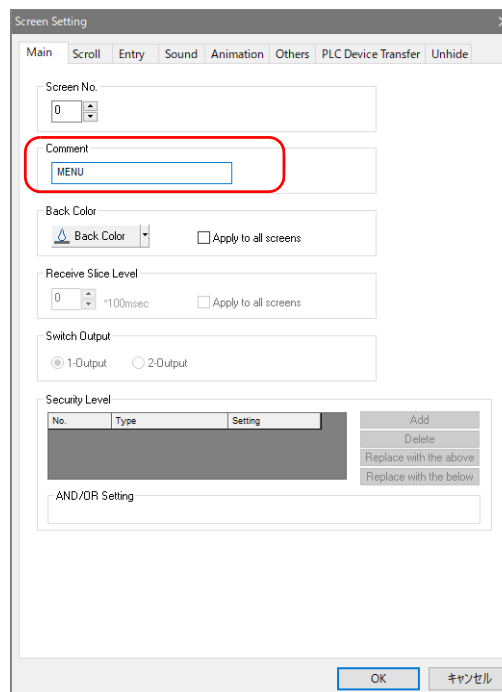
## 4.2 Creation Procedure

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

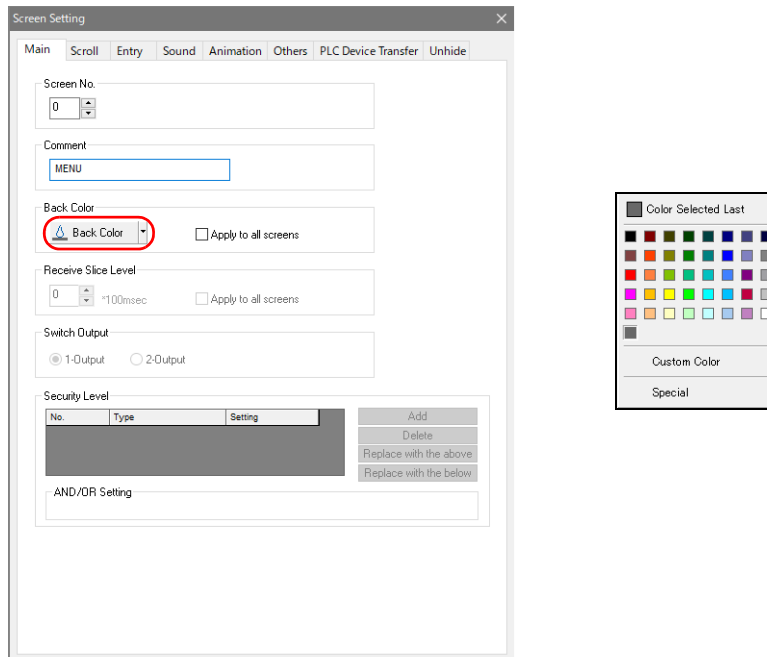
1. At the [Project View] pane → [Screen] tab → [Screen] → [0], double-click [Screen Settings]. The [Screen Setting] window is displayed.



2. Register a screen comment at [Main] → [Comment].



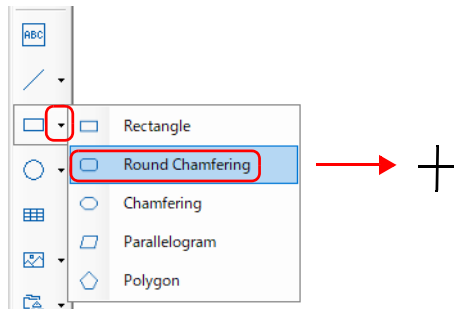
- Click the [Main] → [Back Color] button. A menu for color selection is displayed. Select the desired background color.



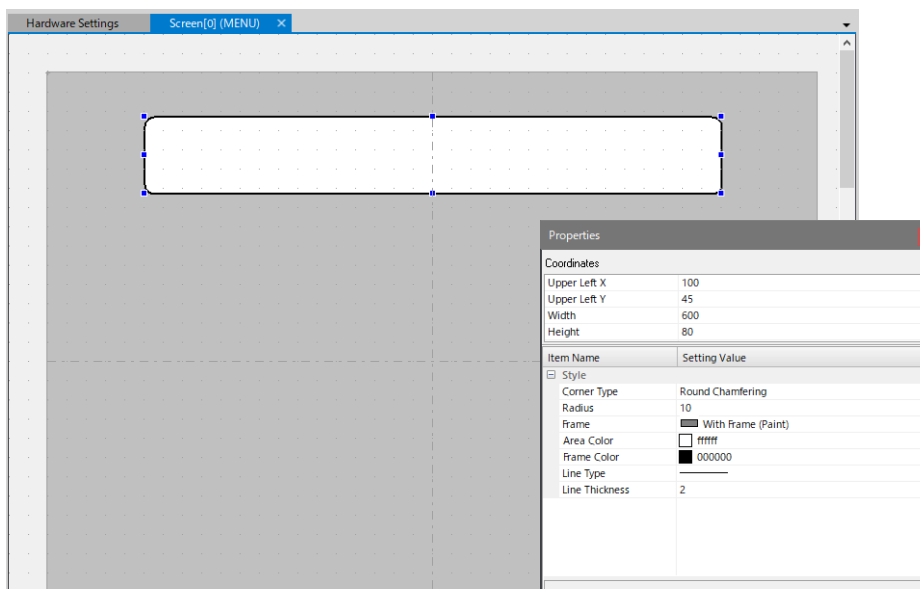
- Clicking [OK] changes the background color.

## 4.2.2 Creating a Rectangle

- On the parts bar, click the [▼] button of [Rectangle] and then [Round Chamfering]. The mouse cursor changes to a crosshair.



- Drag from the start point to the end point on screen using the mouse. This draws a rectangle.
- Configure settings on the [Properties] pane.

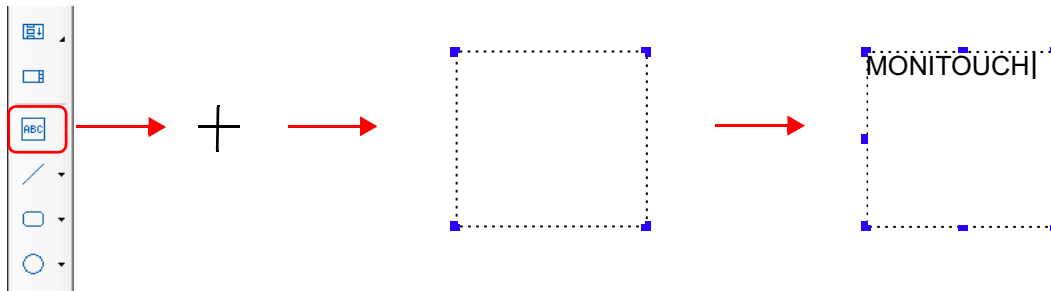


Coordinates  
X: 100  
Y: 45  
Width: 600  
Height: 80

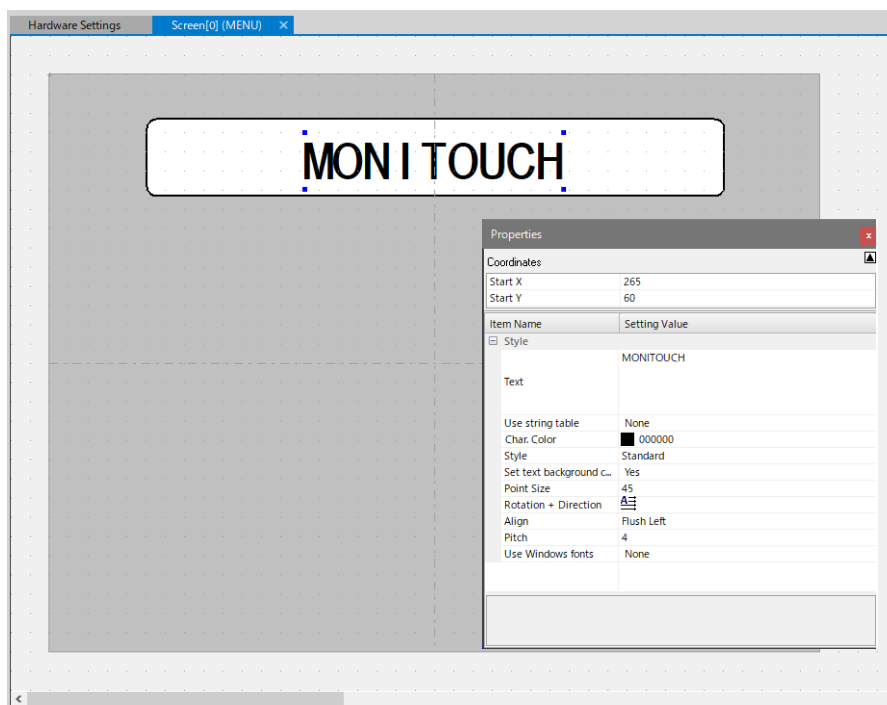
Style  
Round Chamfering  
[Radius]: 10  
With Frame (Paint)  
[Area Color]: White  
[Frame Color]: Black  
[Line Type]: Straight line  
[Line Thickness]: 2

### 4.2.3 Creating Text

1. On the parts bar, click [Text]. The mouse cursor changes to a crosshair.
2. Click on the screen. A text frame is displayed.
3. Input the text "MONITOUCH".



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



Coordinates  
X: 265  
Y: 60

Style  
[Text]: MONITOUCH  
[Char. Color]: Black  
[Style]: Standard  
[Set text background color as transparent]: Yes  
[Point Size]: 45

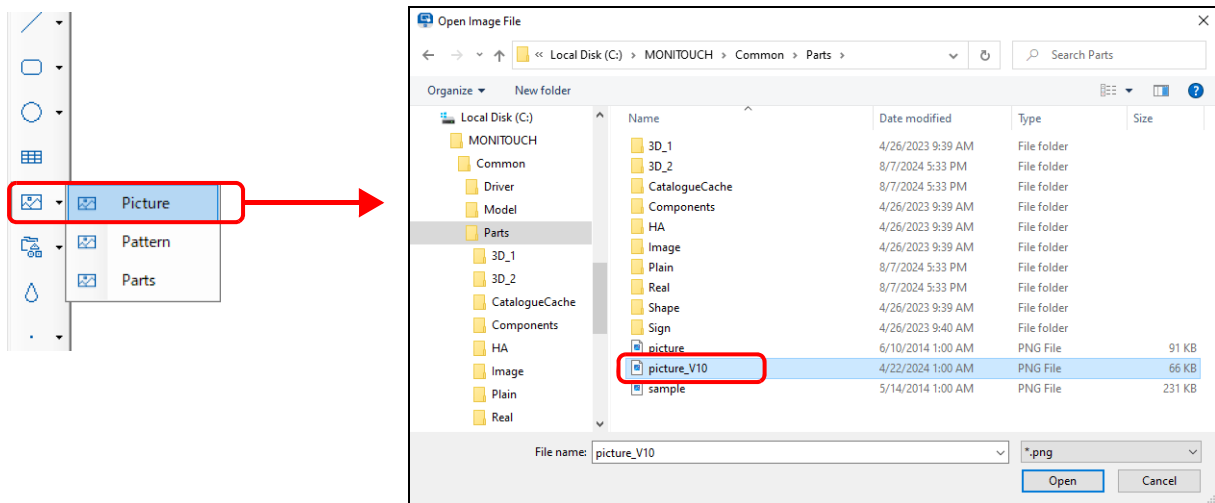
## 4.2.4 Pasting an Image File

Corporate logos and machine image data can be imported as picture parts and placed on the screen.

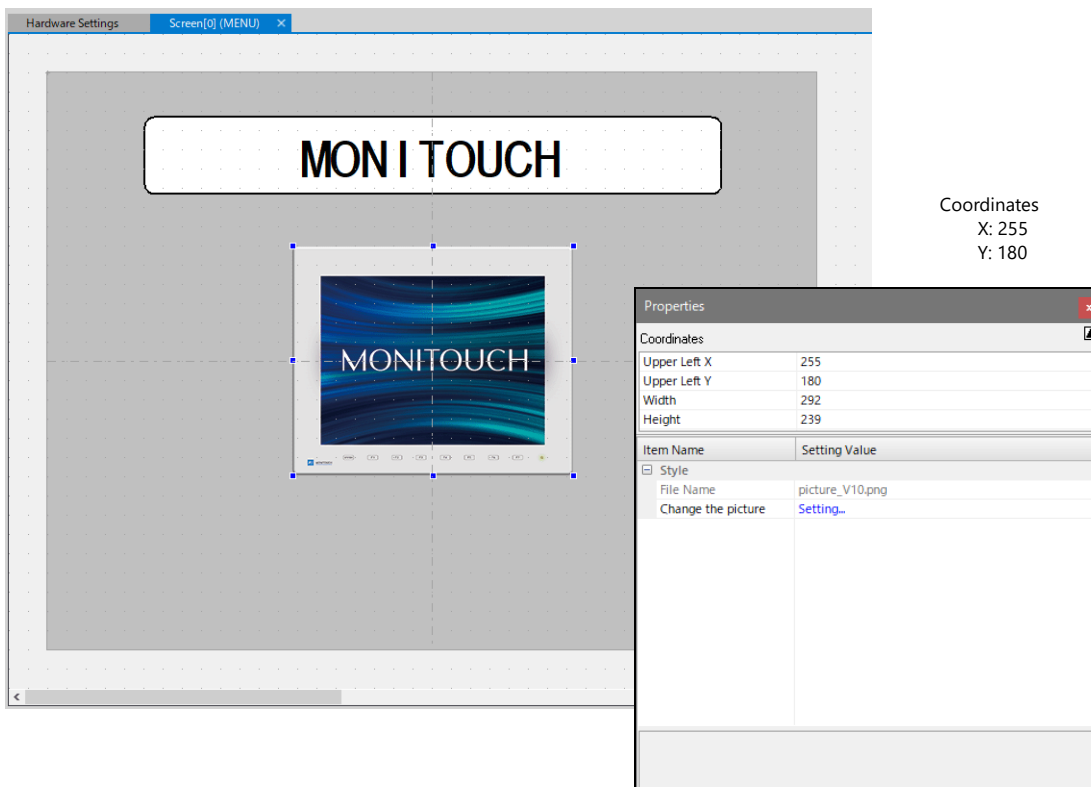
Importable image files	<ul style="list-style-type: none"> <li>• Bitmap files (*.bmp)</li> <li>• JPEG files (*.jpg / *.jpeg)</li> <li>• PNG files (*.png)</li> <li>• GIF files (*.gif)</li> </ul>
File size	1 MB or less

1. On the parts bar, click the [ ▼ ] button of [Image] and then [Picture]. The [Open Image File] window is displayed.
2. Select the file to load and click [Open].

Example: C:\MONITOUCH\Common\Parts\picture\_V10.png

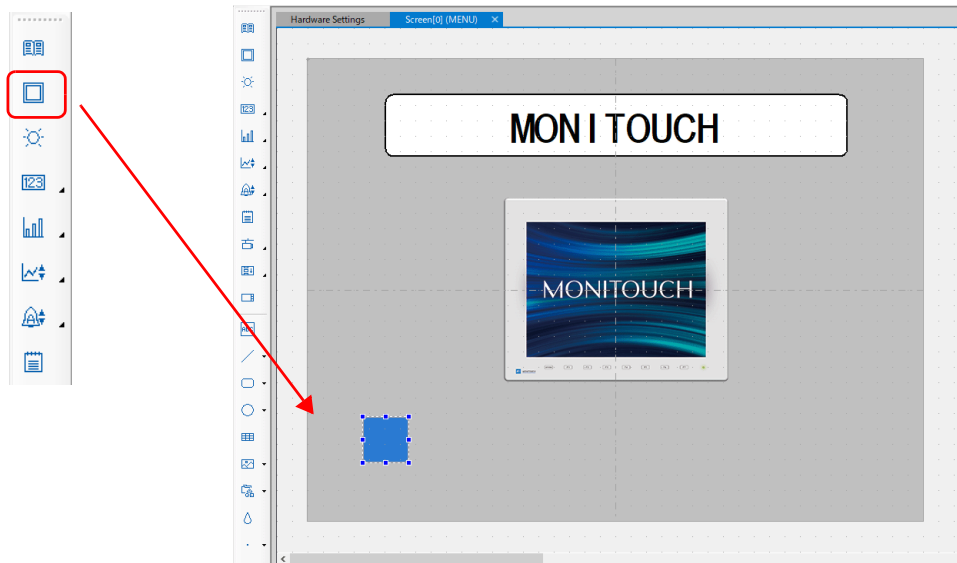


3. Place the image on the screen.



## 4.2.5 Creating Switches for Changing Screens

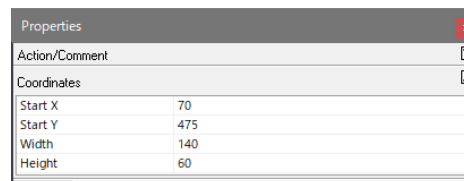
1. Click [Switch] on the parts bar and place a switch.



2. Adjust the size of the placed switch.  
Click the switch to display handles which can be used to enlarge or reduce the switch by dragging with the mouse.

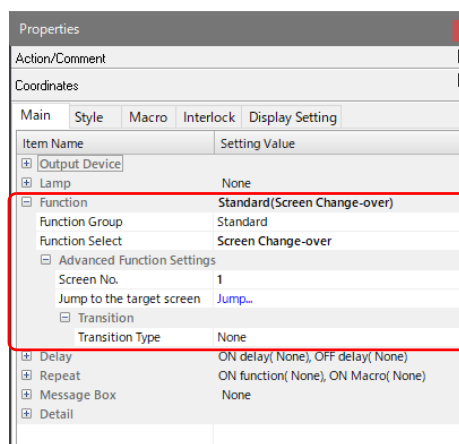


The size of a switch can also be changed from the coordinate settings on the [Properties] pane.




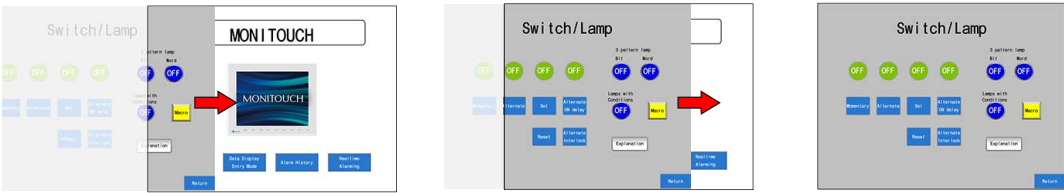
3. Click the switch to display the [Properties] pane, and then configure settings.

- Main



Item	Details	Settings
Function	Set the function to perform when the switch is pressed.	[Function Group]: Standard [Function Select]: Screen Change-over [Screen No.]: 1 [Transition Type]: None

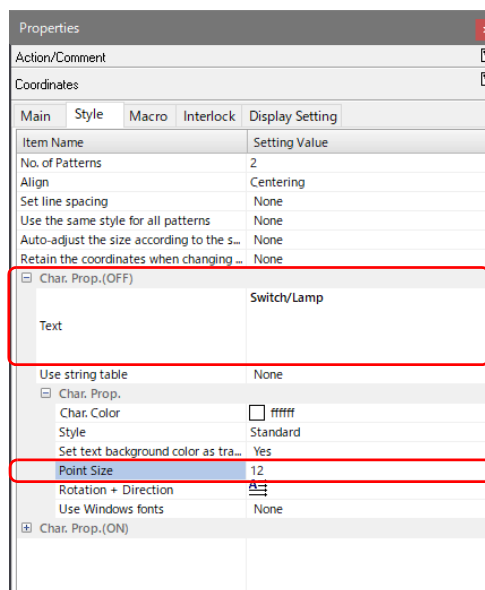
 **Transition**  
 When [Function Select] is set to [Screen Change-over], a screen transition effect can be added.  
 Example: Slide In, Right



**Transition types**  
 Slide In, Box In, Fade In, Slide Out, Box Out, Slide, Switch, Jump, Card Flip, Gallery

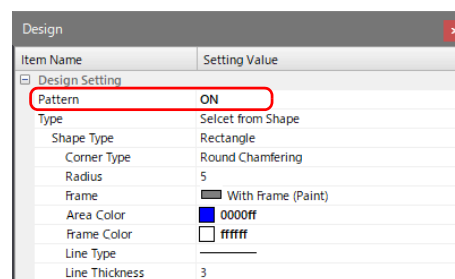
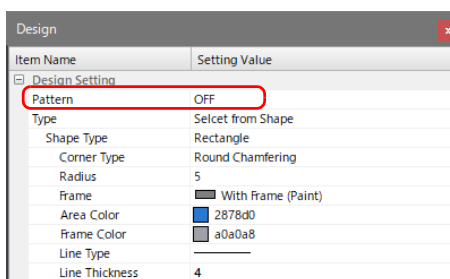
Specify the transition direction and time according to the selected transition type.


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



Item	Details	Settings
Text	Register the text to be displayed on the switch. Different strings can be registered for the OFF and ON patterns. If using the same string for the OFF and ON patterns, register text only for the OFF pattern.	Switch/Lamp
Char. Prop.	Set the text properties. Char. Color, Style, Italic Display, Set text background color as transparent, Point, Rotation + Direction, Use Windows fonts	[Char. Color]: White [Point Size]: 12

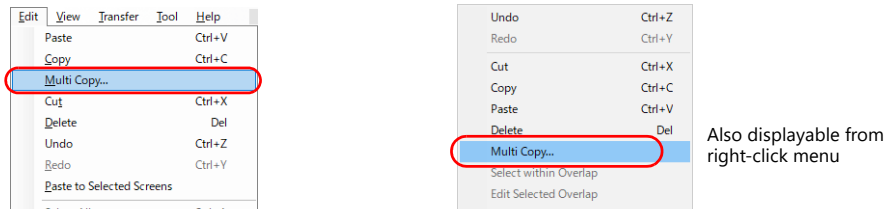
4. Set the color of the switch on the [Design] properties pane.  
 Colors for the OFF and ON patterns can be specified individually by switching [Pattern] to [OFF] or [ON].



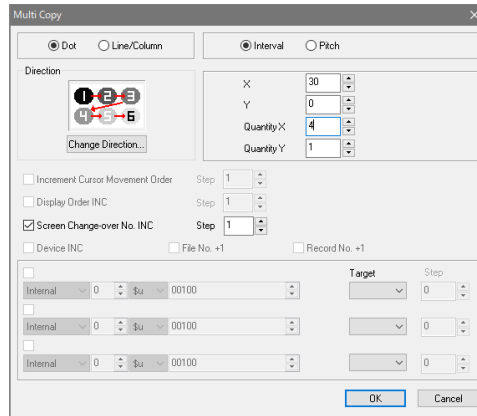
 In addition to color, the design can also be changed on the [Design] properties pane.  
 The design can be changed without changing the settings made on the [Properties] pane.

4. Creating a Menu Screen

- Copy the switch.  
Select the switch (handles displayed), and click [Edit] → [Multi Copy].  
The [Multi Copy] window is displayed.

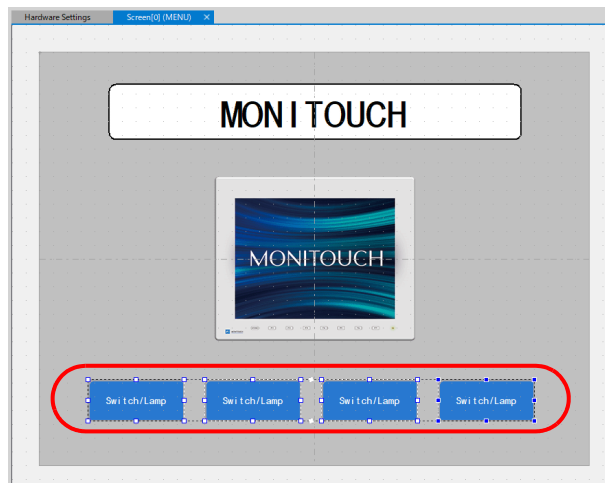


- Configure the following settings and click [OK].

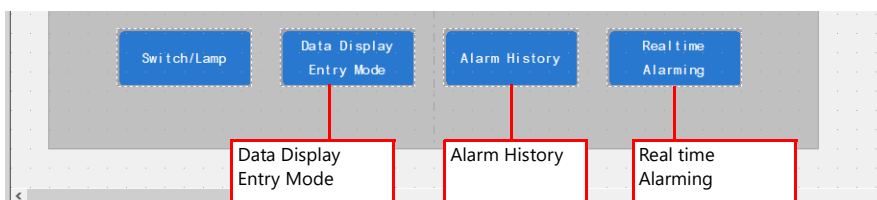


Item	Details	Settings
Dot, Line/Column	Select the method for specifying the copy position.	Dot
Interval, Pitch		Interval
X, Y	Specify the spacing of parts.	X: 30, Y: 0
Quantity X, Quantity Y	Set the number of copies to be made taking the copy source as "1".	X: 4, Y: 1
Direction	Set the direction for copying and the order for incrementing.	
Screen Change-over No. INC	The [Function Select] → [Screen Change-over] → [Screen No.] setting is automatically incremented.	Selected Step: 1

- Multiple copies of the switch are made.



- The target screen is set automatically. Set the text as shown below.

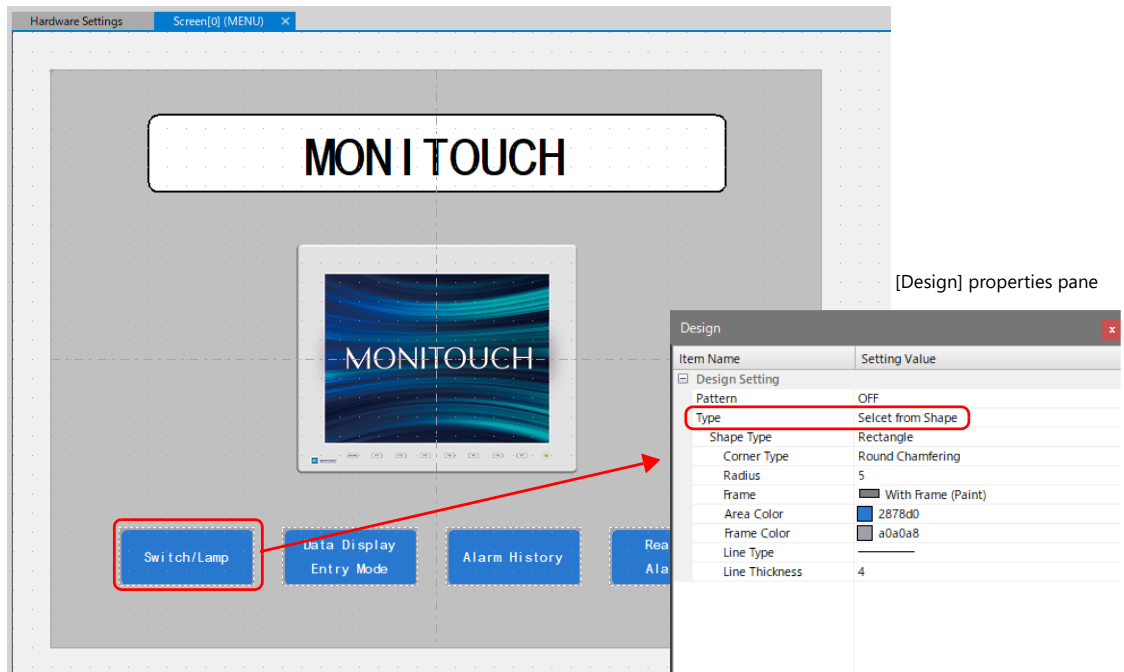


## 4.2.6 Changing the Design and Moving/Aligning Items

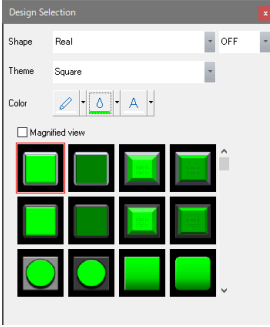
### Changing Design

The design of a placed part can be changed from the [Design] properties pane.

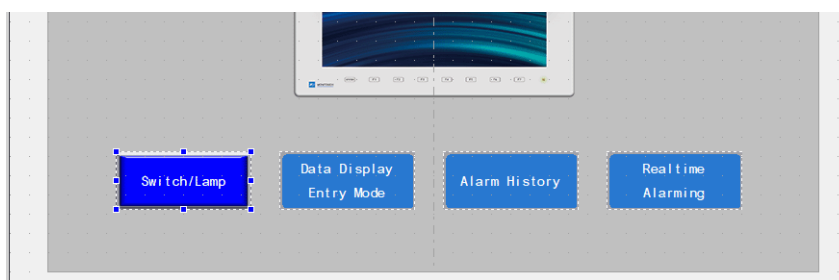
1. Click on a part. The [Design] properties pane is displayed.



2. Select the design selection method at [Type].

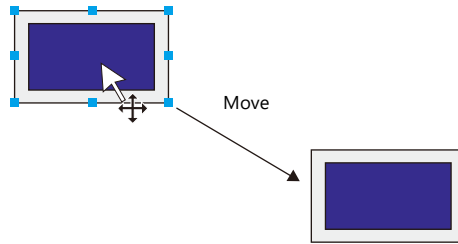
Type	Description
Select from catalogs	Open the catalog and change the design. 
Select from Shape	Select from Shape None: Transparent part with only an area Rectangle: No Chamfering, Round Chamfering, Chamfering Circle
Select from image files	Use a self-prepared PNG file or BMP file.

Example: [Select from catalogs]: Real, Square



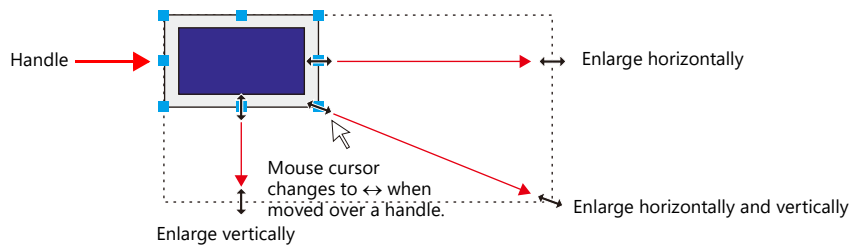
## Move

1. Click on a part. Handles are displayed.
2. With the mouse cursor displaying a move icon, drag the part to another position.



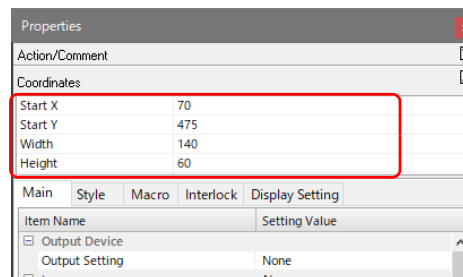
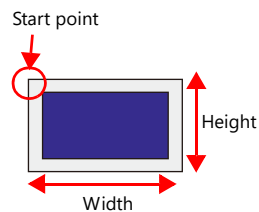
## Enlarging and Reducing

1. Click on a part. Handles are displayed.
2. Place the mouse cursor over a handle. The mouse cursor changes to a  $\leftrightarrow$  cursor.
3. Drag the handle with the  $\leftrightarrow$  mouse cursor.

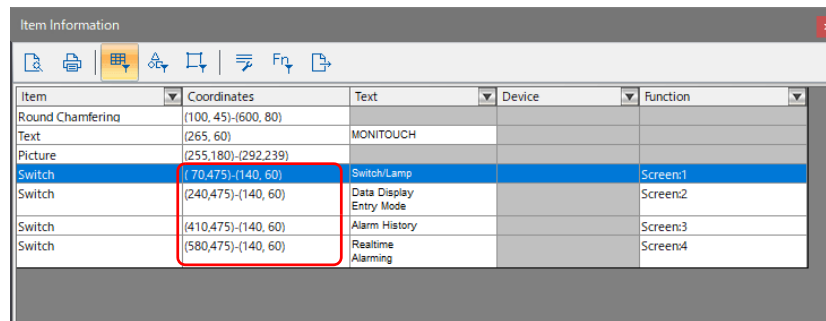


The coordinates and size of a part can also be changed from the [Properties] pane of the part, or from the [Item Information] pane.

- Properties



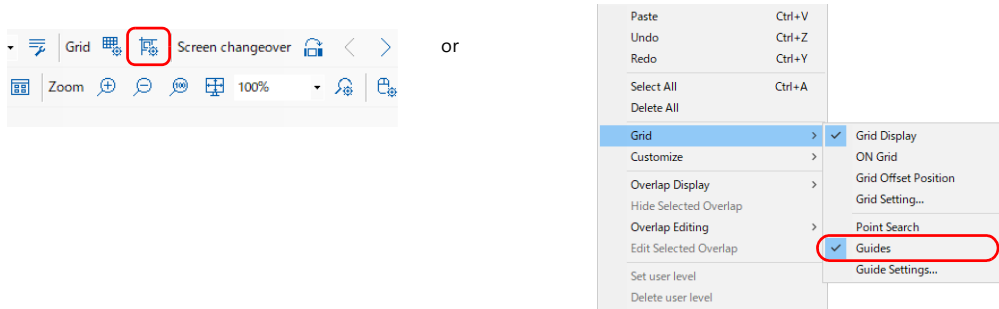
- [Item Information] pane



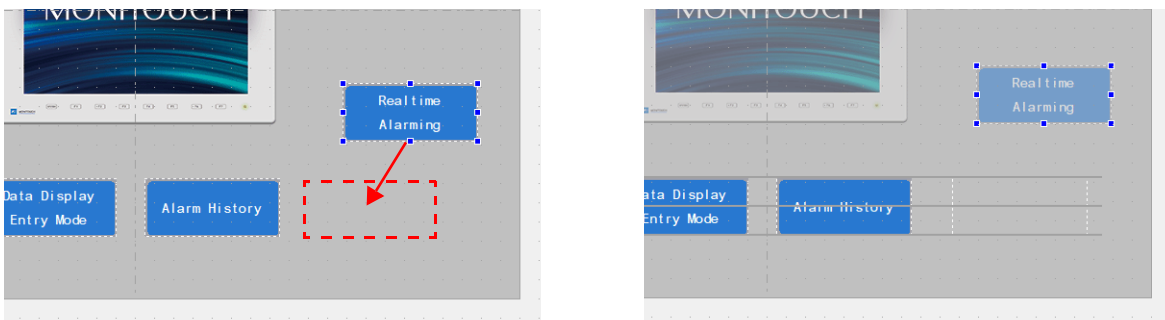
## Displaying Guides

Guides can be displayed when moving, enlarging, or reducing parts. The use of guides will make aligning the position and matching the size of parts easier.

1. Either click the [Guide Setting] icon or display the right-click menu and select [Grid] → [Guides].



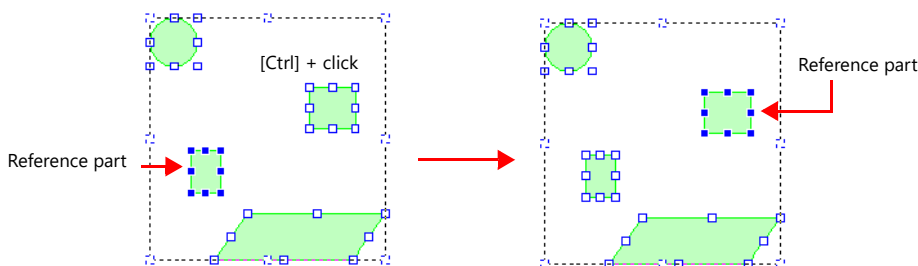
2. Guides are displayed when moving a part.



## Aligning Positions and Matching Size

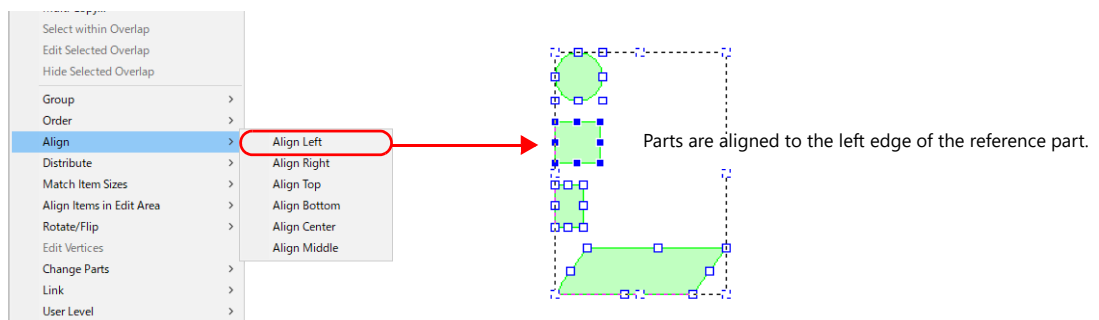
The position and size of multiple parts can be aligned collectively.

1. Select the parts for alignment. Handles are displayed.
2. Hold down the [Ctrl] key and click a part to change the reference part. The handle color of the clicked part changes to indicate that the part is specified as the reference part.



3. Align the positions by using the [Align], [Distribute], and [Match Item Sizes] commands on the right-click menu.

Example: When [Align Left] is selected

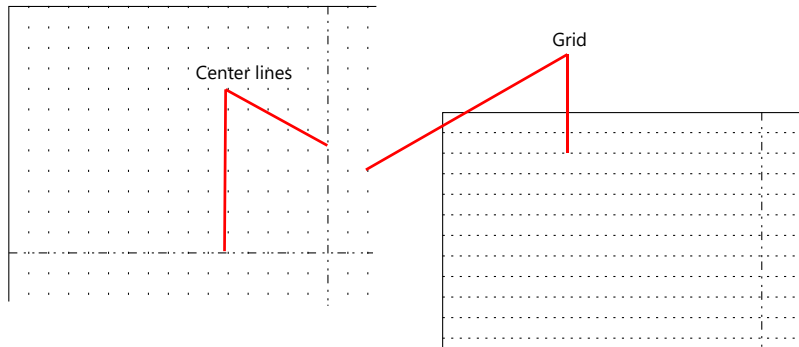


## 4. Creating a Menu Screen

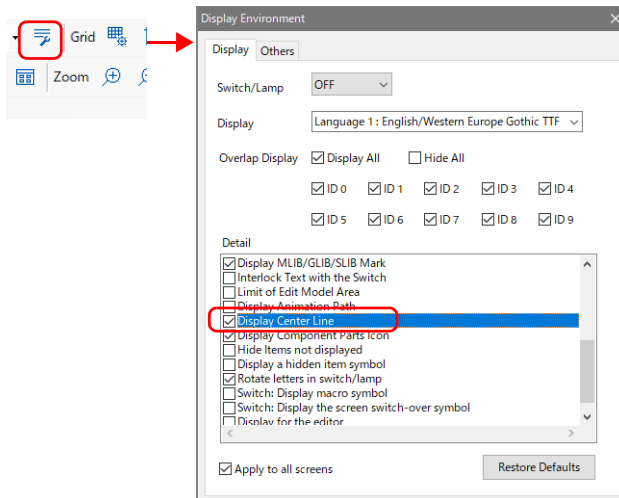


### Grid Settings and Center Line Display

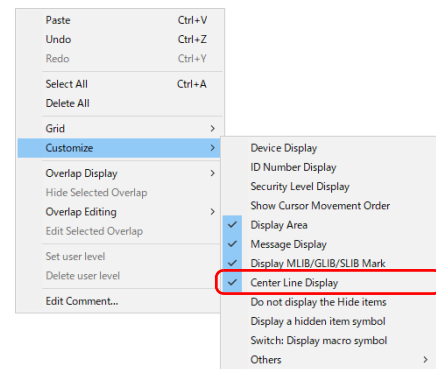
The [Display Center Line] setting and the [Grid Setting] are available to display center lines and grid lines to serve as a reference when placing items. These lines are only displayed on Smart Editor and not on MONITOUCH.



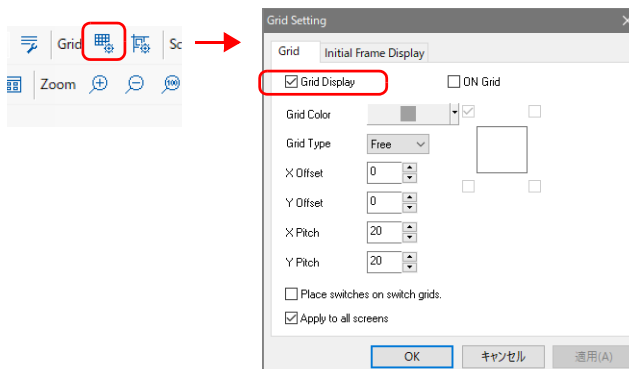
To display center lines, select the [Display Environment] → [Display Center Line] checkbox, or select [Customize] → [Center Line Display] from the right-click menu.



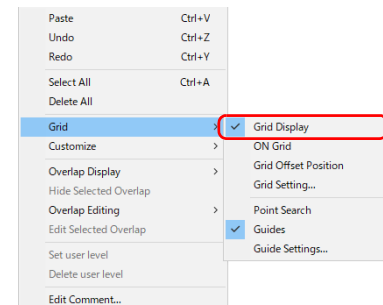
### Right-click



To display the grid, select the [Grid Setting] → [Grid Display] checkbox. Settings such as the pitch of the grid can be changed on the [Grid Setting] window.



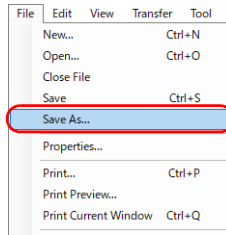
### Right-click



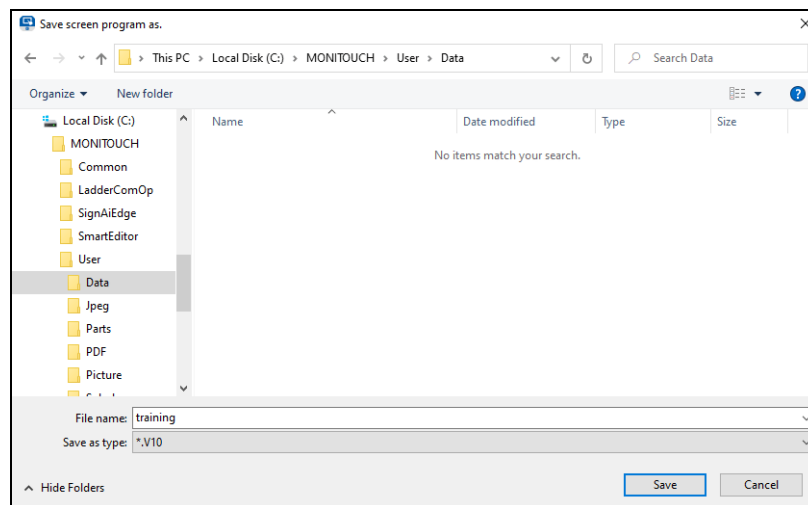
## 4.2.7 Saving a File

### Save As

1. Click [File] → [Save As].



2. The [Save screen program as] window is displayed. Enter the desired filename and click [Save]. A file is saved with the extension selected at [Save as type].

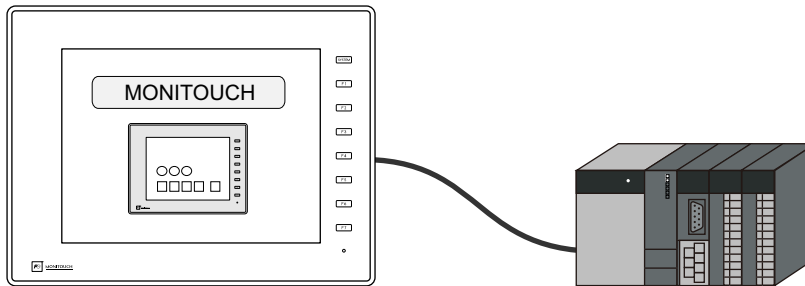


#### File types

Extension	Description
.V10	V10 screen program file
.V10Y	V10 screen program file (editing disabled)
.V10Z	V10 screen program file for TELLUS and V-Server (Gothic font used, Fuji Electric SX connected)
.V9	V9 screen program file
.V9Y	V9 screen program file (editing disabled)
.V9Z	V9 screen program file for TELLUS and V-Server (Gothic font used, Fuji Electric SX connected)
.env	File containing the editing environment settings of Smart Editor when the file is saved (Example: Grid)
.bak	Backup file of V10/V9 screen program file When saving by overwriting is executed, the previously saved data is saved as a backup file.
.txw	File storing text registered from [Windows Font Registration] when using Windows fonts for character display parts * Data can also be stored in the screen program.

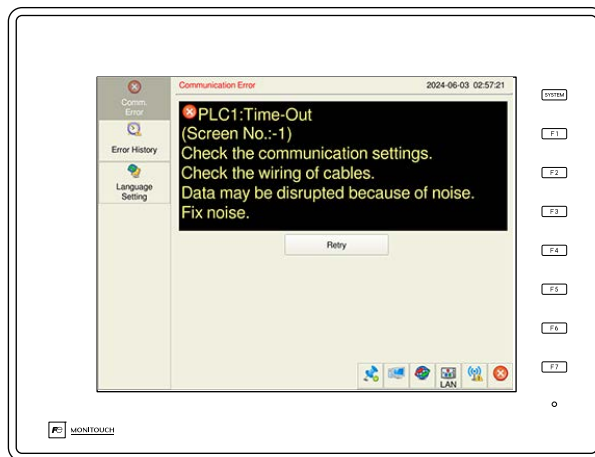
## 4.3 Checking Operation on MONITOUCH

When MONITOUCH and the PLC are connected correctly, the screen program is displayed. Check the operation.



### 4.3.1 Error Display

#### Communication Error - Timeout



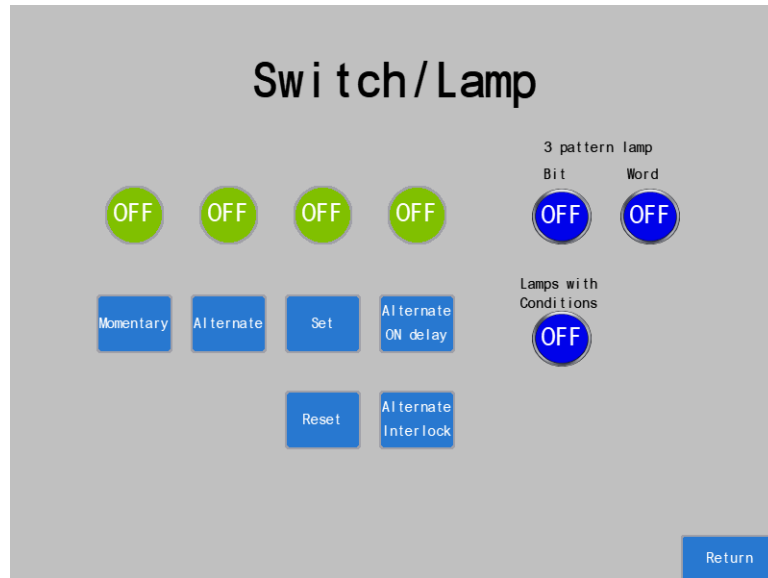
Communication is not being performed correctly. Probable causes are:

- The model selected for the screen program in the [Hardware Setting] window differs from the actual connected model.
- The communication parameters of MONITOUCH and the PLC do not match.
- The communication cable is not connected correctly or is disconnected.

## 5 Creating a Switch and Lamp Screen

### 5.1 Example Screen

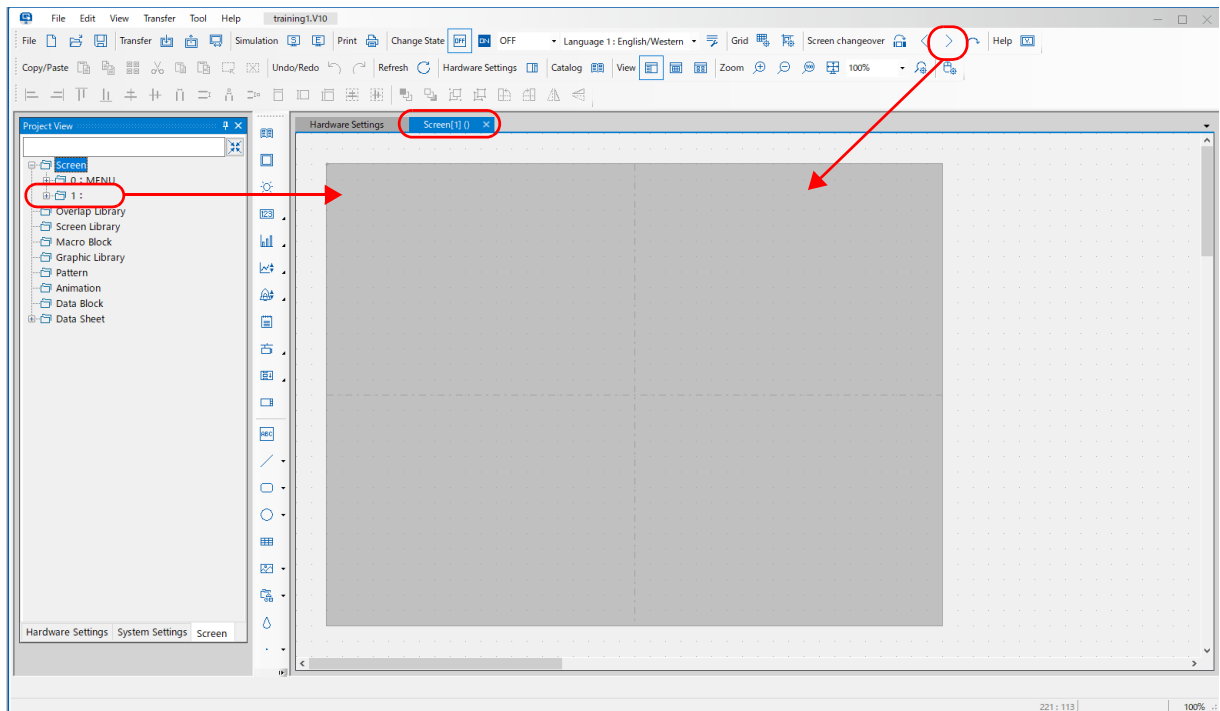
Create the following example screen that uses switch output to turn lamps on and off and changes to another screen using a switch.



### 5.2 Creation Procedure

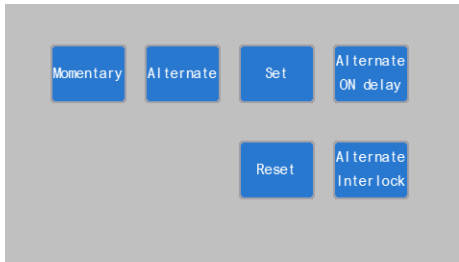
#### 5.2.1 Creating a New Screen

Display the [Screen [1]] window by either clicking [Screen] at the [Project View] pane → [Screen] tab, or by clicking the [Next Screen] icon.



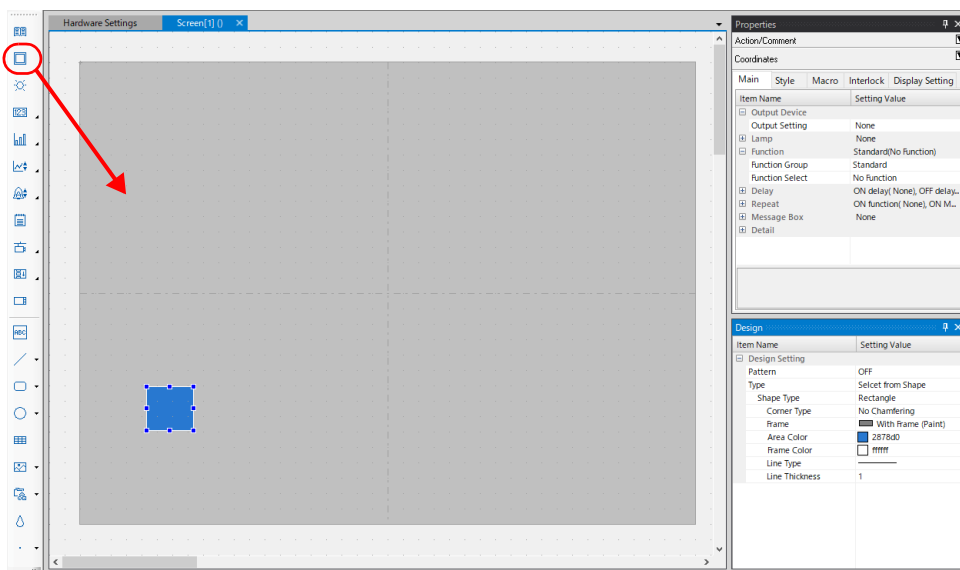
## 5.2.2 Creating Switches

Create the following section.



### Placing and Configuring the First Switch

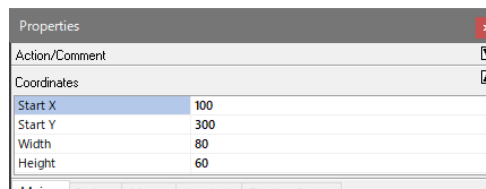
1. Click [Switch] on the parts bar and place a switch.



2. Adjust the size of the placed switch.  
Click the switch to display handles which can be used to enlarge or reduce the switch by dragging with the mouse.



The size of a switch can also be changed from the coordinate settings on the [Properties] pane.



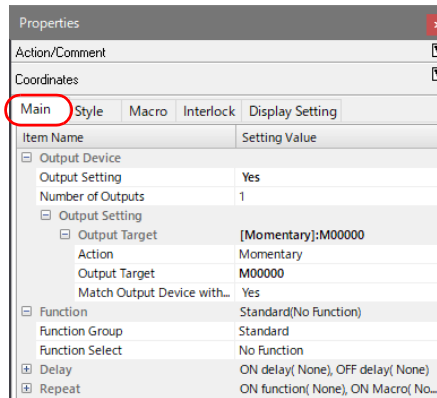
☹️ There are two ways to place parts.

- Place from the parts bar → [Switch].
- Place a from the parts bar → [Catalog].

1. [Switch]

2. [Catalog]

- Click the switch to display the [Properties] pane, and then configure settings.
  - Main
    - Set the output device memory and the function.

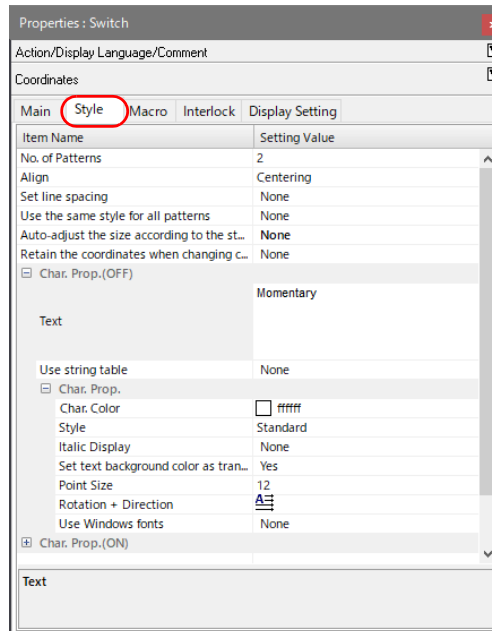


Item Name		Details	Settings												
Output Device		Used to execute the specified output operation for the set output device memory.	Yes												
Output Setting															
Number of Outputs		Select the number of outputs. A maximum of 16 types of output operations can be executed at one time. When the number of outputs is set to "2" or more, output operations are processed in sequence from No. 0. The output operations performed when the switch is released are also processed in sequence from No. 0.	1												
Output Target [1]	Action	Set the operation to perform with respect to the output device memory when the switch is pressed.	Momentary												
		<table border="1" style="width: 100%;"> <thead> <tr> <th>Switch Action</th> <th>Output Processing</th> </tr> </thead> <tbody> <tr> <td>Momentary Momentary W</td> <td>Set the specified bit device memory to ON while the switch is being pressed.</td> </tr> <tr> <td>Set</td> <td>Set the specified bit device memory to ON.</td> </tr> <tr> <td>Reset</td> <td>Set the specified bit device memory to OFF.</td> </tr> <tr> <td>Alternate</td> <td>Set the specified bit device memory alternately between ON and OFF each time the switch is pressed.</td> </tr> <tr> <td>Word Operation</td> <td>Store the value that undergoes operation processing to the specified bit device memory.</td> </tr> </tbody> </table>		Switch Action	Output Processing	Momentary Momentary W	Set the specified bit device memory to ON while the switch is being pressed.	Set	Set the specified bit device memory to ON.	Reset	Set the specified bit device memory to OFF.	Alternate	Set the specified bit device memory alternately between ON and OFF each time the switch is pressed.	Word Operation	Store the value that undergoes operation processing to the specified bit device memory.
		Switch Action		Output Processing											
		Momentary Momentary W		Set the specified bit device memory to ON while the switch is being pressed.											
		Set		Set the specified bit device memory to ON.											
		Reset		Set the specified bit device memory to OFF.											
Alternate	Set the specified bit device memory alternately between ON and OFF each time the switch is pressed.														
Word Operation	Store the value that undergoes operation processing to the specified bit device memory.														
Output Target	Specify the bit device memory to output when the switch is pressed.	M0													
Match Output Device with Lamp Device	Enable this setting when the device memory for lamp display is to be the same device memory as the output device memory.	Yes													

5. Creating a Switch and Lamp Screen

Item Name		Details	Settings
Function	Function Group	Specify the function of the switch.	Standard
	Function Select		No Function

- Style  
Set the text to display on the switch.



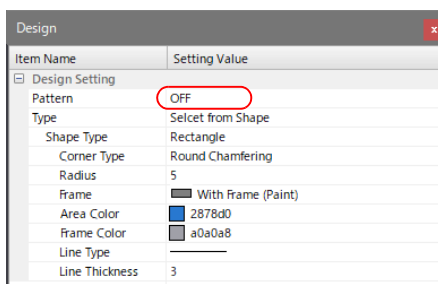
Item	Details	Settings
No. of Patterns	Set the number of patterns that the lamp function can display.	2
Char. Prop. (OFF)	Set the text to display for the OFF pattern.	-
Text	Register the text to be displayed on the switch.	Momentary
Color	Set the text color.	White
Style Italic Display Set text background color as transparent Rotation + Direction Use Windows fonts	Set the text style, etc.	-
Point Size	Set the text size.	12
Char. Prop. (ON)	Set the text to display for the ON pattern.	None



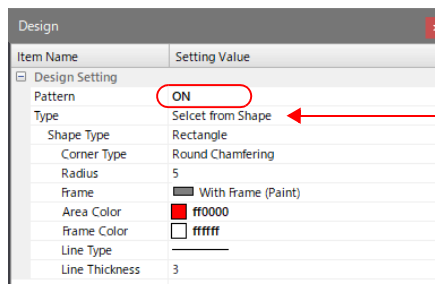
When the [Text] field for the [Char. Prop. (ON)] settings is left blank, the text set for the [Char. Prop. (OFF)] settings is displayed.  
Set the [Text] field for the [Char. Prop. (ON)] settings if displaying different text for the ON and OFF patterns.

4. Set the ON/OFF pattern colors of the switch on the [Design] properties pane. The design can also be changed from [Type].

Pattern: OFF



Pattern: ON

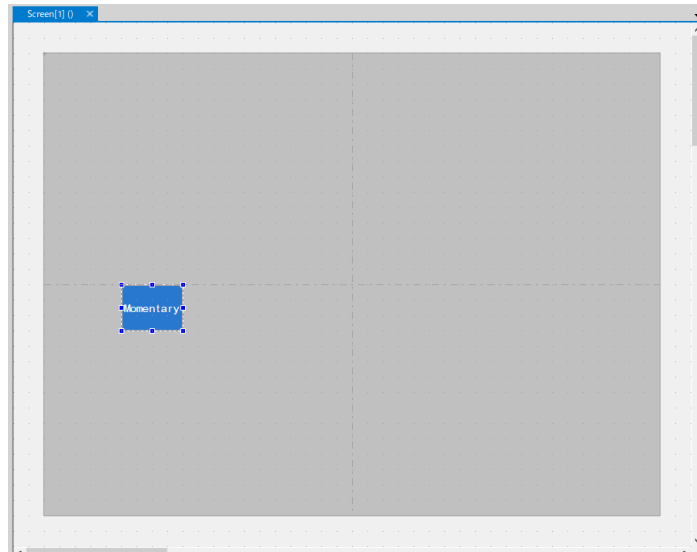


Pattern	OFF	ON
Area Color	Blue	Red
Frame Color	Gray	White
Line Type	Straight line	Straight line
Line Thickness	3	3

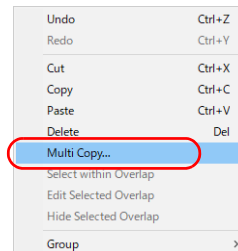
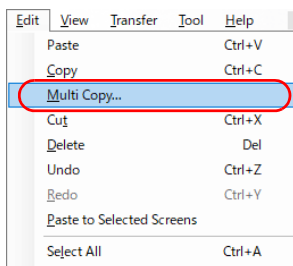
## Creating Multiple Copies of Switches

Make multiple copies of a switch.

1. Select a switch. Handles are displayed.

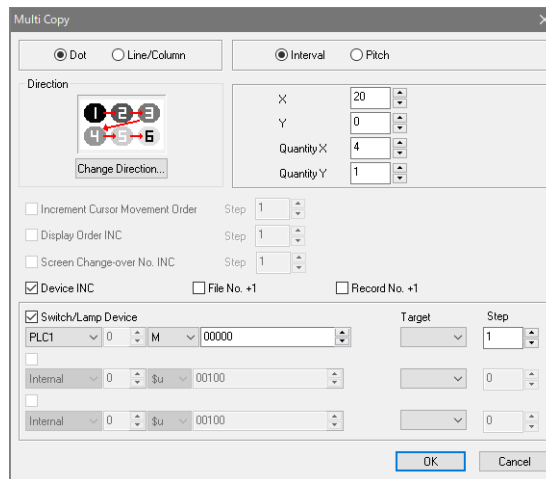


2. Click [Edit] → [Multi Copy]. The [Multi Copy] window is displayed.



Also displayable from right-click menu

3. Configure the following settings and click [OK].

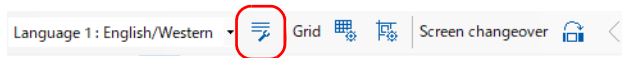


Item	Details	Settings
Dot, Line/Column	Select the method for specifying the copy position.	Dot
Interval, Pitch		Intervals
X, Y	Specify the spacing of parts.	X: 20, Y: 0
Quantity X, Quantity Y	Set the number of copies to be made taking the copy source as "1".	X: 4, Y: 1
Direction	Set the direction for copying and the order for incrementing.	
Device INC	Automatically increment the bit number of the switch output device memory.	Selected Step: 1

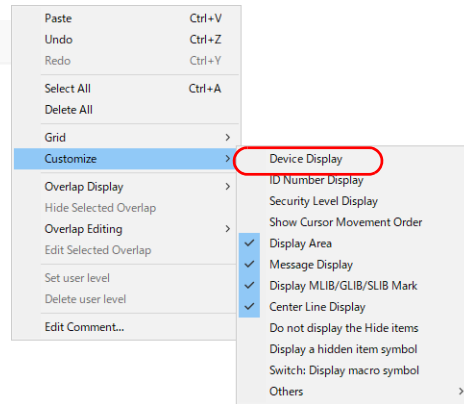
## 5. Creating a Switch and Lamp Screen

- Multiple copies of the switch are made.
- Either select the [Display Device] checkbox from the toolbar → [Display Environment] icon, or display the right-click menu and select [Customize] → [Device Display].  
The device memory is displayed at the lower left of the switch.

Toolbars




Right-click menu



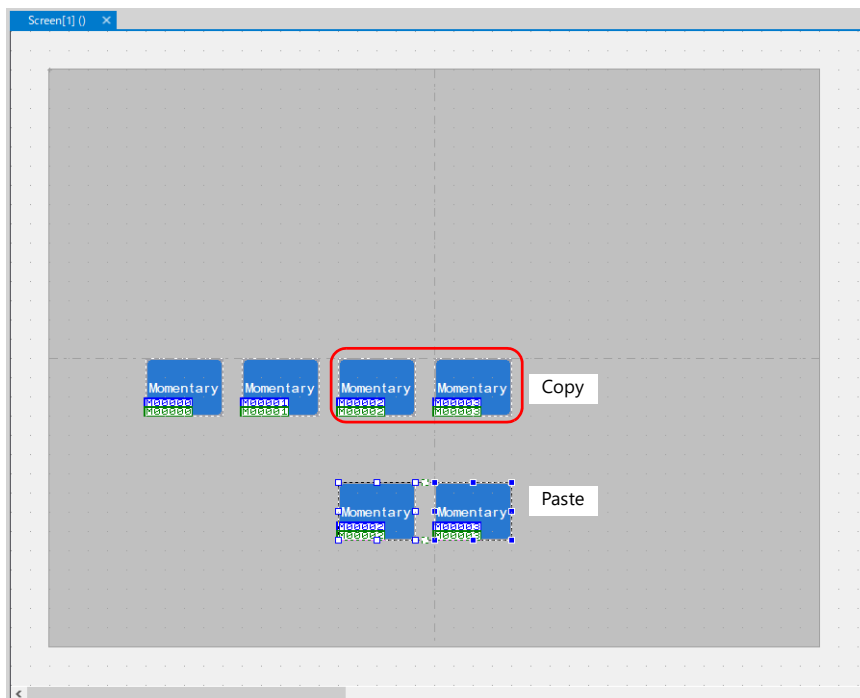
The colors of device memory indications are as follows for a switch.

😊

Blue: Output device memory  
Green: Lamp device memory  
Gray: Interlock

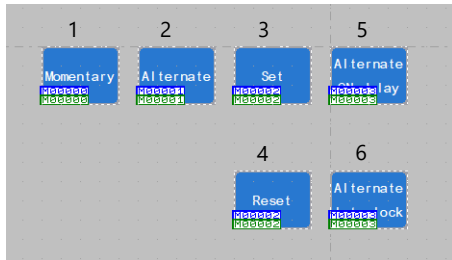


- Copy and paste the [M2] and [M3] switches.



## Changing the Settings of the Copied Switches

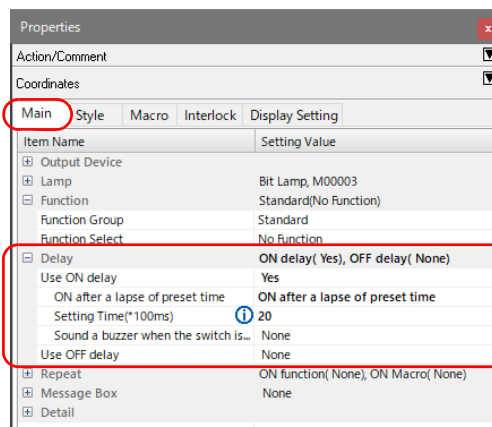
1. Change the text and output settings of switches 2 through 6 as shown below. (Red: Settings to change)



Switch	Main		Style
	Output Target	Action	Text
1	M0	Momentary	Momentary
2	M1	Alternate	Alternate
3	M2	Set	Set
4	M2	Reset	Reset
5	M3	Alternate	Alternate
6	M3	Alternate	Alternate

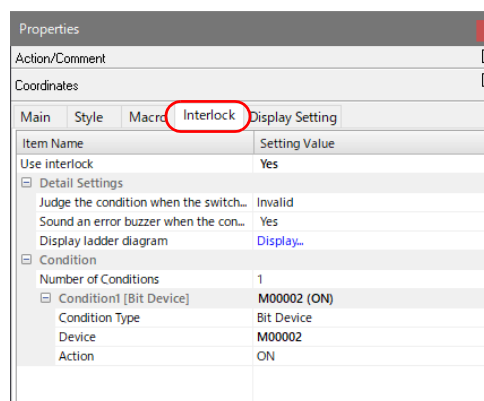
↑ Set automatically by multi copy

2. Set a delay for switch 5.



Item	Details	Settings
Use ON delay	A delay can be set for when the switch turns ON.	Yes
ON after a lapse of preset time	ON after a lapse of preset time: Execute the ON operation after the switch is held down for the set time. Pressed twice within the setting time: Execute the ON operation when the switch is pressed twice within the set time.	ON after a lapse of preset time
Setting Time	Set the time before executing the function from when the switch is pressed.	20 (= 2 s)
Sound a buzzer when the switch is pressed for the first time	Yes: Always sound a buzzer when the switch is pressed. None: After the switch is pressed, sound a buzzer if the delay condition is satisfied and performing an ON operation.	None
Use OFF delay	Execute the OFF operation after the set time elapses from when the switch is released.	None

3. Set an interlock for switch 6.



Item	Details	Settings
Use interlock	Set an interlock. Permission/prohibition of switch operations is controlled by conditions.	Yes
Judge the condition when the switch is OFF	Set whether or not the system judges if the interlock conditions are satisfied when the switch is turned OFF (when the switch is released).	Invalid

## 5. Creating a Switch and Lamp Screen

Item	Details	Settings
Sound an error buzzer when the condition is not met	Set whether or not to sound an error buzzer when the switch is pressed and the conditions are not satisfied.	Yes
Number of Conditions	A maximum of five conditions can be set.	1
Condition Type	Set the condition type and condition.	Bit Device M2 ON
Bit Device	Specify the bit device memory and the [Action] (ON/OFF). Switch operation is allowed when the status of the bit device memory matches the [Action] setting, and is prohibited when it does not match the setting.	
Word Device	Specify the word device memory and the condition expression. Switch operation is allowed when the condition expression is satisfied by the value of the word device memory, and is prohibited when not satisfied.	
Security Level	This setting is available when using the security function. Permission/prohibition of the switch operation is controlled according to the security level of the user that is currently logged in on MONITOUCH. For details, refer to "5 Security" in Reference Manual 2.	

This completes the switch creation process.

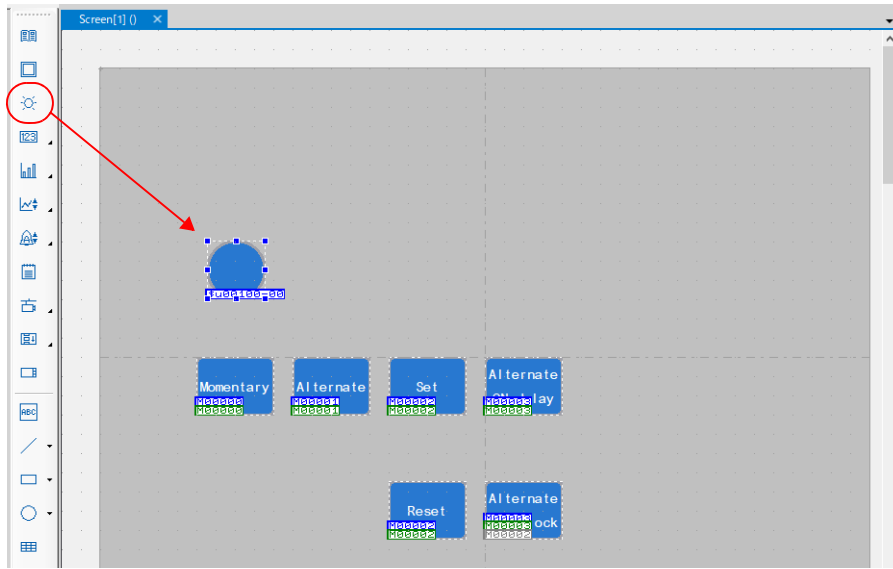
## 5.2.3 Creating Lamps

Create the following section.

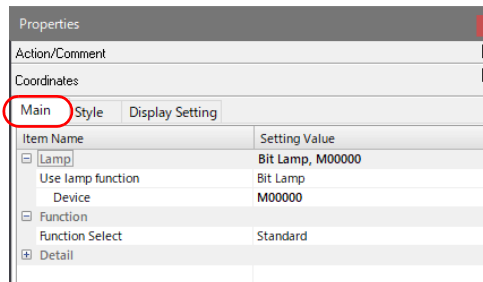


### Placing and Configuring the First Lamp

1. Click [Switch] on the parts bar and place a lamp.



2. Click the lamp to display the [Properties] pane, and then configure settings.
  - Main
    - Specify the device memory and function of the lamp.

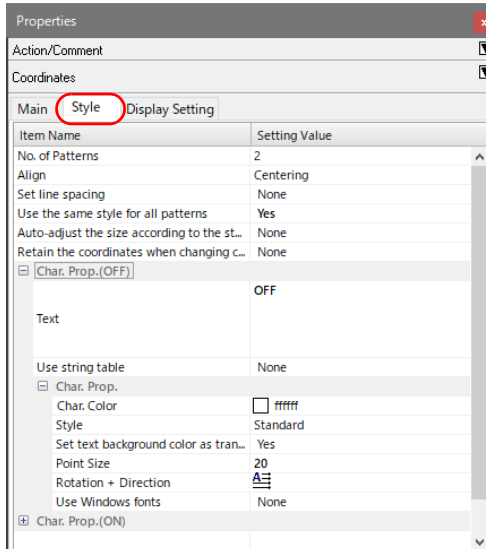


Item		Setting Details	Settings
Lamp	Use lamp function	<p><b>Bit Lamp:</b> The lamp display is changed by setting (ON) and resetting (OFF) bits. The required number of bits depends on the number of display patterns. (127 bits maximum)</p> <ul style="list-style-type: none"> <li>* When multiple bits are set (ON), the most significant bit takes precedence.</li> </ul> <p><b>Word Lamp</b> The lamp display is changed according to the value specified for the device memory. The range of setting values varies with the number of patterns. (Setting range: 0 to 127) If a value outside the setting range is set, the lamp display is not changed.</p> <p><b>N-state lamp</b> Specify bit device memory or word device memory for each pattern.</p> <ul style="list-style-type: none"> <li>* Conditions are checked in order starting from ON, P3, P4, and through to P128. The pattern for which conditions are determined to be satisfied the earliest is displayed. If all conditions are not satisfied, the OFF pattern is displayed.</li> </ul>	Bit Lamp
	Device	This setting is available only when [Bit Lamp] or [Word Lamp] is selected. Specify the device memory address.	M0
	Input Type	This setting is available only when [Word Lamp] is selected. Specify the input format of the device memory. (DEC/BCD)	-
Function	Function Select	Specify the function of the lamp.	Standard

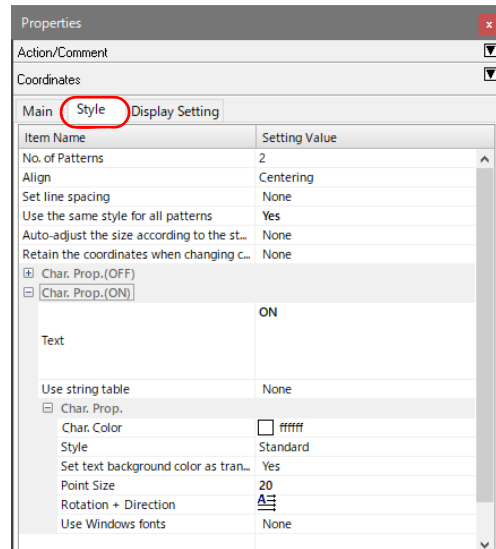
## 5. Creating a Switch and Lamp Screen

- Style  
Set the text to display on the lamp.

[Text]: OFF



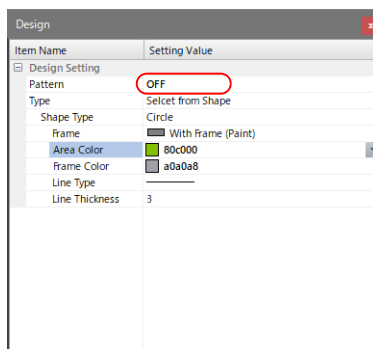
[Text]: ON



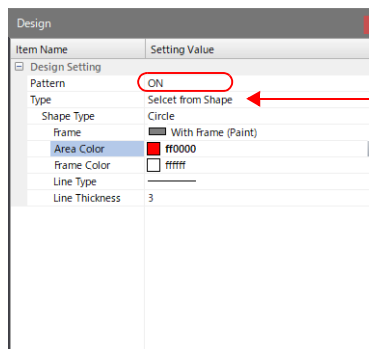
Item	Details	Settings
No. of Patterns	Set the number of patterns that the lamp can display.	2
Use the same style for all patterns	Use the same text properties for the OFF and ON patterns.	Yes
Char. Prop.	Set the text to display for the OFF pattern.	-
Text (OFF)	Register the text to be displayed on the lamp.	OFF
Text (ON)		ON
Color	Set the text color.	White
Style Italic Display Set text background color as transparent Rotation + Direction Use Windows fonts	Set the text style, etc.	-
Point Size	Set the text size.	20

3. Set the ON/OFF colors of the lamp on the [Design] properties pane. The design can also be changed from [Type].

[Pattern]: OFF



[Pattern]: ON

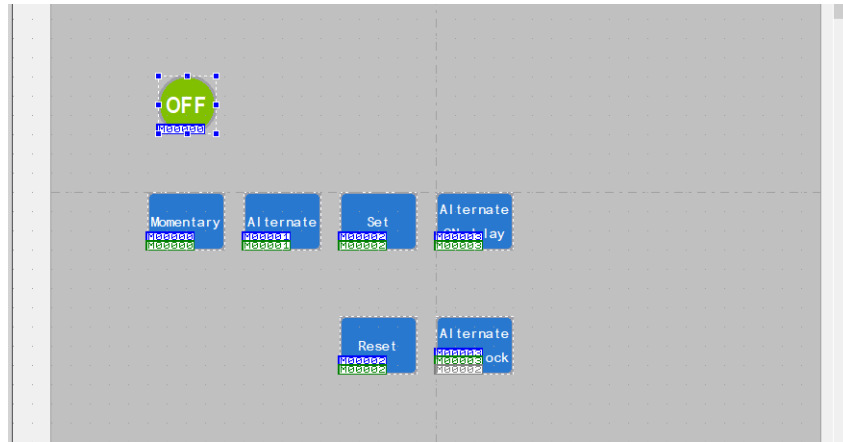


Pattern	OFF	ON
Area Color	Green	Red
Frame Color	Gray	White
Line Type	Straight line	Straight line
Line Thickness	3	3

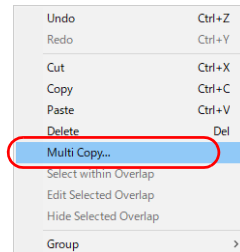
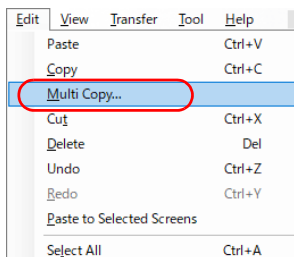
## Creating Multiple Copies of Lamps

Create multiple copies of lamps using the same procedure as that for switches.

1. Select the lamp. Handles are displayed.

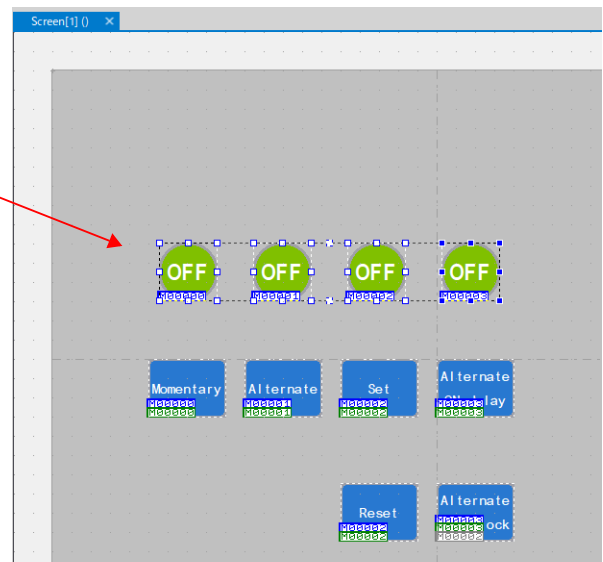
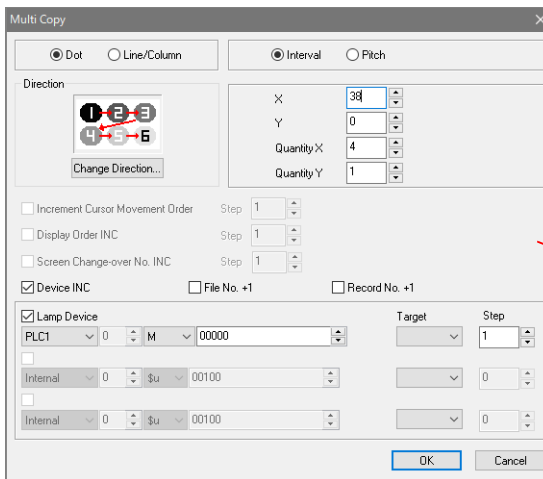


2. Click [Edit] → [Multi Copy]. The [Multi Copy] window is displayed.



Also displayable from right-click menu

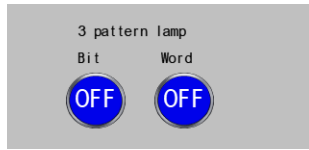
3. Configure the following settings and click [OK]. Copies of the lamp are made.



Item	Details	Settings
Dot, Line/Column	Select the method for specifying the copy position.	Dot
Interval, Pitch		Intervals
X, Y	Specify the spacing of parts.	X: 38, Y: 0
Quantity X, Quantity Y	Set the number of copies to be made taking the copy source as "1".	X: 4, Y: 1
Direction	Set the direction for copying and the order for incrementing.	
Device INC	Automatically increment the bit number of the lamp device memory.	Selected Step: 1

## 5.2.4 N-State Lamp: Creating a Three-Pattern Lamp

Create a bit lamp and word lamp with three patterns using an N-state lamp.



### Creating a Bit Lamp

1. Click and hold the [Lamp] icon on the parts bar to display the [Design Selection] window.
2. Set [Shape] to [Real], and [Theme] to [Circle], and then place a lamp.

Click and hold

Place by dragging

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

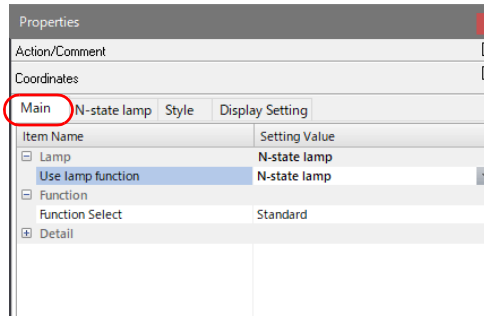
3. Click the lamp to display the [Properties] pane, and then configure settings.
  - Style

Text for [Char. Prop. (OFF)]: OFF  
Text for [Char. Prop. (ON)]: ON  
Text for [Char. Prop. (P3)]: P3

Item	Details	Settings
No. of Patterns	Set the number of patterns that the lamp function can display.	3
Use the same style for all patterns	Use the same text properties for the OFF, ON, and P3 patterns.	Yes
Char. Prop.	Set the text to display for the OFF pattern.	-
Text (OFF)	Register the text to be displayed on the lamp.	OFF
Text (ON)		ON
Text (P3)		P3
Color	Set the text color.	White

Item		Details	Settings
	Style Italic Display Set text background color as transparent Rotation + Direction Use Windows fonts	Set the text style, etc.	-
	Point Size	Set the text size.	20

- Main  
Specify the function.



Item		Setting Details	Settings
Lamp	Use lamp function	<b>Bit Lamp</b> The lamp display is changed by setting (ON) and resetting (OFF) bits. The required number of bits depends on the number of display patterns. (127 bits maximum) * When multiple bits are set (ON), the most significant bit takes precedence.  <b>Word Lamp</b> The lamp display is changed according to the value specified for the device memory. The range of setting values varies with the number of patterns. (Setting range: 0 to 127) If a value outside the setting range is set, the lamp display is not changed.  <b>N-state lamp</b> Specify bit device memory or word device memory for each pattern. * Conditions are checked in order starting from ON, P3, P4, and through to P128. The pattern for which conditions are determined to be satisfied the earliest is displayed. If all conditions are not satisfied, the OFF pattern is displayed.	N-state lamp
Function	Function Select	Specify the function of the lamp.	Standard



- N-state lamp  
Specify the lamp device memory for each pattern.

**ON**

No.	AND/OR Setting	Condition 1	Condition 2
ON		M00004 (ON)	
P3		M00005 (ON)	

Condition Settings

Item Name	Setting Value
Condition	
Number of Conditions	1
Condition1 [Bit Device]	M00004 (ON)
Condition Type	Bit Device
Device	M00004
Action	ON

**P3**

No.	AND/OR Setting	Condition 1	Condition 2
ON		M00004 (ON)	
P3		M00005 (ON)	

Condition Settings

Item Name	Setting Value
Condition	
Number of Conditions	1
Condition1 [Bit Device]	M00005 (ON)
Condition Type	Bit Device
Device	M00005
Action	ON

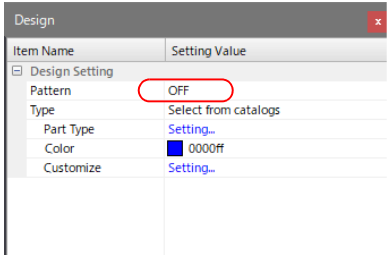
The number of patterns specified in the [Style] settings is displayed.

## 5. Creating a Switch and Lamp Screen

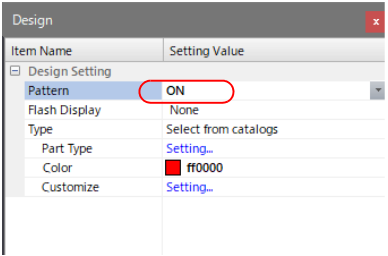
Item	Details	Settings
Number of Conditions	Conditions for lighting up each pattern are to be configured. A maximum of four conditions can be set.	1
Condition Type	Set the condition type and condition.	-
ON: Condition 1	<b>Bit Device</b> Specify the bit device memory and the [Action] (ON/OFF). The pattern lights up when the status of the bit device memory matches the [Action] setting.	Bit Device M4 ON
P3: Condition 1	<b>Word Device</b> Specify the word device memory and the condition expression. The pattern lights up when the value of the word device memory satisfies the condition expression.  <b>Security Level</b> This setting is available when using the security function. Lighting of the part is controlled according to the security level of the user that is currently logged in on MONITOUCH. For details, refer to "5 Security" in Reference Manual 2.	Bit Device M5 ON

4. Set the color of the ON, OFF, and P3 patterns for the lamp on the [Design] properties pane. The design can also be changed from [Type].

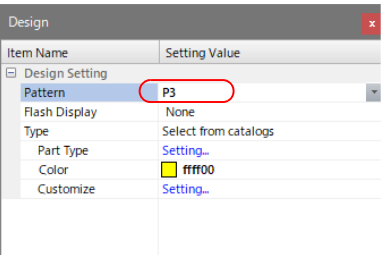
[Pattern]: OFF



[Pattern]: ON



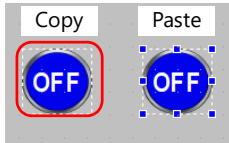
[Pattern]: P3



Pattern	OFF	ON	P3
Color	Blue (0000ff)	Red (ff0000)	Yellow (ffff00)

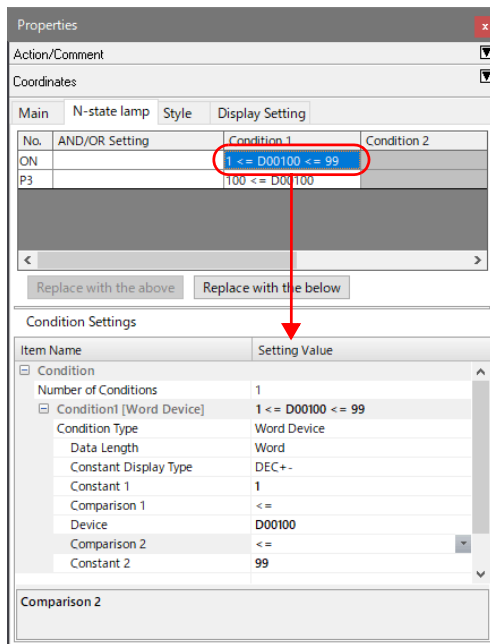
## Creating a Word Lamp

- Copy and paste the created bit lamp.

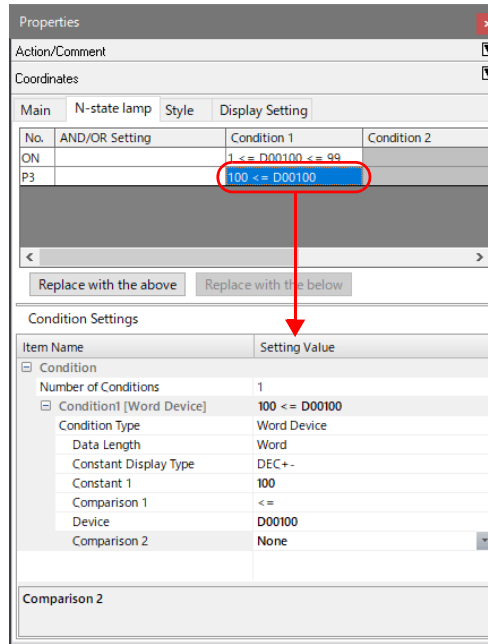


- Click the lamp to display the [Properties] pane, and then change the setting to [N-state lamp].
  - N-state lamp

ON:



P3: Condition 1



Item	Details	Settings
Number of Conditions	Conditions for lighting up each pattern are to be configured. A maximum of four conditions can be set.	1
Condition Type	Set the condition type and condition.	-
ON: Condition 1	<p><b>Bit Device</b> Specify the bit device memory and the [Action] (ON/OFF). The pattern lights up when the status of the bit device memory matches the [Action] setting.</p>	Word Device 1 ≤ D100 ≤ 99
P3: Condition 1	<p><b>Word Device</b> Specify the word device memory and the condition expression. The pattern lights up when the value of the word device memory satisfies the condition expression.</p> <p><b>Security Level</b> This setting is available when using the security function. Lighting of the part is controlled according to the security level of the user that is currently logged in on MONITOUCH. For details, refer to "5 Security" in Reference Manual 2.</p>	Word Device 100 ≤ D100

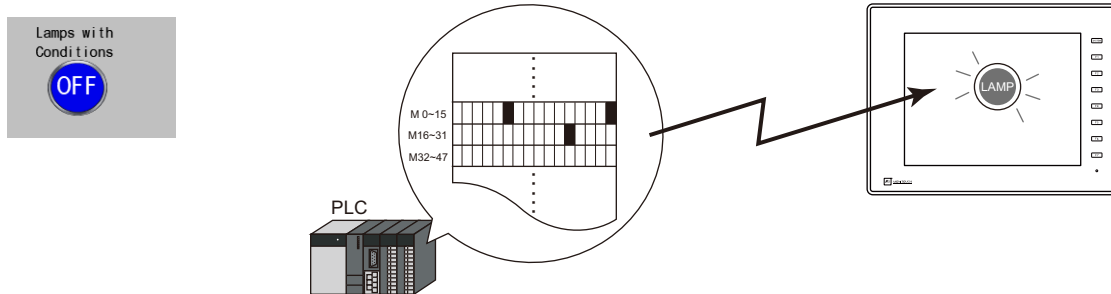
This completes the creation process for the three-pattern lamp.

## 5.2.5 N-State Lamp: Multi-Conditional Lamp

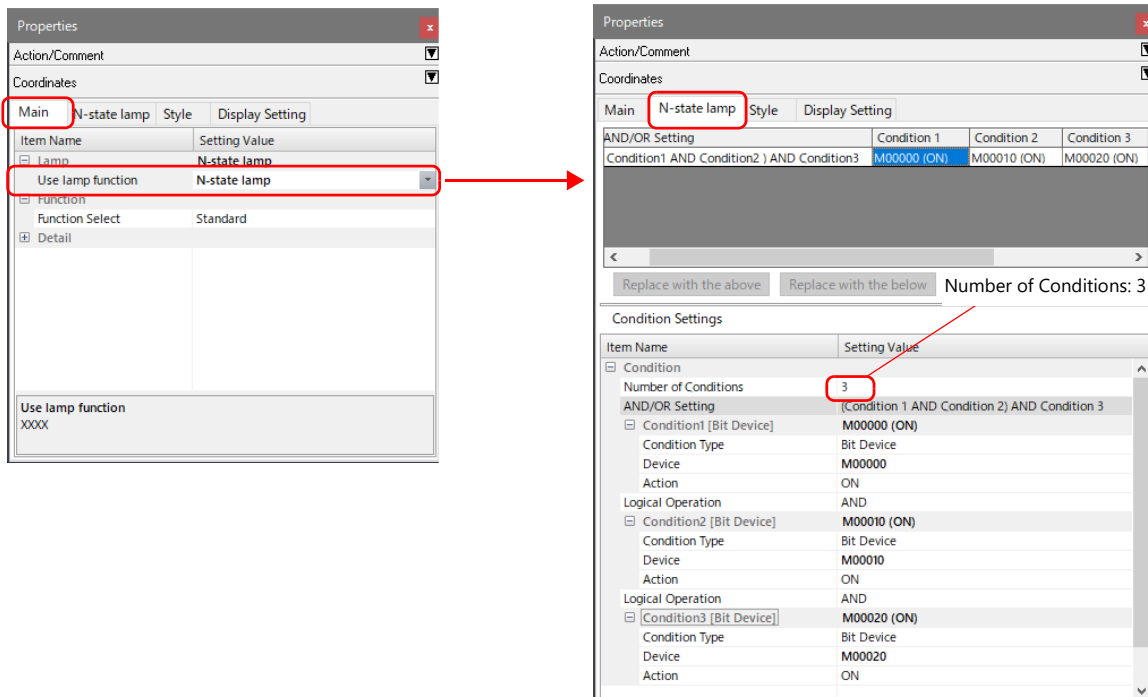
By using the N-state lamp setting, it is possible to create a lamp that lights up when multiple conditions (four maximum) are satisfied.

Set a lamp that lights up when the M0, M10, and M20 bits of PLC device memory all turn ON.

- Condition 1: M0 ON
- Condition 2: M10 ON
- Condition 3: M20 ON



1. Place a lamp from the parts bar.
2. Configure the [Main] and [N-state lamp] settings on the [Properties] pane as shown below.



	Item	Details	Settings	
Main	Use lamp function	Specify the function of the lamp.	N-state lamp	
N-state lamp	Number of Conditions	Conditions for lighting up each pattern are to be configured. A maximum of four conditions can be set.	3	
	Condition Type	ON: Condition 1	Set the condition type and condition.	
		ON: Condition 2		Bit Device M0 ON
		ON: Condition 3		Bit Device M10 ON
Logical Operation	AND: Light up when all conditions are satisfied. OR: Light up when any one of the conditions is satisfied.	AND		
Style	Char. Prop. (OFF)	Set the text properties.	[Text]: OFF [Point Size]: 20	
	Char. Prop. (ON)		[Text]: ON [Point Size]: 20	

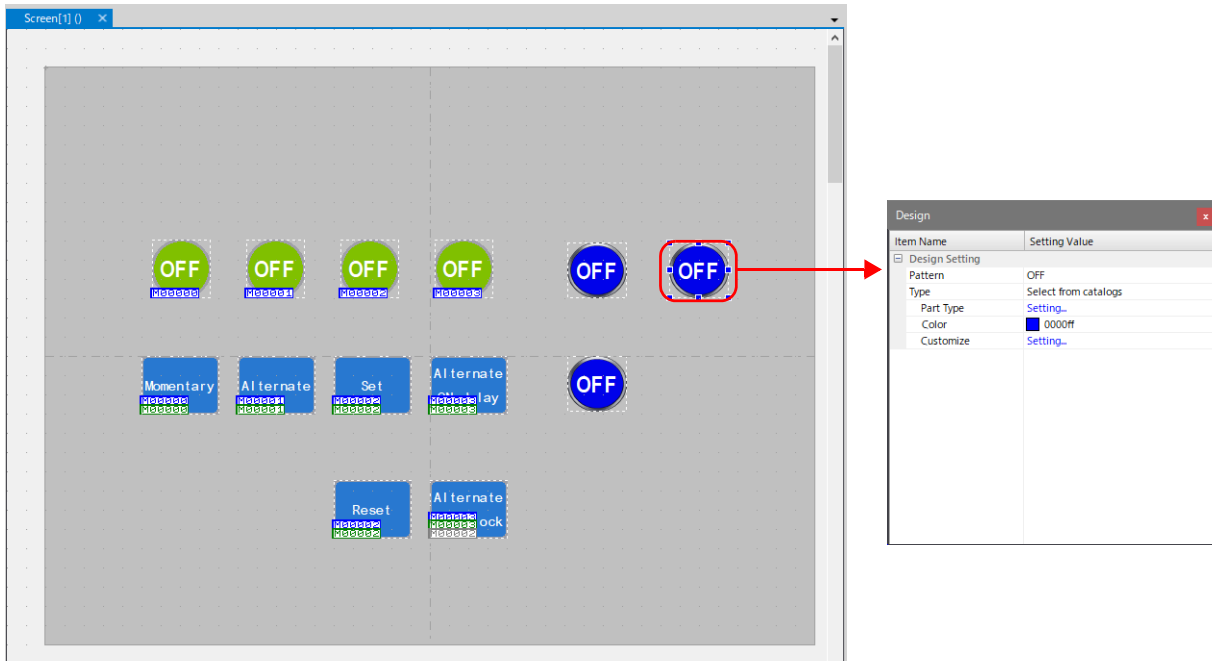
3. Set the color and design on the [Design] properties pane.

## 5.2.6 Procedure for Changing Parts

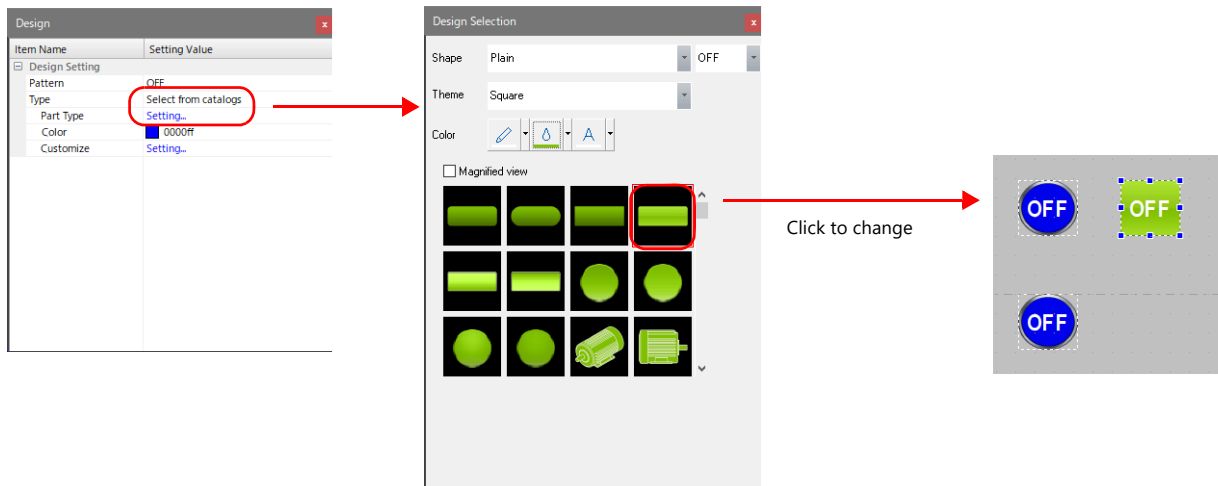
The design or color of parts placed on the screen can be changed by the following procedures.

### Selecting from Catalogs

1. Select the part to change to display the [Design] properties pane.



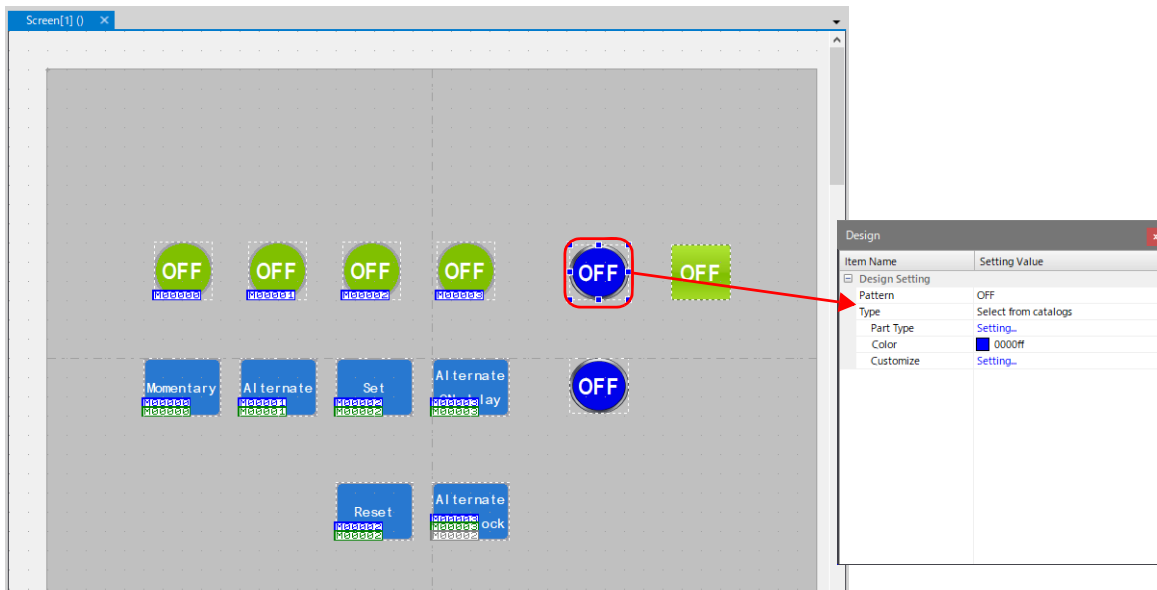
2. Set [Type] to [Select from catalogs], and then click [Setting]. The [Design Selection] window is displayed.
3. Specify the [Shape] and [Theme], and then click the design of your preference. The lamp on the screen changes accordingly. The color can also be changed from the color icon.



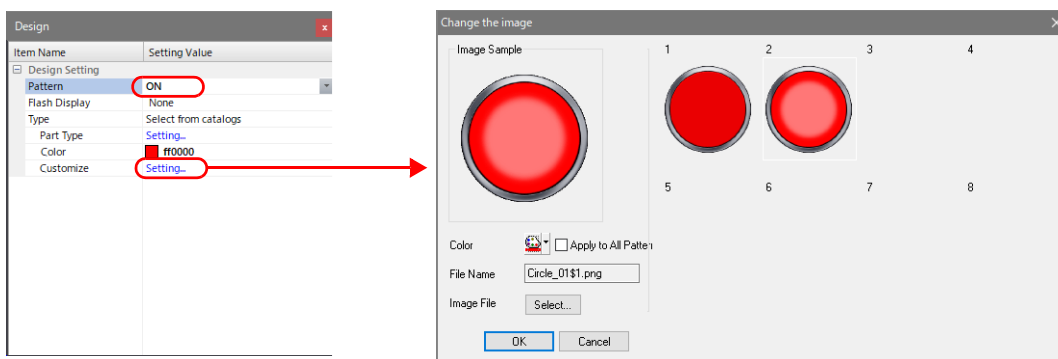
## Using the Same Image for the OFF and ON Patterns

The image for the ON pattern can be changed to be the same as the image used for the OFF pattern from the [Customize] setting.

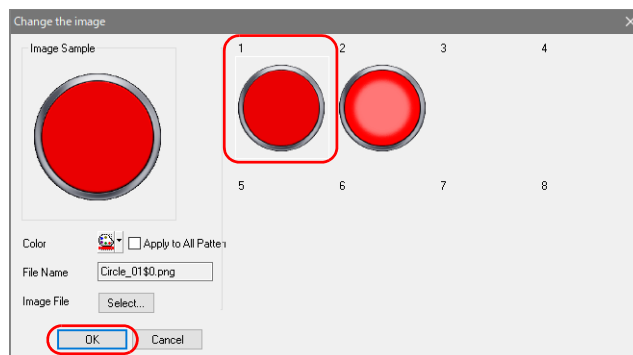
1. Select the part to change to display the [Design] properties pane.



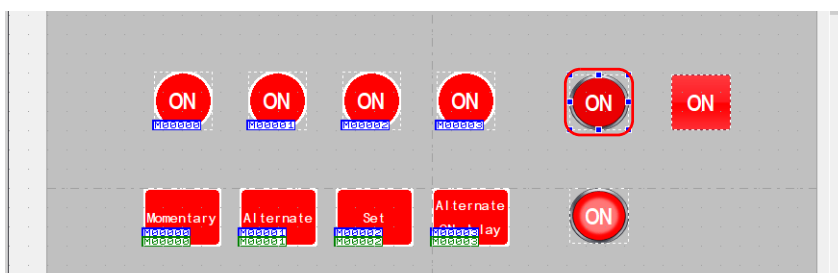
2. Set [Pattern] to [ON] and click [Customize] → [Setting]. The [Change the image] window is displayed.



3. Click [1] and change the [Image Sample]. Click [OK].

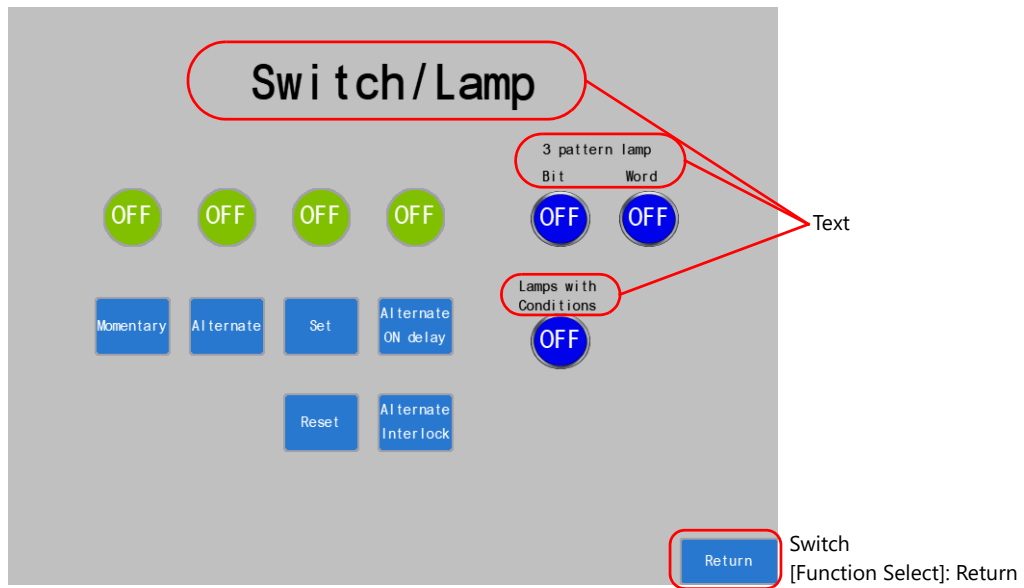


4. The image for the ON pattern is changed.



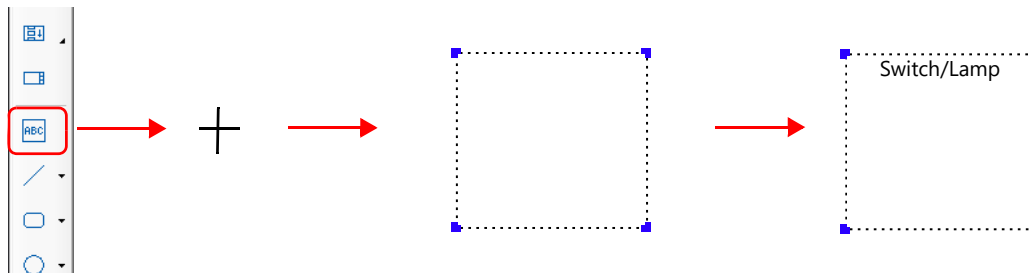
## 5.2.7 Placing Text and a Return Switch

This section explains how to place the screen title and other text elements.



### Creating Text

1. On the parts bar, click [Text]. The mouse cursor changes to a crosshair.
2. Click on the screen. A text frame is displayed.
3. Input the text "Switch/Lamp".

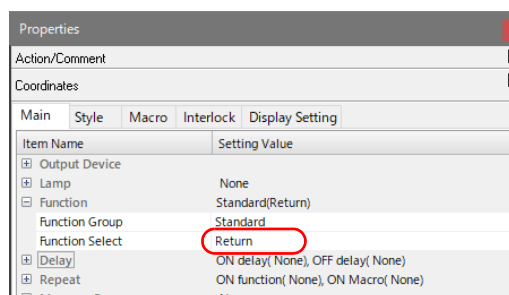


4. Click a location on the screen other than the text to accept the text entry.
5. Click the text to display the [Properties] pane. Change the color and size properties of the text.

### Return Switch

Place a switch used to return to the previous screen.

1. Place a switch.
2. Display the [Properties] pane of the switch and set [Function Select] to [Return].



3. Register switch text and adjust the color and position.

This completes the screen creation process. Check screen program operation on MONITOUCH.

## 5.3 Checking Operation on MONITOUCH

Transfer the screen program to MONITOUCH and check the operation.

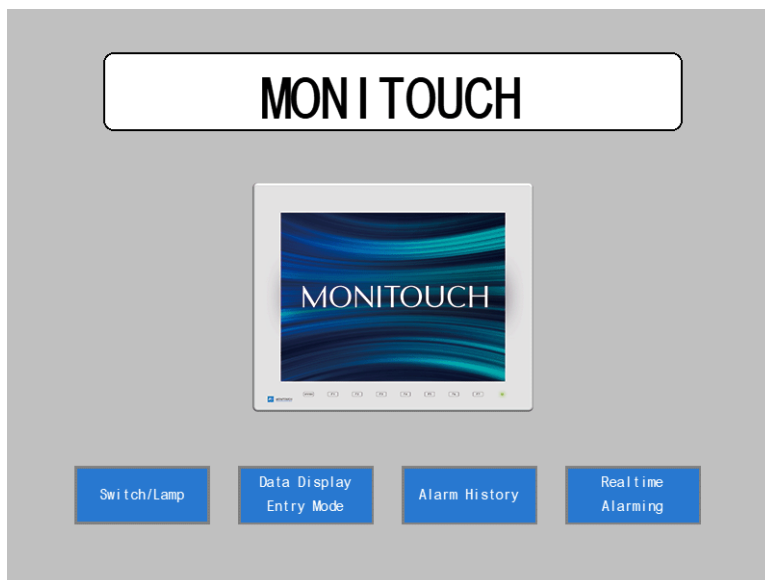
### Device Memory Used

The device memory addresses used in this example are listed below.

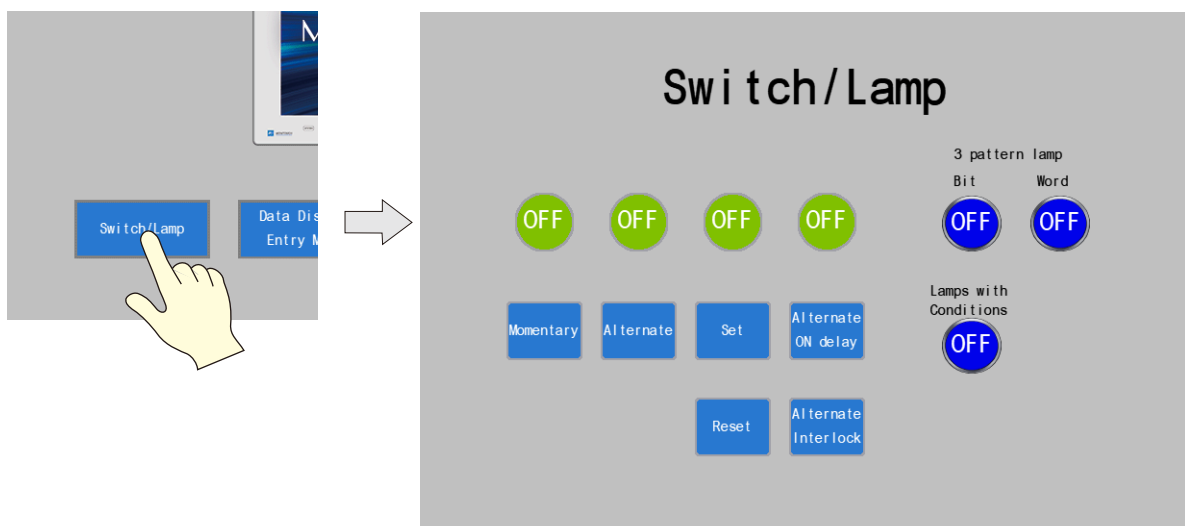
Device Memory	Data in Device Memory
M0	Switch output device memory (momentary), lamp device memory
M1	Switch output device memory (alternate), lamp device memory
M2	Switch output device memory (set/reset), switch interlock device memory, lamp device memory
M3	Switch output device memory (alternate), lamp device memory
M4, M5	Three-pattern lamp device memory
M10, M20	Multi-conditional lamp device memory
D100	Three-pattern lamp device memory

### 5.3.1 Screen Changeover

1. Screen 0 is displayed initially.  
(Refer to the next page if a different screen is displayed.)



2. Press the [Switch/Lamp] switch. The screen changes over to screen 1.



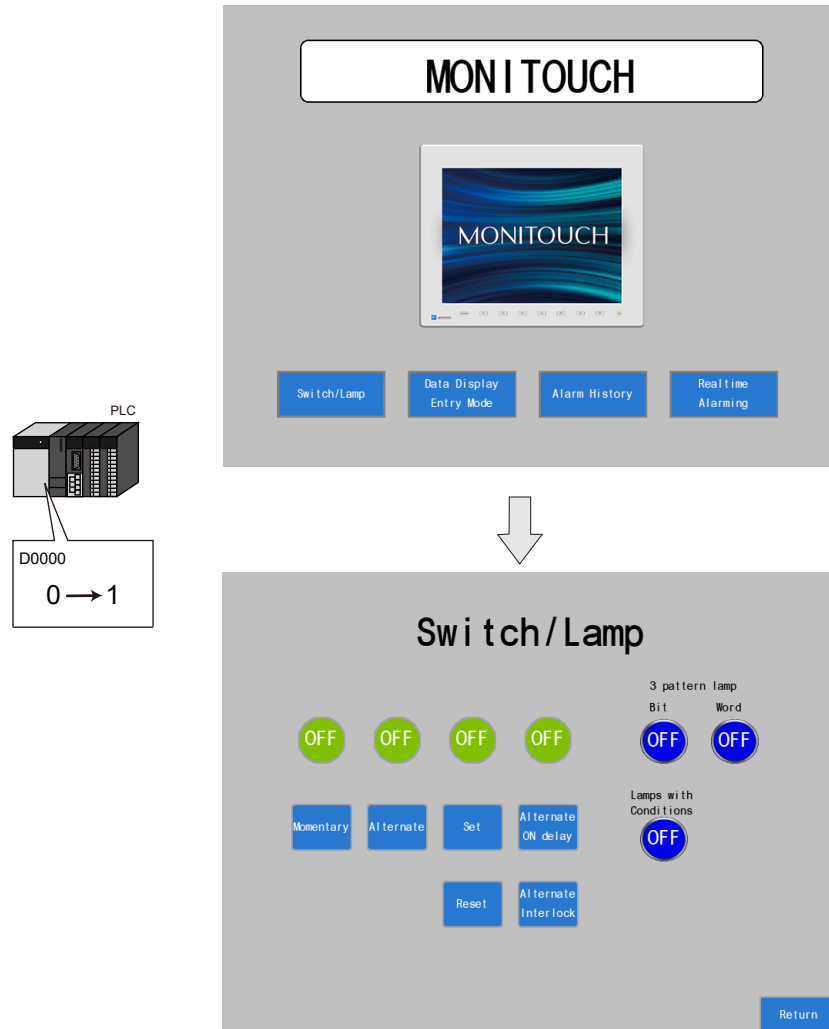


### Changing over screens using plc commands (external commands)

Use the [Project View] pane → [Hardware Settings] tab → [MONITOUCH Settings] → [Control Area] → [Displaying Screen Device] device memory address.

In this example, "D00000" is used.

Setting the screen number to "D0000" changes over the screen. Note that the screen number of the currently displayed screen is also stored to "D0000" of the [Displaying Screen Device].



The screen number to display when MONITOUCH is powered on is also determined by the [Initial Screen] setting in the [Control Area] settings.

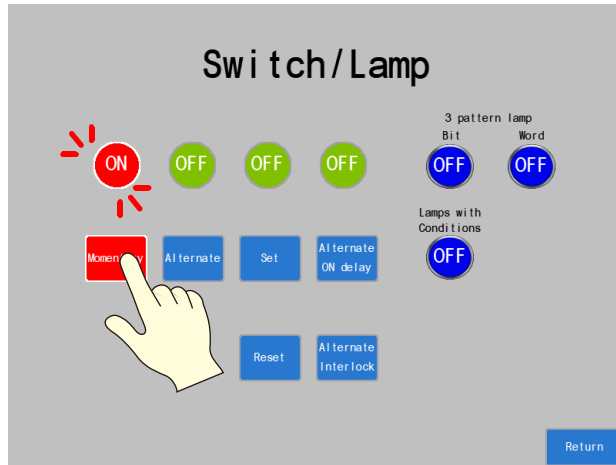
For details on [Control Area] settings, refer to "3 Initial Settings".

## 5.3.2 Switch Output and Lamp Display

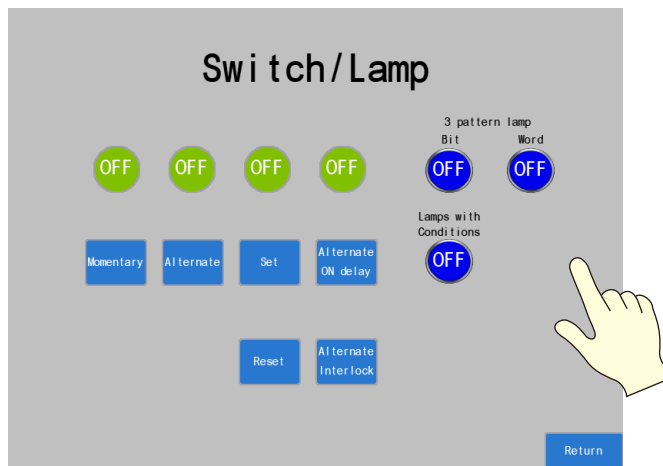
### Momentary Switch

The output device memory is set to ON while the switch is being pressed.

1. Press the M0 (momentary) switch. The lamp lights.



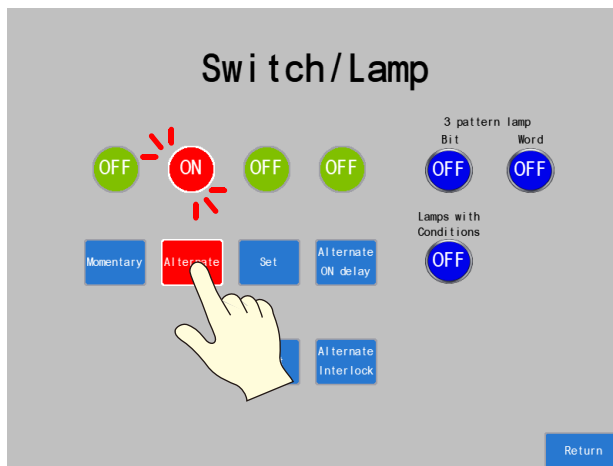
2. Releasing the switch turns the lamp off.



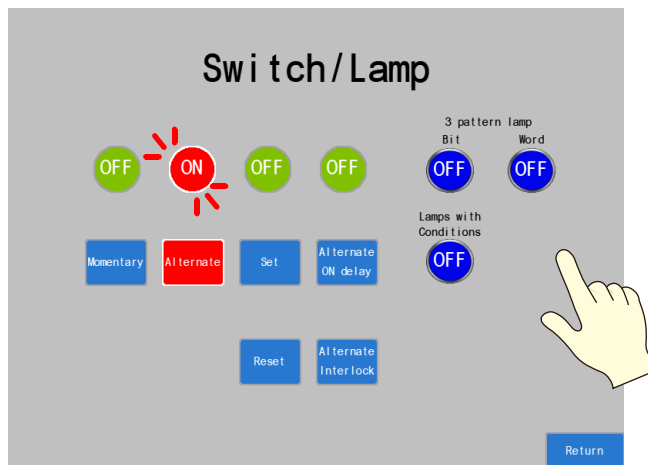
## Alternate Switch

The specified device memory bit is alternately set (ON) and reset (OFF) each time the switch is pressed.

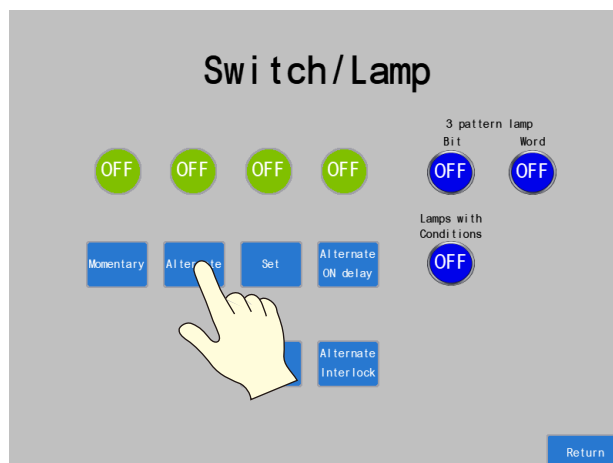
1. Press the M1 (alternate) switch. The lamp lights.



2. The lamp stays lit even after the switch is released.



3. Press the M1 (alternate) switch again. The lamp turns off.

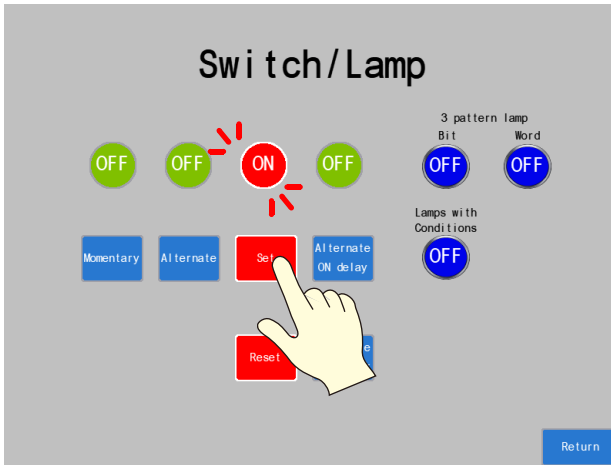


4. The ON/OFF state of the lamp changes each time the switch is pressed.

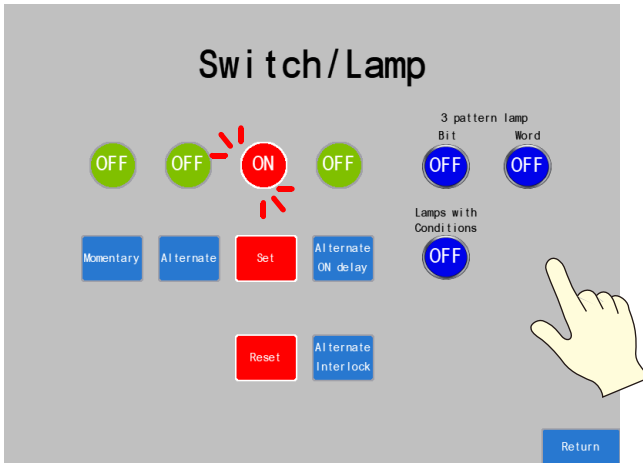
## Set/Reset Switch

Set the specified device memory bit ON or OFF.

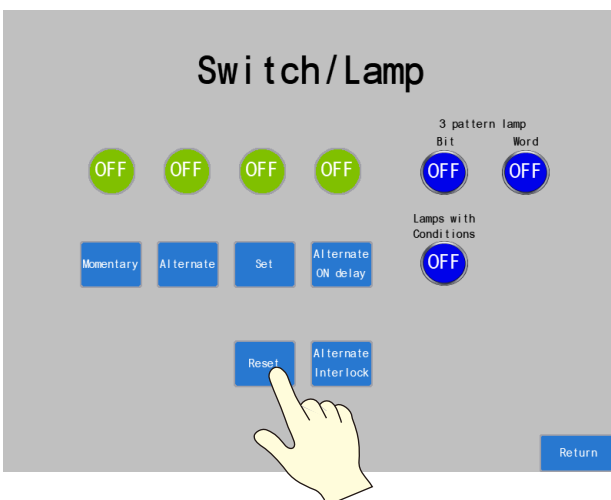
1. Press the M2 (set) switch. The lamp lights.



2. The lamp stays lit even after the switch is released.

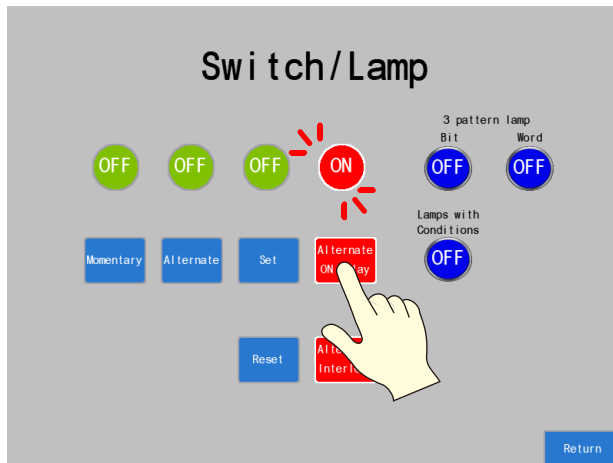


3. Press the M2 (reset) switch. The lamp turns off.

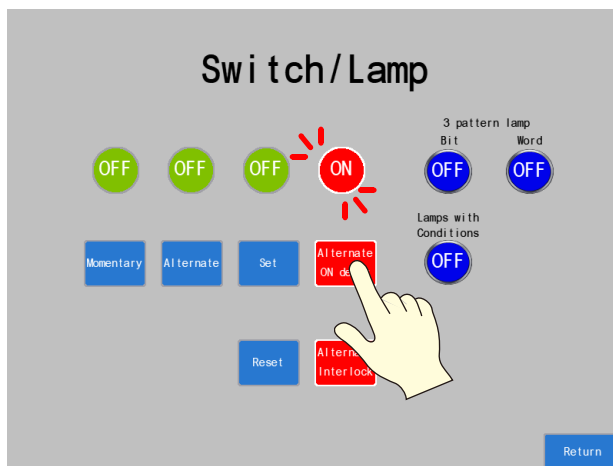


## ON Delay Function

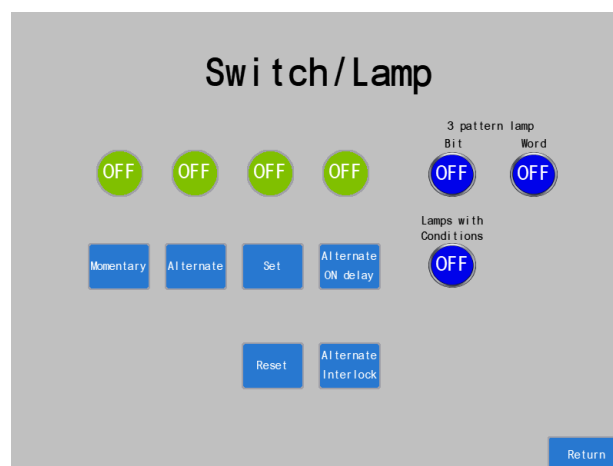
1. Hold down the M3 switch (ON delay) for two or more seconds. The lamp lights.



2. Hold down the M3 switch (ON delay) for two or more seconds again.

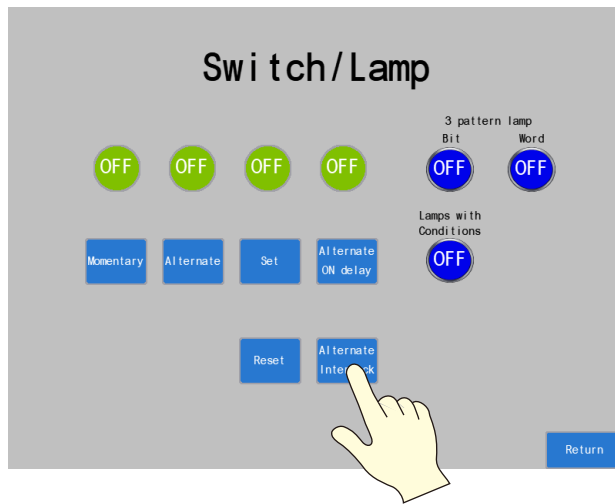


3. The M3 lamp turns off.

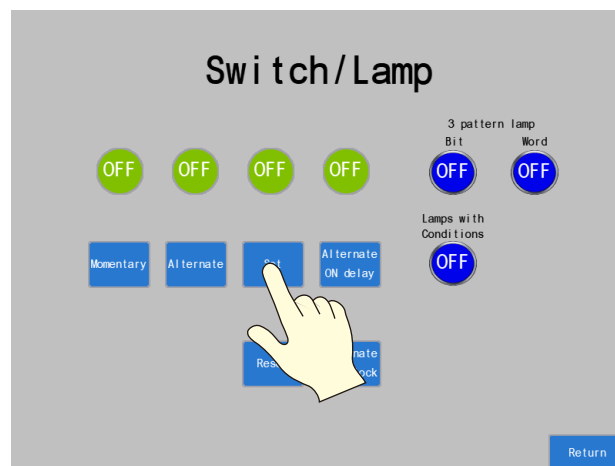


## Interlock-enabled Switch

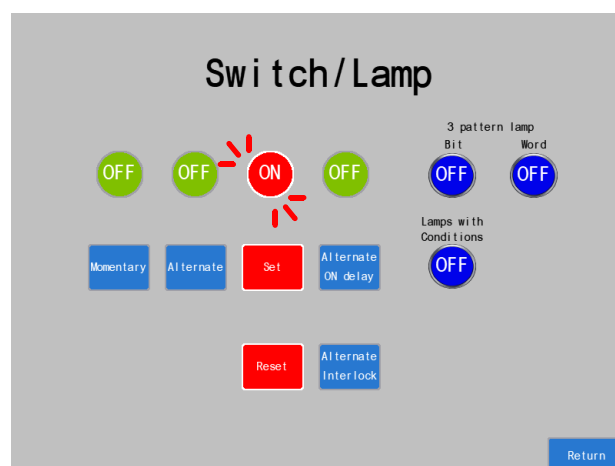
1. Press the M3 (interlock) switch. The lamp remains off.



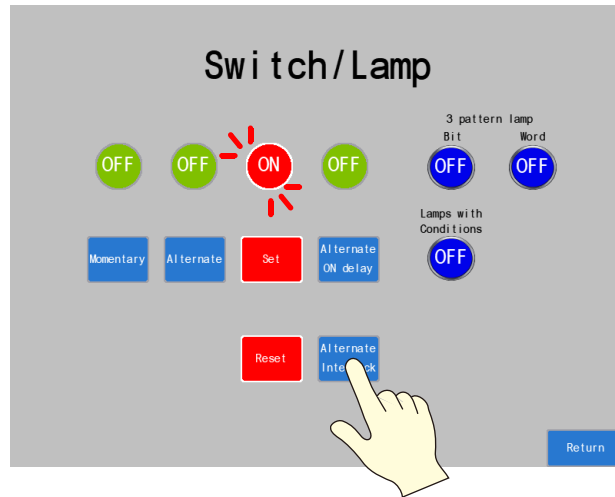
2. Press the M2 (set) switch for the interlock.



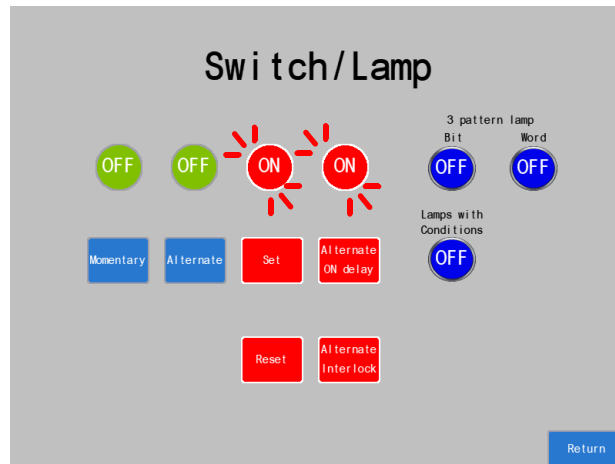
3. The lamp lights.



- Press the M3 (interlock) switch.



- The lamp lights.



## Changing the Display of the N-State Lamp



### Precedence




The N-state lamp checks lamp device memory in order starting from ON, P3, P4, and through to P128. The pattern for which conditions are determined to be satisfied the earliest is displayed.

\* To prioritize the lamp device memory of pattern numbers in reverse order, refer to "4. Lamp" in Reference Manual 1.

### Three-pattern bit lamp

When displaying a three-pattern lamp using bit device memory, the lamp display is changed according to the status of two bits.




Change the state of M4 and M5 with the PLC.

Bit	M4 = OFF M5 = OFF	M4 = ON M5 = OFF/ON	M4 = OFF M5 = ON
Lamp display	OFF display 	ON display 	P3 display 

### Three-pattern word lamp



The lamp display is changed according to the value specified in the word device memory.

Enter a value between 0 and 100 to "D100" on the PLC.

Device Memory	D100 = 0	$1 \leq D100 \leq 99$	$100 \leq D100$
Lamp display	OFF display 	ON display 	P3 display 

### Multi-conditional lamp

Change the state of M0, M10, and M20 using the PLC.

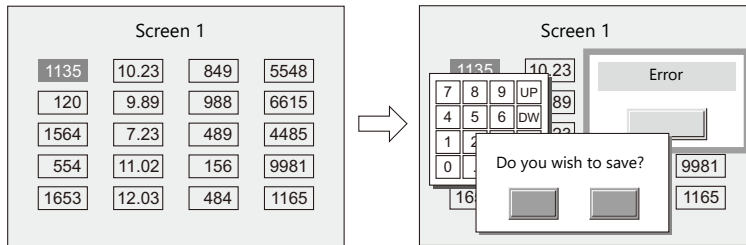
Bit	M0 = OFF M10 = OFF/ON M20 = OFF/ON	M0 = OFF/ON M10 = OFF M20 = OFF/ON	M0 = OFF/ON M10 = OFF/ON M20 = OFF	M0 = ON M10 = ON M20 = ON
Lamp display	OFF display 			ON display 

# 6 Creating Overlap Displays

## 6.1 Overlap Display Overview

Windows can be temporarily overlaid on the displayed screen when necessary. These types of windows are referred to as “overlap” displays.

A maximum of 10 overlap displays can be displayed at one time.



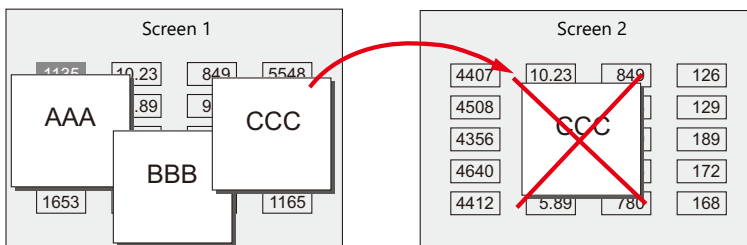
### Overlap display formats

Overlap displays can be displayed either by fixed display or switching display.

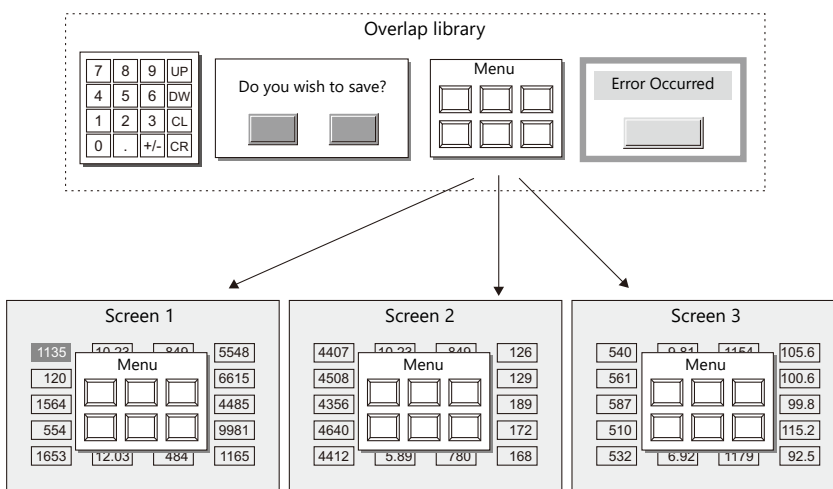
Display Method	Description	Overlap Registration Location	Overlap Name
Fixed Display	One overlap display is fixed to one overlap ID.	Screen	Normal overlap
		Overlap library	Call-overlap
Switching Display	Overlap displays can be changed over with respect to a single overlap ID.	Overlap library	Multi-overlap
			Global overlap

Overlap displays that are frequently used include normal overlaps, which can only be displayed on the screen on which they are created, and multi-overlaps which are registered to the overlap library and can be used across several screens.

- Normal overlap



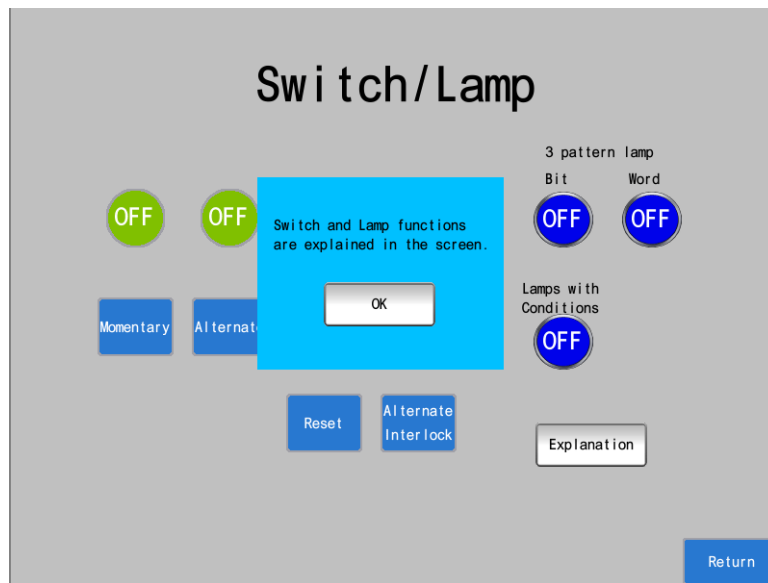
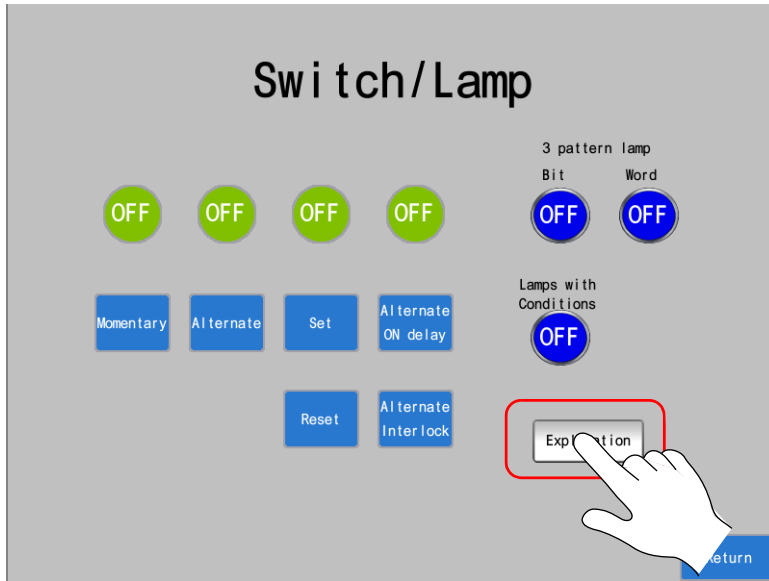
- Multi-overlap



👉 For details on global overlaps and call-overlaps, refer to Reference Manual 1.

## 6.2 Example Screen

Add a multi-overlap to screen 1, on which switches and lamps were created.



## 6.3 Creation Procedure

### 6.3.1 Editing the Overlap Library

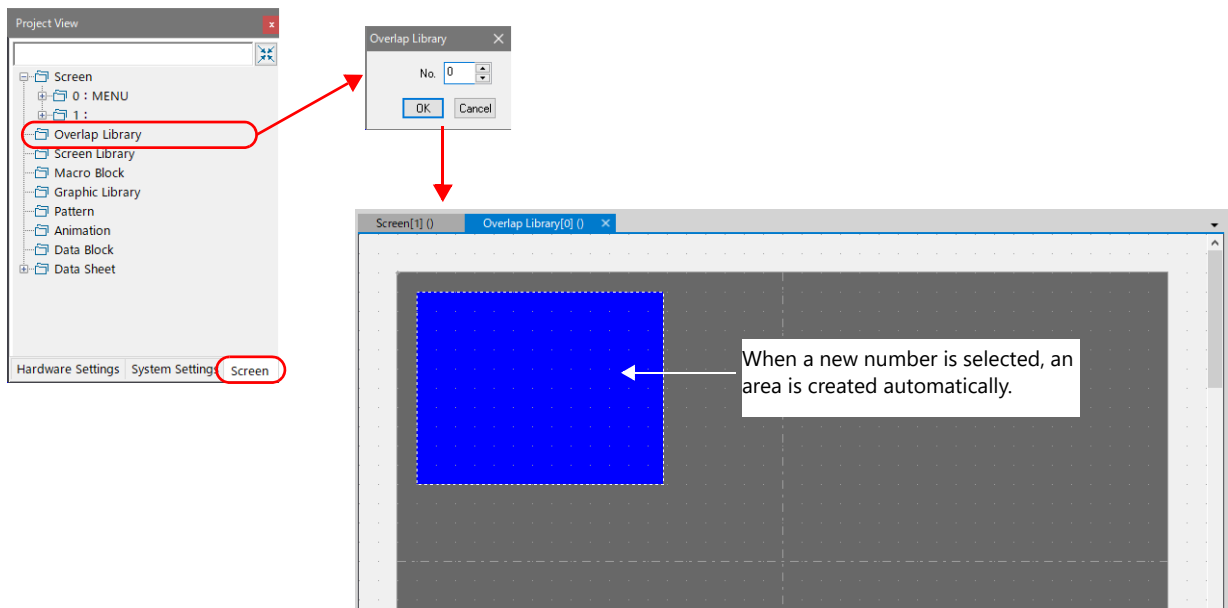
This section explains how to create an overlap display.



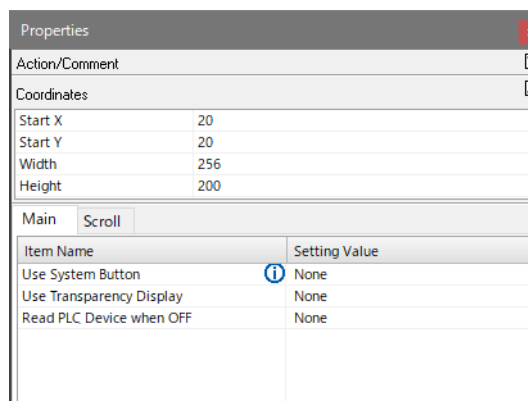
Almost all items including switches, lamps, and alarms can be placed on overlap displays.

#### Placing an Overlap Display

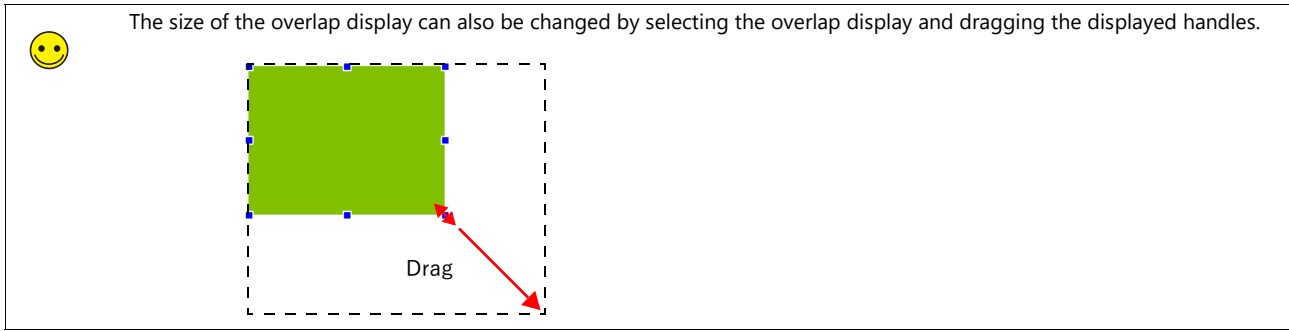
1. Double-click [Overlap Library] at the [Project View] pane → [Screen] tab. The [Overlap Library] window is displayed.
2. Specify registration number 0 and click [OK]. The [Overlap Library] window is displayed.



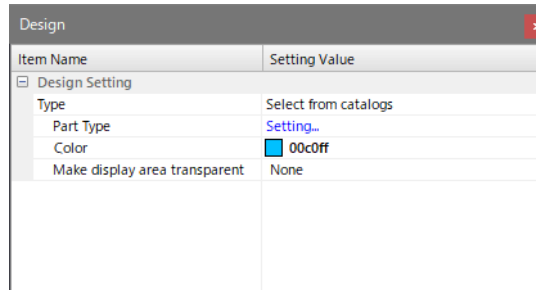
3. Click the overlap display area and configure properties.



Item	Details	Settings
Coordinates	Start X, Start Y	Specify the position for placing the overlap display.
	Width, Height	Set the size of the overlap display.
Main	Use System Button	Enable this setting to add a switch function (move/dismiss) to the upper left corner of the overlap area. For operation details, refer to "6.4.2 Overlap System Button Function".
	Use Transparency Display	Enable this setting to make the area transparent (blend value specification).
	Read PLC Device when OFF	Enable this setting to continue reading the values of PLC device memory used on an overlap display, even when the overlap display is hidden.



4. Specify the color of the area on the [Design] properties pane.

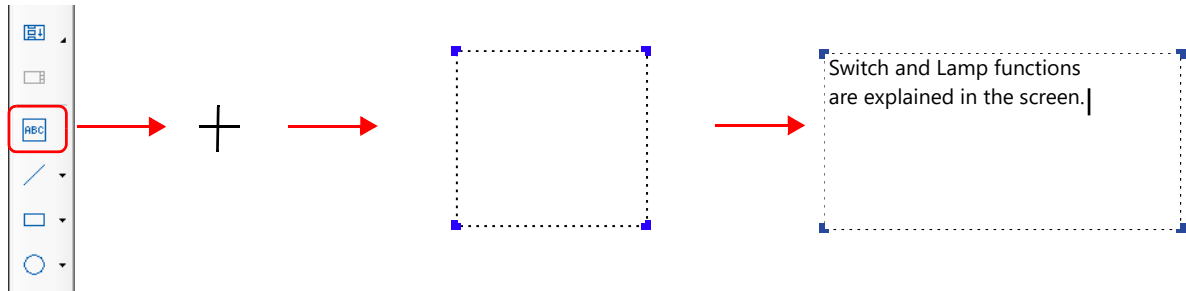


Item	Details	Settings
Type	Select from catalogs	-
Part Type	Displays the [Design Selection] window and allows changing of the design.	Select from catalogs
Color	Set the color.	Light blue
Make display area transparent	Enable this setting to make the area transparent (hidden).	Not transparent

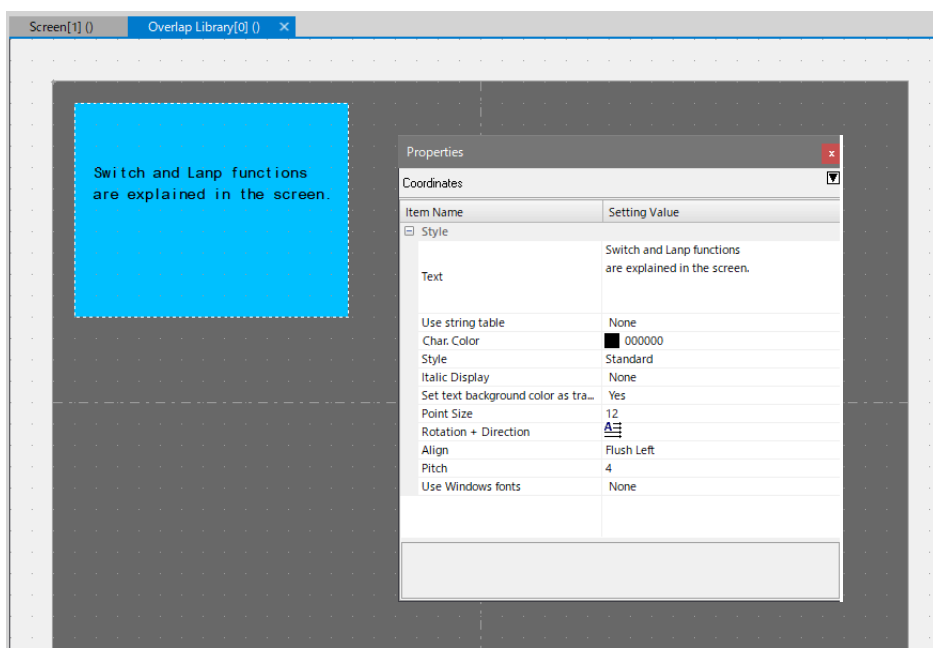
## Placing Text

This section explains how to place text on the overlap display.

1. On the parts bar, click [Text]. The mouse cursor changes to a crosshair.
2. Click on the screen. A text frame is displayed.
3. Enter text.



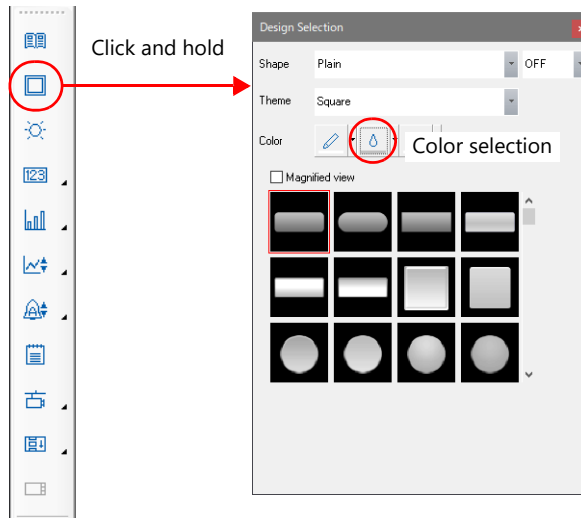
4. Click a location on the screen other than the text to accept the text entry.
5. Click the text to display the [Properties] pane. Change the color and size properties of the text.



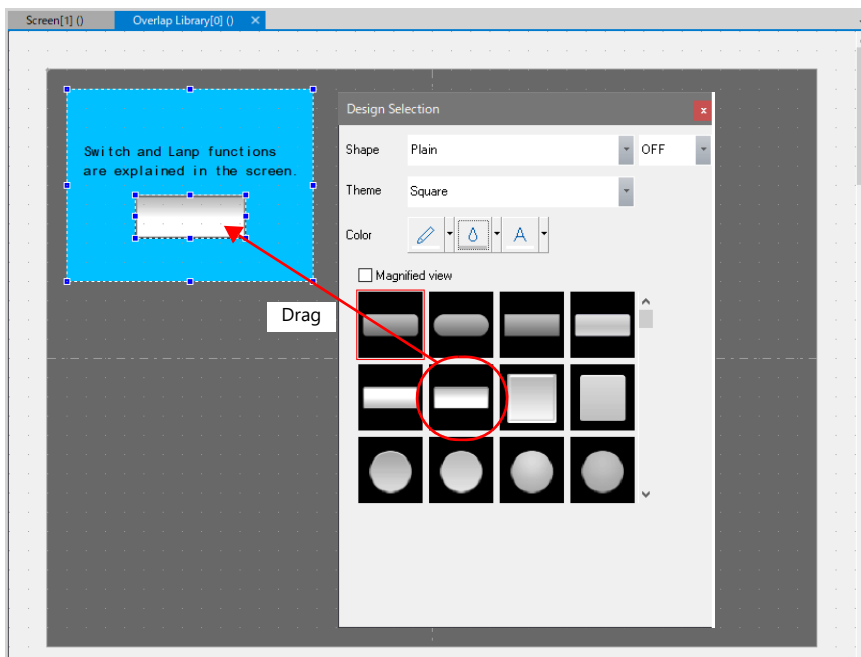
## Placing a Switch

This section explains how to create a switch for hiding the overlap display.

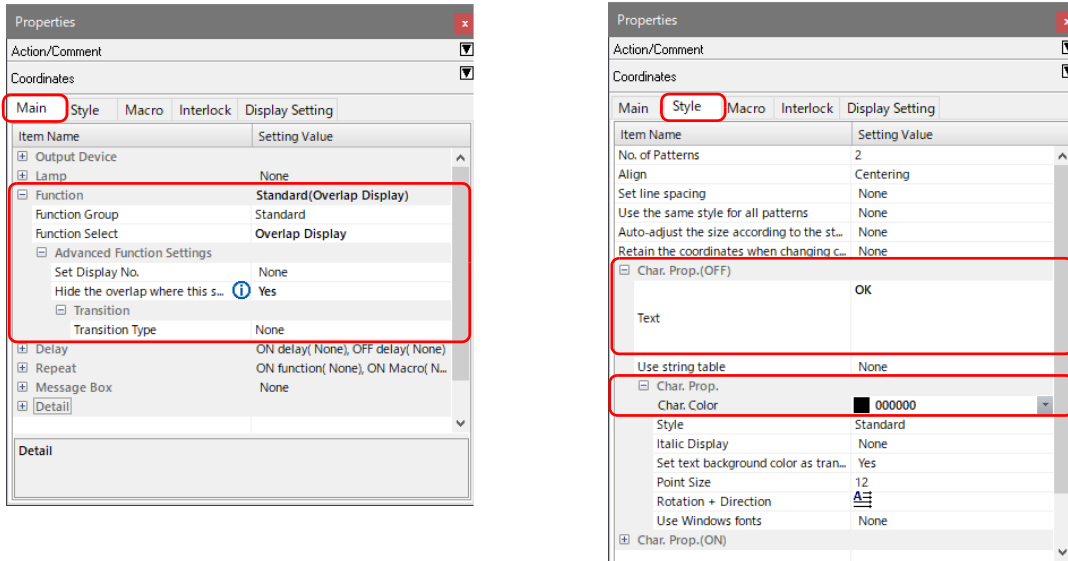
1. Click and hold [Switch] on the parts bar. The [Design Selection] window is displayed.
2. Set [Shape] to [Plain], and [Theme] to [Square]. Set a color as desired.



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




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



Item		Details	Settings
Main	Function	Set the function of the switch for when it is pressed.	[Function Group]: Standard [Function Select]: Overlap Display [Set Display No.]: None [Hide the overlap where this switch is placed]: Yes [Transition Type]: None
Style	Char. Prop. (OFF)	Register the text to display on the switch.	[Text]: OK [Char. Color]: Black

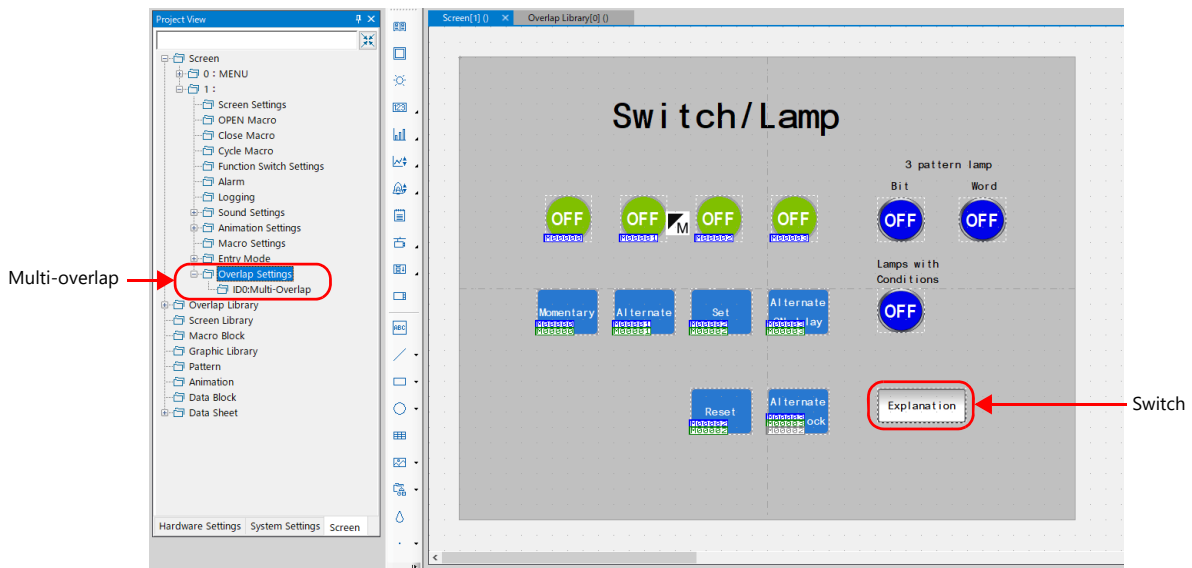
The completes the overlap display editing process.

 To edit items on the overlap display, display the right-click menu and select [Overlap Editing] → [ID0]. This allows multiple items to be selected by dragging with the mouse.

- Paste           Ctrl+V
- Undo           Ctrl+Z
- Redo           Ctrl+Y
- Select All       Ctrl+A
- Delete All
- Grid           >
- Customize       >
- Overlap Display >
- Hide Selected Overlap
- Overlap Editing > ID 0
- Edit Selected Overlap   ID 1
- Set user level           ID 2
- Delete user level       ID 3
- ID 4
- Edit Comment...       ID 5

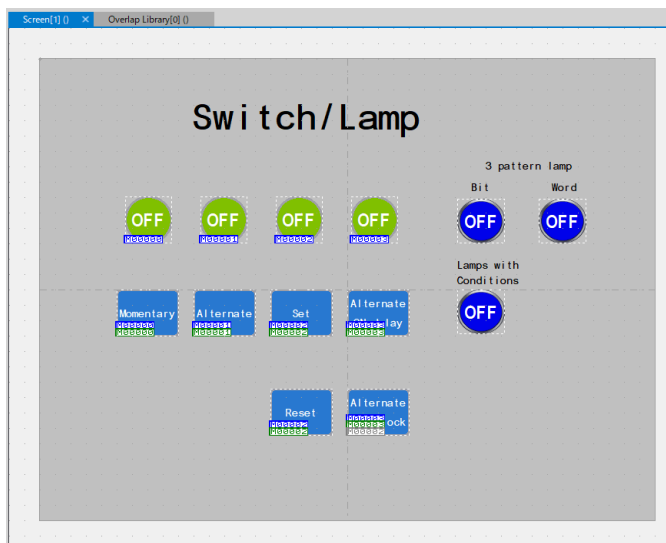
## 6.3.2 Screen Editing

This section explains how to register a multi-overlap and a switch for displaying a multi-overlap.

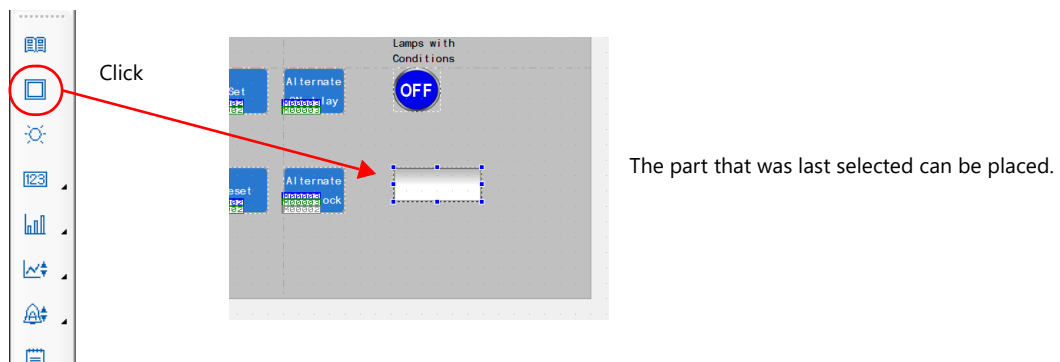


### Placing a Switch

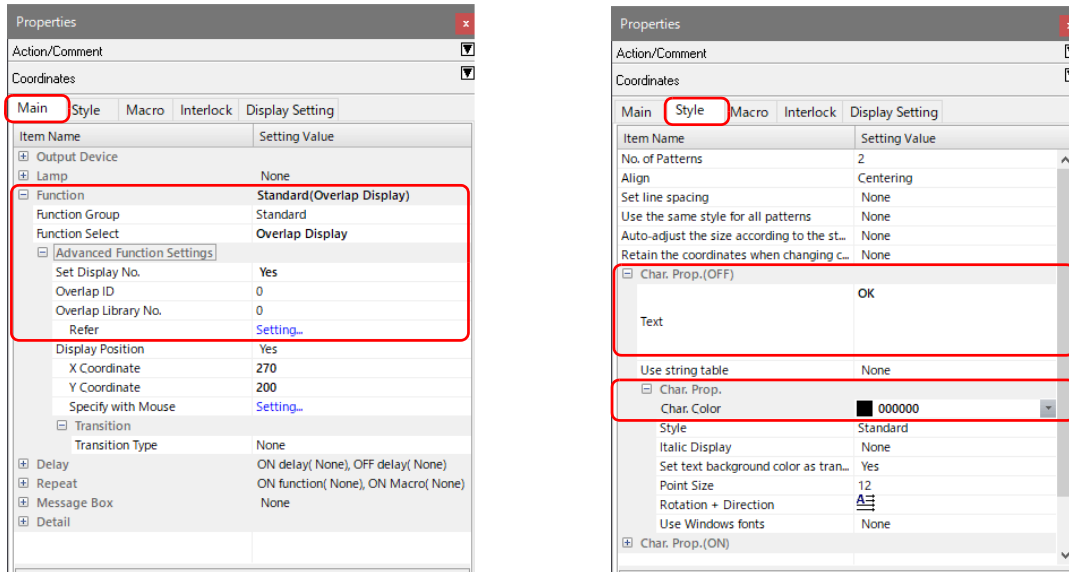
1. Display screen 1.



2. Click [Switch] on the parts bar and place a switch.  
A switch with the same design as the switch placed on the overlap library is placed.  
To change the design, use the [Design] properties pane.

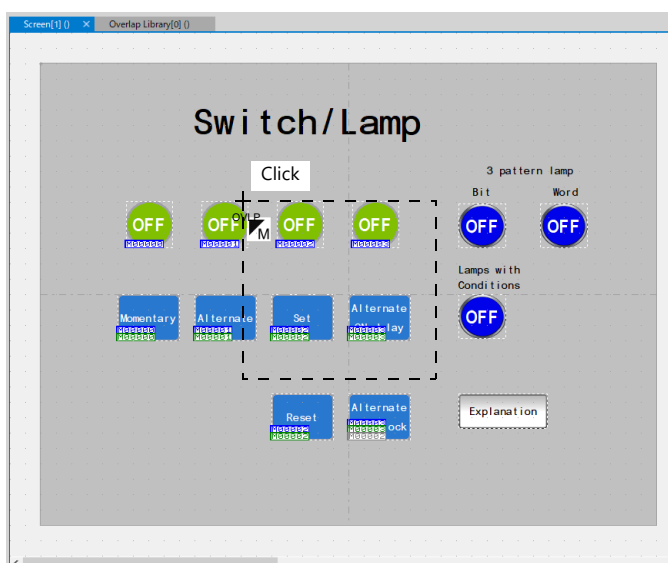



3. Configure the properties of the switch as shown below.



	Item	Details	Settings
Main	Function	Select the function of the switch.	-
	Function Group		Standard
	Function Select		Overlap Display
	Set Display No.	Use this setting to display an overlap from the overlap library.	Yes
	Overlap ID	Specify the overlap ID controlled using the switch. * Specify the same ID as the ID of the multi-overlap icon.	0
	Overlap Library No.	Set the overlap library number. Setting value: 0 to 9999	0
Style	Display Position	Set the X coordinate and Y coordinate for the display position of the overlap. Specify with Mouse*: Specify the coordinates by clicking with the mouse.	Specify
	Char. Prop. (OFF)	Register the text to display on the switch.	-
	Text		Details
	Char. Color		Black

\* Mouse specification method  
Click [Specify with Mouse] → [Setting]. A crosshair cursor and a dotted line frame the size of the overlap are displayed.

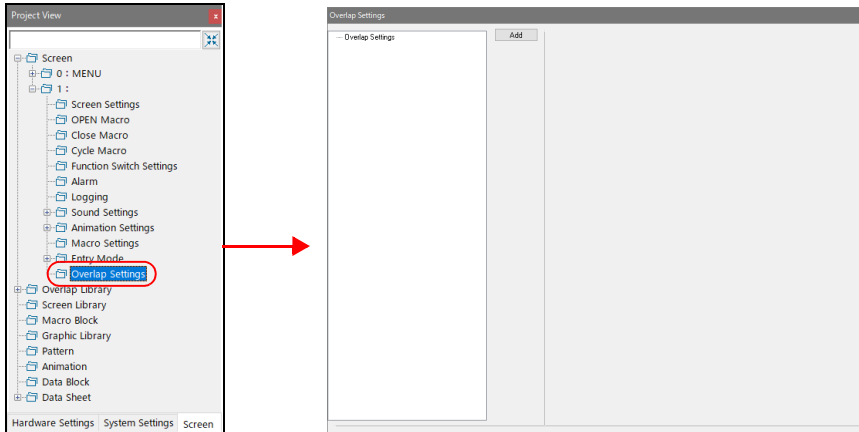


Click on a position where the dotted line frame does not protrude outside the screen area. The  mark that indicates the display position of the multi-overlap moves to the clicked position.

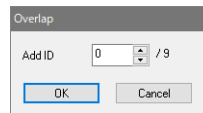
This completes the switch creation process.

## Overlap Registration

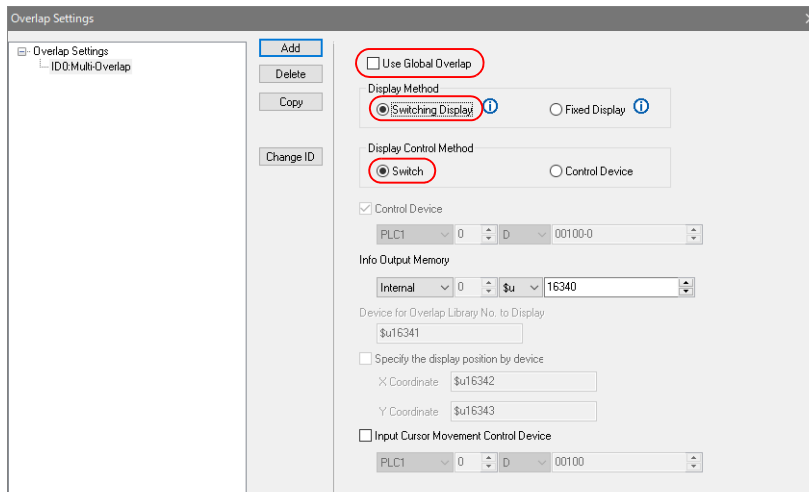
1. Double-click [Overlap Settings] at the [Project View] pane → [Screen] tab → [Screen] → [1].  
The [Overlap Settings] window is displayed.



2. Click [Add]. Set [Add ID] to [0] and click [OK].



3. The details of [ID0] are displayed. Configure the following settings.



Item	Details	Settings
Use Global Overlap	Deselected: Normal overlap, call-overlap, multi-overlap Selected: Global overlap	Deselected
Display Method	Switching Display (multi) Overlap libraries can be switched between for display. Fixed Display (normal, call) Display a fixed overlap.	Switching Display
Display Control Method	Switch Show/hide using the function of a switch. Control Device Show/hide using the ON/OFF state of a control device memory.	Switch
Control Device	This setting is available when [Display Control Method] is set to [Control Device]. Specify the device memory to use to show/hide the overlap.	-
Info. Output Device	Stores the currently displayed overlap library number. This device memory stores "-1" when the overlap display is hidden.	-
Device for Overlap Library No. to Display	This setting is available when [Display Control Method] is set to [Control Device]. This device memory specifies the overlap library number.	-
Specify the display position by device	This setting is available when [Display Control Method] is set to [Control Device]. Select this checkbox to set the display position of the overlap (X and Y coordinates).	-

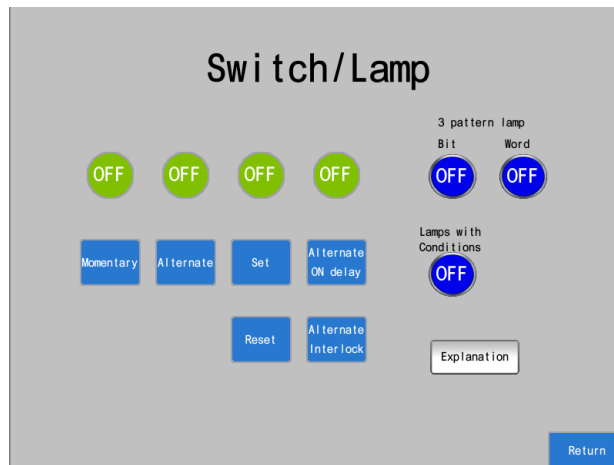
This completes the screen creation process. Check screen program operation on MONITOUCH.

## 6.4 Checking Operation on MONITOUCH

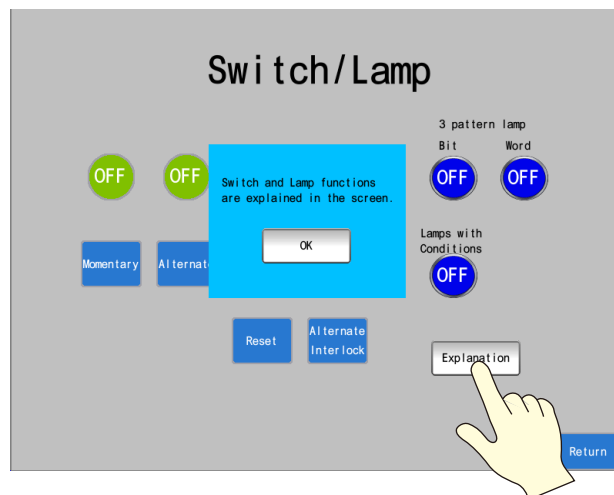
Transfer the screen program to MONITOUCH and check the operation.

### 6.4.1 Showing and Hiding Multi-overlaps

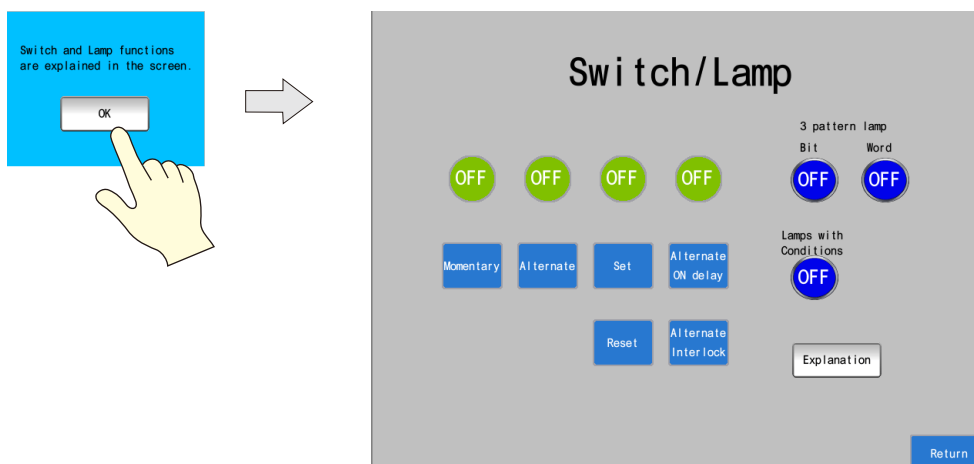
1. Display screen 1.



2. Press the [Explanation] switch. The overlap is shown.



3. Press the [OK] switch. The overlap is hidden.



## 6.4.2 Overlap System Button Function

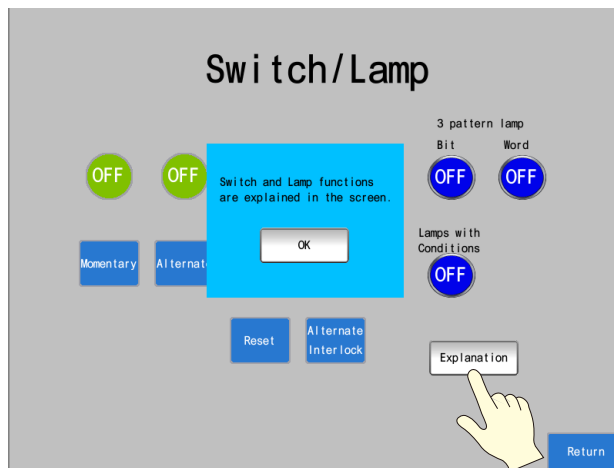
A system button function can be added to overlaps.  
This function can perform the following two operations.

- Overlap movement
- Overlap dismissal

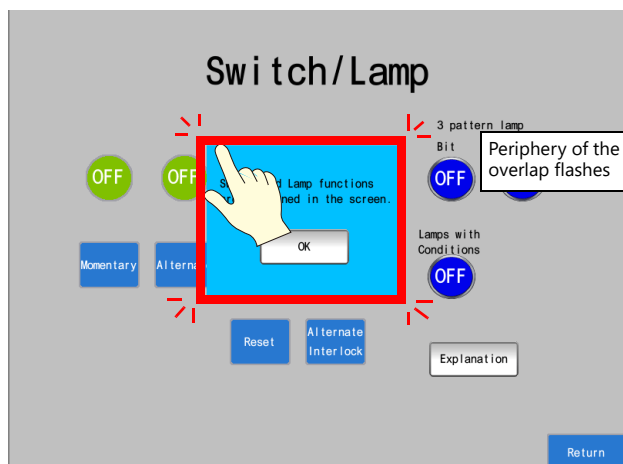
The system button function can be used when [Use System Button] is set to [Yes] on the [Properties] pane of the overlap.

Item Name	Setting Value
Use System Button	None
Use Transparency Display	None
Read PLC Device when OFF	None

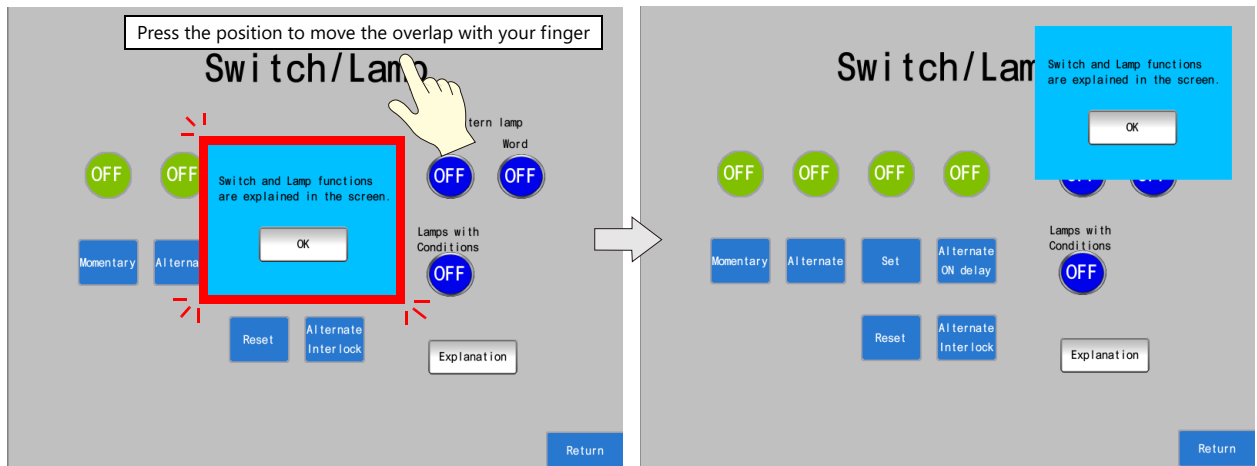
1. Press the [Explanation] switch to display the multi-overlap.



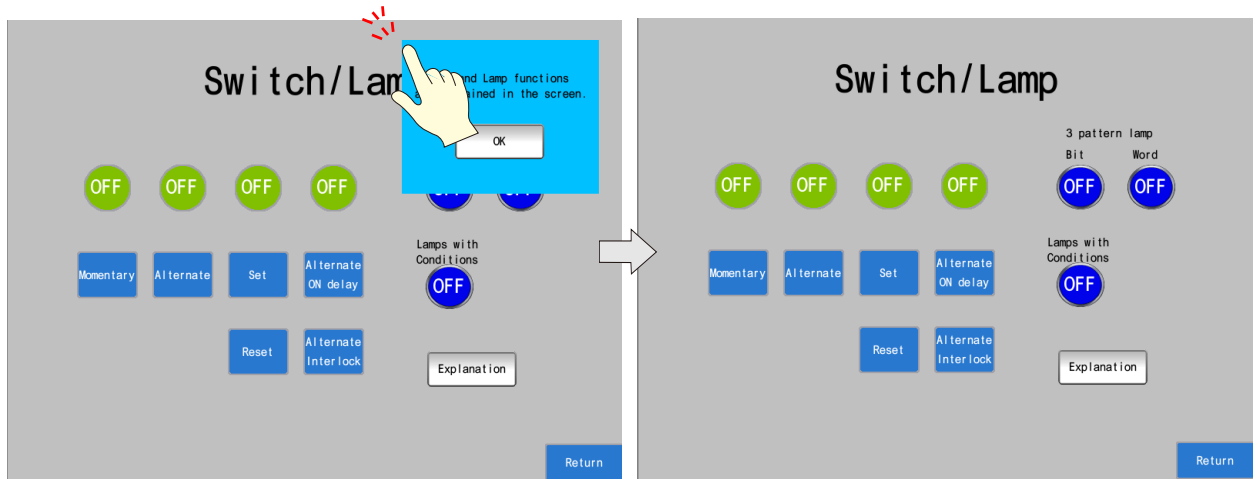
2. Press the upper left corner of the overlap. The periphery of the overlap starts flashing.



- While the periphery of the overlap is flashing, press the position to move the overlap. The overlap moves to the specified position.



- Double-tap the upper left corner of the overlap to dismiss it.



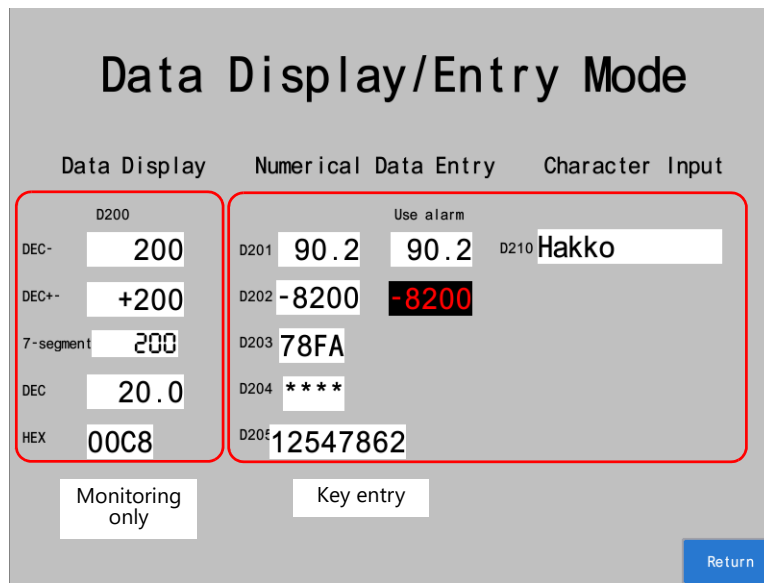


# 7 Creating a Numerical Data Display and Entry Screen

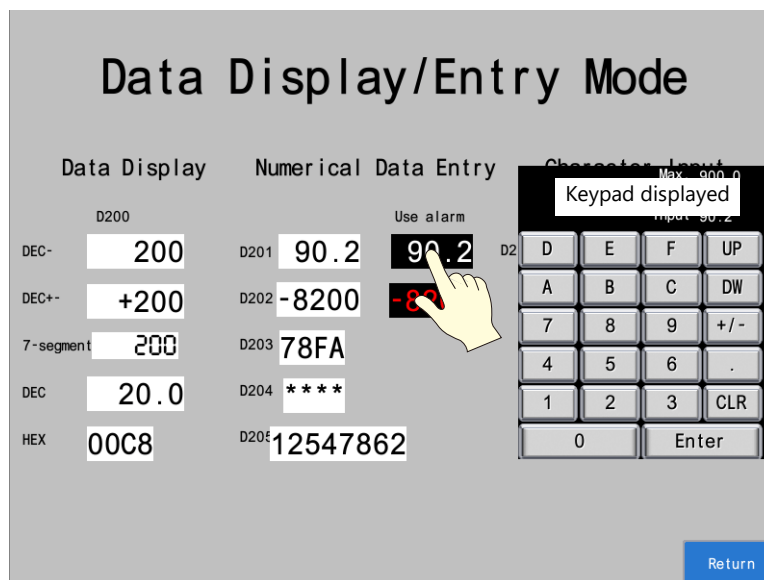
## 7.1 Example Screen

This section explains how to create a screen for monitoring PLC device memory with data display parts and keypad entry on screen 2. The keypad will be normally hidden and only displayed on screen when performing entry.

- Normally: Monitoring only

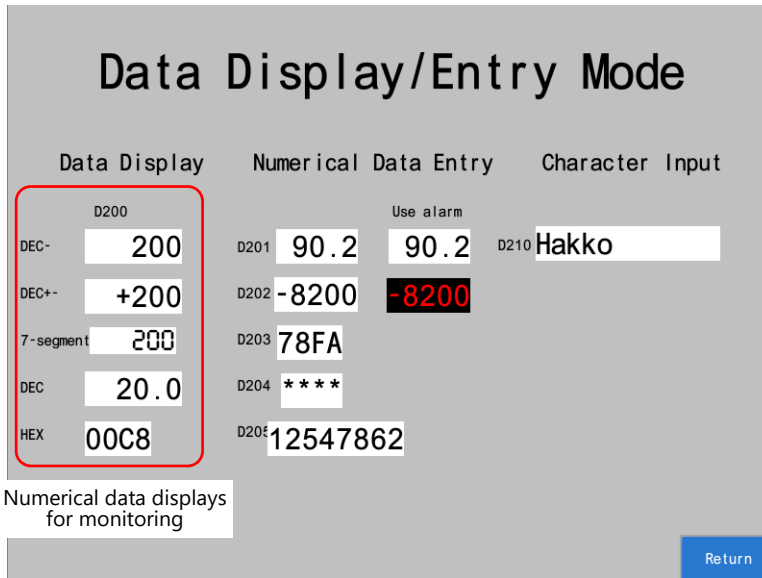


- Entry: Keypad displayed



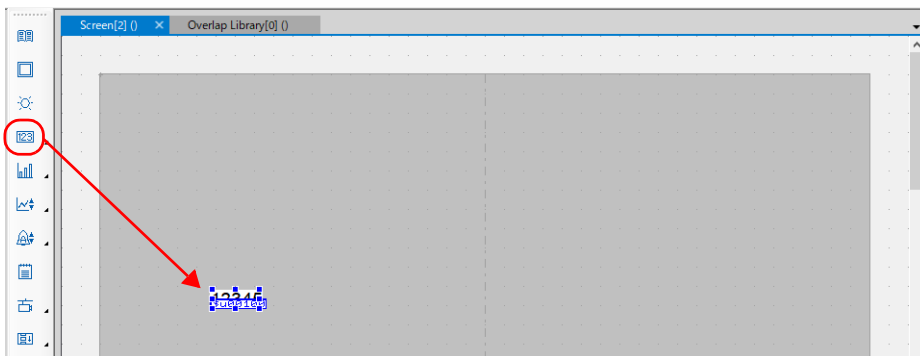
## 7.2 Creation Procedure

### 7.2.1 Creating Numerical Data Displays for Monitoring



#### Placing Numerical Data Display Parts

On the parts bar, click [Data Display]. Place a numerical data display on the screen.



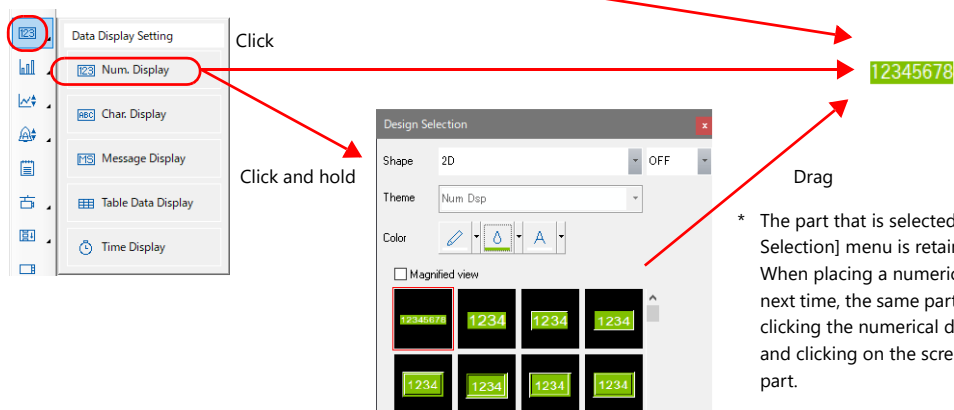
#### Placing parts



- Method 1: Placement from the icon on the parts bar  
Click the numerical data display icon.

**Click** \* If an icon other than the numerical data display icon is displayed, a numerical data display cannot be placed. Click and hold the icon and click [Num. Display] on the displayed menu.

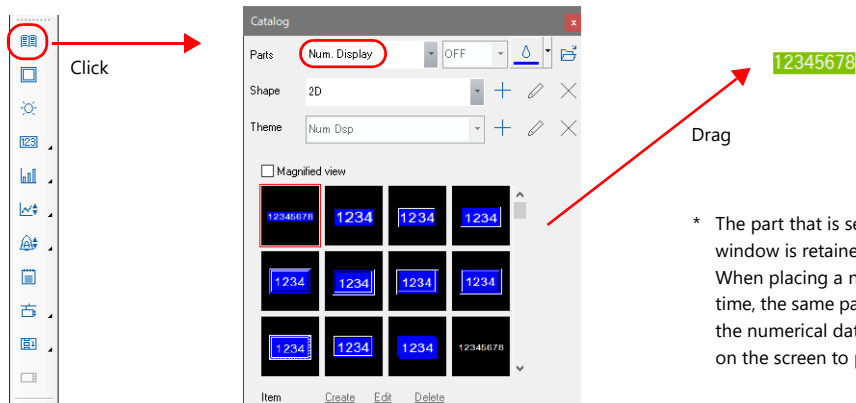
**Click and hold**



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



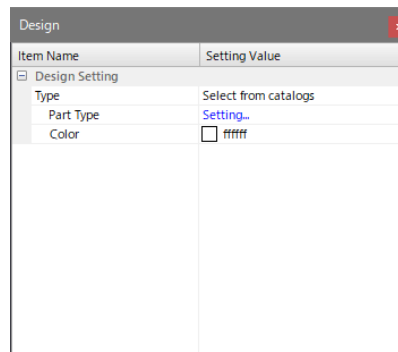
- Method 2: Placement from the catalog  
Click [Catalog] on the parts bar, and place a part from the [Catalog] window.



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



- Changing the design of a part  
Click the placed part to display the [Design] properties pane.

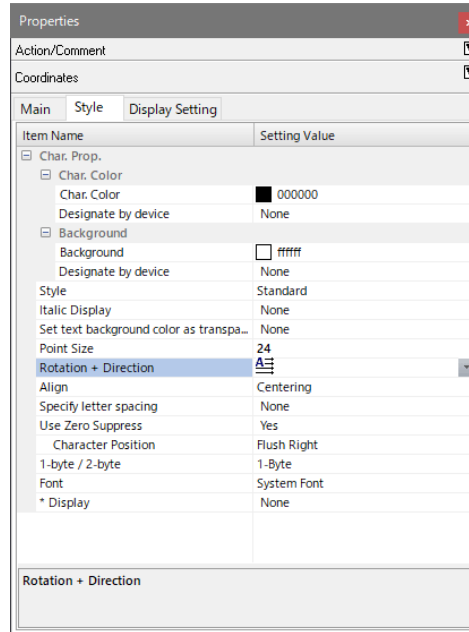


Select the [Type] setting to change the design.

- Select from catalogs
- Select from Shape (Rectangle, Circle, None)
- Select from image files



- Style

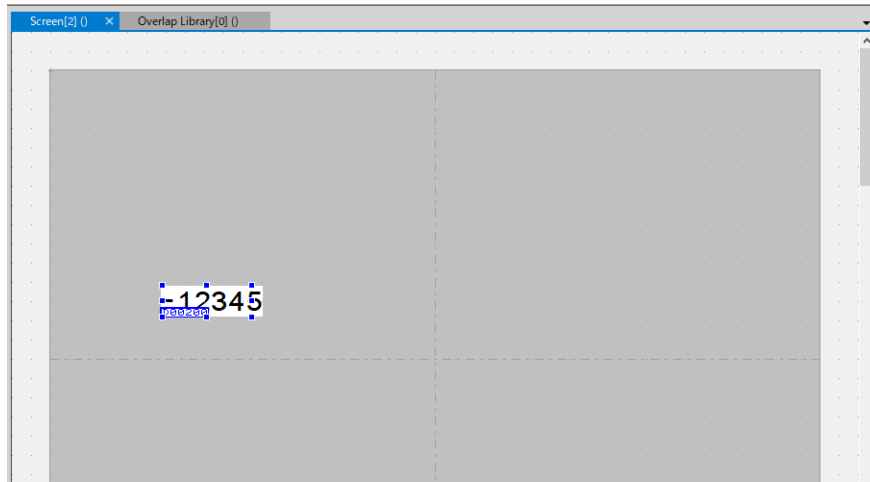


	Item	Details	Settings
Char. Prop.	Char. Color	Set the text color.	Black
	Background	Set the background color.	White
	Style	Select the text style.	Standard
	Point Size	Set the text size.	24
	Use Zero Suppress	Set whether or not to enable zero suppression. Disabled → <input type="text" value="00010"/> Flush Right → <input type="text" value="10"/>	Yes Flush Right
	Font	Set the font of the numerical data display.	System Font
	* Display	Displays asterisks (*) instead of numbers.	None

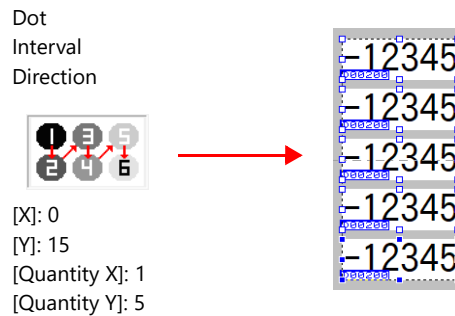
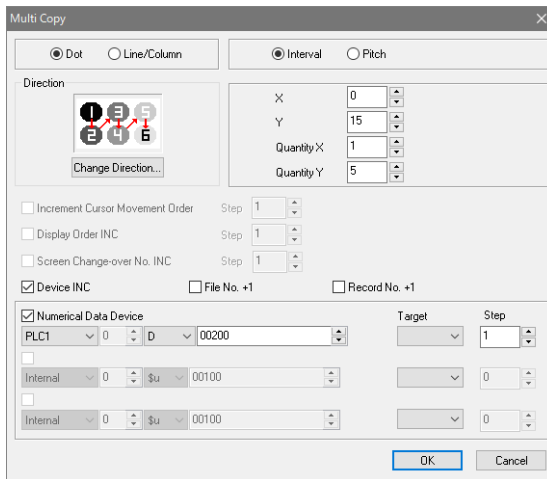
## Creating Multiple Copies of Numerical Data Displays

Make multiple copies of the numerical data display.

1. Select the numerical data display. Handles are displayed.



2. Click [Edit] → [Multi Copy]. The [Multi Copy] window is displayed.
3. Configure the following settings and click [OK]. This creates copies of the numerical data display.

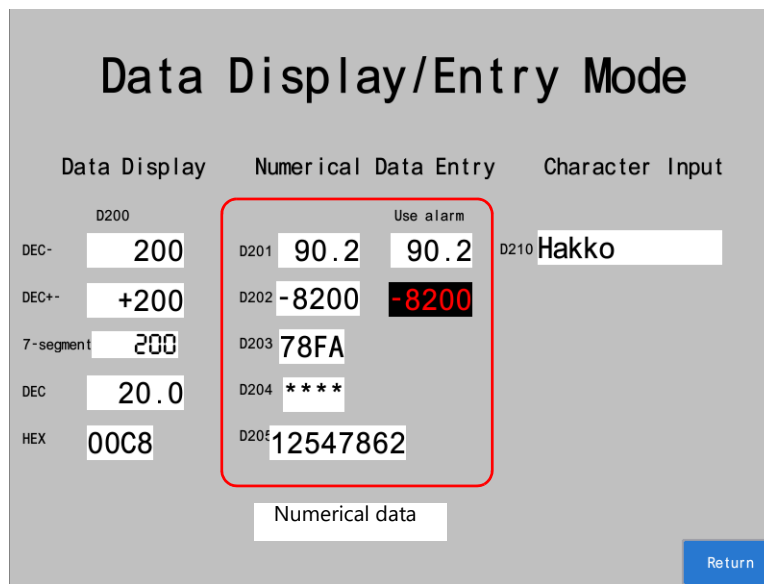


4. Change the settings of each numerical data display. For this example procedure, change the settings as shown below. (Red: Settings to change)

Numerical Data Display	Main				Style	
	Display Type	Digits	Decimal Point	Alarm	Char. Prop.	Zero Suppress
1	DEC (with sign -)	5	0	[Minimum]: -5000, Yellow [Maximum]: +5000, Green	System Font	Yes Flush Right
2	DEC (with sign +/-)	5	0	[Minimum]: -5000, Yellow [Maximum]: +5000, Green	System Font	Yes Flush Right
3	DEC (with sign -)	5	0	[Minimum]: -5000, Yellow [Maximum]: +5000, Green	7-segment Font	Yes Flush Right
4	DEC (w/o sign)	5	1	None	System Font	Yes Flush Right
5	HEX	4	0	None	System Font	None

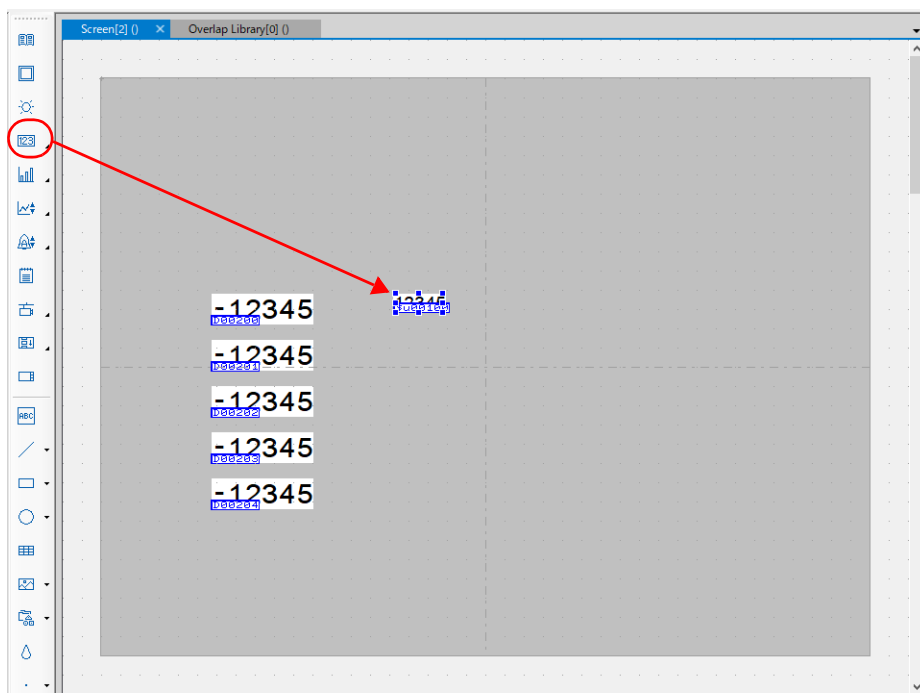
This completes the creation process of numerical data displays for monitoring.

## 7.2.2 Placing Numerical Data Displays for Entry and a Keypad



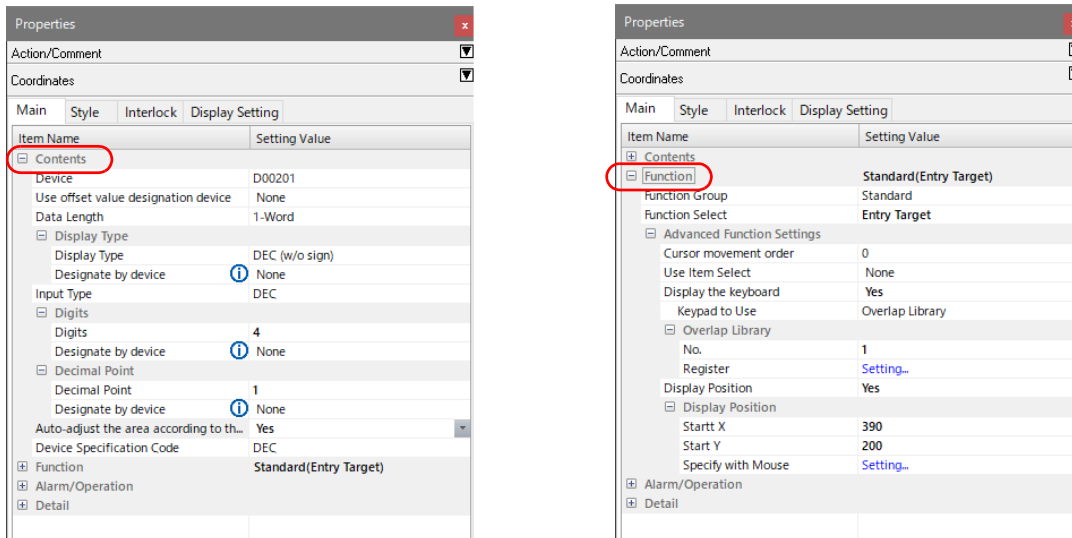
### Placing Numerical Data Display Parts

1. On the parts bar, click [Data Display]. Place a numerical data display on the screen.



2. Configure the properties of the numerical data display as shown below.

- Main



	Item	Details	Settings	
Contents	Device	Specify the device memory for entry.	D201	
	Data Length	Set the data length of the device memory.	1-Word	
	Display Type	Set the format of values to be displayed on the screen.	DEC (w/o sign)	
	Input Type	Specify the input format of the device memory value.	DEC	
	Digits	Specify the number of digits of device memory to monitor.	4	
	Decimal Point	Set whether or not to include a decimal point.	1	
Function	Function Group	Specify the function.	Standard	
	Function Select		Entry Target	
	Cursor movement order	Set the order for moving over entry targets. The cursor can be moved using [UP] and [DW] switches.	0	
	Use Item Select	The cursor moves to the entry target that is tapped.	None	
	Display the keyboard	Use this setting to display a keypad when the numerical data display is tapped.	Yes	
		Keypad to Use	Select the keypad type. Overlap Library System Keyboard	Overlap Library
		Overlap Library No.	Specify the overlap library number for registering the keypad. Select and register the keypad at [Register] → [Setting]. <sup>*1</sup>	1
Display Position	Specify the position to display the overlap. The display position coordinates can be specified by clicking with the mouse from [Specify with Mouse] → [Setting]. <sup>*2</sup>	Specified 390, 200		
Alarm/ Operation	Use Alarm	Enable when using alarms. Values outside of the range (minimum and maximum) cannot be input using the keypad. If a value outside of the range is input from anything other than the keypad, it is displayed in the specified color.	None	
	Use Calculation Operation	Enable when using calculation operations.	None	
	Use Scaling	Enable when using scaling.	None	
Detail	Overlap ID	Set the ID of the overlap where a keypad is placed.	0	

- Style

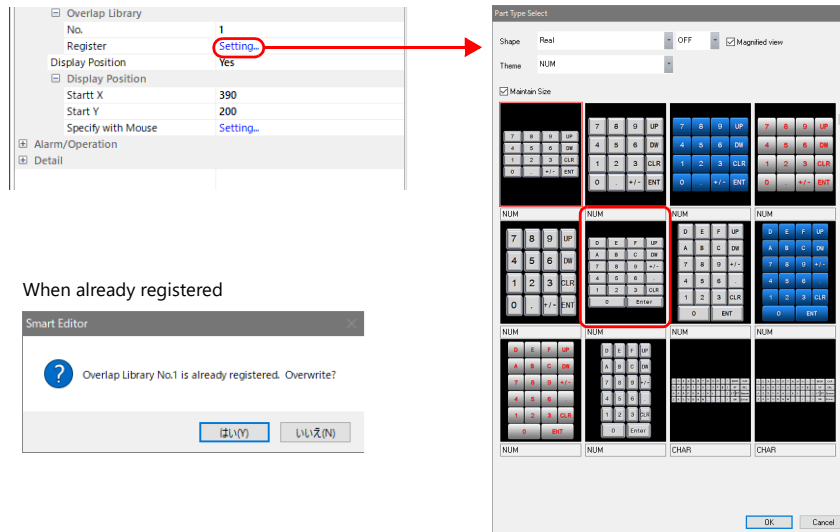
[Point Size]: 24

## \*1 Registration method

Set [Overlap Library] → [No.] to "1" and click [Register] → [Setting] to display the [Part Type Select] window.  
Select a design and click the [OK] button.

A keypad is registered to the specified overlap library number. For details on registration, refer to P 7-13.

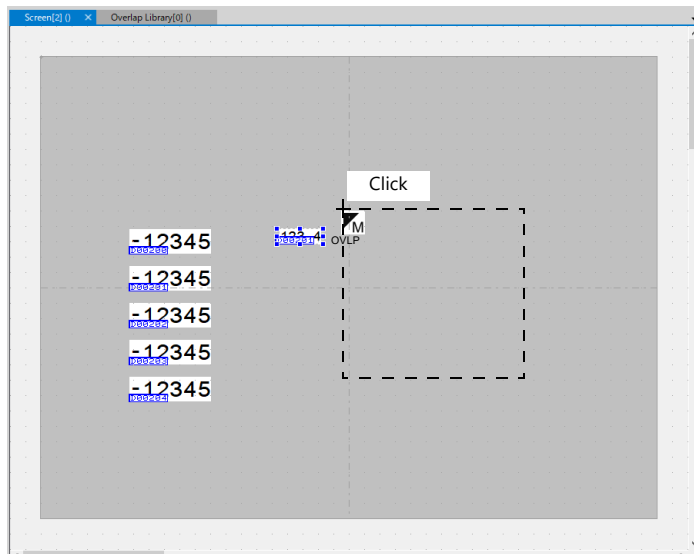
If the specified overlap library number is already registered, a confirmation message is displayed. Select [Yes] to overwrite the overlap library number or select [Cancel] to register to another overlap library number.



Select a keypad capable of hexadecimal (HEX) input.

## \*2 Click [Specify with Mouse] → [Setting]. A crosshair cursor and a dotted line frame the size of the overlap are displayed.

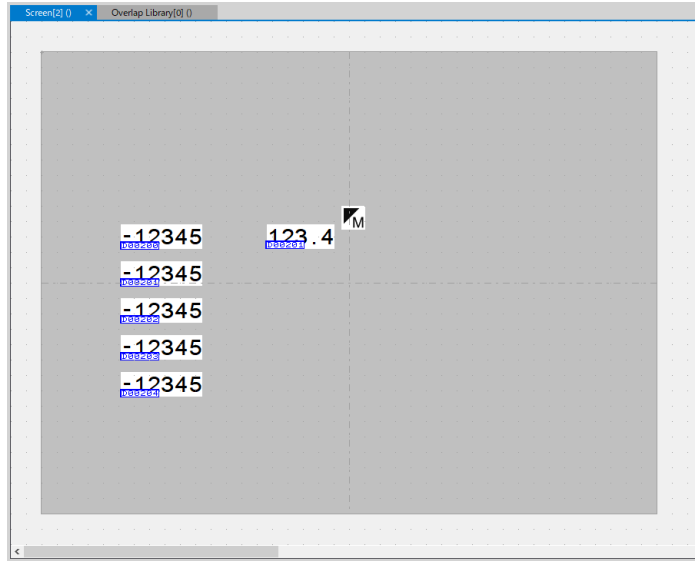
Click on a position where the dotted line frame does not protrude outside the screen area. A mark that shows the display position of the multi-overlap moves to the clicked position.



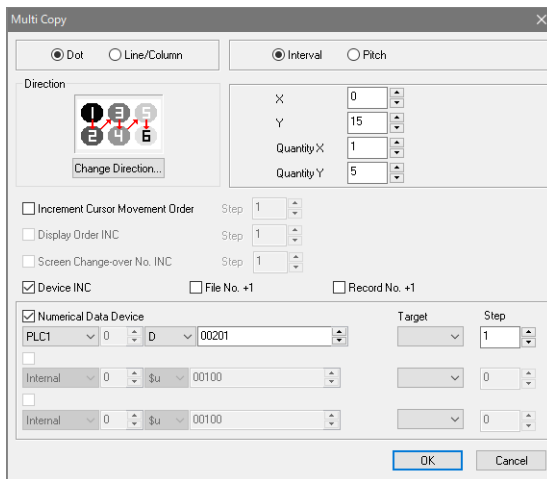
## Creating Multiple Copies of Numerical Data Displays

Make multiple copies of the numerical data display.

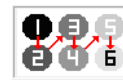
1. Select the numerical data display. Handles are displayed.



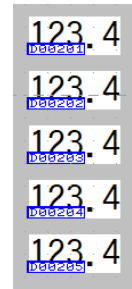
2. Click [Edit] → [Multi Copy]. The [Multi Copy] window is displayed.
3. Configure the following settings and click [OK]. This creates copies of the numerical data display.



Dot  
Interval  
[Direction]:



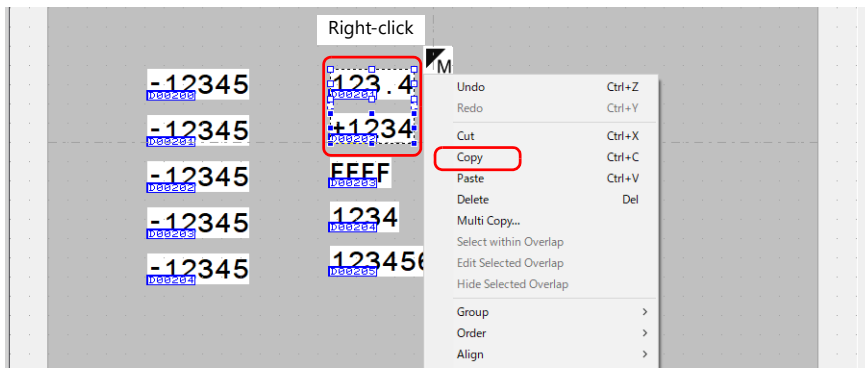
[X]: 0  
[Y]: 15  
[Quantity X]: 1  
[Quantity Y]: 5  
[Increment Cursor Movement Order], [Step]: 1  
[Device INC], [Step]: 1



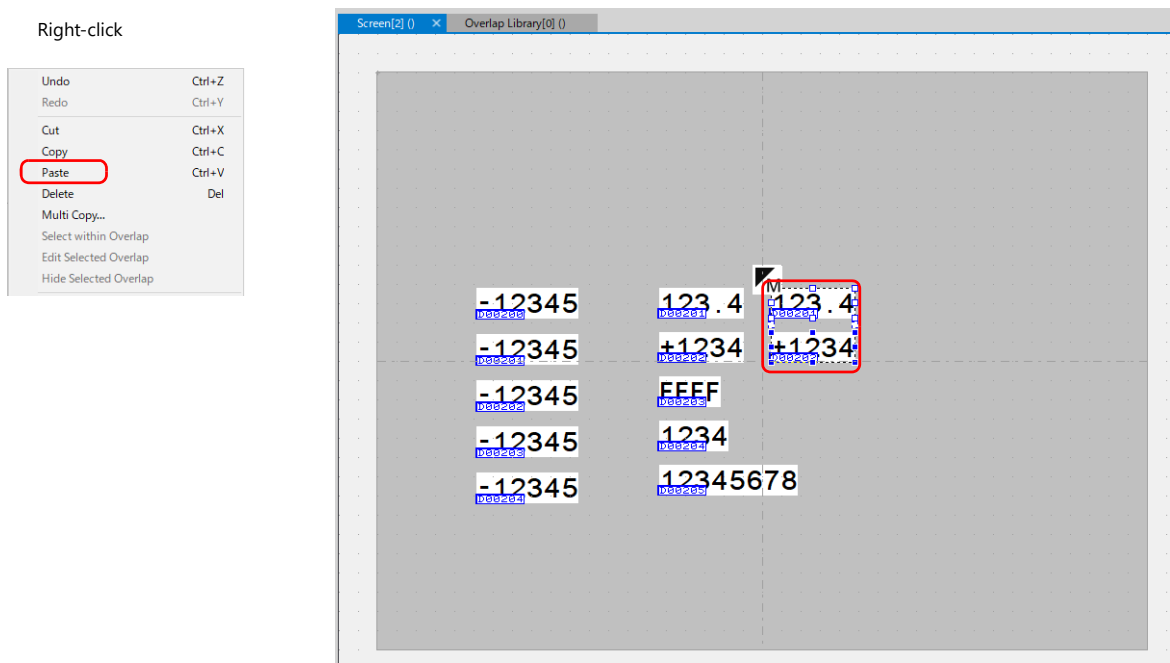
4. Change the settings of each numerical data display. For this example procedure, change the settings as shown below. (Red: Settings to change)

	Numerical Data Display	Main			Style		
		Display Type	Digits	Decimal Point	Alarm	Zero Suppress	* Display
1		DEC (w/o sign)	4	1	None	Yes Flush Right	None
2		DEC (with sign +--)	4	0	None	Yes Flush Right	None
3		HEX	4	0	None	None	None
4		DEC (w/o sign)	4	0	None	Yes Flush Right	Yes
5		DEC (w/o sign)	8	0	None	Yes Flush Right	None

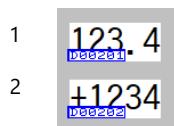
5. Select numerical data displays 1 and 2, and click [Copy] on the right-click menu.



6. Click [Paste] on the right-click menu. Adjust the position.



7. Add alarm settings to the pasted numerical data displays. For this example procedure, change the settings as shown below.



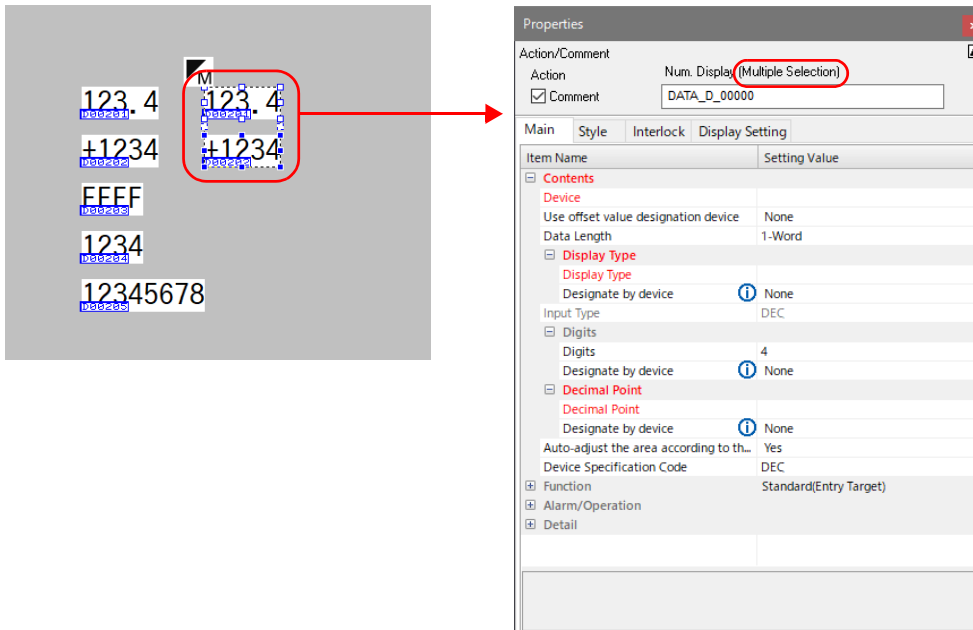
Numerical Data Display	Alarm	Main	
		Minimum	Maximum
1	Yes	[Minimum]: 0.0 [Char. Color]: Red [Background]: Black	[Maximum]: 900.0 [Char. Color]: Blue [Background]: Black
2	Yes	[Minimum]: -8000 [Char. Color]: Red [Background]: Black	[Maximum]: 8000 [Char. Color]: Blue [Background]: Black



Configuring Multiple Items Collectively

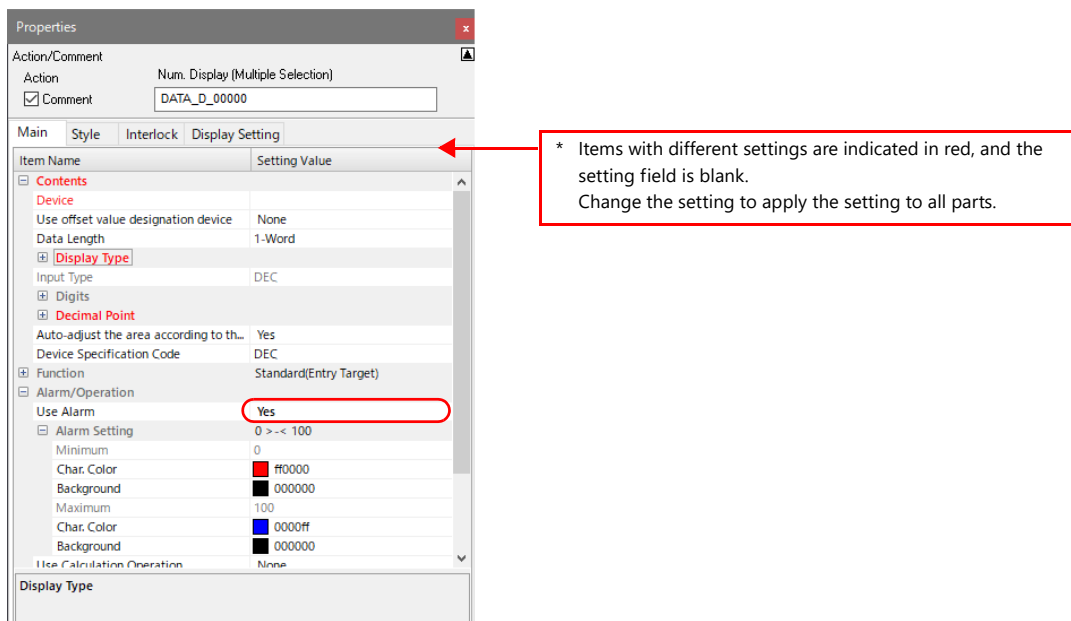
The settings of multiple items can be configured collectively by selecting multiple instances of the same item.

1. Select all of the numerical data displays for collective configuration. The [Properties] pane for when multiple parts are selected is displayed.



2. Change the items to be set collectively. All the selected numerical data displays are updated with this change.

Example: Changing [Use Alarm] to [Yes]



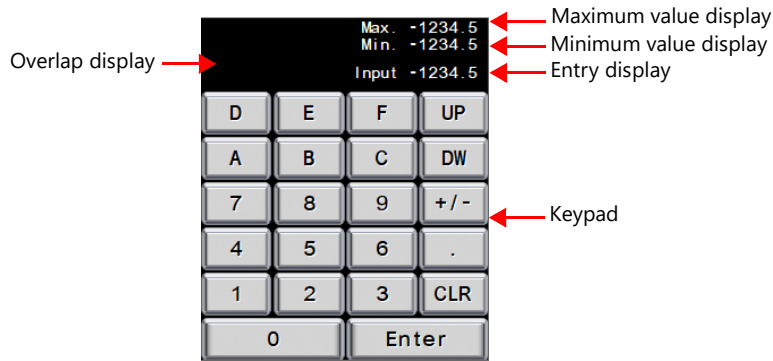
This completes the registration of numerical data displays for entry and the entry keypad.

## 7.2.3 Overlap Library

The following items are registered to the overlap library that contains the entry keys registered from [Register] → [Setting]. These can be used without changing any settings.

If size adjustment or color changes are required, change them from the [Overlap Library] editing window.

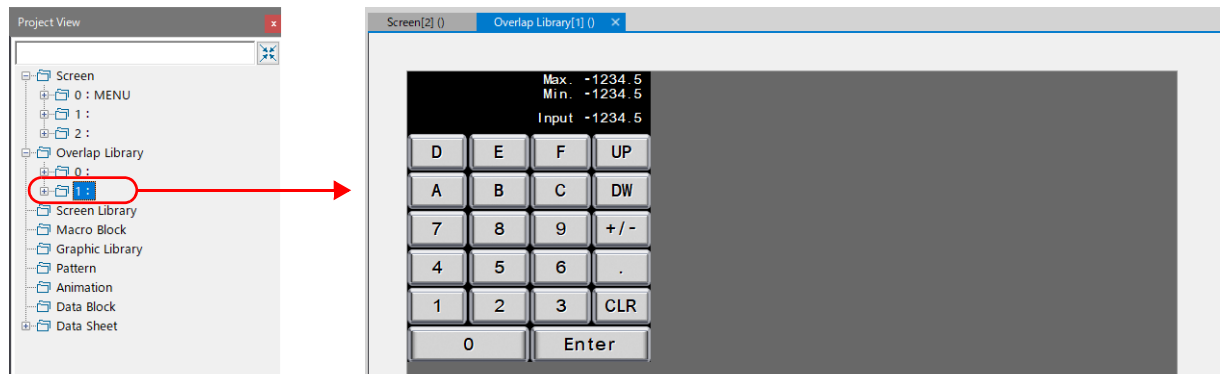
- Overlap library number 1 (keypad)



### Editing the Overlap Library

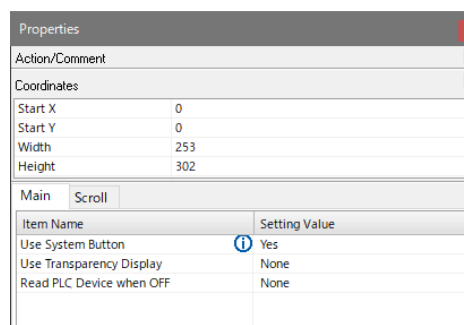
Double-click [0001] at the [Project View] pane → [Screen] tab → [Overlap Library].

The [Overlap Library] editing window is displayed.



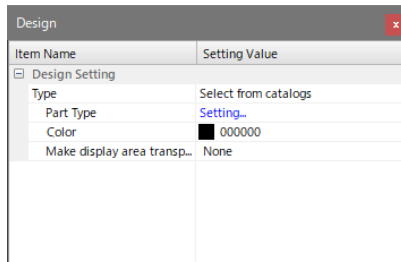
### Overlap settings

1. Click the overlap to display the [Properties] pane. Properties such as area color and size can be changed.
  - [Properties] pane



Item		Details	Settings
Coordinates	Start X / Start Y	Specify the upper left coordinates of the overlap display area.	0.0
	Width/Height	Specify the width and height of the overlap display area.	[Width]: 253 [Height]: 305
Main	Use System Button	Enable this setting to add a switch function (move/dismiss) to the upper left corner of the overlap display area. For details on operation, refer to "Overlap System Button Function" P 6-12.	Yes
	Use Transparency Display	Enable this setting to enable transparency.	None
	Read PLC Device when OFF	Set whether or not to read the values of PLC device memory when the overlap display is hidden.	None

- [Design] properties pane



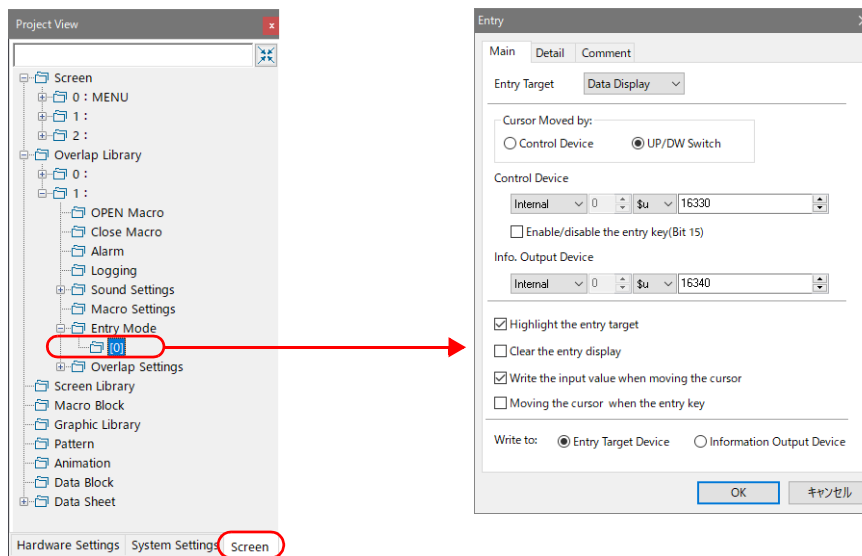
Item Name	Details	Settings
Part Type	Change the design of the overlap display.	-
Color	Set the display area color.	-

## Settings of Items Placed on the Overlap

The following items are automatically placed on the overlap.

### Entry Mode

When a keypad is placed on an overlap, the [Entry Mode] setting is made at the [Project View] pane → [Screen] tab → [Overlap Library].  
 If this entry mode does not exist or the setting is incorrect, the keypad will not function correctly.  
 In this section, use the keypad without changing any settings.  
 For details on the entry icon, refer to the "6. Entry" in Reference Manual 1.

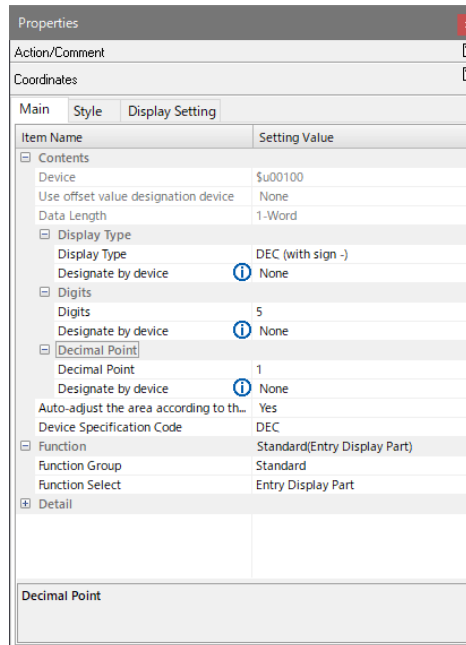


## Entry display and maximum/minimum value displays

- **Entry display**  
This part temporarily displays values entered using the entry keys.
- **Maximum/minimum value displays**  
This displays the range of values that can be entered using the entry keys. The maximum and minimum values set for [Alarm] when [Function] is set to "Entry Target" are displayed automatically.

This section only explains the essential settings for each function.

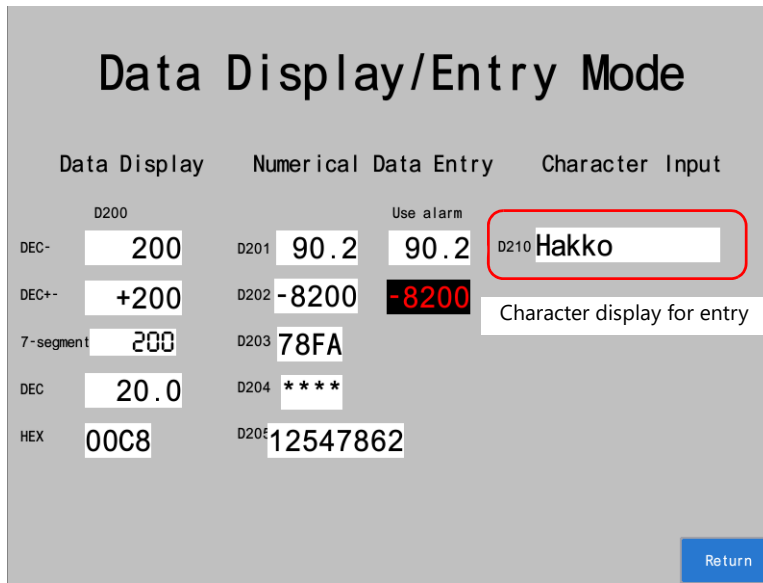
1. Click the numerical data display on the overlap. The [Properties] pane of the numerical data display is displayed.
2. Configure each setting.
  - Main



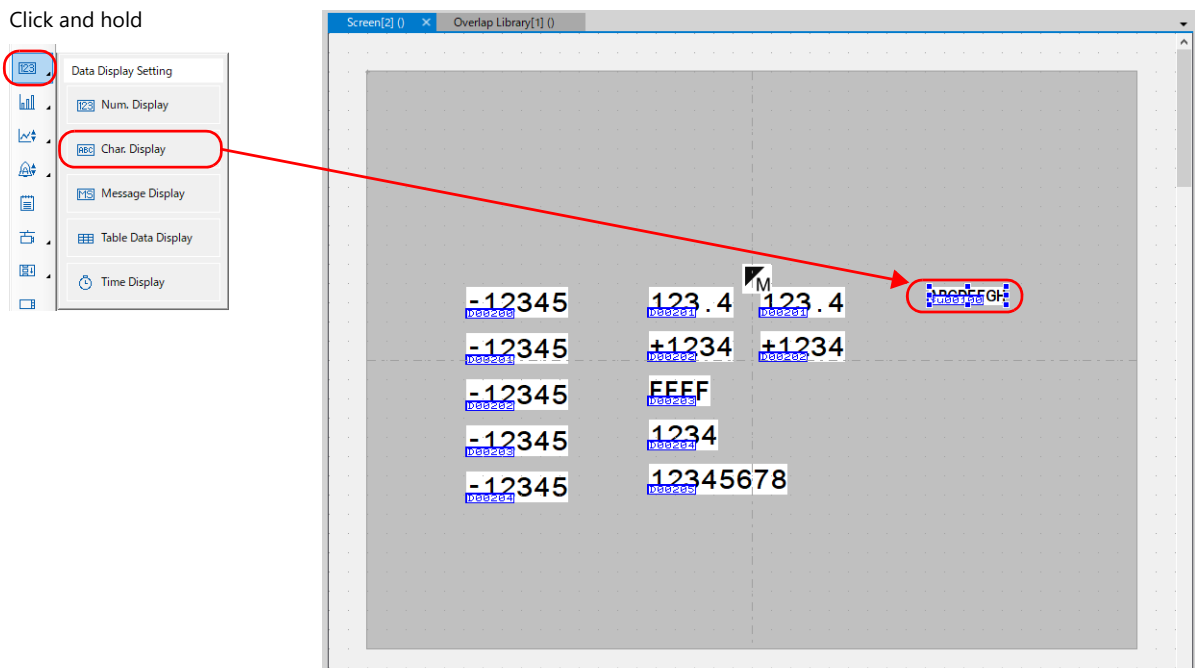
Item		Details	Settings
Contents	Display Type	Set the format of numbers to be displayed on the screen.	DEC (with sign +-)
	Digits	Specify the number of digits of device memory to monitor.	5
	Decimal Point	Set whether or not to include a decimal point.	1
Function		Set the function of the numerical data display.	Entry Display Part Max. Value Display Part Min. Value Display Part

This completes the overlap library settings.

## 7.2.4 Placing Character Displays and Registering Character Keys

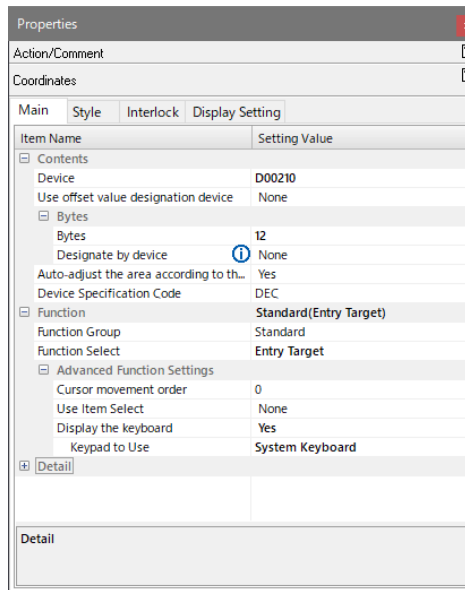


1. On the parts bar, click and hold [Data Display]. Click [Char. Display] and place a part.



## 2. Configure the properties of the character display as shown below.

- Main

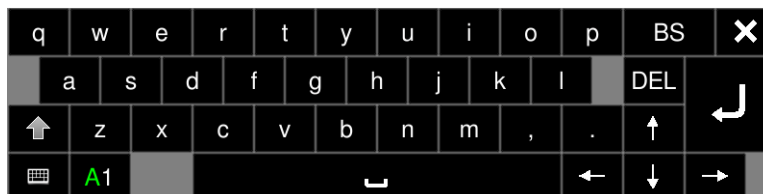


Item		Details	Settings
Contents	Device	Specify the device memory for entry.	D210
	Bytes	Set the number of bytes for displaying text.	12
	Auto-adjust the area according to the char. size	Use this setting to automatically adjust the size of the part according to the number of specified bytes.	Yes
Function	Function Group	Specify the function.	Standard
	Function Select		Entry Target
	Cursor movement order	Set the order for moving over entry targets. The cursor can be moved using [UP] and [DW] switches.	0
	Use Item Select	The cursor moves to the entry target that is tapped.	None
	Display the keyboard	Use this setting to display a keypad when the character display is tapped.	Yes
	Keypad to Use	Select the keypad type. Overlap Library System Keyboard	System Keyboard

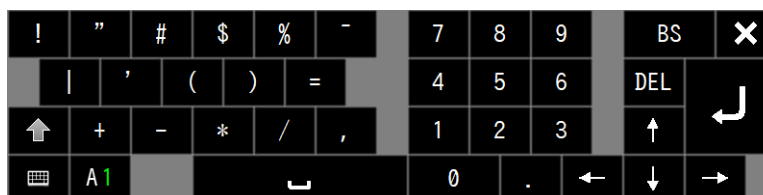


- System keyboard  
This is the keyboard provided by the system. It allows entry of numeric values and text.

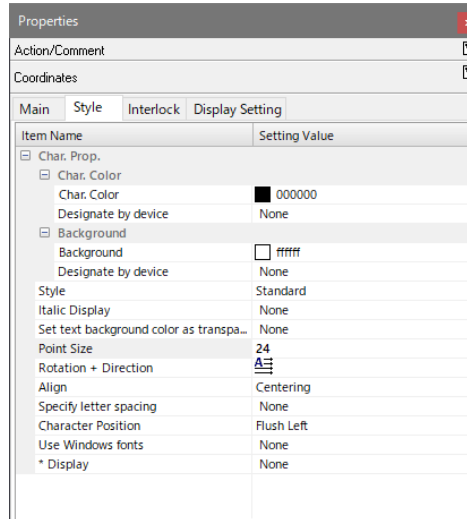
## Character keys



## Numeric keys



- Style

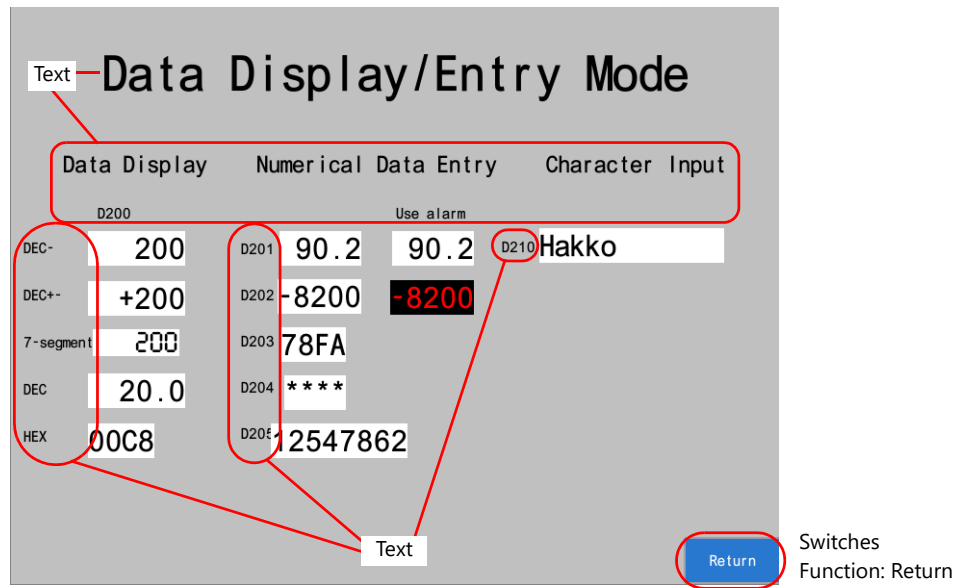


	Item	Details	Settings
Char. Prop.	Char. Color	Set the text color.	Black
	Background	Set the background color.	White
	Style	Select the text style.	Standard
	Point Size	Set the text size.	24

3. To change the design, use the [Design] properties pane.

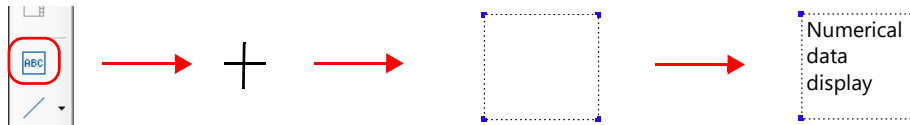
## 7.2.5 Placing Text and a Return Switch

This section explains how to place the screen title and other text elements.

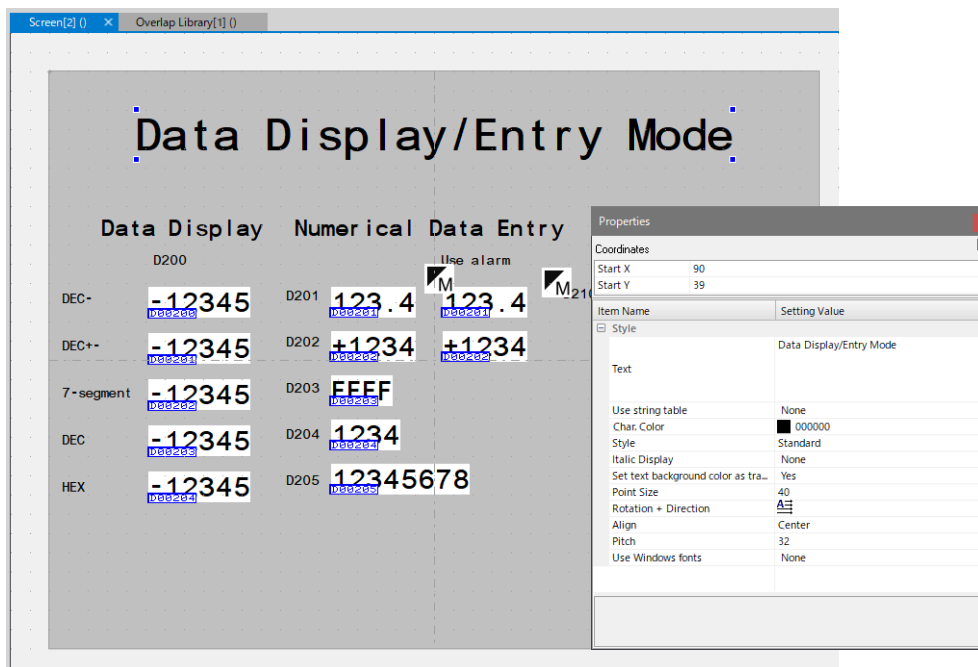


### Creating Text

1. On the parts bar, click [Text] and input 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.

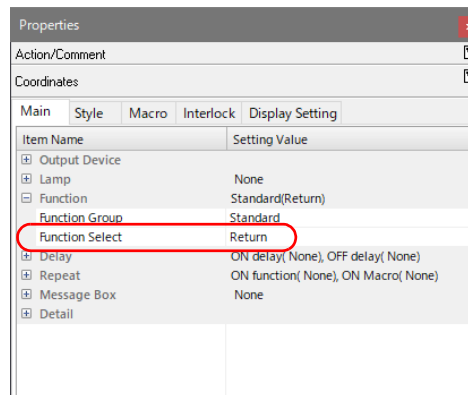


## Return Switch

---

Place a switch used to return to the previous screen.

1. Place a switch.
2. Display the [Properties] pane of the switch and set [Function Select] to [Return].



3. Register switch text and adjust the color and position.

This completes the screen creation process. Check screen program operation on MONITOUCH.

## 7.3 Checking Operation on MONITOUCH

Transfer the screen program to MONITOUCH and check the operation.

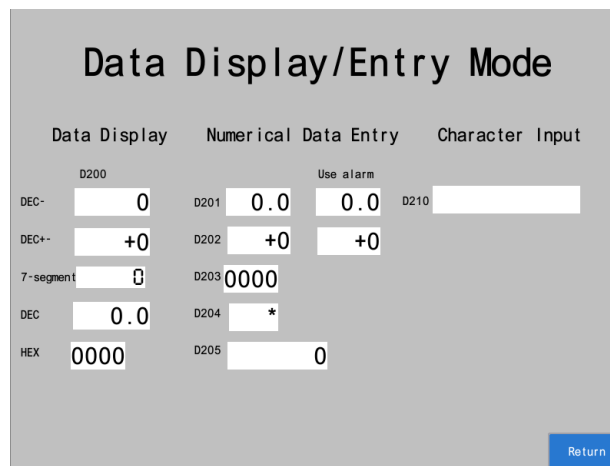
### Device Memory Used

The device memory addresses used in this example are listed below.

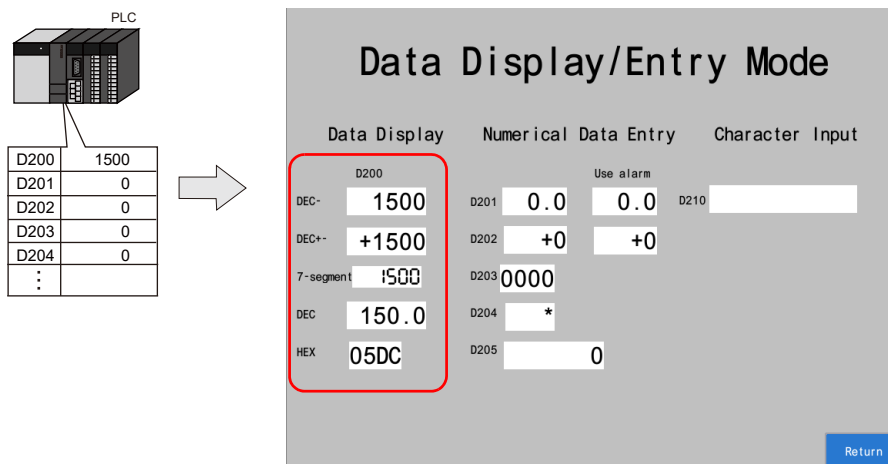
Device Memory	Data in Device Memory
D200	Numerical data display
D201 to D206	Numerical data display (Entry target)
D210 to D215	Character display (Entry target)

### 7.3.1 Checking the Numerical Data Displays

1. Display screen 2.



2. Input a value to D200 using the PLC. The values are reflected to the numerical data displays on the screen. The display on MONITOUCH differs depending on the display type and font settings.

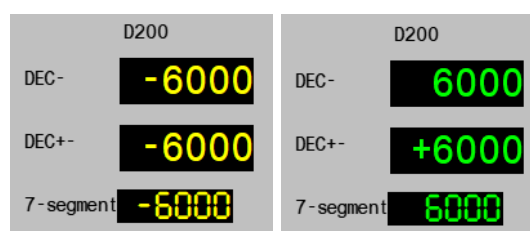


3. Entering a value outside the alarm range will display the value in the alarm color.

Alarm setting range

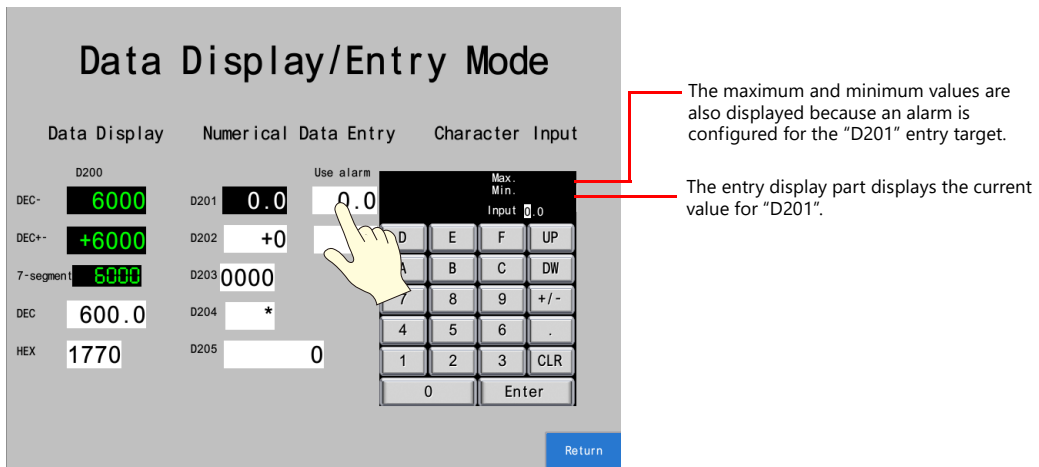
[Minimum]: -5000, Alarm color: Yellow

[Maximum]: +5000, Alarm color: Green



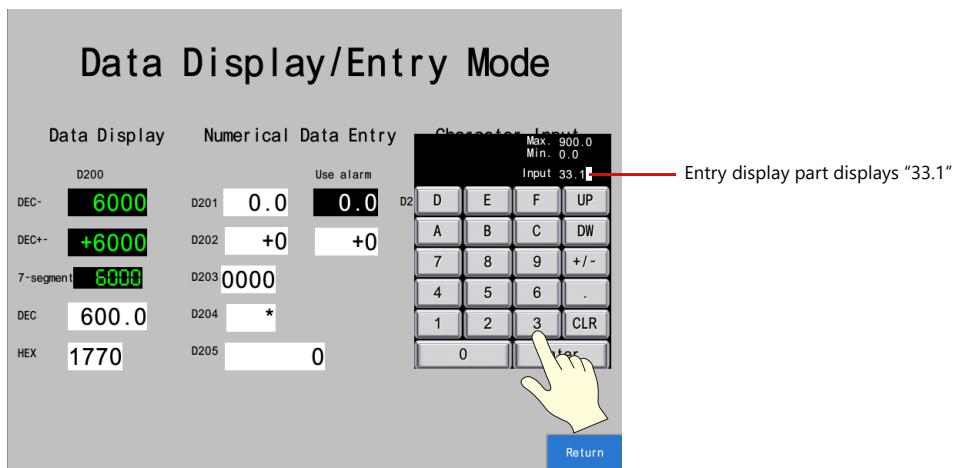
### 7.3.2 Entering Values

1. Press the numerical data display for "D201". This displays the keypad overlap and highlights the value for "D201".

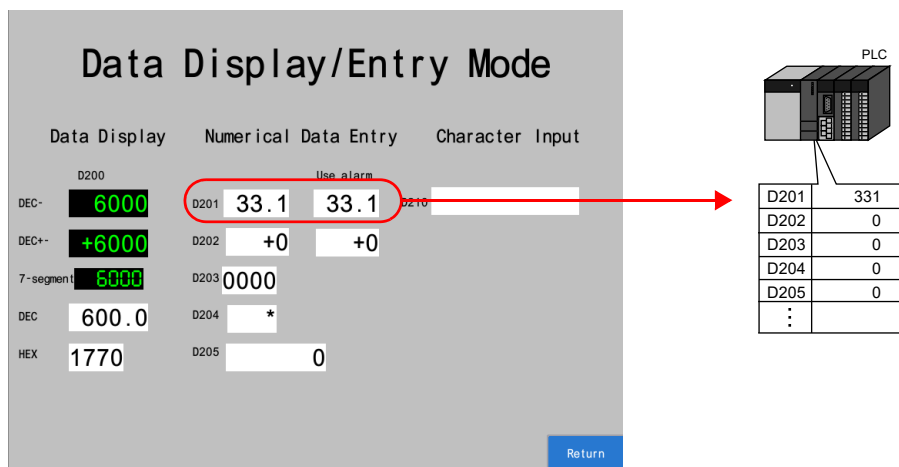


☺ If an alarm is configured for the entry target, [Max.] and [Min.] are displayed on the overlap. The [Enter] key cannot be pressed if the entered value is outside the displayed range.

2. Press "3", "3", ".", and "1" on the keypad. "33.1" is displayed on the entry display part.



3. Press the [Enter] key. The keypad overlap disappears and the value of "D201" displays "33.1". Checking the "D201" address on the PLC should show that "331" is written.



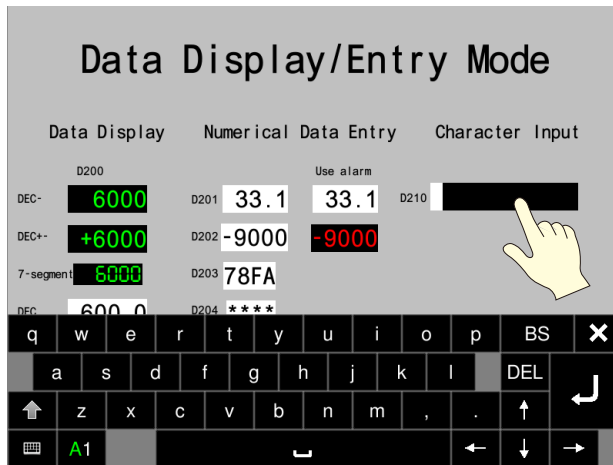
Writing operations for other data are performed in the same manner.

☺

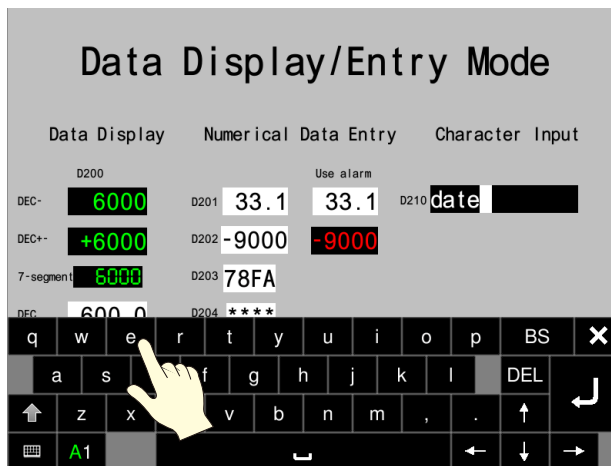
- To enter a negative value such as "-200", press "2", "0", "0", "+/-" and then [Enter] on the keypad.
- When [\* Display] is enabled, all digits are indicated as asterisks (\*). This is convenient for creating a password input screen.

### 7.3.3 Entering Text

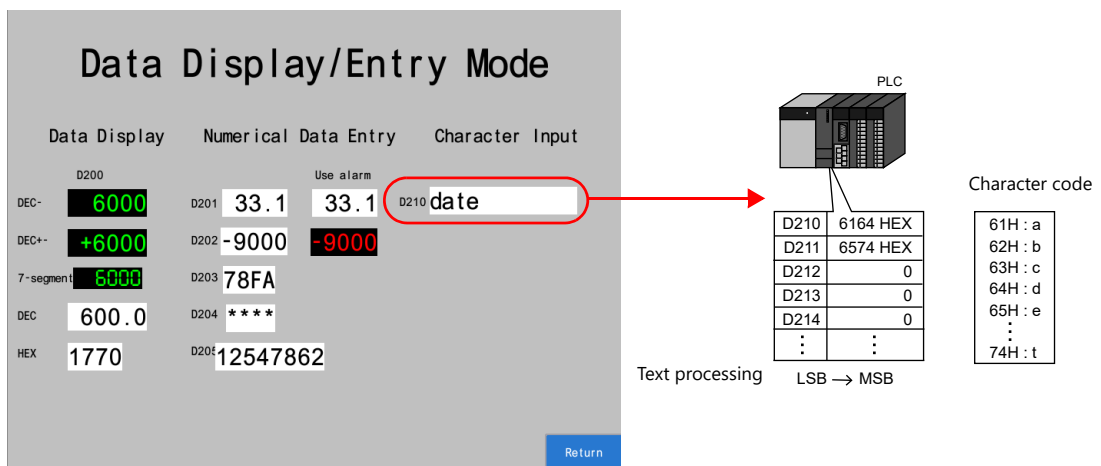
1. Press the character display for "D210". This displays the system keyboard and highlights the text for "D210".



2. Press "d", "a", "t", and "e" using the character entry keys. "date" is displayed on the entry display part.

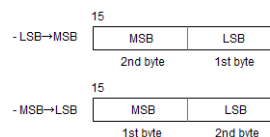


3. Press the [Enter] key. The keyboard disappears and the character display returns to its normal display state and shows "date".
4. Checking the "D210" and "D211" addresses on the PLC should show that "6164Hex" and "6574Hex" are written.



The order of storage changes depending on the [Detail] → [Text Process] setting.

Item Name	Setting Value
Contents	Standard(Entry Target)
Function	
Detail	
Use JIS/ASCII	None
<b>Text Process</b>	<b>LSB → MSB</b>
Save an operation log	Yes
Process cycle	High Speed
ID	0





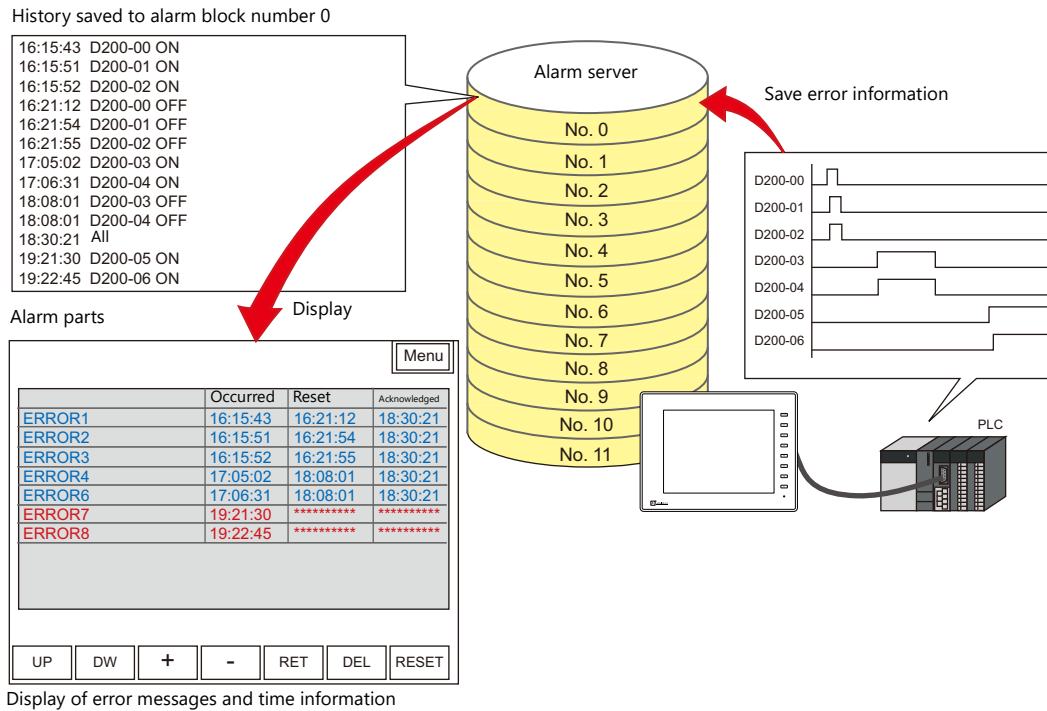
# 8 Creating an Alarm Screen

## 8.1 Overview

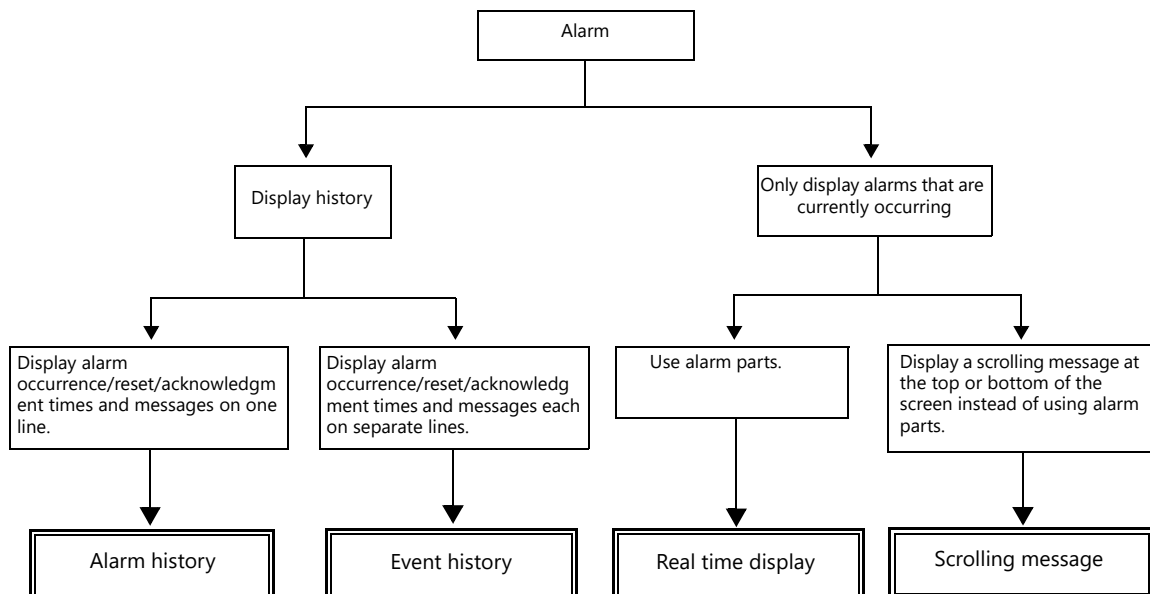
Error messages can be saved together with information such as time of occurrence as history. History is saved to an area referred to as an "alarm server".

Information saved to an "alarm server" is displayed using "alarm parts".

\* Scrolling messages can be used instead of alarm parts.



There are four ways to display alarms.

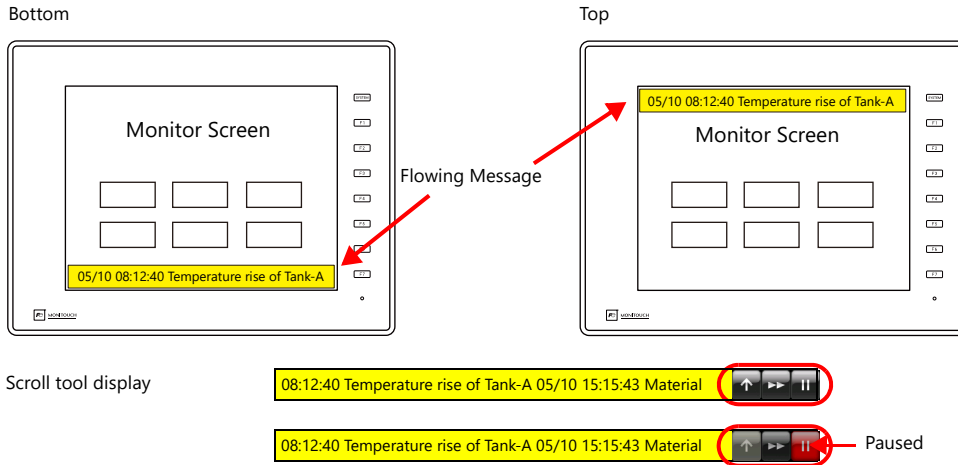


### Action when alarms occur

Seven actions can be set to occur according to the alarm that occurred. For details, refer to Reference Manual 1.

1. Scrolling messages

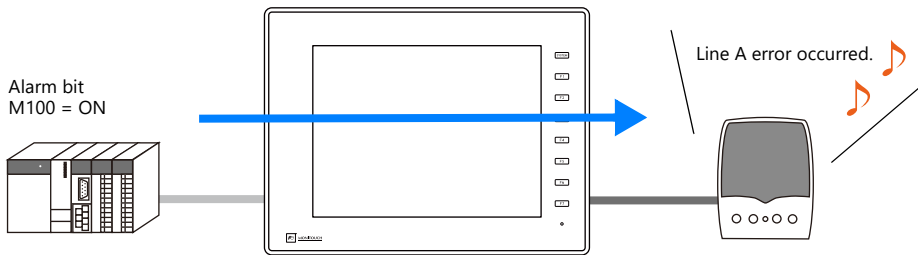
When an alarm occurs, an alarm message is automatically displayed at the bottom (or top) of the screen. Displaying the scroll tool allows the display position to be changed or automatic scrolling to be paused. Scrolling messages are displayed continually until the error is reset even if the screen is changed.



[Scrolling Message Setting Procedure P 8-22](#)

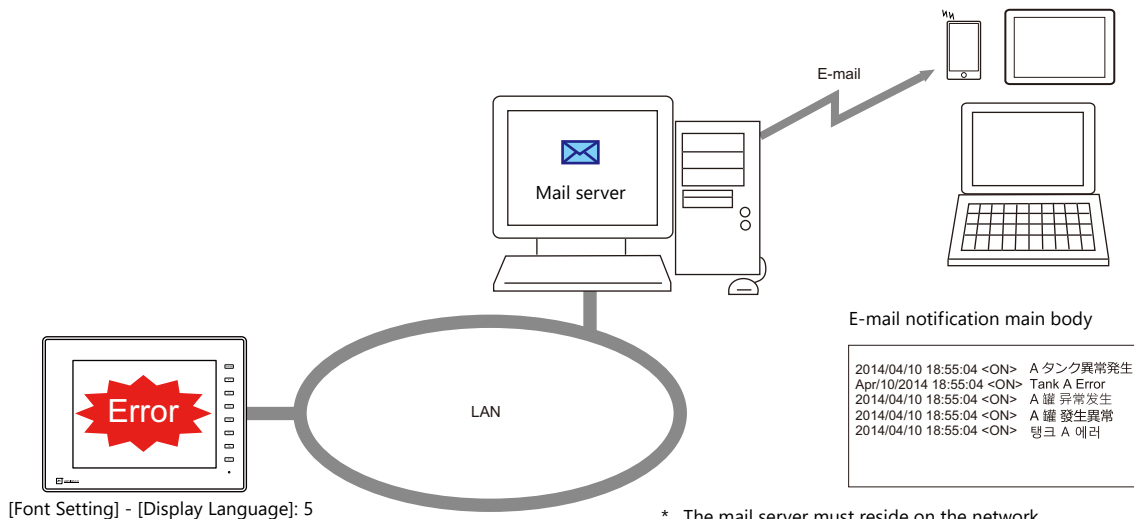
2. Audio playback

An audio file can be played when an alarm occurs.



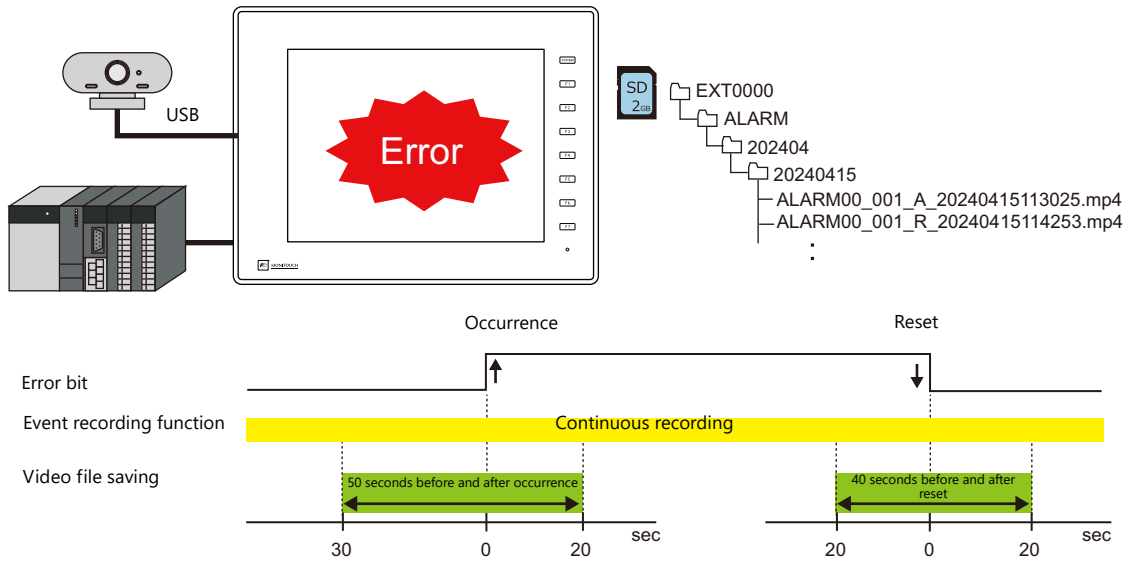
3. E-Mail

Send an e-mail when an alarm occurs or is reset. When using a multi-language screen program, e-mails are sent in all languages. A file can be attached to e-mail notifications.



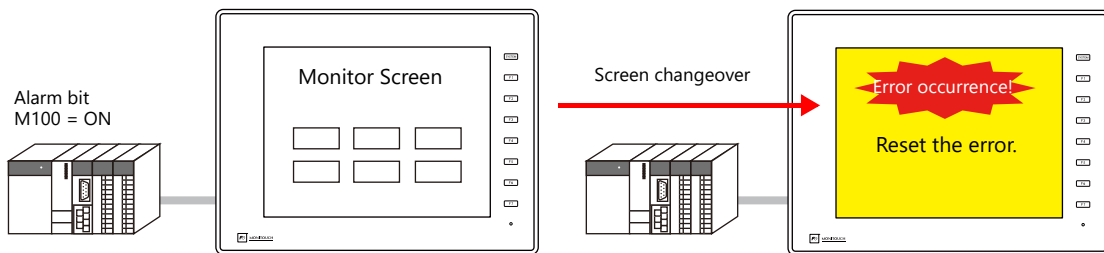
4. Video recording

Video can be saved to a video file (extension: .mp4) upon alarm occurrence and reset. Use of the event recording function also allows video immediately before an alarm occurrence and reset to be saved, which facilitates cause analysis.



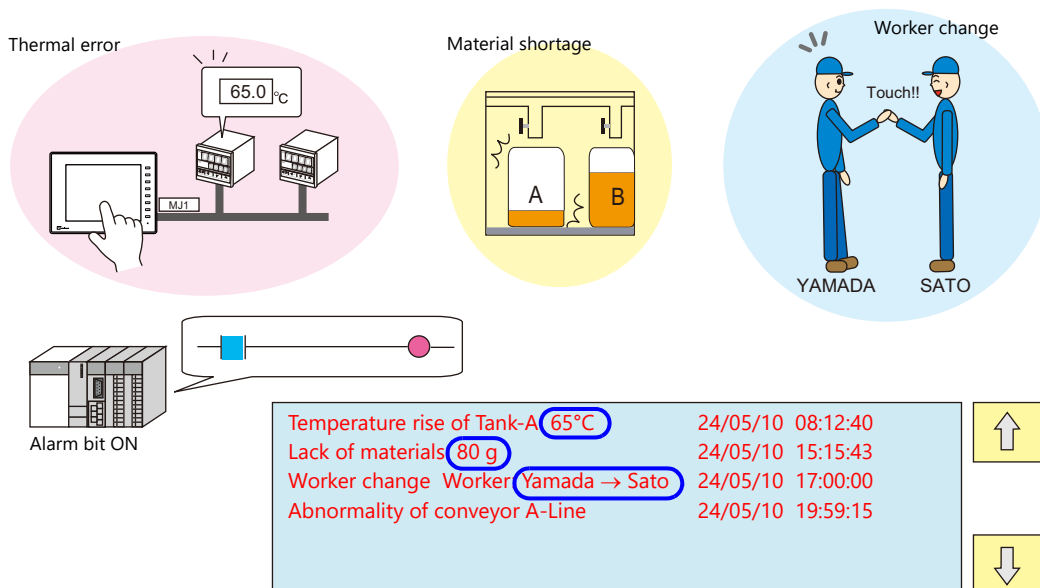
5. Operation settings

Operations including output to a specified device memory address, display changeover, and macro execution can be performed when an alarm occurs.



6. Parameter display

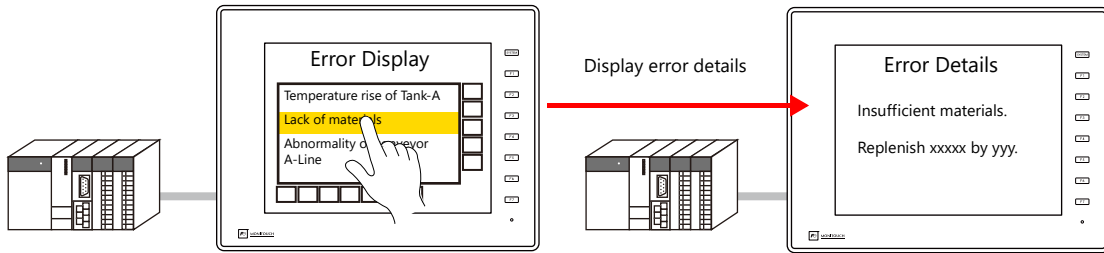
When an alarm occurs, the data (parameters) associated with the alarm can be saved/displayed together with an alarm message. Logging the history of such alarm-relevant parameters will make it easier to locate and investigate the causes of alarms.



## 8. Creating an Alarm Screen

### 7. Touch action

The screen can be changed by tapping the message on the alarm part.  
This displays more detailed alarm information.

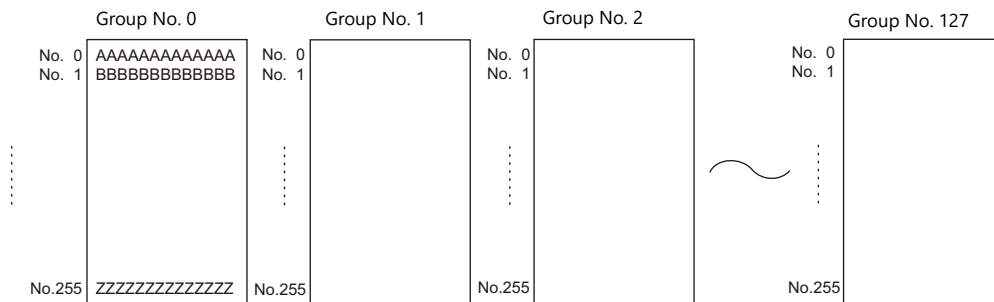


## Messages

Error messages for alarm parts are registered from the [Project View] pane → [System Settings] tab → [Message].

[Message] is divided into 128 groups of editing areas.

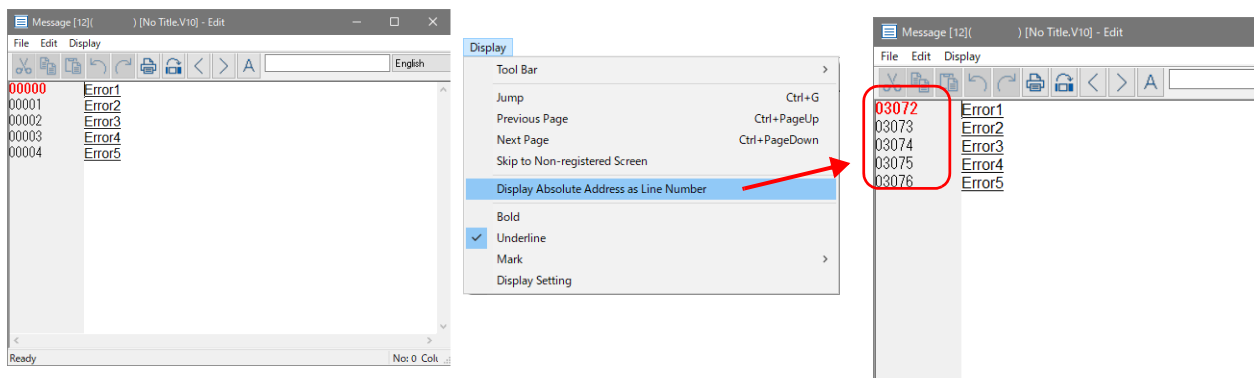
Up to 256 lines of messages can be registered in each group. Accordingly, a maximum of 32768 lines can be registered in total.  
Each line can contain up to 127 characters.



### Message numbers and absolute addresses by group number

Group No.	Message No.	Absolute Addresses
0	00000 to 00255	00000 to 00255
1	00000 to 00255	00256 to 00511
2	00000 to 00255	00512 to 00767
3	00000 to 00255	00768 to 01023
4	00000 to 00255	01024 to 01279
:		:
126	00000 to 00255	32256 to 32511
127	00000 to 00255	32512 to 32767

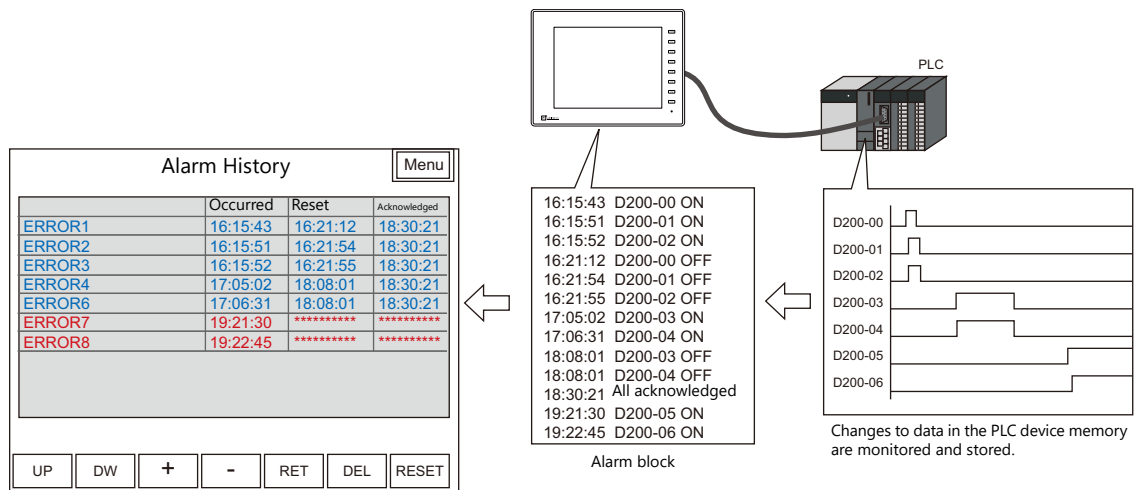
The display can be changed from [Display] → [Display Absolute Address as Line Number].



## 8.1.1 History Display

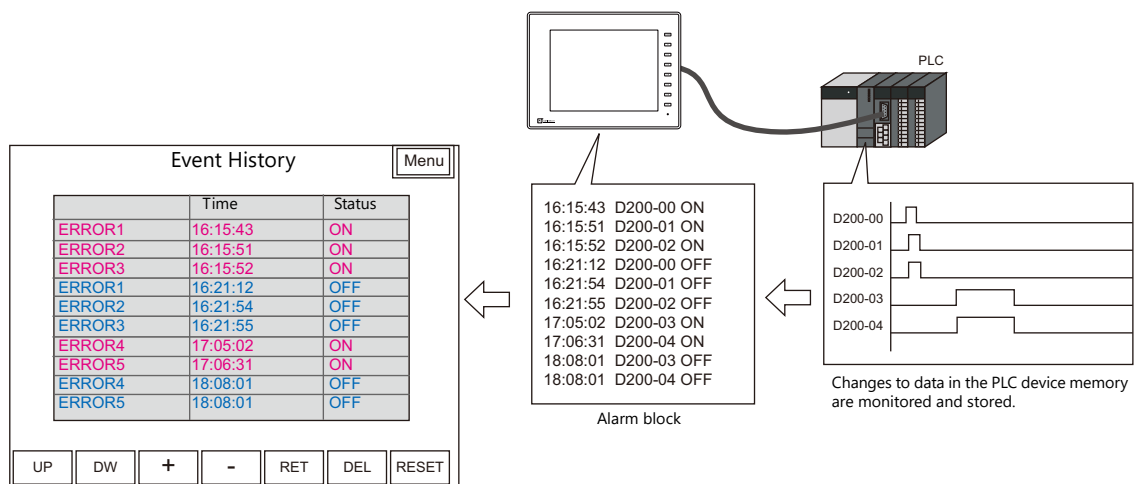
### Alarm History

The changes in device memory on the PLC saved to an alarm server can be displayed on an alarm part.  
Display alarm occurrence/reset/acknowledgment times and messages on one line.



### Event History

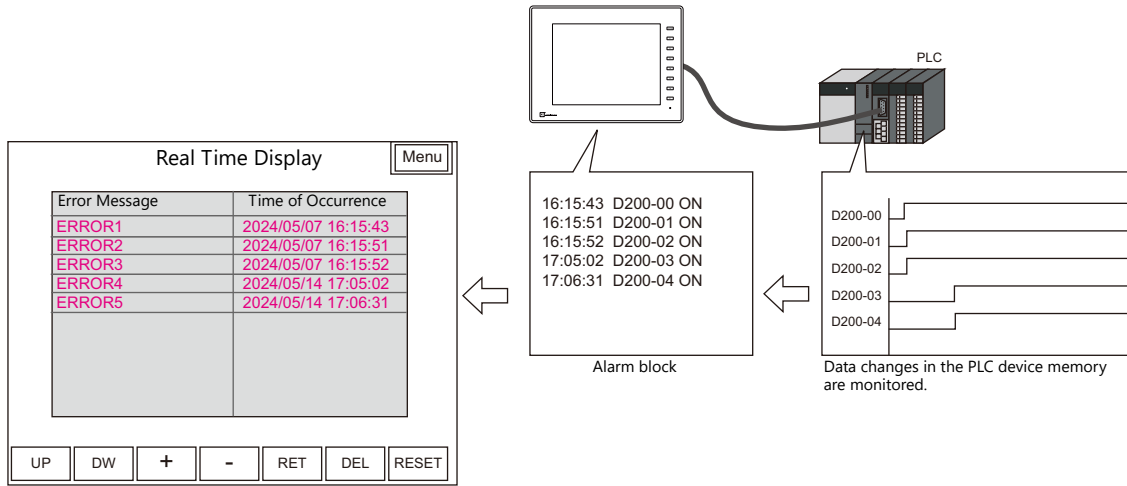
The changes in device memory on the PLC saved to an alarm server can be displayed on an alarm part.  
Display alarm occurrence/reset/acknowledgment times and messages each on separate lines.



## 8.1.2 Displaying Only Occurring Alarms

### Real Time Display

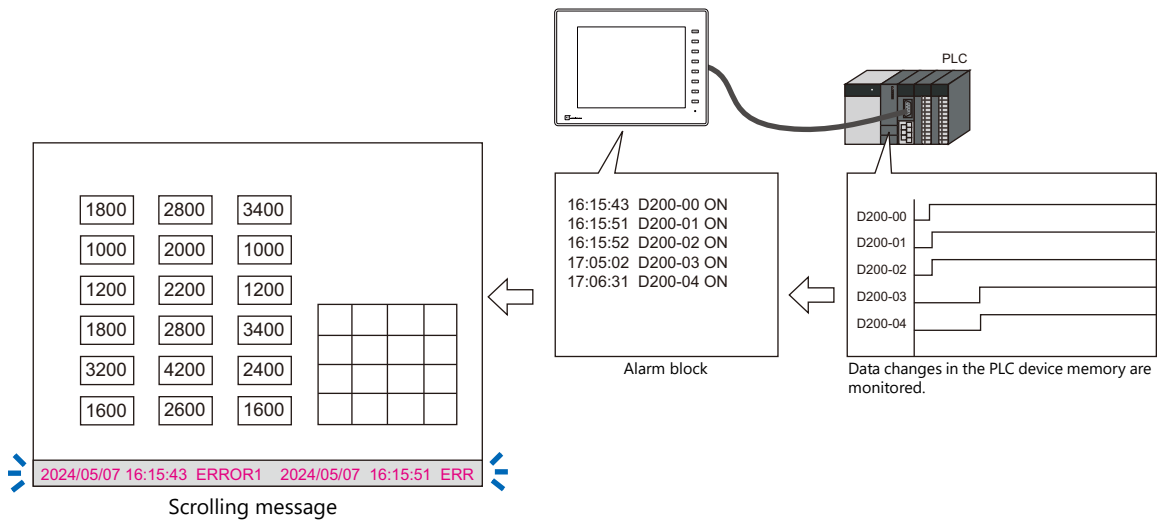
Use alarm server information to display only currently occurring errors on an alarm part.



### Scrolling Messages

Use alarm server information to display currently occurring errors on the screen as scrolling messages.

Alarm parts are not required.

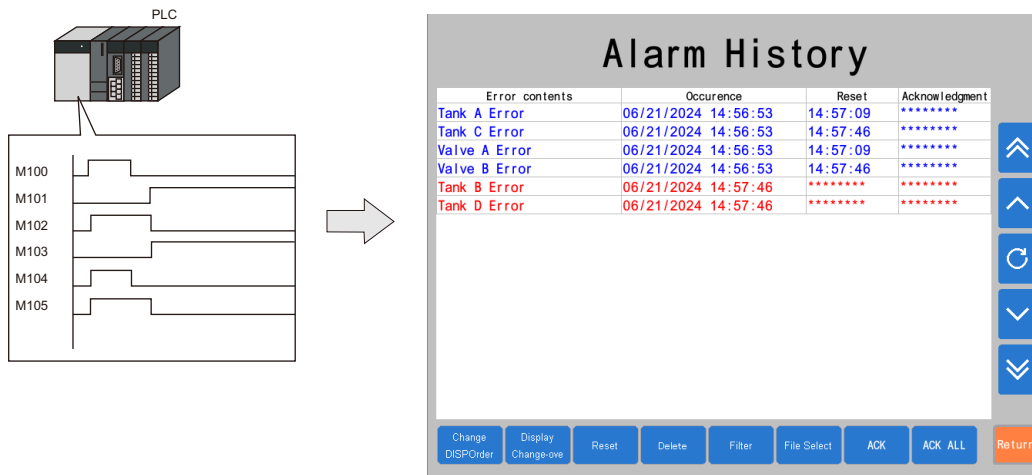


## 8.2 Example Screen

### Screen 3

Create an alarm history screen.

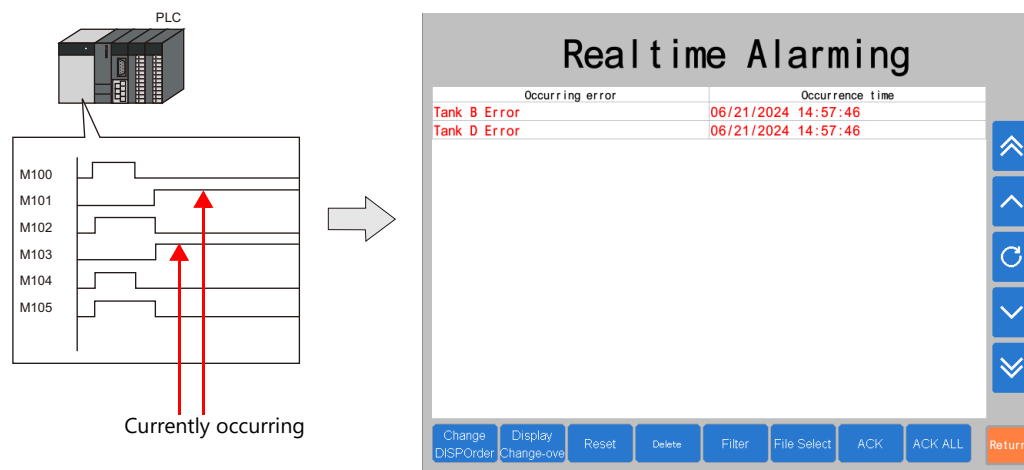
Display the history of error occurrence/reset/acknowledgment times with alarm parts.



### Screen 4

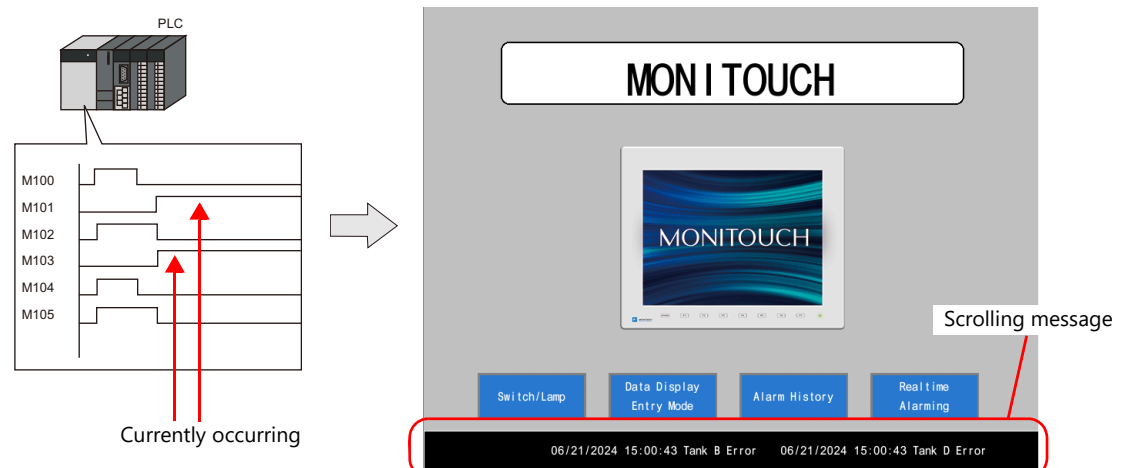
Create a real time display screen for alarms.

Display only currently occurring errors with together with the time of occurrence on an alarm part.



### Scrolling Message

Display currently occurring errors on the bottom of the screen with a scrolling message regardless of the currently displayed screen.



## Messages and Device Memory Used

### Error messages

GNo. No.	Message	Error Device Memory
GNo.0 No.0	Tank A Error	M100
GNo.0 No.1	Tank B Error	M101
GNo.0 No.2	Tank C Error	M102
GNo.0 No.3	Tank D Error	M103
GNo.0 No.4	Valve A Error	M104
GNo.0 No.5	Valve B Error	M105
GNo.0 No.6	Valve C Error	M106
GNo.0 No.7	Valve D Error	M107

### Titles

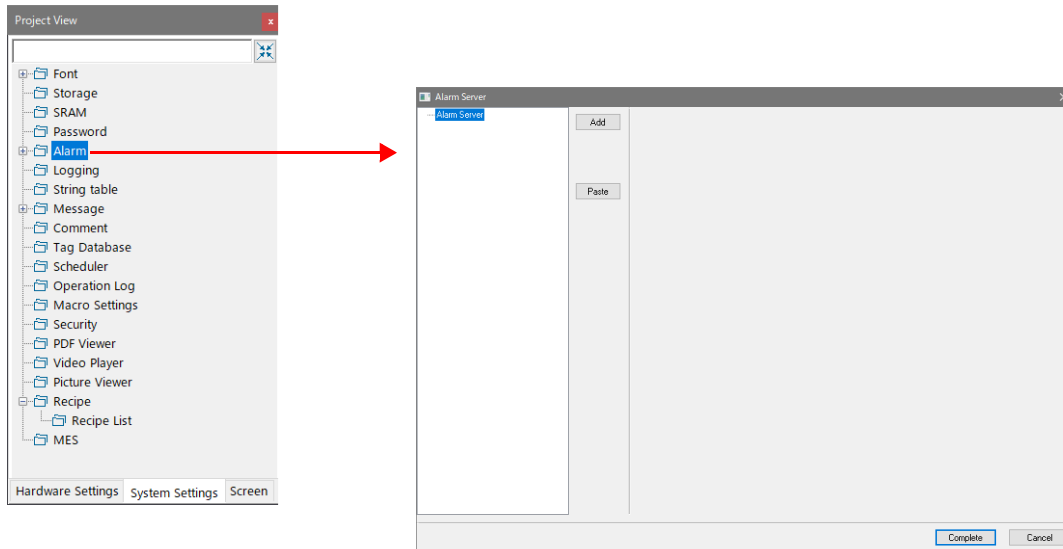
GNo. No.	Message	Remarks
GNo.127 No.0	Error contents	History display
GNo.127 No.1	Occurrence	
GNo.127 No.2	Reset	
GNo.127 No.3	Acknowledgement	Real time display
GNo.127 No.4	Occurring error	
GNo.127 No.5	Occurrence time	

## 8.3 Creation Procedure

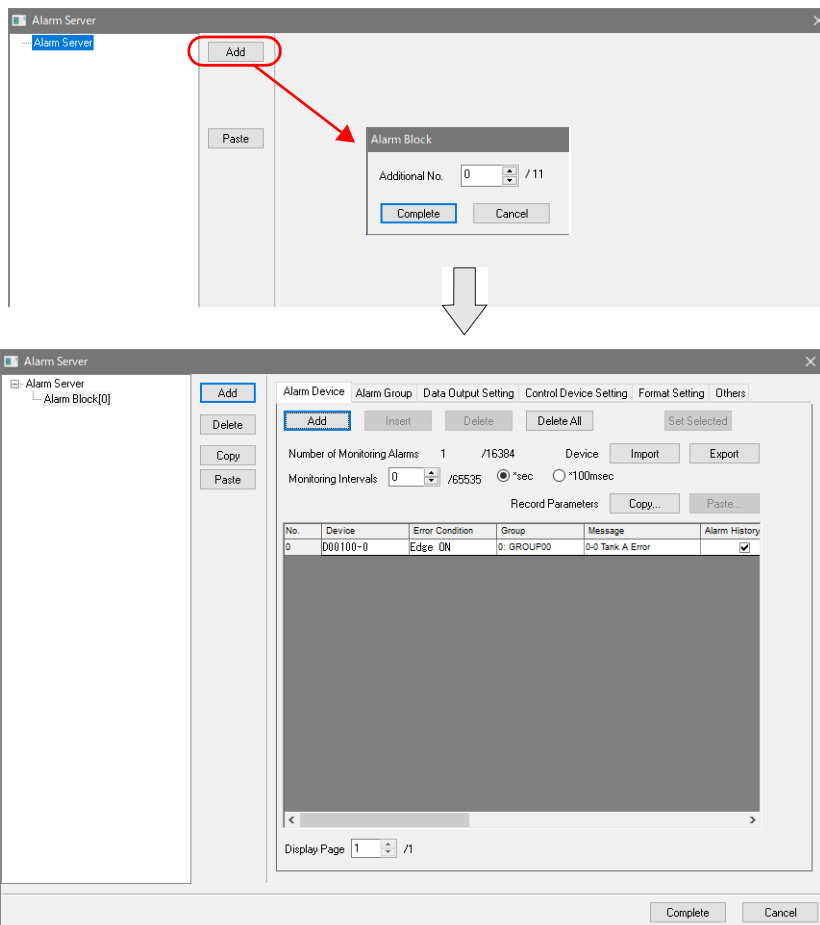
### 8.3.1 Creating Screen 3 (History Display)

#### Alarm Server Settings

1. Double-click [Alarm] at the [Project View] pane → [System Settings] tab. The [Alarm Server] window is displayed.

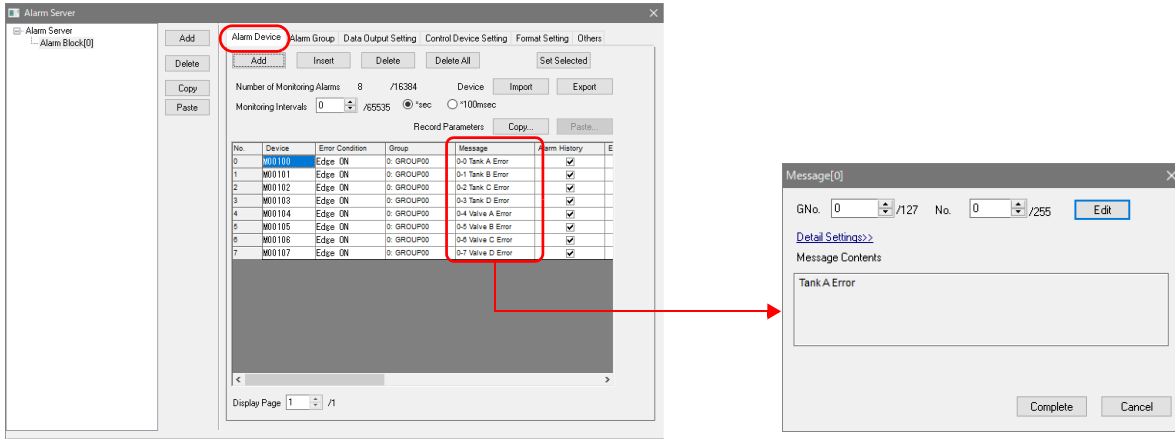


2. Click [Add]. This manual uses block number 0 so specify "0" and click [Complete]. [Alarm Block [0]] is added.



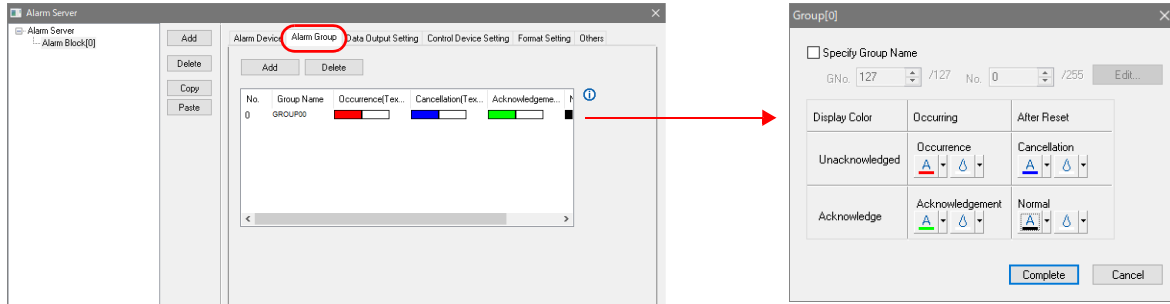
## 8. Creating an Alarm Screen

### 3. Configure settings on the [Alarm Device] tab window.



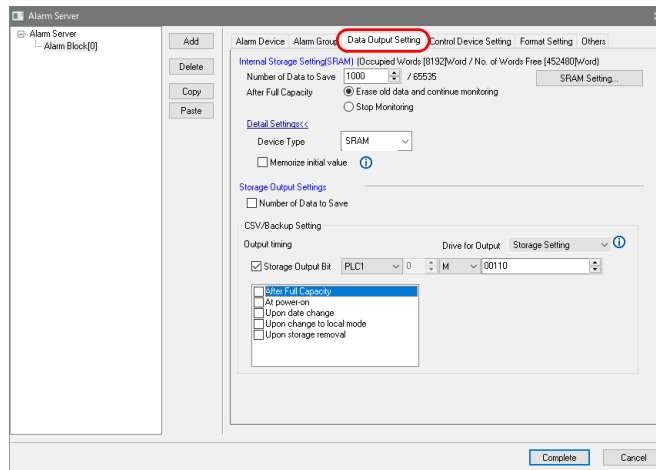
Item	Details	Setting Example
Number of Monitoring Alarms	Use the [Add], [Insert], [Delete], [Delete All], and [Set Selected] buttons to set the number of monitoring alarms. The number of registered alarms is displayed. 1 to 16384	8
Monitoring Intervals	Set the monitoring frequency of the alarm.	1 (sec)
Device	Set the device memory for the alarm.	M100 to M107
Error Condition	Set an error condition for the device memory. <ul style="list-style-type: none"> <li>Edge ON Bit OFF → ON: Error occurrence Bit ON → OFF: Error reset</li> <li>Edge OFF Bit ON → OFF: Error occurrence Bit OFF → ON: Error reset</li> <li>Range Designation Set the comparison condition expression for the value of the device memory address.</li> </ul>	Edge ON
Group	Set the alarm group to which the alarm device memory belongs. For information on alarm groups, refer to P 8-11.	0: GROUP00
Message	Register an alarm message. <ul style="list-style-type: none"> <li>GNo. 0 to 127, No. 0 to 255 Set the [GNo.] and [No.] values of the message to which the alarm message is registered. The [Message Edit] window can be displayed from the [Edit] button.</li> <li>Message Lines Set the number of lines of the alarm message.</li> </ul>	0-0 to 0-7 [Message Lines]: 1
Alarm types	Set the alarm type. If none of the checkboxes are selected, history is not retained even if the error condition is satisfied. <p>* To display alarm messages on MONITOUCH, match with the [Display Mode] setting of an alarm part.</p> <ul style="list-style-type: none"> <li>Alarm History Display alarm occurrence/reset/acknowledgment times and messages together on one line.</li> <li>Event History Display alarm occurrence/reset/acknowledgment times and messages each on separate lines.</li> <li>Real Time Display only alarms that are currently occurring. Alarms that require resetting can be recognized at a glance.</li> </ul>	Alarm History
Actions	Set the action to perform when an alarm occurs. <ul style="list-style-type: none"> <li>Flowing Message Automatically display alarm messages at the bottom (or top) of the screen. Messages are displayed continuously until the error is reset even if the screen is changed over.</li> <li>Sound Play an audio file.</li> <li>E-Mail Send an e-mail notification.</li> <li>Recording Video can be saved to a video file (extension: .mp4) upon alarm occurrence and reset.</li> <li>Operation Setting Perform operations including writing to specified device memory, changing over screens, and macro execution.</li> <li>Parameter Save/display value/text data (i.e. parameters) together with alarm messages when an alarm occurs.</li> <li>Touch Action Change over the screen by touching the displayed alarm message.</li> </ul>	-

4. Specify the message color on the [Alarm Group] tab window.



Item		Details	Setting Example
Alarm Group		Create groups with the [Add] button.	-
Group settings	Specify Group Name	<ul style="list-style-type: none"> <li>Selected A group name can be selected from the registered messages.</li> <li>Deselected Group names are automatically set as "GROUPxx" (xx: 00 to 15).</li> </ul>	Deselected (GROUP00)
	Display Color	Set the text color and background color of each alarm state.  Occurrence: Alarm occurring, unacknowledged Cancellation: Alarm reset, unacknowledged Acknowledgment: Alarm occurring, acknowledged Normal: Alarm reset, acknowledged	Occurrence: Red, White Reset: Blue, White Acknowledgment: Green, White Normal: Black, White

5. Set the amount of data to retain as history on the [Data Output Setting] tab window. Also configure settings on this tab when outputting history data to a storage device.

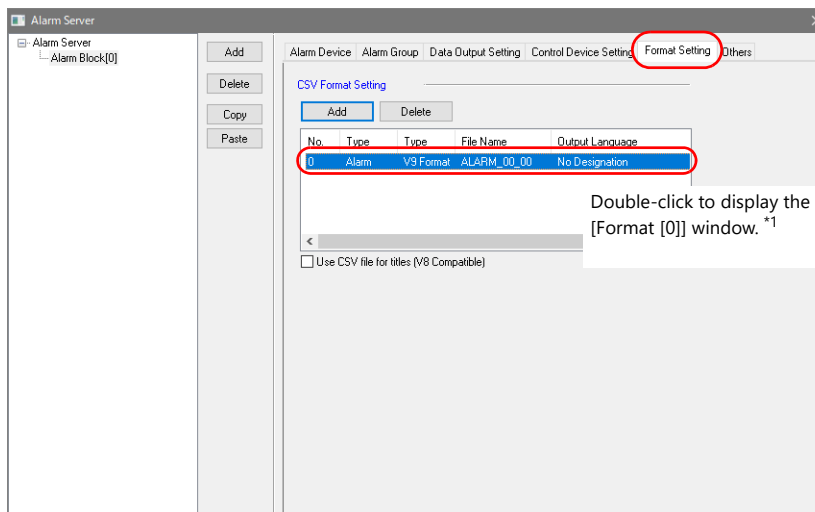


Item		Details	Setting Example
Internal Storage Setting	Number of Data to Save	Set the number of alarms to save. <ul style="list-style-type: none"> <li>Alarm history: Occurrence is counted as a single data entry. (Reset and acknowledgement are not counted.)</li> <li>Event history: Occurrence, reset, and acknowledgement are each counted as a single data entry.</li> </ul>	1000
	After Full Capacity	Set the processing to perform when [Number of Data to Save] is exceeded.	Erase old data and continue monitoring
	Device Type	Set the save destination. SRAM/DRAM	SRAM
	Memorize initial value	Set the operation to perform when power to MONITOUCH is turned ON or when switched from Local mode to RUN mode in the state where an alarm is occurring. <ul style="list-style-type: none"> <li>Selected The error occurrence is not logged again because the latest state of the bit is recorded.</li> <li>Deselected The error occurrence is logged again. The time that RUN mode starts is saved as the time of occurrence. The reset time of any alarms that were occurring is displayed as "----".</li> </ul>	Deselected

## 8. Creating an Alarm Screen

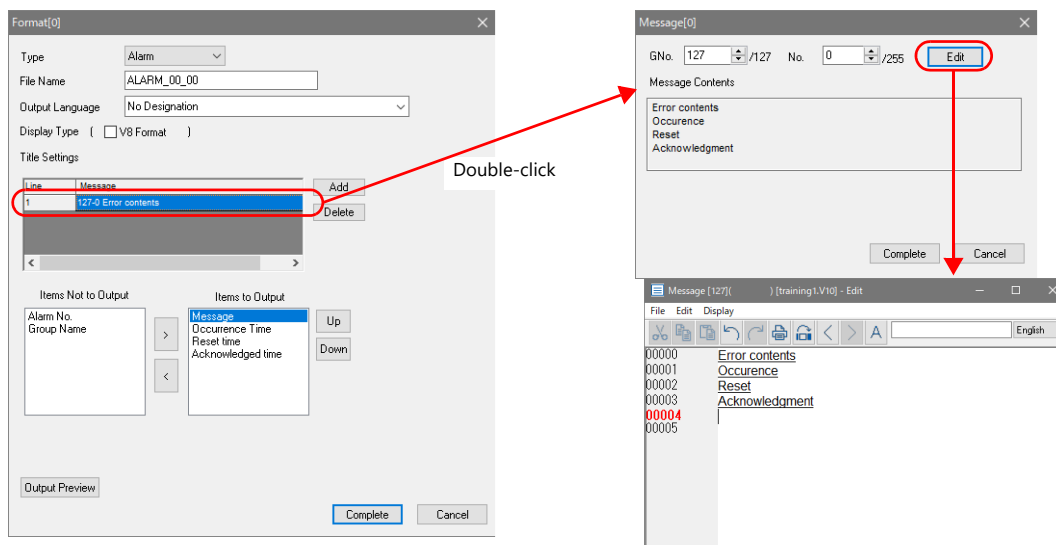
Item	Details		Setting Example
Storage Output Settings	Number of Data to Save	Set the amount of data to save to the storage device. <ul style="list-style-type: none"> <li>Alarm history: Occurrence is counted as a single data entry. (Reset and acknowledgement are not counted.)</li> <li>Event history: Occurrence, reset, and acknowledgement are each counted as a single data entry.</li> </ul>	Deselected
	Drive for Output	Set the output destination for the CSV and backup files. <ul style="list-style-type: none"> <li>Storage Setting (use specified drive)</li> <li>C: Built-in Socket (SD card)</li> <li>D: USB A Port (USB flash drive)</li> </ul>	Storage Setting
	Output timing	Set the output timing. <ul style="list-style-type: none"> <li>Storage Output Bit: Perform output when the specified bit changes from OFF to ON.</li> <li>After Full Capacity</li> <li>Upon date change</li> <li>Upon change to local mode</li> <li>Upon storage removal</li> </ul>	Storage Output Bit M110

6. Specify the CSV filename, the items to output to the CSV file, and the title of each item on the [Format Setting] tab window.



Item	Details		Setting Value
CSV Format Setting	Add, Delete	These settings are for saving history to CSV files. Multiple formats can be registered.	No. 0 *1
	Use CSV file for titles (V8 compatible)	Add titles in the same way as for the V8 series. This is not used in this manual.	Deselected

\*1 [Format [0]] window



Item	Details		Setting Value
Type	Select the alarm type.		Alarm
File Name	Set the name of the CSV file. Max. 64 one-byte alphanumeric characters Default: ALARM_xx_yy.CSV (xx: Alarm server number, yy: Format number) * For details on file output destinations, refer to P 8-11.		ALARM_00_00 (default)

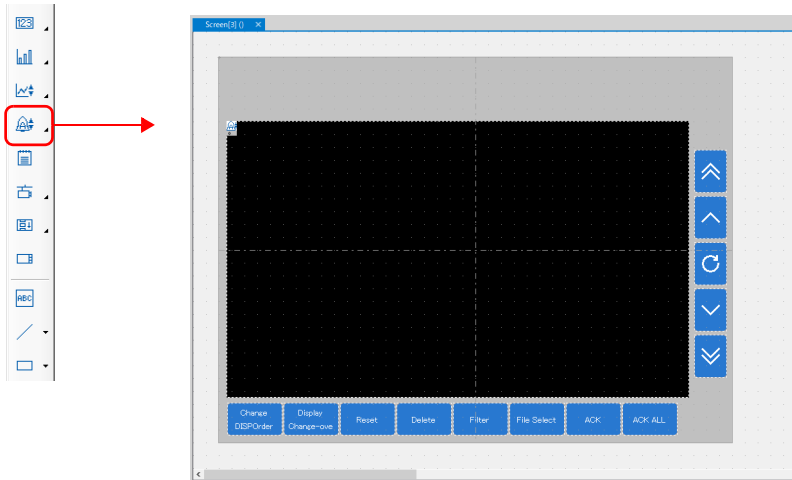
Item	Details	Setting Value
Output Language	Set the language used in the CSV file. No Designation: Output using the displayed language. Language 1 to 32	No Designation
Display Type	Select the checkbox for V8 compatibility.	Deselected
Title Settings	Add a title to the first line (lines 1 to 10) of the CSV file. Titles are registered from [Edit] → [Message Edit].	GNo. 127, No. 0 No. 0: Error contents No. 1: Occurrence No. 2: Reset No. 3: Acknowledgment
Items to Output	Use the [<] and [>] buttons to set the items to output to the CSV file. Use the [Up] and [Down] buttons to change the order of output.	Message Occurrence Time Reset time Acknowledged time
Output Preview	Display a preview of CSV file to be output.	-

For details on other settings, refer to “8 Alarm” in Reference Manual 1.

## Alarm Part Settings

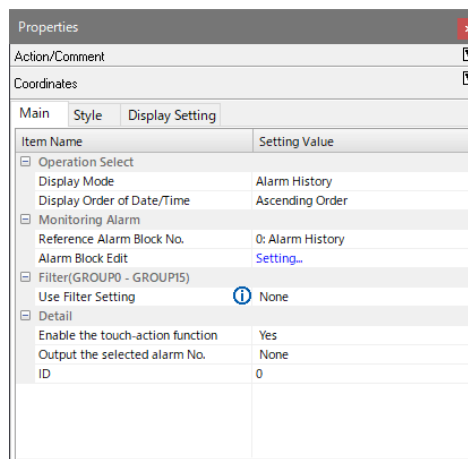
Place an alarm history display part on screen 3.

1. On the parts bar, click [Alarm]. Place the default part.



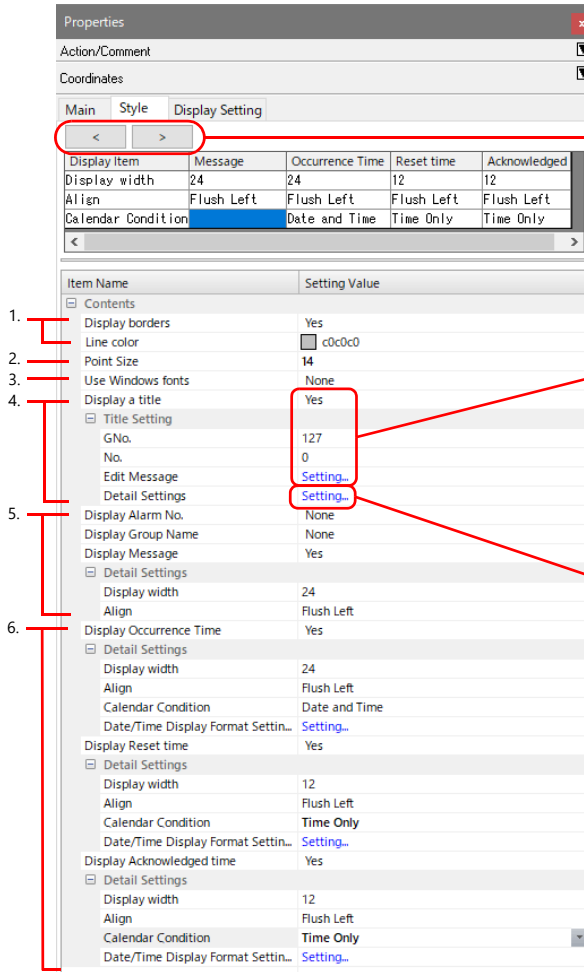
2. Configure the properties of the alarm part as shown below.

- Main



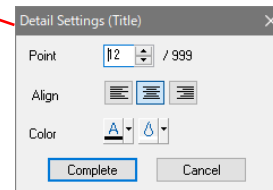
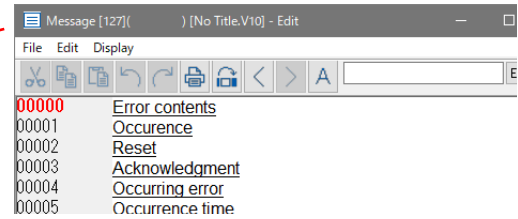
Item		Details	Setting Example
Operation Select	Display Mode	Specify the display mode for the alarm part.	Alarm History
	Display Order of Date/Time	Specify the display order of alarm messages.	Ascending Order
Monitoring Alarm	Reference Alarm Block No.	Select the alarm block number for history display.	No. 0
	Alarm Block Edit	The settings of the selected alarm block can be checked via [Setting].	-
Filter	Use Filter Setting	Set when using the filter function.	None
Detail	Enable the touch-action function	Tapping a message changes over the screen.	None
	Output the selected alarm No.	Set to store the alarm number selected on MONITOUCH into the information output device memory.	None
	ID	Set the ID of the alarm part.	0

• Style



Display order change buttons  
Set the order to display items on MONITOUCH.

Select an item (alarm number / group name / messages / occurrence time / reset time / acknowledged time) and move it using the [<] and [>] buttons.

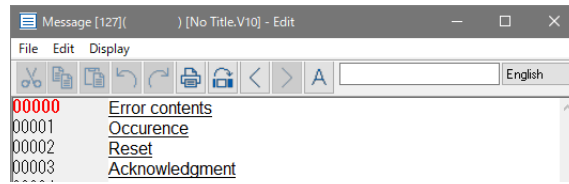


Item	Details	Setting Example	
1. Display borders	Display borders in the display area.	Yes	
	Line color	Set the border color. Gray	
2. Point Size	Specify the point size for the text.	14	
3. Use Windows fonts	Display alarm messages using a Windows font.	None	
4. Display a title	Display a title on the first line of each item.	Yes	
	GNo.	Specify the message to be used as titles.	GNo.127 No.0
	No.	The consecutive lines are used for the number of display items.	
	Message Edit	The [Message Edit] window can be displayed via [Setting].	Refer to *1.
5. Display Alarm No. Display Group Name Display Message	Detail Settings	The point size, display position, and color of the titles can be set via [Setting]. [Point]: 12 [Align]: Flush left Text color: Black Background color: White	
	Display width (bytes)	Select whether to show or hide the respective items.	Refer to *2.
	Align	Set the width for displaying items. When a message is longer than the display area width, automatic scrolling is performed while the message is selected by the cursor so that the entire message can be displayed.	
6. Display Occurrence Time Display Reset Time Display Acknowledged Time	Display width (bytes)	Select whether to show or hide the respective items.	
	Align	Set the width for displaying items. When a message is longer than the display area width, automatic scrolling is performed while the message is selected by the cursor so that the entire message can be displayed. *2	
	Calendar Condition	Set the display position of each item.	
	Date/Time Display Format Setting	Set the display style for the occurrence, reset, and acknowledged times, respectively. Date and Time, Date Only, Time Only	
		Set the date and time display format.	

## 8. Creating an Alarm Screen

### \*1 Title display

Edit Message	Titles
GNo. 127 No. 0	Error contents
GNo. 127 No. 1	Occurrence
GNo. 127 No. 2	Reset
GNo. 127 No. 3	Acknowledgment



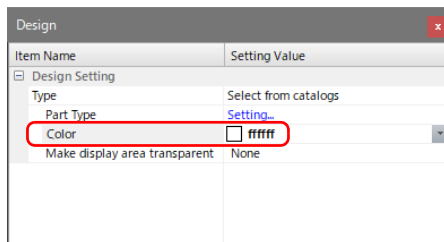
### \*2 Item settings

Item	Show	Display Width	Align	Calendar Condition (format)
Display Alarm No.	None	-	-	-
Display Group Name	None	-	-	-
Display Message	Yes	24	Flush Left	-
Display Occurrence Time	Yes	24	Flush Left	Date and Time (YYYY/MM/DD HH:mm:ss)
Display Reset Time	Yes	12	Flush Left	Time Only (HH:mm:ss)
Display Acknowledged Time	Yes	12	Flush Left	Time Only (HH:mm:ss)

☺ Checking how messages will be displayed on Smart Editor  
 Display the right-click menu → [Customize] and select [Message Display] to display the registered messages.

The screenshot shows the Smart Editor interface with a screen titled 'Alarm History'. The screen contains a table with the following columns: Error contents, Occurrence, Reset, and Acknowledgment. The table lists several error messages, such as 'Tank A Error', 'Valve A Error', etc. A context menu is open over the table, and the 'Customize' option is selected, leading to a sub-menu where 'Message Display' is checked and highlighted with a red circle. Below the table is a control bar with buttons for 'Change DISOrder', 'Display Change-ove', 'Reset', 'Delete', 'Filter', 'File Select', 'ACK', and 'ACK ALL'.

### 3. Click the display area and change the area color from the [Design] properties pane.



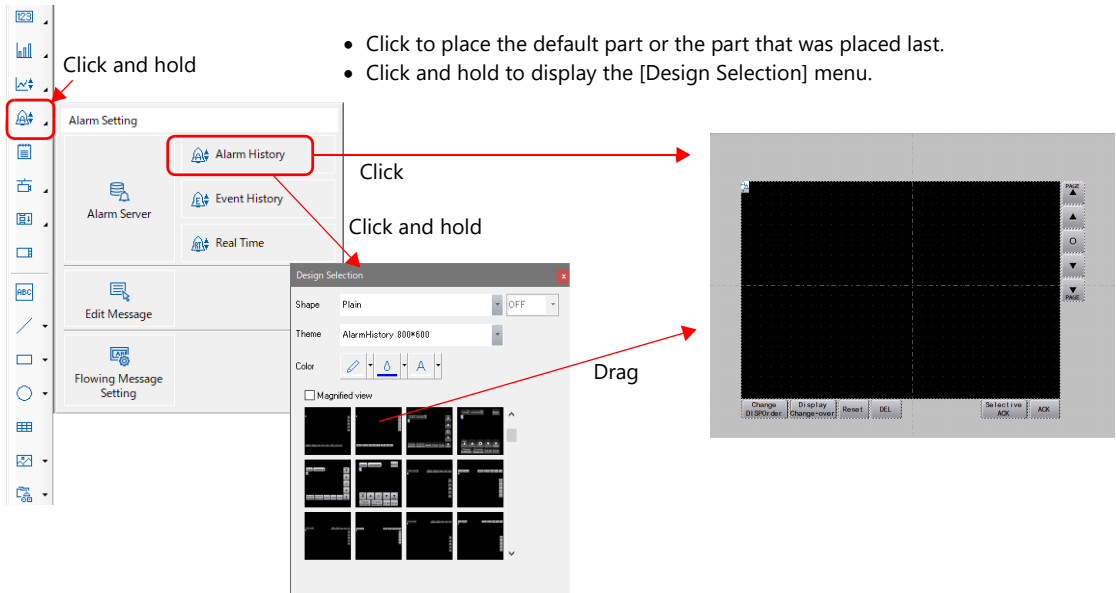
Item	Details	Setting Example
Type	Select from catalogs	-
Part Type	The part design can be changed via [Setting].	-
Color	Set the display area color.	White
Make display area transparent	Make the display area transparent.	None



Parts can also be placed after selecting the design.

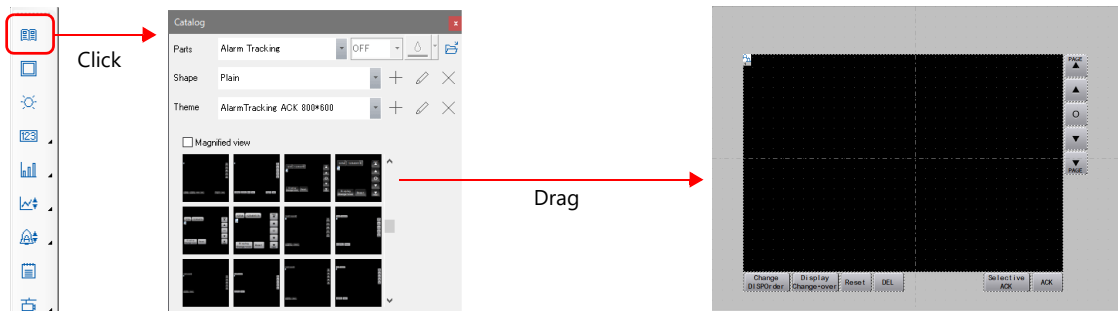
Placing from the [Design Selection] menu.

1. On the parts bar, click and hold [Alarm] to display [Alarm Setting].
2. Click and hold [Alarm History] to display the [Design Selection] menu.
3. Choose a design and place by dragging.



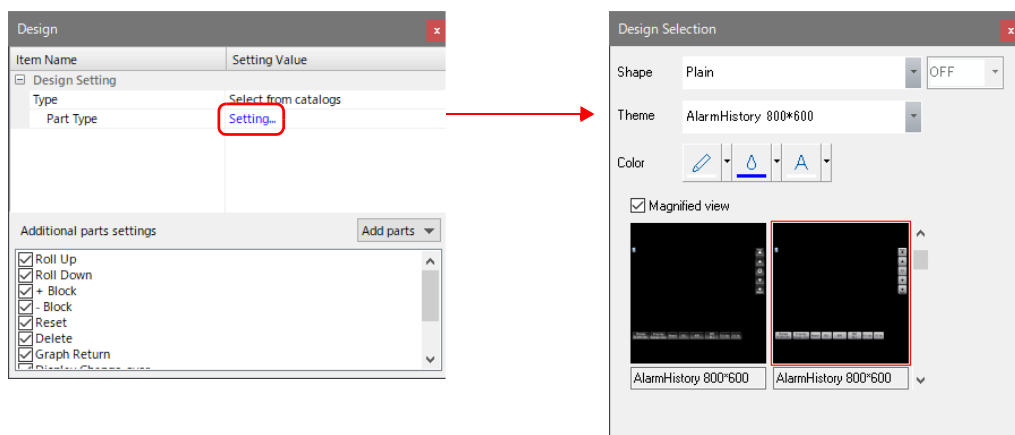
Placing from the [Catalog]

1. Click [Catalog] on the parts bar to display the catalog.
2. Choose a design and place by dragging.



Changing the design of a part after placement

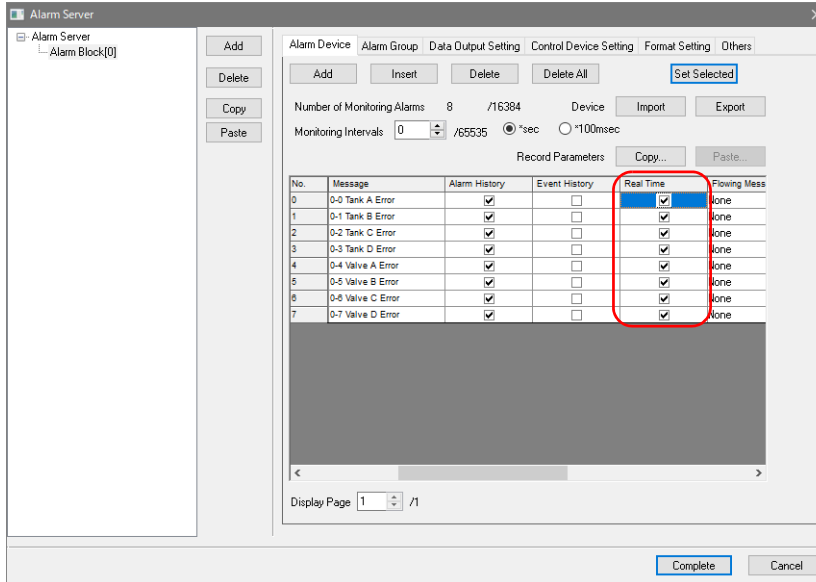
1. Click on the placed part.
2. Click [Part Type] → [Setting] on the [Design] properties pane.
3. Select a design on the [Design Selection] menu by clicking on it.



### 8.3.2 Creating Screen 4 (Real Time Display)

#### Alarm Server Settings

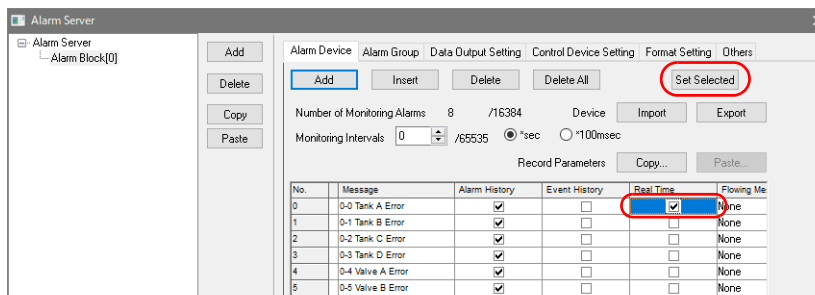
1. Double-click [Alarm Block No. 0] on the [Project View] pane → [System Settings] tab. The [Alarm Server] window is displayed.
2. Add settings to alarm block 0. Select the [Real Time] checkboxes on the [Alarm Device] tab window.



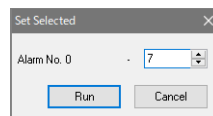
#### Applying settings collectively



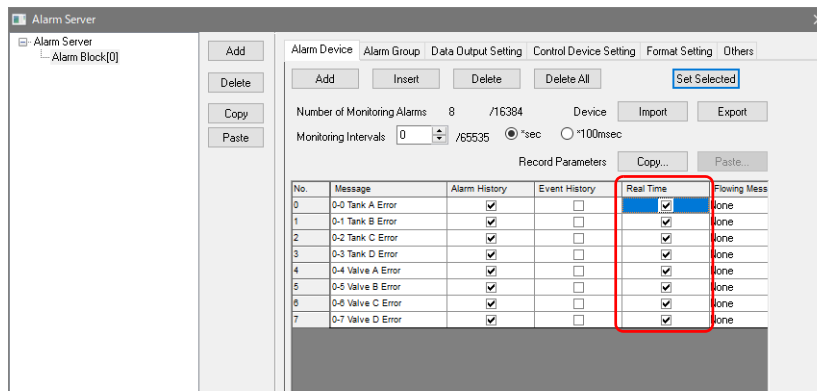
1. Select the [Real Time] checkbox for alarm number 0 and then click the [Set Selected] button.



2. Select numbers 0 to 7 in the [Set Selected] window and then click [Run].



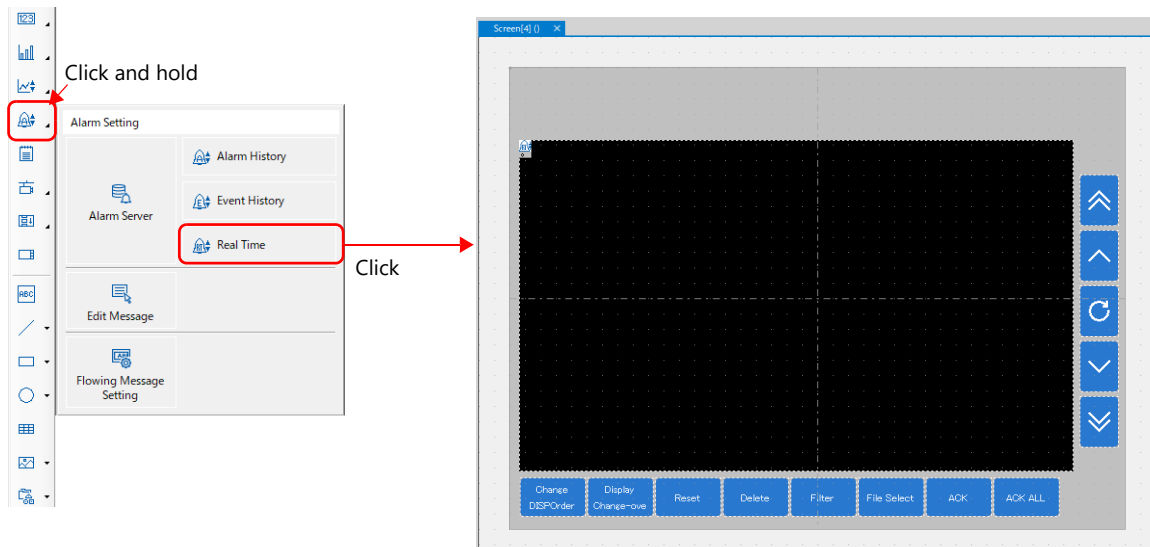
3. The setting of number 0 is copied to numbers 1 to 7.



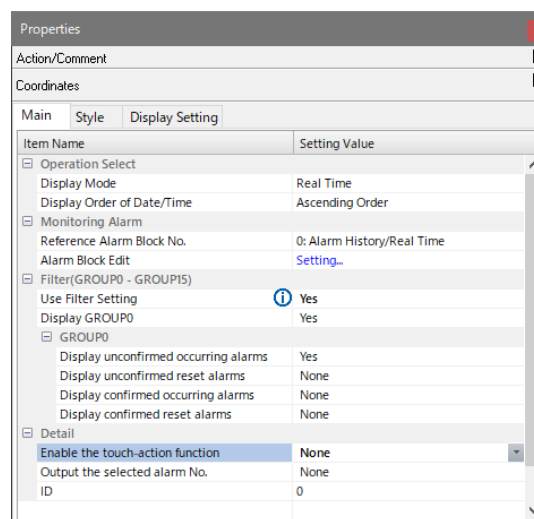
## Alarm Part Settings

Place real time display parts on screen 4.

1. On the parts bar, click and hold [Alarm] to display [Alarm Setting].
2. Click [Real Time]. Place the default part.



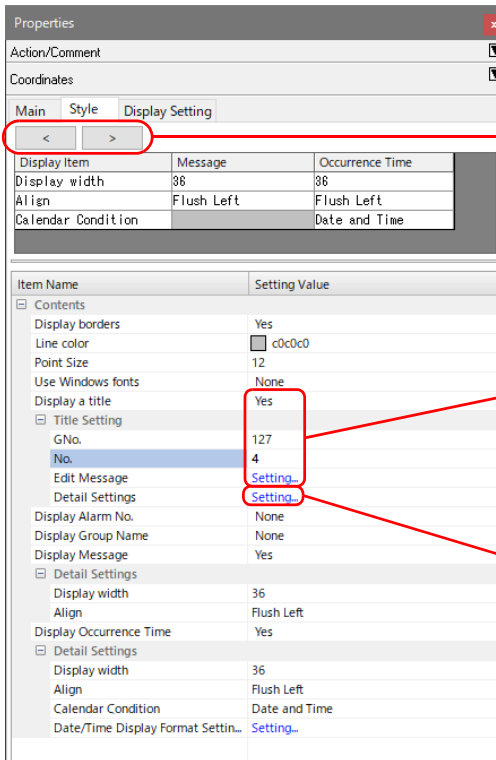
3. Configure the properties of the alarm part as shown below.
  - Main



Item	Details	Setting Example	
Operation Select	Display Mode	Specify the display mode for the alarm part. Real Time	
	Display Order of Date/Time	Specify the display order of alarm messages. Ascending Order	
Monitoring Alarm	Reference Alarm Block No.	Select the alarm block number for history display. No. 0	
	Alarm Block Edit	The settings of the selected alarm block can be checked via [Setting]. -	
Filter	Use Filter Setting	Use the filter setting for real time display. Yes	
	Display GROUP 0	Select the group and items for alarm display. Yes	
	GROUP 0	Display unconfirmed occurring alarms	Yes
		Display unconfirmed reset alarms	None
		Display confirmed occurring alarms	None
Display confirmed reset alarms	None		
Detail	Enable the touch-action function	Tapping a message changes over the screen. None	
	Output the selected alarm No.	Set to store the alarm number selected on MONITOUCH into the information output device memory. None	
	ID	Set the ID of the alarm part. 0	

## 8. Creating an Alarm Screen

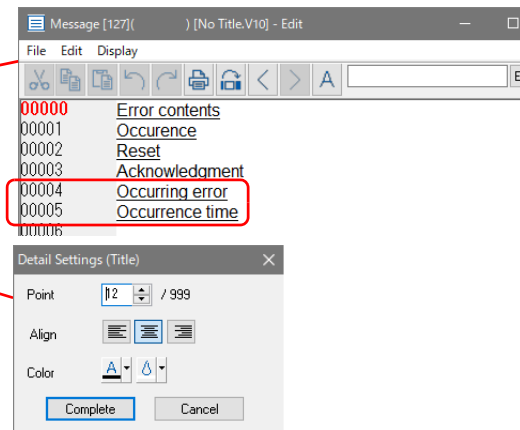
- Style



Display order change buttons

Set the order to display items on MONITOUCH.

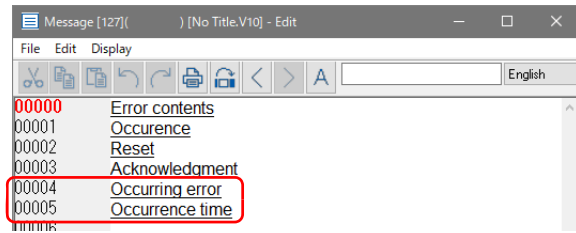
Select an item (alarm number / group name / messages / occurrence time / reset time / acknowledged time) and move it using the [<] and [>] buttons.



Item	Details	Setting Example
Display borders	Display borders in the display area.	Yes
Line color	Set the border color.	Gray
Point Size	Specify the point size for the text.	14
Use Windows fonts	Display alarm messages using a Windows font.	None
Display a title	Display a title on the first line of each item.	Yes
GNo.	Specify the message to be used as titles.	GNo.127 No.4
No.	The consecutive lines are used for the number of display items.	
Edit Message	The [Message Edit] window can be displayed via [Setting].	Refer to *1.
Detail Settings	The point size, display position, and color of the titles can be set via [Setting].	[Point]: 12 [Align]: Flush Left Text color: Black Background color: White
Display Alarm No.	Select whether to show or hide the respective items.	Refer to *2.
Display Group Name		
Display Message		
Display width (bytes)	Set the width for displaying items. When a message is longer than the display area width, automatic scrolling is performed while the message is selected by the cursor so that the entire message can be displayed.	
Align	Set the display position of each item.	
Display Occurrence Time	Select whether to show or hide the respective items.	
Display Reset Time		
Display Acknowledged Time		
Display width (bytes)	Set the width for displaying items. When a message is longer than the display area width, automatic scrolling is performed while the message is selected by the cursor so that the entire message can be displayed. *2	
Align	Set the display position of each item.	
Calendar Condition	Set the display style for the occurrence, reset, and acknowledged times, respectively. Date and Time, Date Only, Time Only	
Date/Time Display Format Setting	Set the date and time display format.	

\*1 Example of title and display settings

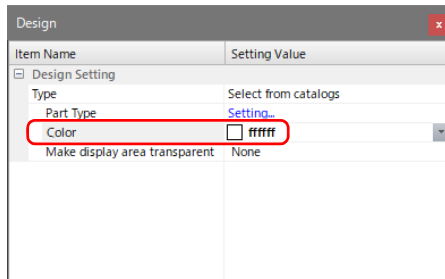
Edit Message	Titles
GNo. 127 No. 4	Occurring error
GNo. 127 No. 5	Occurrence time



\*2 Item settings

Item	Show	Display Width	Align	Calendar Condition
Display Alarm No.	None	-	-	-
Display Group Name	None	-	-	-
Display Message	Yes	36	Flush Left	-
Display Occurrence Time	Yes	36	Flush Left	Date and Time (YYYY/MM/DD HH:mm:ss)

4. Click the display area and change the area color from the [Design] properties pane.

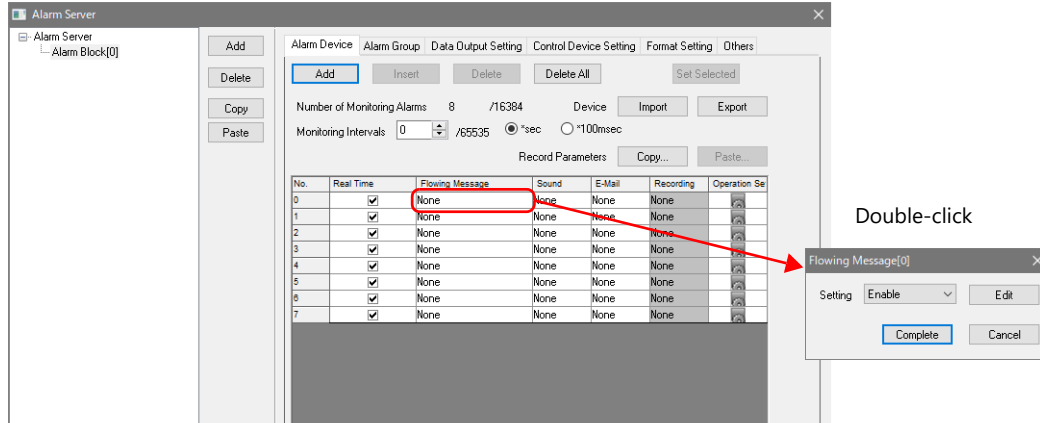


Item	Details	Setting Example
Type	Select from catalogs	-
Part Type	The part design can be changed via [Setting].	-
Color	Set the display area color.	White
Make display area transparent	Make the display area transparent.	None

### 8.3.3 Scrolling Message Setting Procedure

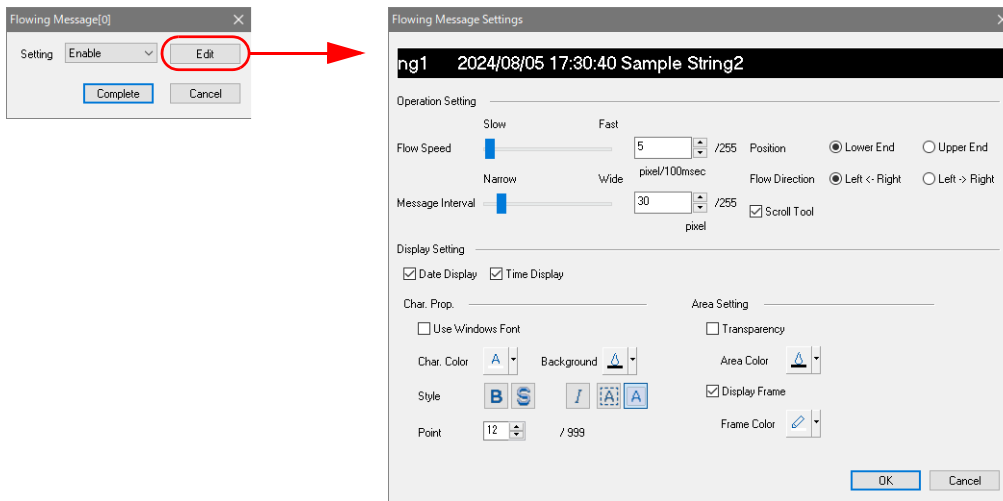
#### Alarm Server Settings

1. Double-click [Alarm] at the [Project View] pane → [System Settings] tab. The [Alarm Server] window is displayed.
2. Add settings to alarm block 0.  
Set the [Flowing Message] setting of alarm number 0 registered on the [Alarm Device] tab window.



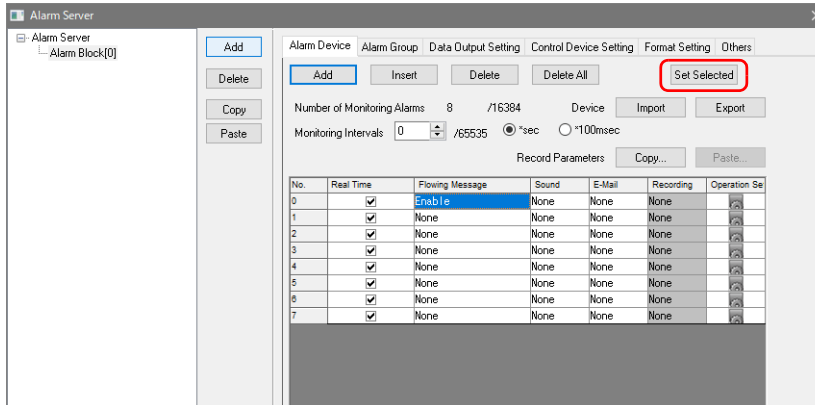
Item	Details	Setting Example
Settings	Set [Enable] to display a scrolling message.	Enable
Edit	Display a window for setting the scrolling speed and direction of messages.	-

3. Click the [Edit] button to display the scrolling message settings and change the scrolling speed, direction, and color of text.

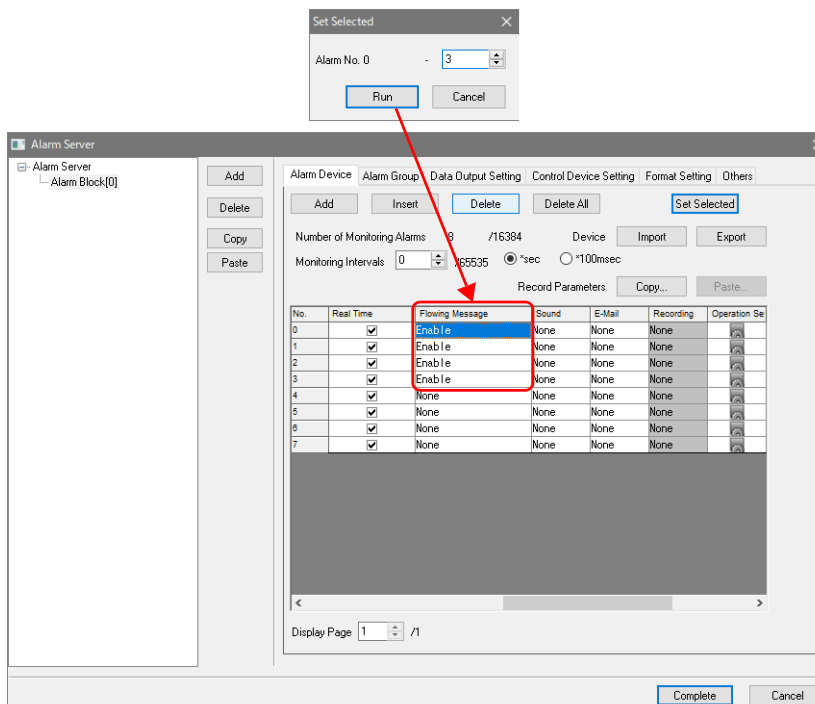


Item	Details	Setting Example	
Operation Setting	Flow Speed	Set the message speed.	5
	Message Interval	Set the interval to use when there are multiple messages.	30
	Position	Set the display position of the message.	Lower End
	Flow Direction	Set the scrolling direction of messages.	Left ← Right
	Scroll Tool	Touch the display area to display a scroll tool. This tool allows the display position and speed to be changed.	Selected
Display Setting	Date Display	Display the date of when an alarm occurs.	Selected
	Time Display	Display the time of when an alarm occurs.	Selected
	Char. Prop.	Set the color, style, and size of text in scrolling messages.	-
	Area Setting	Set the color and frame of the display area of scrolling messages.	-

4. After editing the settings of scrolling message number 0 is complete, click the [Set Selected] button.



5. Select alarm numbers for adding a scrolling message (e.g. numbers 0 to 3) and click [Run]. The scrolling message action is set to the selected alarm numbers.

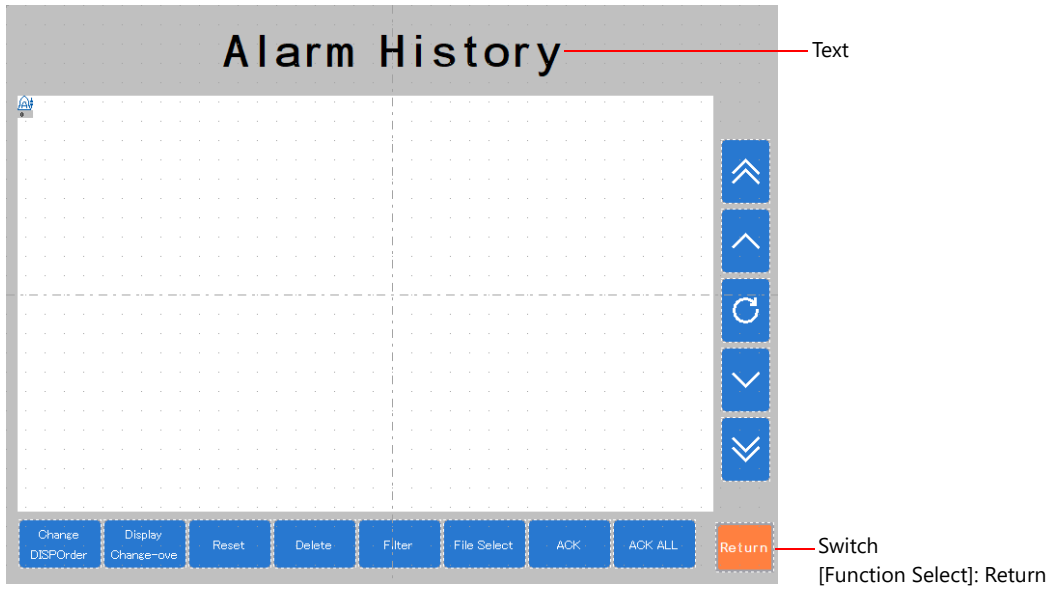


6. Click [Complete] to end configuration of the alarm server settings.

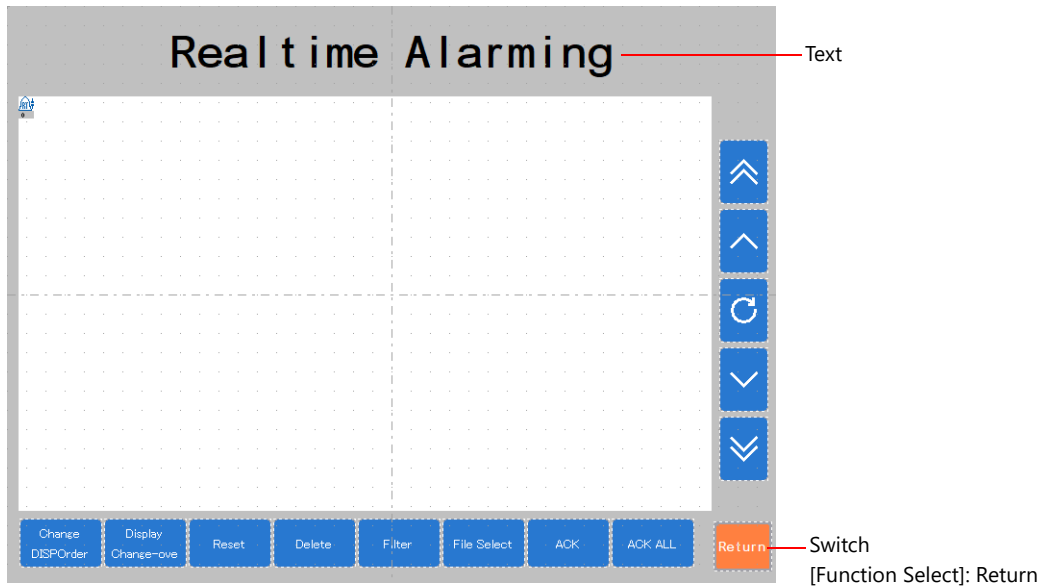
### 8.3.4 Placing Text and a Return Switch

This section explains how to place the screen title and other text elements.

#### Screen 3

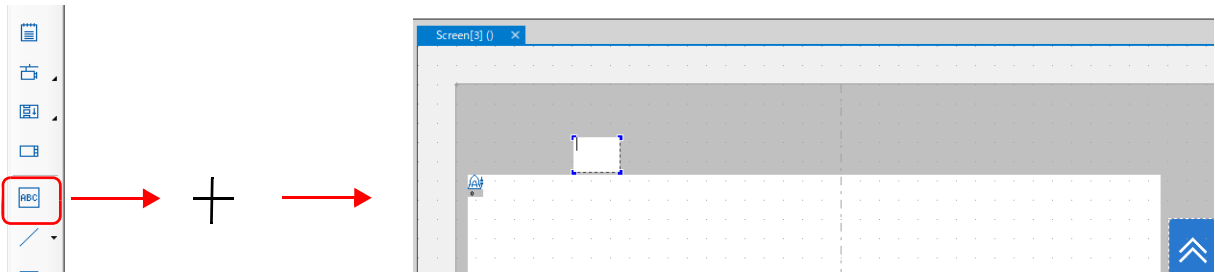


#### Screen 4

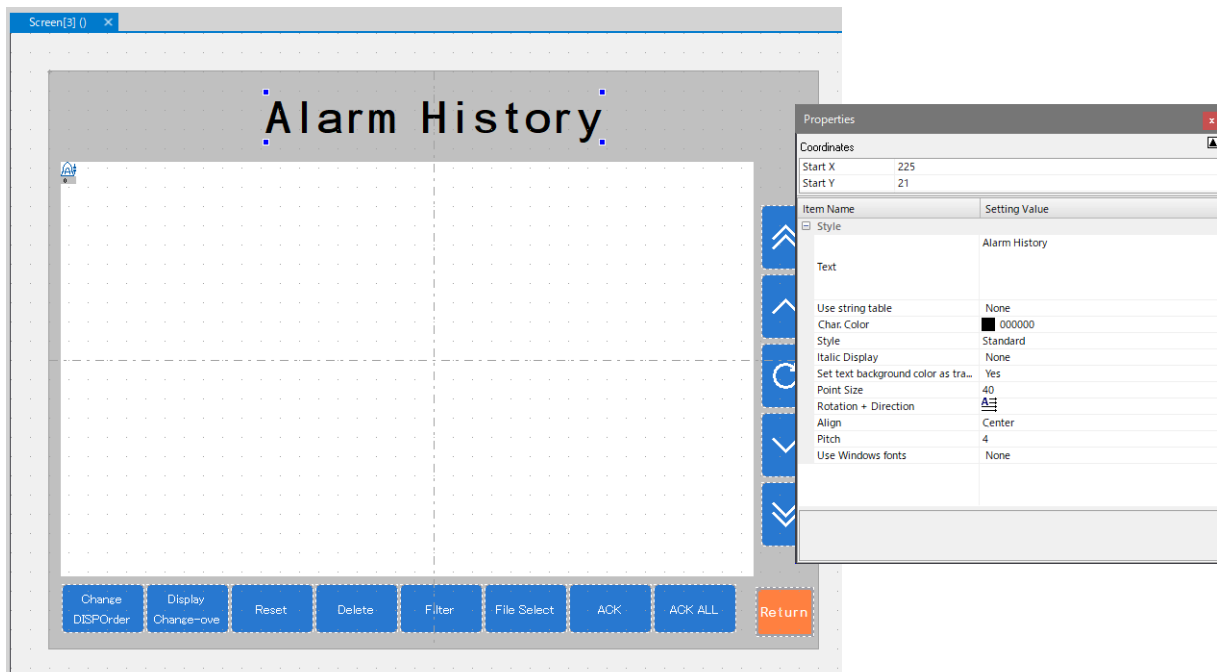


## Creating Text

1. On the parts bar, click [Text]. The mouse cursor changes to a crosshair.
2. Click on the screen. A text frame is displayed.



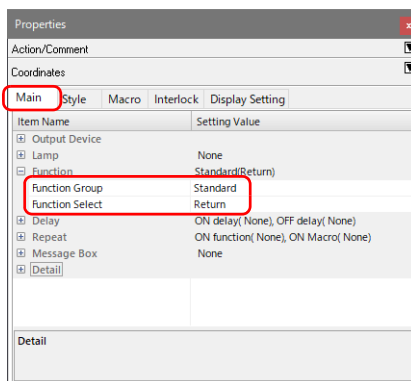
3. Enter text.
4. Click a location on the screen other than the text to accept the text entry.
5. Click the text to display the [Properties] pane. Change the color and size properties of the text.



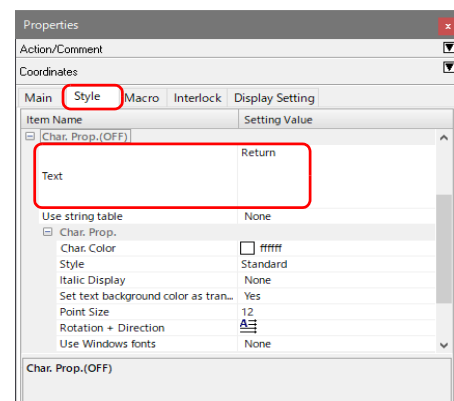
## Return Switch

Place a switch used to return to the previous screen.

1. Place a switch from the parts bar.
2. Display the [Properties] pane of the switch and set [Function Select] to [Return].



3. Register switch text and adjust the color and position.



This completes the screen creation process. Check screen program operation on MONITOUCH.

## 8.4 Checking Operation on MONITOUCH

Transfer the screen program to MONITOUCH and check the operation.

### Device Memory Used

The device memory addresses used in this example are listed below.

Device Memory	Description of Device Memory
M100 to 107	Alarm monitoring bit
M110	Storage output bit

### Storage Device Specifications

The following storage devices can be used with the V10 series.

Type	Capacity	File System	Connection Port	Remarks
SD card	Max. 2 GB	FAT, FAT32	Built-in SD card socket	
SDHC card	4 to 32 GB	FAT32		
SDXC card	64 GB to 2 TB	exFAT		Not supported by the V9 series

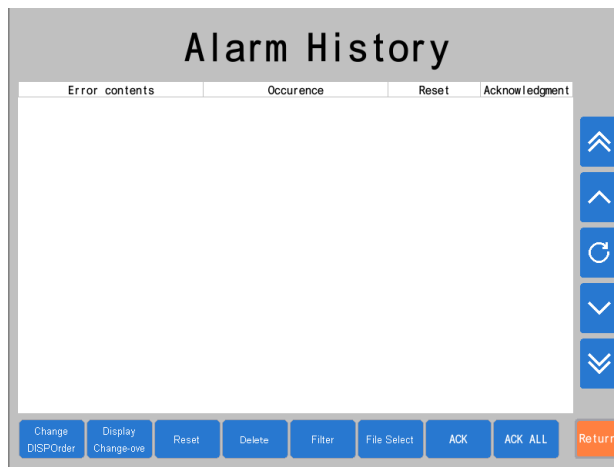


USB flash drives can also be used. For details, refer to "8 Storage Device" in Reference Manual 2.

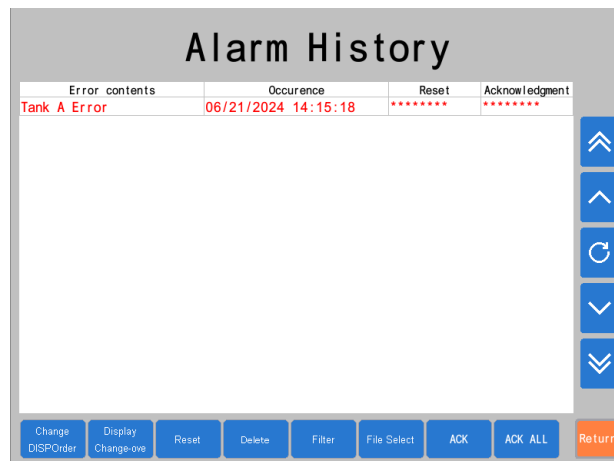
### 8.4.1 Checking Screen 3 (History Display)

#### Checking the Screen Display

1. Display screen 3.



2. Turn ON M100 on the PLC. A message, occurrence time, and asterisks are displayed on the alarm part on the screen.



3. Turn OFF M100 on the PLC. The reset time is displayed on the alarm part.

### Alarm History

Error contents	Occurence	Reset	Acknowledgment
Tank A Error	06/21/2024 14:15:18	14:16:11	*****

⏪  
⏩  
🔄  
⏴  
⏵

Change DISPOrder Display Change-ove Reset Delete Filter File Select ACK ACK ALL Return

4. Press the [ACK ALL] switch. The acknowledgment time is displayed on the alarm part.

### Alarm History

Error contents	Occurence	Reset	Acknowledgment
Tank A Error	06/21/2024 14:15:18	14:16:11	14:16:42

⏪  
⏩  
🔄  
⏴  
⏵

Change DISPOrder Display Change-ove Reset Delete Filter File Select ACK ACK ALL Return

5. Repeat the same procedure for M101 to M107. A record of these operations is created.

### Alarm History

Error contents	Occurence	Reset	Acknowledgment
Tank A Error	06/21/2024 14:15:18	14:16:11	14:16:42
Tank B Error	06/21/2024 14:17:20	14:17:27	*****
Tank C Error	06/21/2024 14:17:21	14:17:41	14:17:35
Tank D Error	06/21/2024 14:17:22	*****	14:17:48
Valve A Error	06/21/2024 14:17:24	14:18:21	*****
Valve B Error	06/21/2024 14:17:33	14:17:56	*****
Valve C Error	06/21/2024 14:17:52	*****	*****
Valve D Error	06/21/2024 14:17:53	*****	*****
Tank A Error	06/21/2024 14:18:07	*****	*****

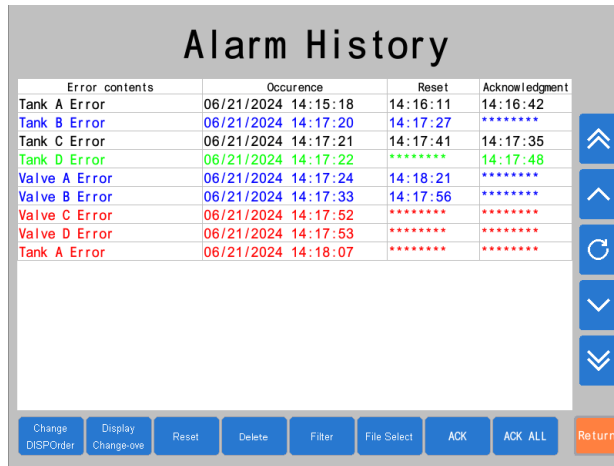
⏪  
⏩  
🔄  
⏴  
⏵

Change DISPOrder Display Change-ove Reset Delete Filter File Select ACK ACK ALL Return

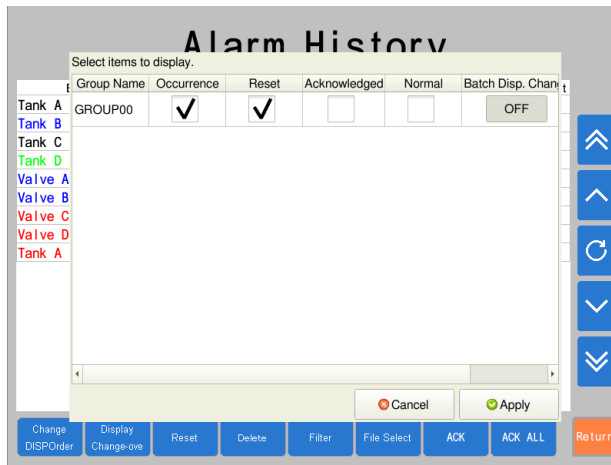
## Filter Display Function

The alarm status to display can be selected using a filter switch.

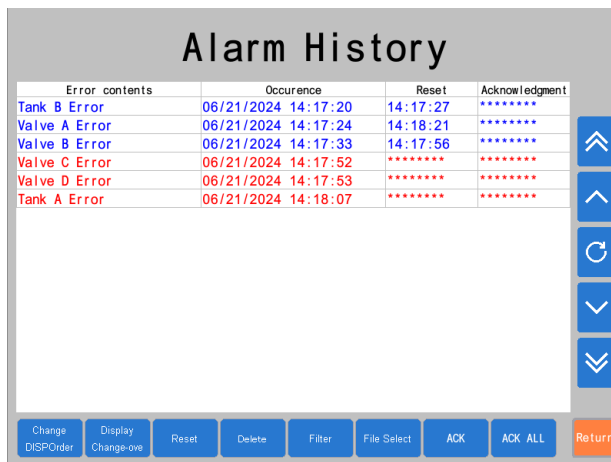
1. Turn M100 to M107 ON and OFF to display operation records on the alarm part.



2. Press the [Filter] switch, select [Occurrence] and [Reset], and then press [Apply].

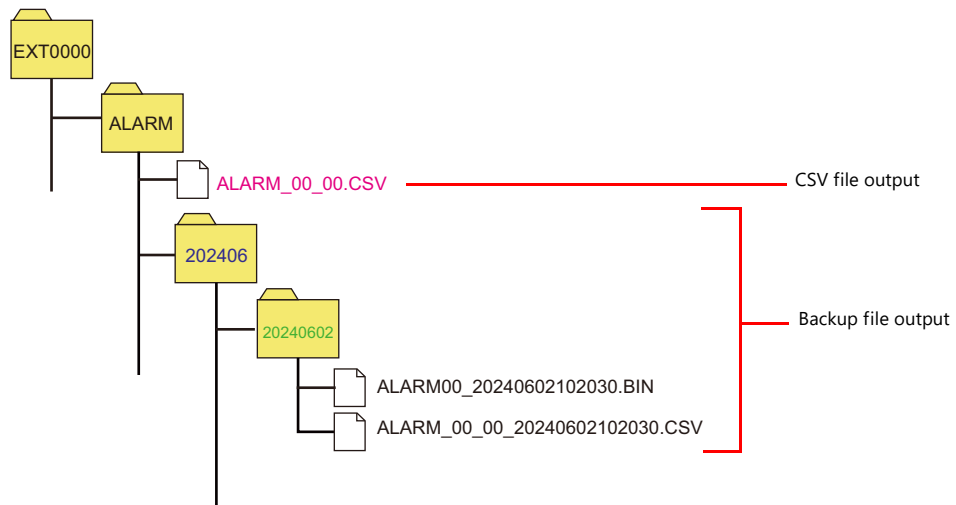


3. After an alarm occurs, only the history of unacknowledged alarms is displayed.



## Outputting CSV and Backup Files to a Storage Device

1. Turn M100 to M107 ON and OFF to display operation records on the alarm part.
2. Turn ON the storage output bit (M110).
3. A CSV file and backup file are output to the storage device.
  - Filenames and storage destinations
    - CSV file output  
 Filename format: Set at [Format Setting] → [CSV Format Setting] → [File Name]. (Refer to P 8-12.)  
 ALARM\_00\_00.CSV
    - Storage destination: (output drive)\(access folder)\ALARM
  - Backup file output  
 Filename format: The filename from CSV file output appended by a timestamp (year month day hours minutes seconds)  
 ALARM\_00\_00\_yyyymmddhhmmss.CSV  
 ALARMxx\_yyyymmddhhmmss.BIN (fixed)  
 Storage destination: (output drive)\(access folder)\ALARM\ (year month folder)\(year month day folder)



When opened in Excel, the content of "ALARM\_00\_00.CSV" can be viewed such as follows.

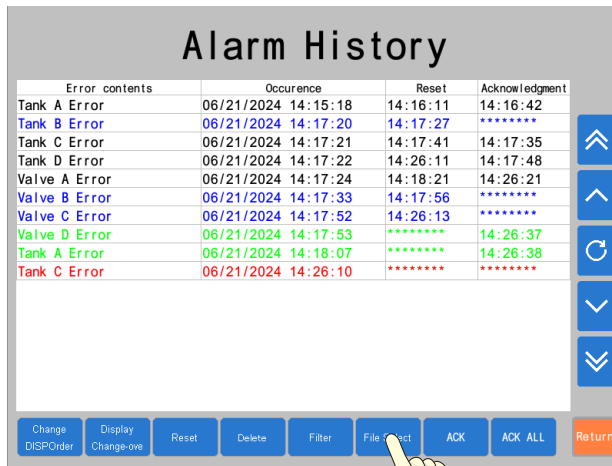
Example output

	A	B	C	D	E	F	G	H
1	Error contents	Occurrence	Reset	Acknowledgment				
2	Tank A Error	06/21/2024 14:15:18	06/21/2024 14:16:11	06/21/2024 14:16:42				
3	Tank B Error	06/21/2024 14:17:20	06/21/2024 14:17:27	*****				
4	Tank C Error	06/21/2024 14:17:21	06/21/2024 14:17:41	06/21/2024 14:17:35				
5	Tank D Error	06/21/2024 14:17:22	*****	06/21/2024 14:17:48				
6	Valve A Error	06/21/2024 14:17:24	06/21/2024 14:18:21	*****				
7	Valve B Error	06/21/2024 14:17:33	06/21/2024 14:17:56	*****				
8	Valve C Error	06/21/2024 14:17:52	*****	*****				
9	Valve D Error	06/21/2024 14:17:53	*****	*****				
10	Tank A Error	06/21/2024 14:18:07	*****	*****				
11								
12								
13								
14								
15								
16								
17								

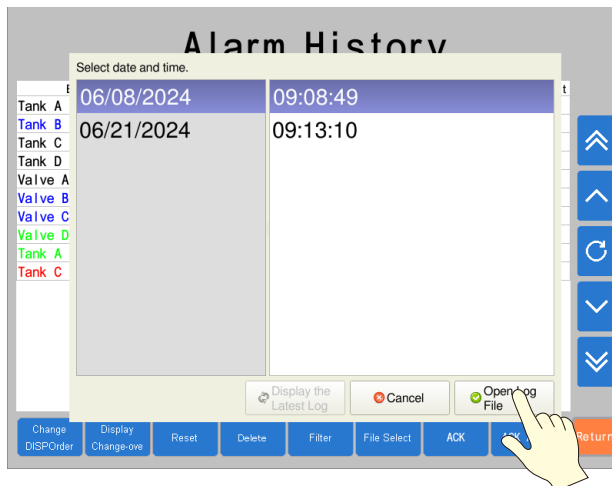
Titles (rows 1-4)  
Records (rows 2-10)

## Checking Backup Data

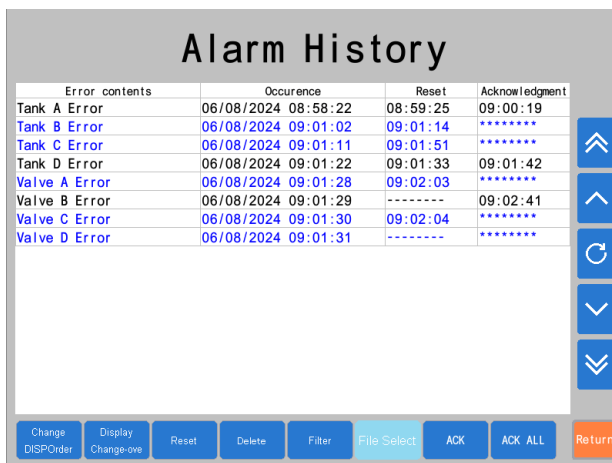
1. Press the [File Select] switch.



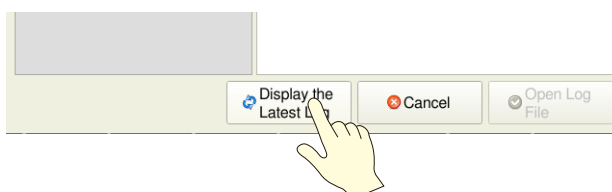
2. Select the date/time of the file to view and then press the [Open Log File] switch.



3. Past backup data is displayed on the alarm part.

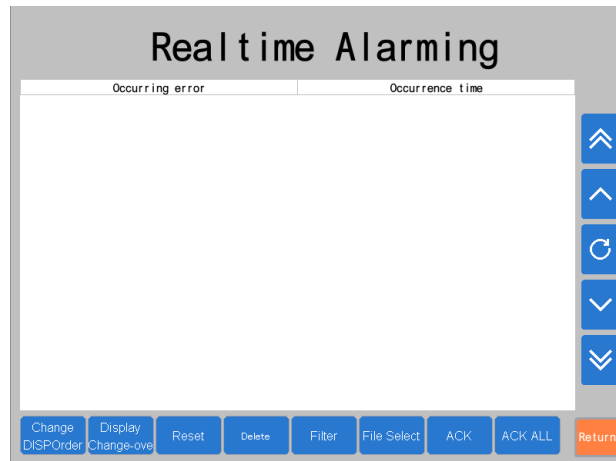


\* Pressing the [File Select] → [Display the Latest Log] switch will return the display to the latest state.



## 8.4.2 Checking Screen 4 (Real Time Display)

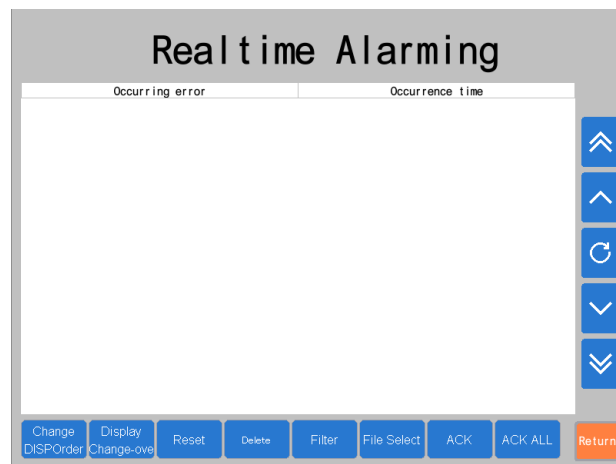
1. Display screen 4.



2. Turn ON M100 on the PLC. An occurrence time and message are displayed on the alarm part on the screen.



3. Turn OFF M100 on the PLC. The message on the alarm part becomes hidden.



### 8.4.3 Checking Scrolling Messages

1. Turn ON M100 on the PLC. A scrolling message that shows the occurrence time of the alarm and a message is displayed at the bottom of the screen.



2. Turn OFF M100 on the PLC. The scrolling message is hidden.



Use the scroll tool to change the display position of the scrolling message and speed up or pause scrolling.

- Setting location

## 9 Other Functions

### 9.1 Show/Hide Function

#### 9.1.1 Overview

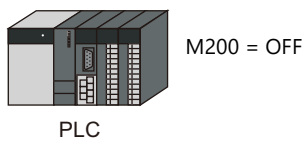
The switch or numerical data display parts registered on the screen can be shown or hidden according to the operation status.

Items can also be shown or hidden according to the ON/OFF or value statuses of PLC device memory in RUN mode.

This function facilitates using the same screen to display different information according to conditions, which reduces the number of different screens that need to be created.

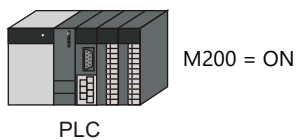
#### Example Screen

Add settings for showing/hiding the numerical data displays for monitoring (D200) on screen 2.



### Data Display/Entry Mode

Data Display	Numerical Data Entry	Character Input
<input type="checkbox"/>	Use alarm D201 90.2 90.2 D202 -8200 -8200 D203 78FA D204 **** D205 12547862	D210 Hakko
Hide		Return

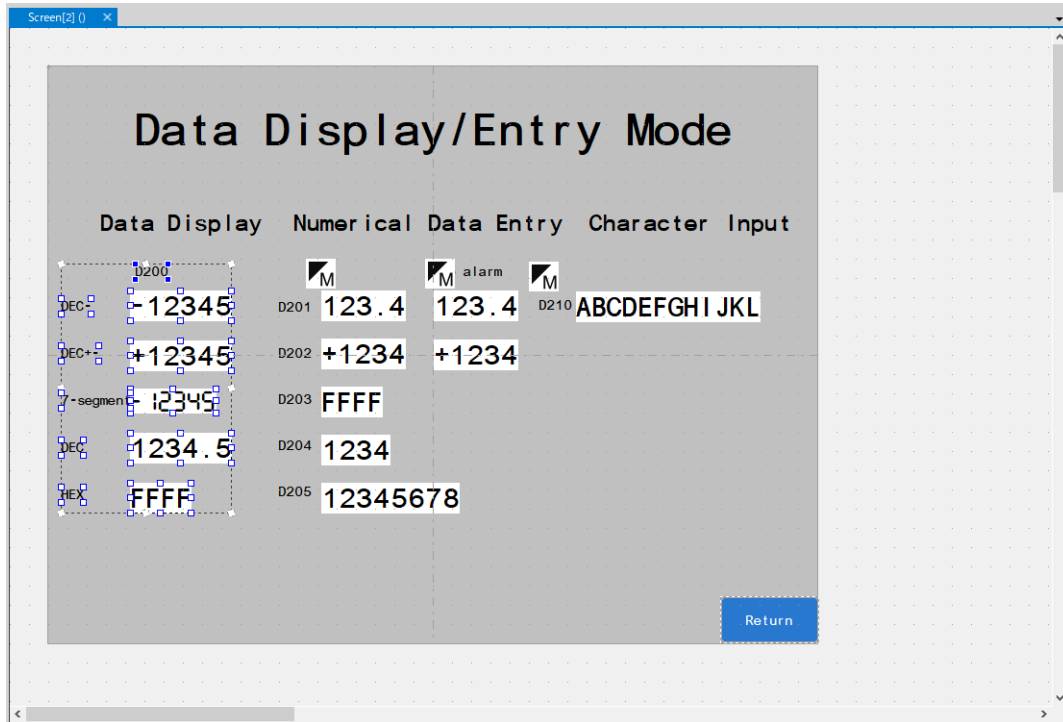


### Data Display/Entry Mode

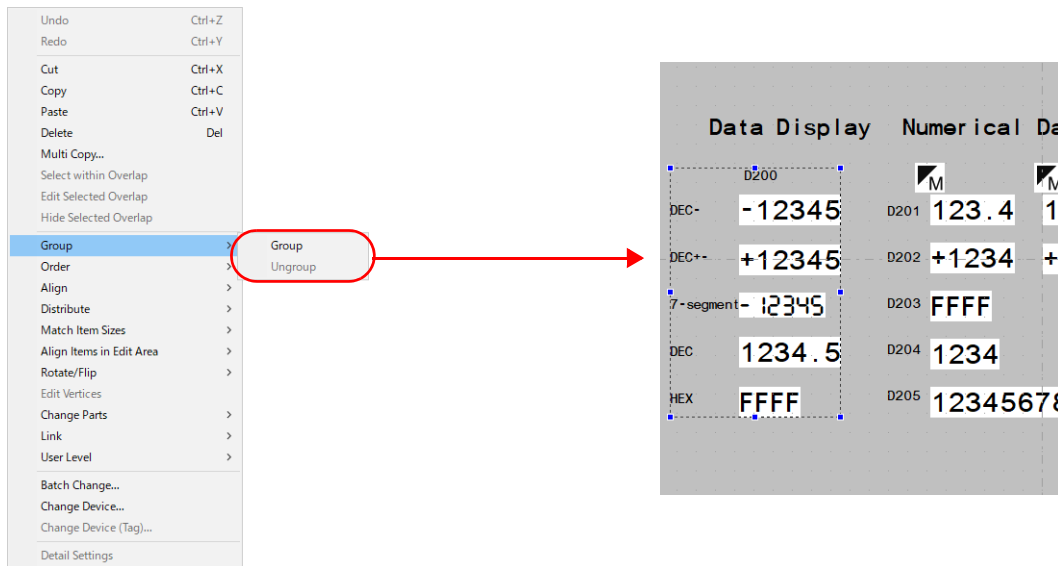
Data Display	Numerical Data Entry	Character Input
D200 DEC- 200 DEC+ +200 7-segment 200 DEC 20.0 HEX 00C8	Use alarm D201 90.2 90.2 D202 -8200 -8200 D203 78FA D204 **** D205 12547862	D210 Hakko
Show		Return

## 9.1.2 Setting Procedure

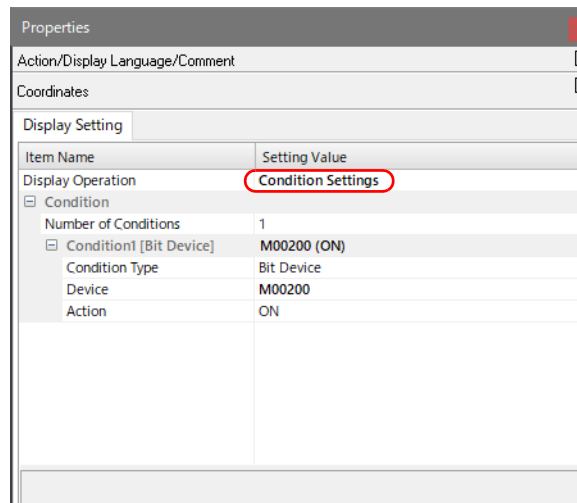
1. Select all of the numerical data displays for monitoring (D200) and text together with the mouse.



2. Right-click on the selected parts and group them by clicking [Group] → [Group].



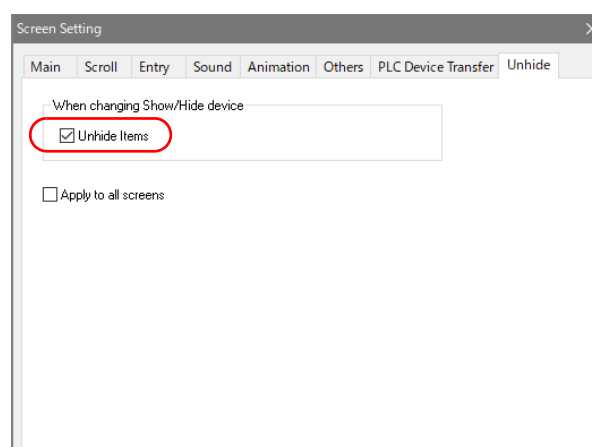
- Click on the grouped parts to display the [Properties] pane of the group. Set [Display Operation] to [Condition Settings] and configure the relevant settings.



Display Operation	Details	Settings
Always Show	Show the part on the screen.	-
Hide	Do not show the part on the screen.	-
Condition Settings	The part is shown or hidden according to the specified conditions. Set the following conditions.	-
Number of Conditions (1 to 5)	A maximum of five conditions can be set.	1
Condition Type	Set the condition type and condition.	Bit Device M200 ON
Bit Device	Specify the bit device memory and the [Action] (ON/OFF). The part is shown when the status of the bit device memory matches the [Action] setting, and is hidden when it does not match the setting.	
Word Device	Specify the word device memory and the condition expression. The part is shown when the condition expression is satisfied by the value of the word device memory, and is prohibited when not satisfied.	
Security Level	This setting is available when using the security function. The part is shown or hidden according to the security level of the user that is currently logged in on MONITOUCH. For details, refer to "5 Security" in Reference Manual 2.	

To use the show/hide function with single parts or linked parts, set the [Display Setting] settings on the [Properties] pane of the relevant part.

- Select the [Project View] pane → [Screen] tab → [Screen] → [Screen Settings] → [Unhide] → [Unhide Items] checkbox.



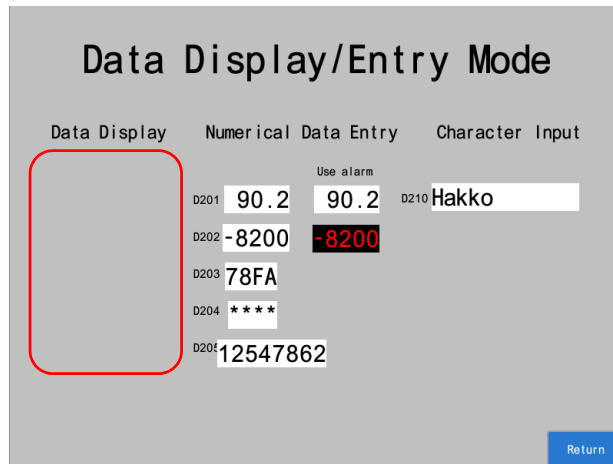
This completes the show/hide settings.

### 9.1.3 Checking Operation on MONITOUCH

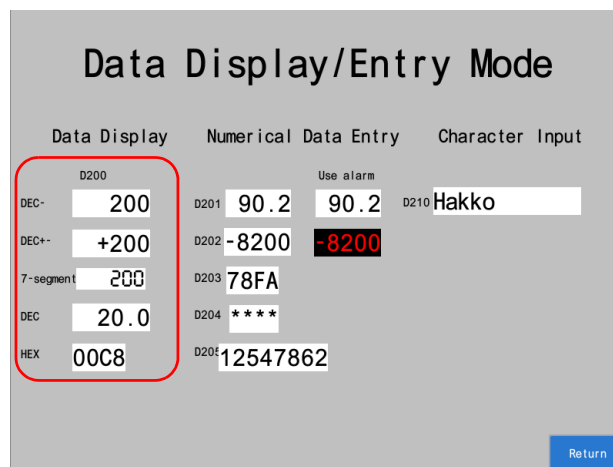
Transfer the screen program to MONITOUCH and check the operation.

Device Memory	Data in Device Memory
M200	Show/hide setting

1. Display screen 2.  
The numerical data displays for monitoring (D200) are not displayed.



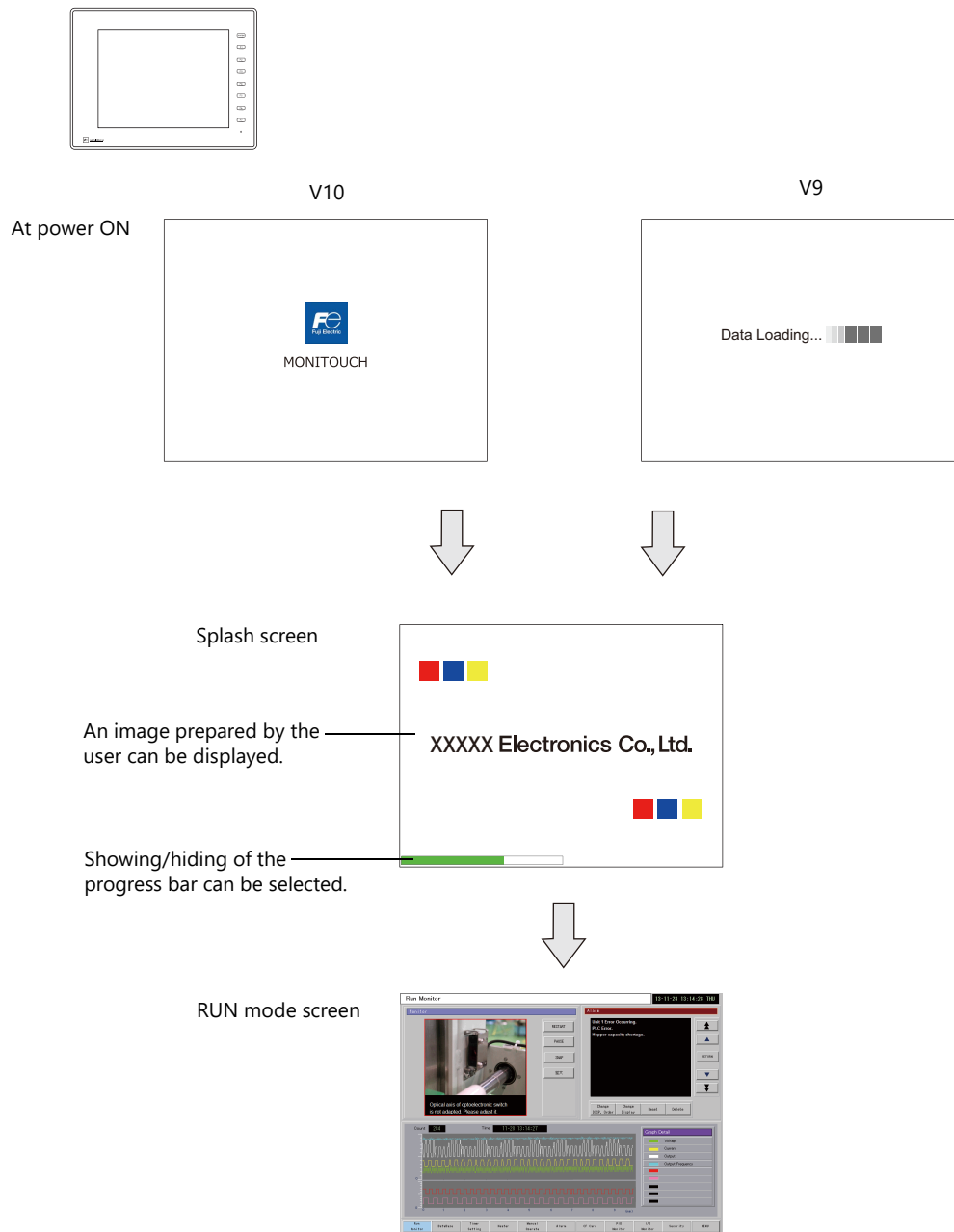
2. Turn ON M200 using the PLC.  
The numerical data displays for monitoring (D200) are displayed.



## 9.2 Splash Screen

### 9.2.1 Overview

An image prepared by the user can be used as the splash screen displayed when MONITOUCH starts up.

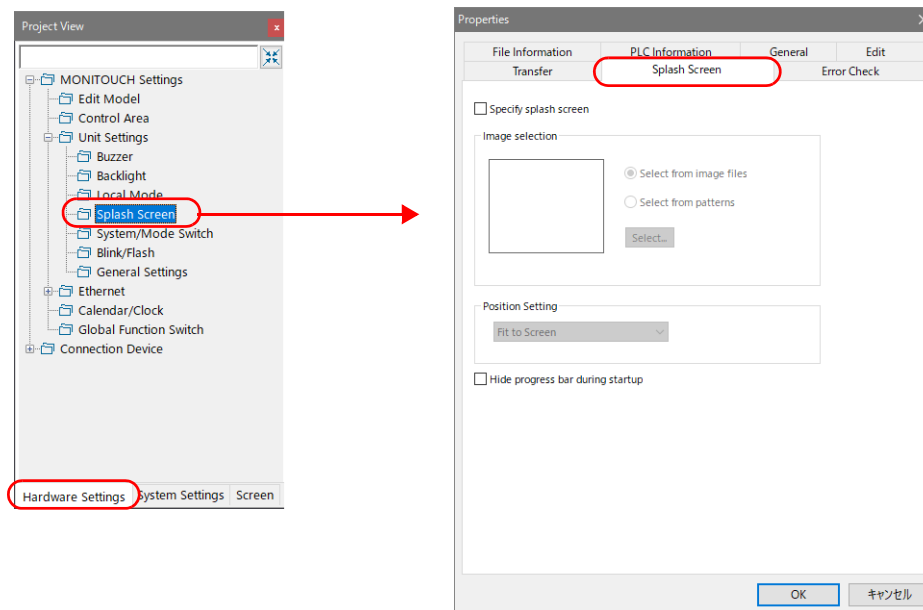


**Splash screen display timing**

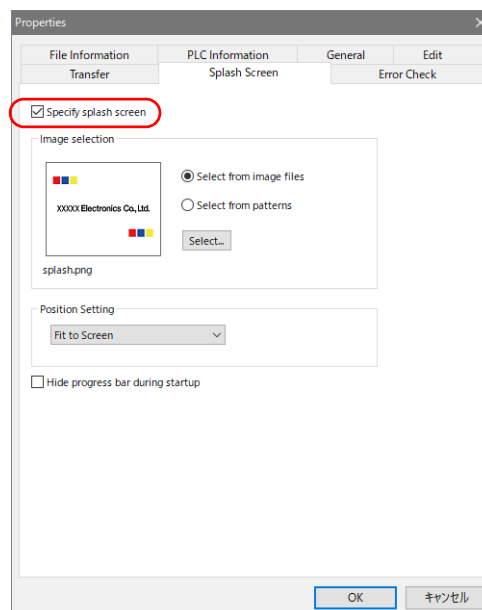
- At power ON
- Switching between RUN and Local modes

## 9.2.2 Setting Procedure

1. Click the [Project View] pane → [Hardware Settings] tab → [MONITOUCH Settings] → [Unit Settings] → [Splash Screen]. The [Splash Screen] tab of the [Properties] window is displayed.



2. Select the [Specify splash screen] and specify an image file and display position.  
Example: C:\MONITOUCH\Common\Parts\splash.png

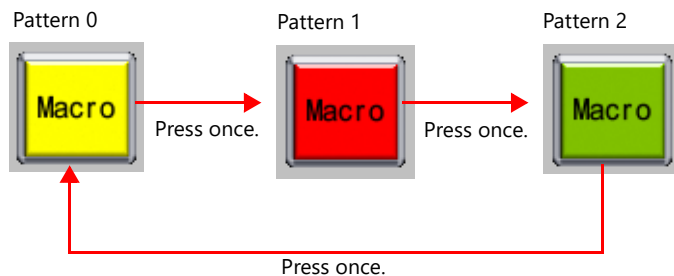


Item	Details		Settings
Specify splash screen	Display a user-prepared image on the screen during startup.		Selected
Image selection	Select from image files	Select a PNG file. The selected PNG file is stored at the following location. C:\MONITOUCH\User\Splash	File selection
	Select from patterns	Select a pattern registered in the screen program. Patterns are registered at the [Project View] pane → [Screen] tab → [Pattern].	-
Position Setting	Specify the display position of the image. <ul style="list-style-type: none"> <li>• Fit to Screen</li> <li>• Fit to Width</li> <li>• Fit to Height</li> <li>• Display in Center</li> </ul>		Fit to Screen
Hide progress bar during startup	Select this checkbox to hide the progress bar at the bottom of the screen.		Deselected

## 9.3 Three-Pattern Switch Macro

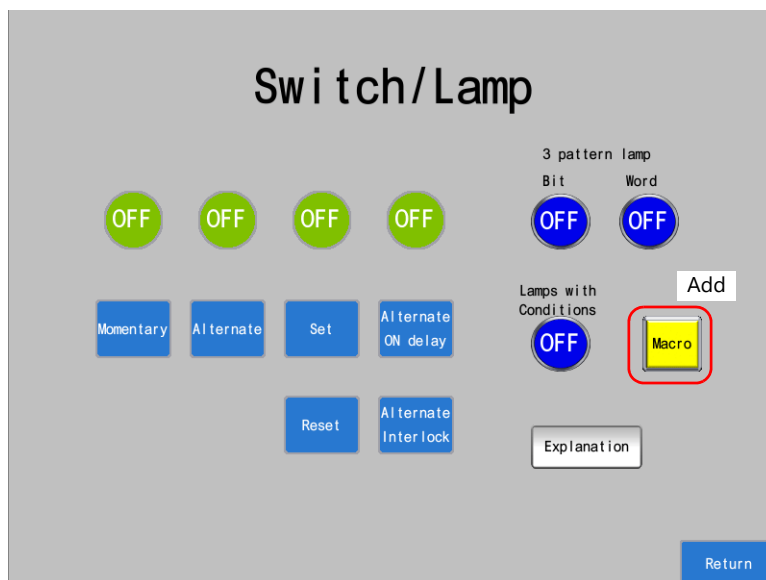
### 9.3.1 Overview

The macro function can be used to control switching of three-pattern switches.



### Setting Example

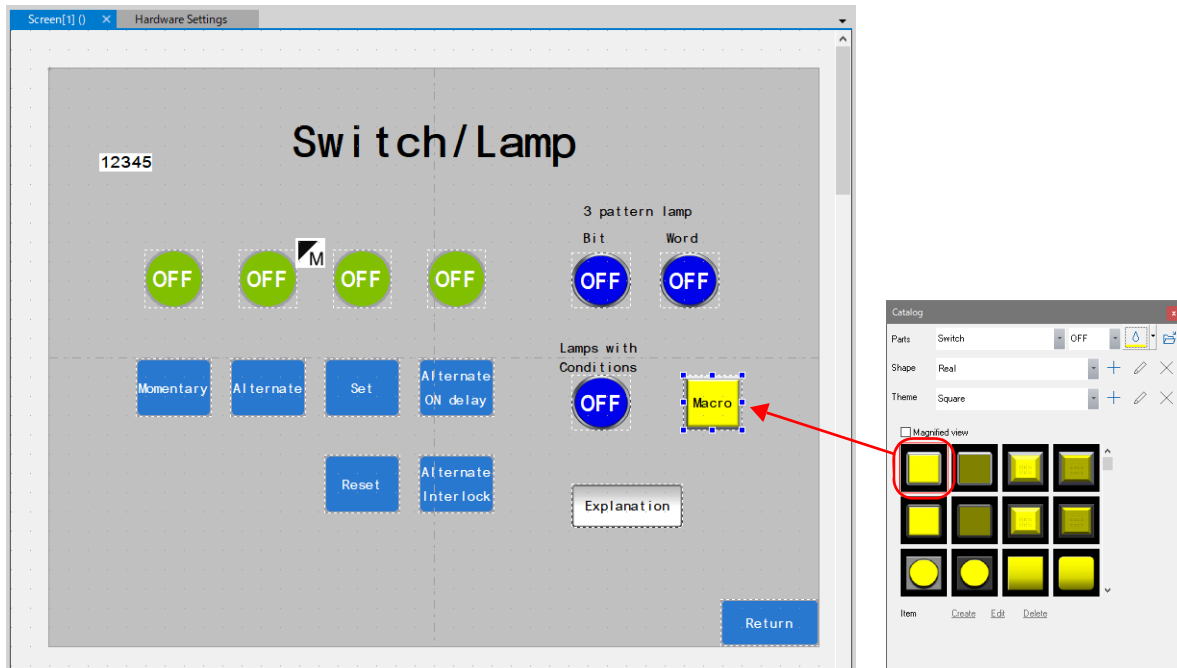
Add a three-pattern switch to screen 1.



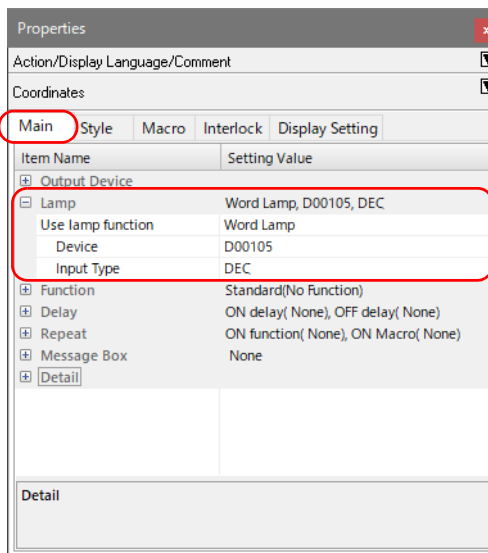
## 9.3.2 Setting Procedure

### Switch Settings

1. Place a switch from the catalog.

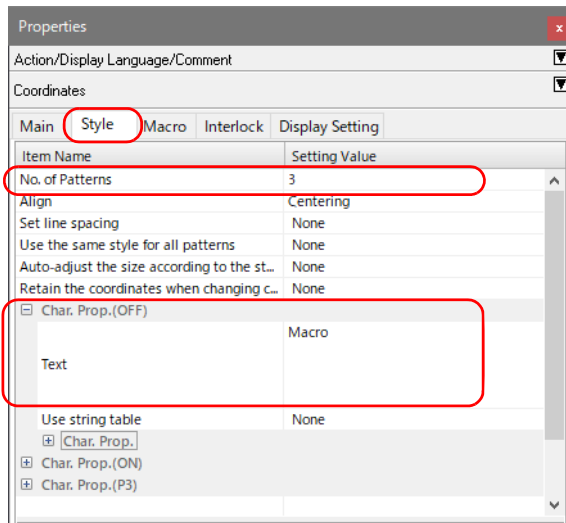


2. Configure the properties of the switch as shown below.
  - Main



Item	Details		Settings
Main	Use lamp function	Use this setting to change the display according to the device memory status. <ul style="list-style-type: none"> <li>• Bit Lamp</li> <li>• Word Lamp</li> <li>• N-state lamp</li> </ul>	Word Lamp D105 DEC

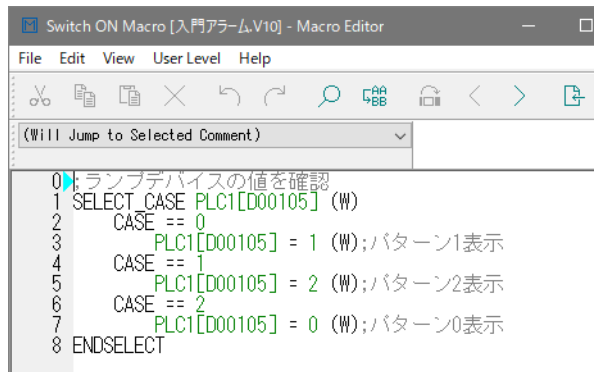
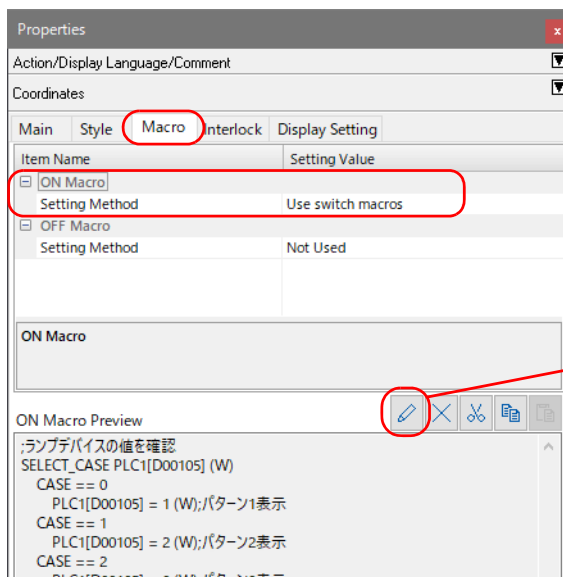
• Style



Item	Details	Settings	
Style	No. of Patterns	Set the number of patterns that the switch can display.	3
	Char. Prop.	Set the text to be displayed on the switch, the color of the text, etc. Settings can be configured for each pattern. If using the same text for all patterns, register only for the OFF pattern.	Macro

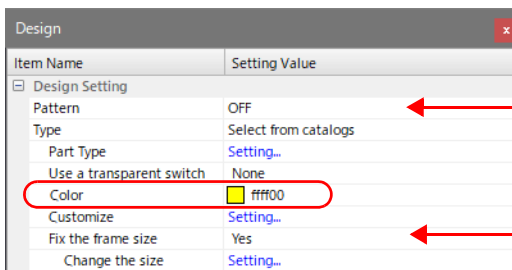
• Macro

Configure the [ON Macro] settings.



Item	Details	Settings	
Macro	ON Macro: Setting Method	Configure to execute a macro by switch operation. <ul style="list-style-type: none"> <li>• Use switch macros</li> <li>• Specify the macro block number</li> </ul>	Use switch macros Registration of macro

3. Set the colors of the switch on the [Design] properties pane.



Select a pattern and set a color.

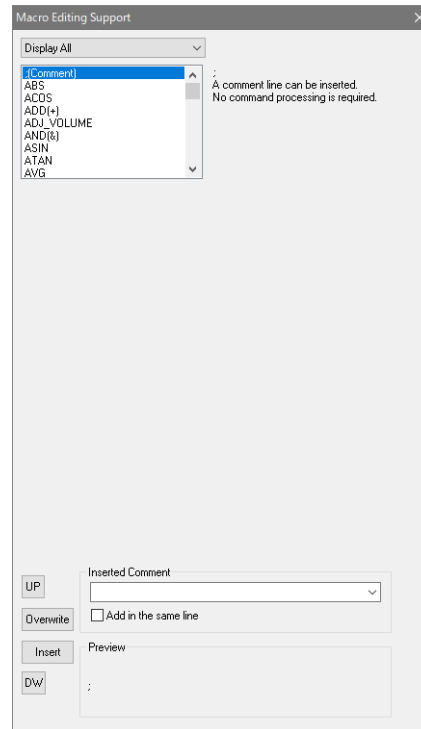
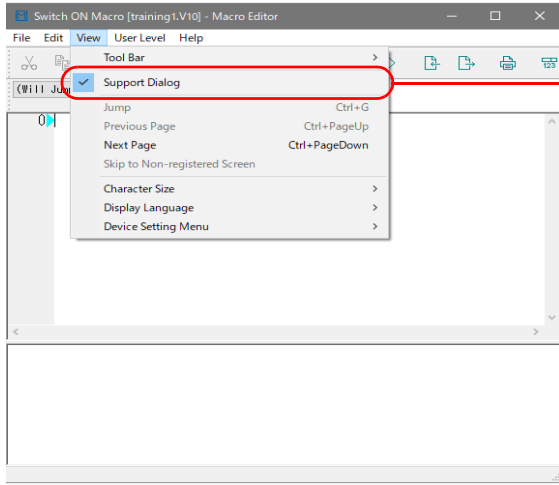
Change the design from [Customize].

This completes the necessary settings.

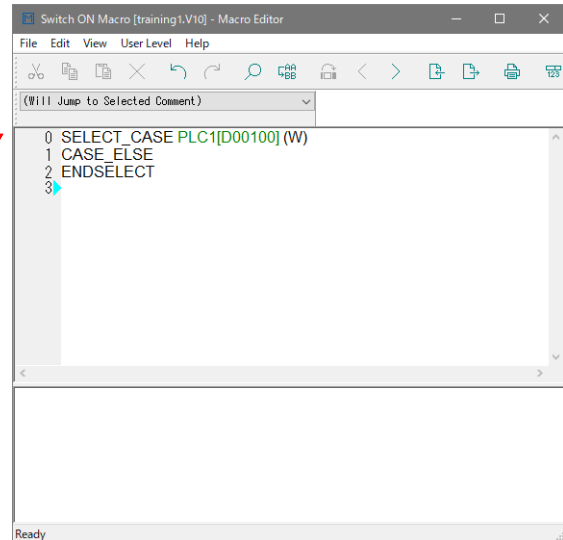
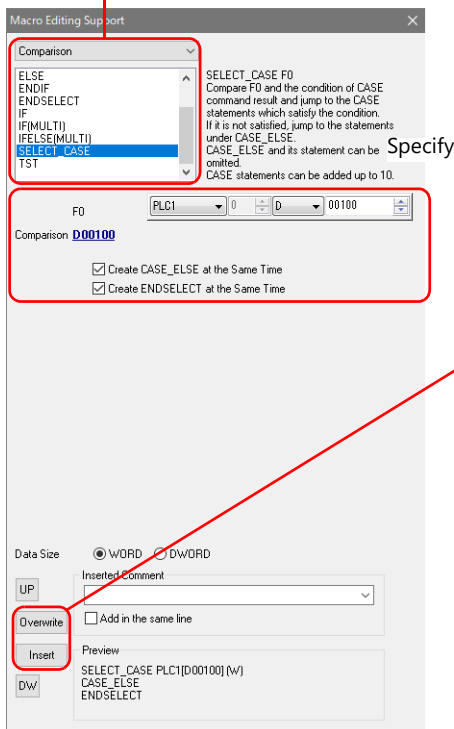
## Macro Entry Method

### Using the Support Window

Click [View] → [Support Dialog] from the menu bar in the macro editor. In the displayed [Macro Editing Support] window, select a command and specify a device memory, and then click either the [Overwrite] or [Insert] button.

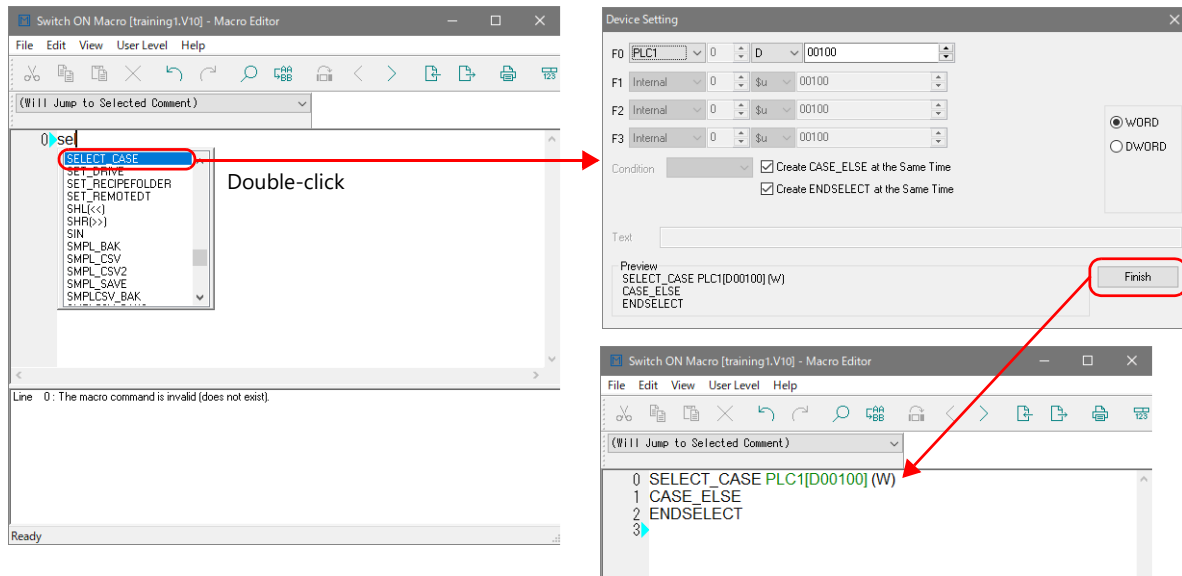


#### Command selection



## Using Command Entry

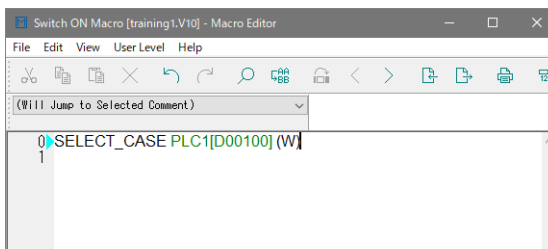
Directly enter a command to select it from the command list. Double-click on the corresponding command to display the [Device Setting] window, set a device memory address, and then click the [Finish] button.



## Using Direct Entry

Enter a macro directly from the keyboard. Press the [Enter] key to proceed to the next line.

When using internal device memory, enter "\$u100". If using PLC device memory, enter "PLC1 [D100]". To use a constant in DEC notation, enter "10", and for HEX notation, enter "10H".

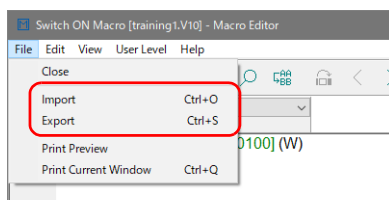


☹️

- [View] → [Device Setting Menu]  
When editing macros, the display position of the device setting menu used to change the device memory can be selected.

## Text Entry

Text files can be imported and exported. Macros created using other commercially available software can be imported.



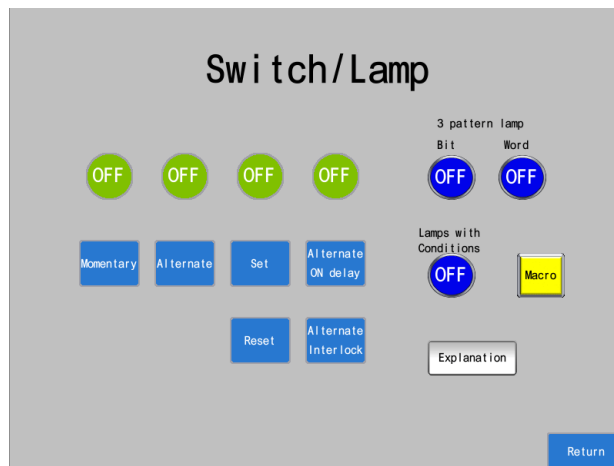
### 9.3.3 Checking Operation on MONITOUCH

Transfer the screen program to MONITOUCH and check the operation.

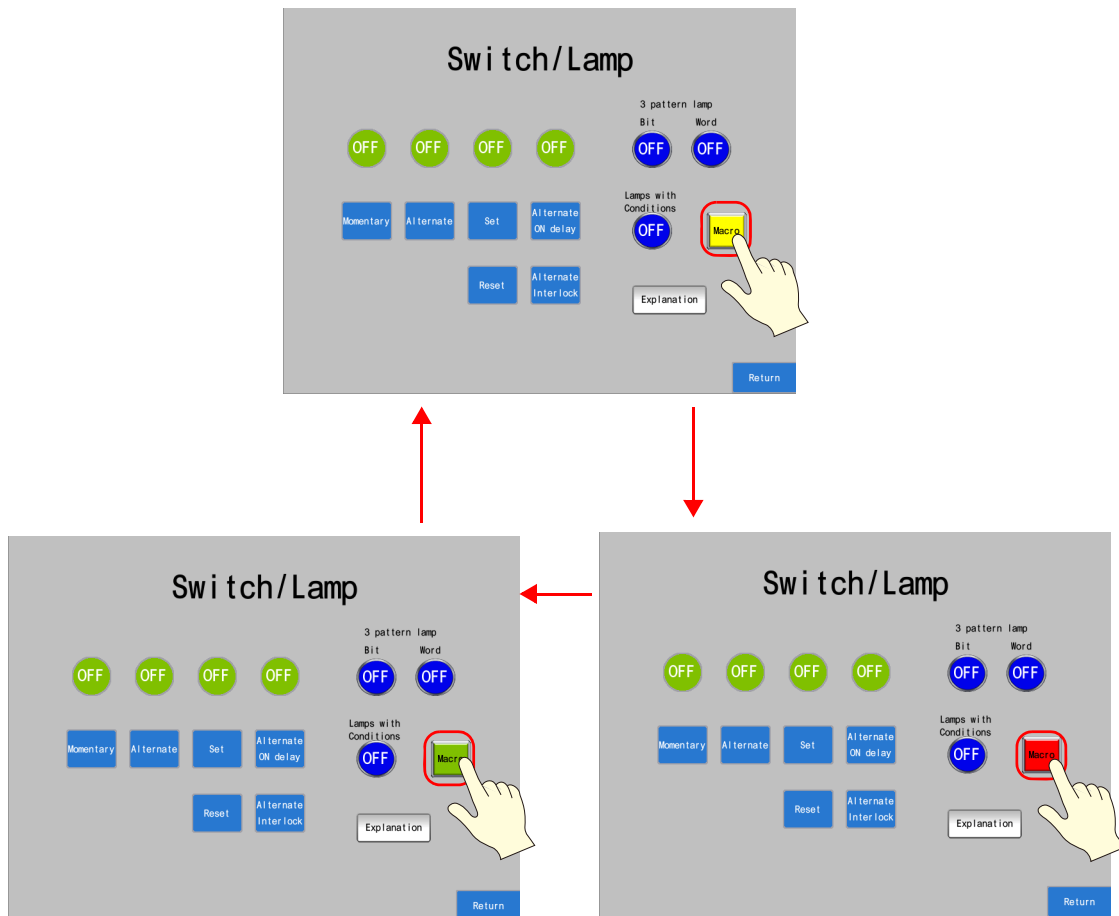
#### Device Memory Used

Device Memory	Data in Device Memory
D105	Lamp device memory of switch

1. Display screen 1.



2. Press the three-pattern switch.  
Check that the lamp display of the switch changes each time the switch is pressed.

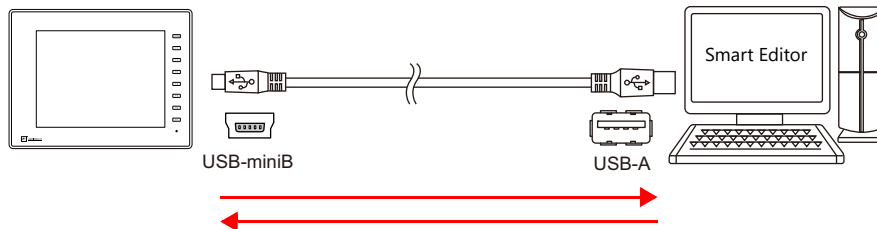


# 10 Screen Program Transfer

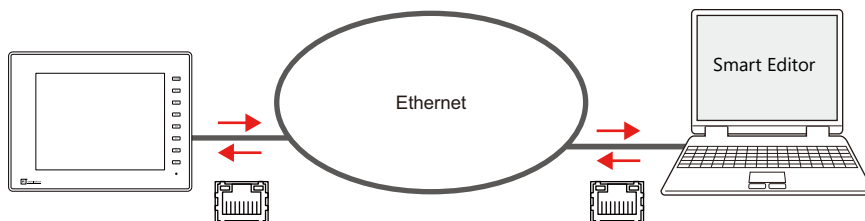
## 10.1 Overview

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.

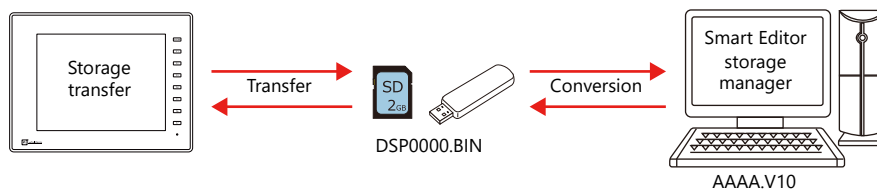
- USB transfer . . . . . Refer to “10.2 USB Transfer” page 10-2.



- Ethernet transfer . . . . . Refer to “10.3 Ethernet Transfer” page 10-8.



- 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

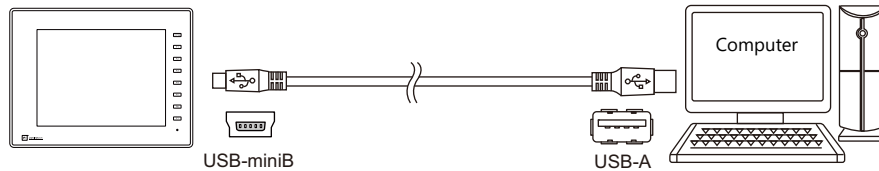
The version of the MONITOUCH operating system (OS) needs to be updated if using new functions. Update the OS using a storage device. For details, refer to [Updating the OS page 10-16](#).

## 10.2 USB Transfer

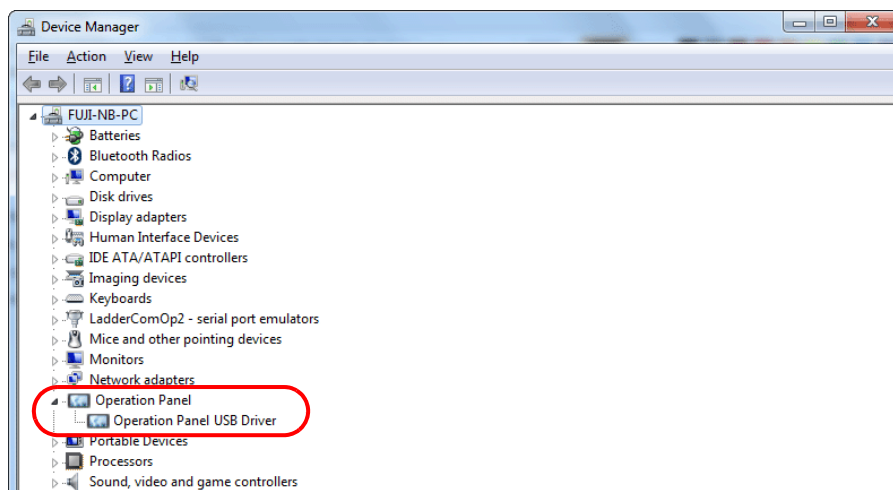
### 10.2.1 Installing the USB Driver

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.



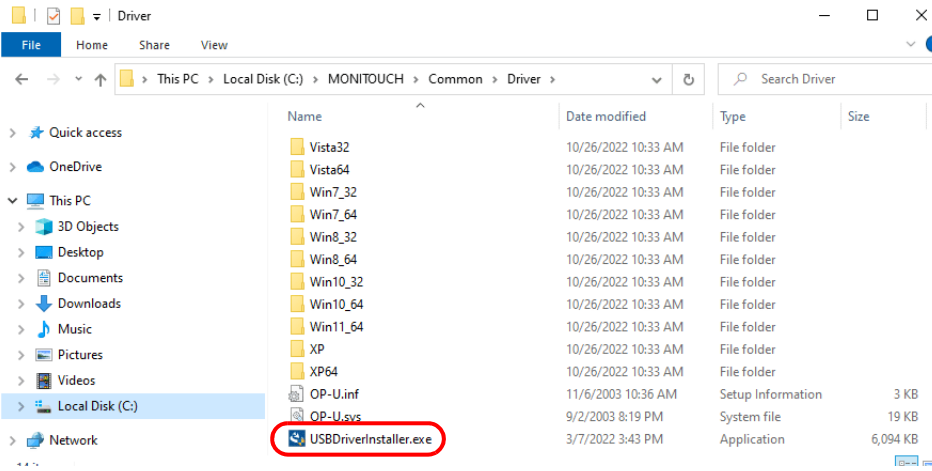
This item disappears when the USB cable is removed from a powered MONITOUCH. If [Other Device] or a mark other than shown above is displayed even during USB connection, the USB driver is not recognized. If this happens, uninstall the USB driver and reinstall it. For details, refer to "When USB Driver Installation Fails" [page 10-3](#).

USB driver installation is complete. Transfer the screen program.

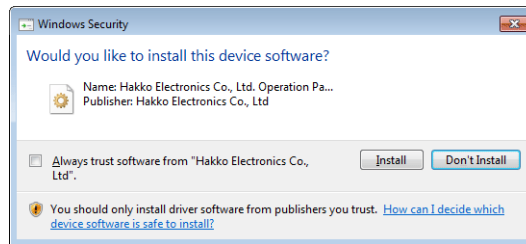
## When USB Driver Installation Fails

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

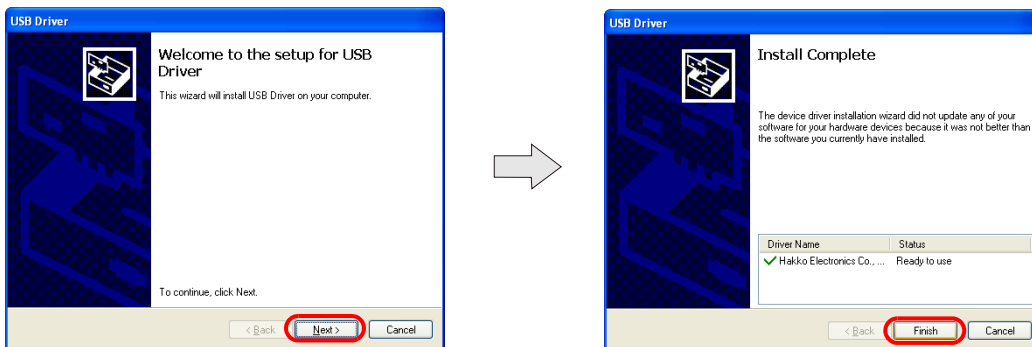
1. Open the following folder from [My Computer] or Explorer.  
C:\MONITOUCH\Common\Driver
2. Double-click "USBDriverInstaller.exe".



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.

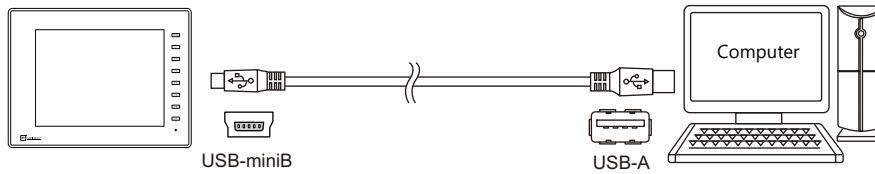


Refer to [page 10-2](#) for details on checking the installation of the driver.

USB driver installation is complete. Transfer the screen program.

## 10.2.2 Transfer

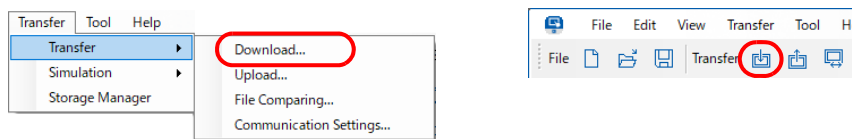
Connect the USB-mini-B port of MONITOUCH to the USB-A port of the computer using a USB cable.



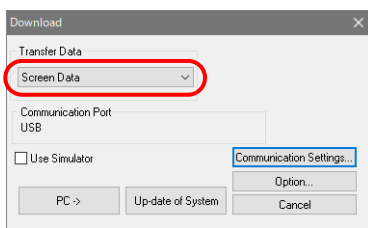
### Download

Transfer a screen program from the computer.

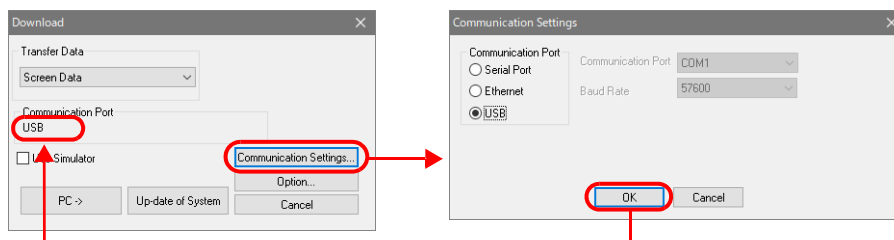
1. Click [Transfer] → [Transfer] → [Download], or click the [Download] icon on the toolbar.




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].



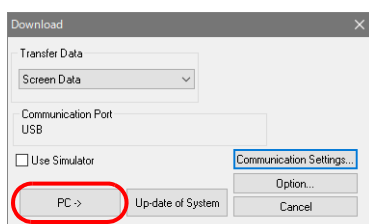
4. Select the [Use Simulator] checkbox to use the simulator.

 **Simulator**

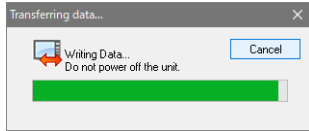
If a PLC is not available during debugging, use the simulator to check screen operation with only MONITOUCH and no PLC.

The simulator that runs on the computer acts as the PLC. For details, refer to "11.1 Simulator".

5. Click [PC →] to start transfer.

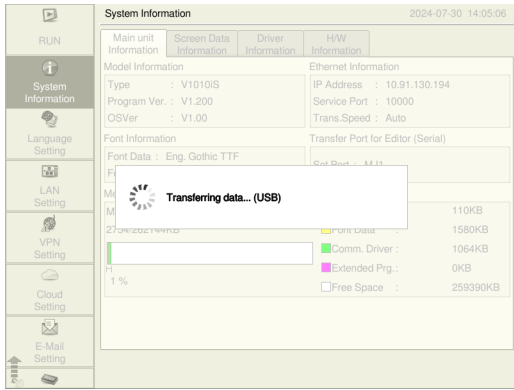


6. The following window appears on the computer during transfer.

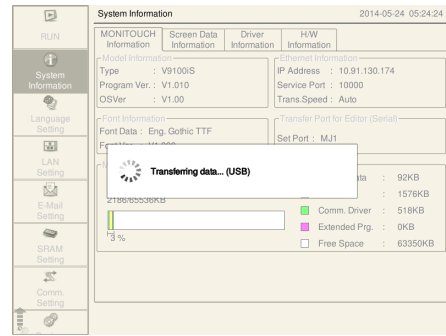


MONITOUCH switches to Local mode and "Transferring data... (USB)" is displayed.

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

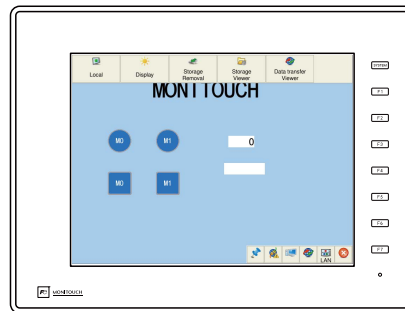
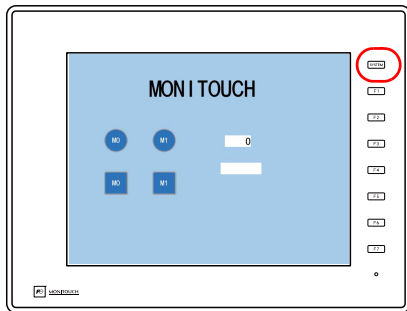


When transferring to new units, "Transferring data...(USB)" is displayed on the five languages screen.

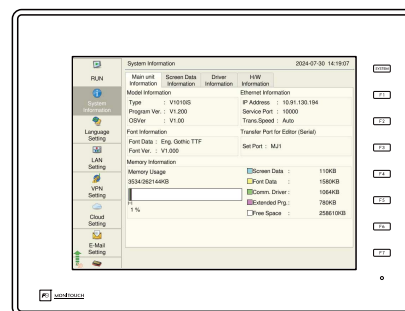
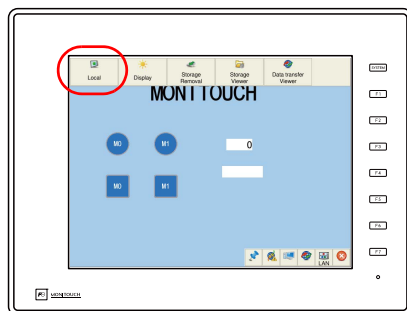


Switching to Local mode

1. Press the [SYSTEM] switch to display the system menu at the top of the screen.



2. Press the [Local] switch. MONITOUCH switches to Local mode.

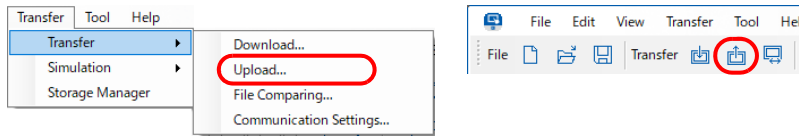


3. When transfer is complete, the "Transferring data" indication disappears and communication with the PLC starts. Check the operation on MONITOUCH.

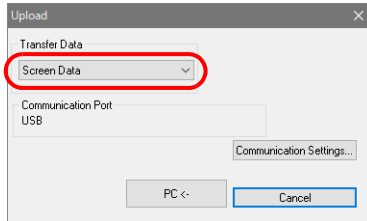
## Upload

Export the screen program from MONITOUCH to the computer.

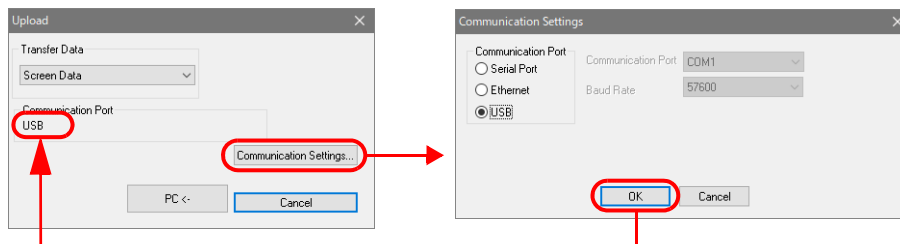
1. Click [Transfer] → [Transfer] → [Upload], or click the [Upload] icon on the toolbar.



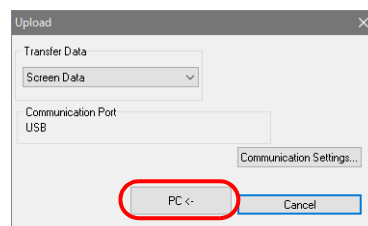
2. Set [Transfer Data] to "Screen Data" on the [Upload] window.



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.

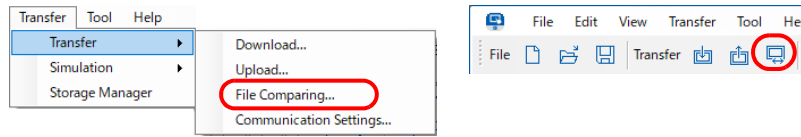


5. When export is complete, the "Transferring data" indication disappears and the exported program is displayed. Name and save the program.

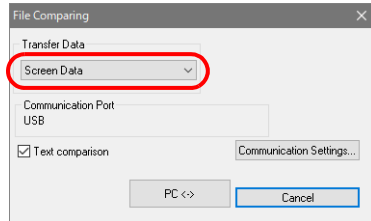
## File Comparing

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

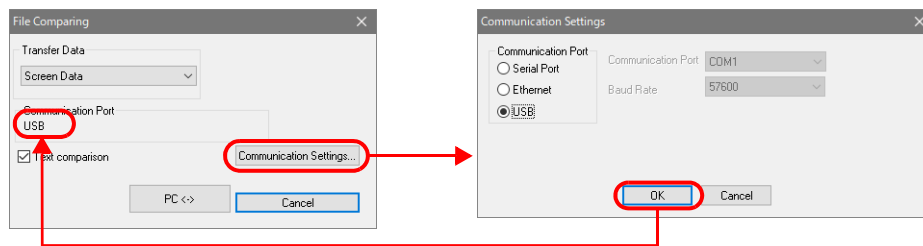
1. Click [Transfer] → [Transfer] → [File Comparing], or click the [File Comparing] icon on the toolbar.



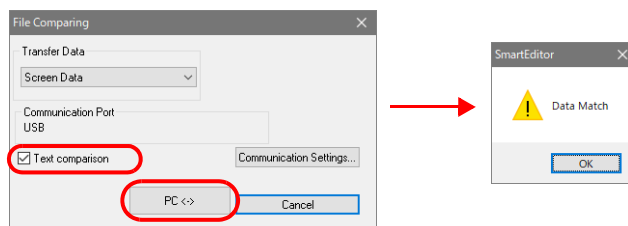
2. Set [Transfer Data] to "Screen Data" on the [File Comparing] window.



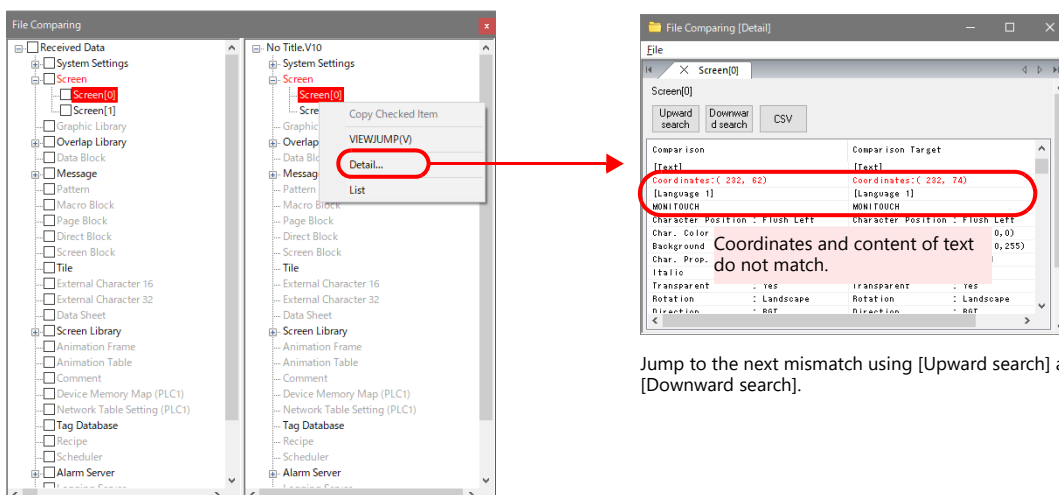
3. Check the [Communication Port] setting.  
If the setting is "USB", proceed to step 5.  
If the setting is a serial port or Ethernet IP address, click the [Communication Settings] button and select "USB" under [Communication Port].



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].

## 10.3 Ethernet Transfer

### 10.3.1 IP Address Settings

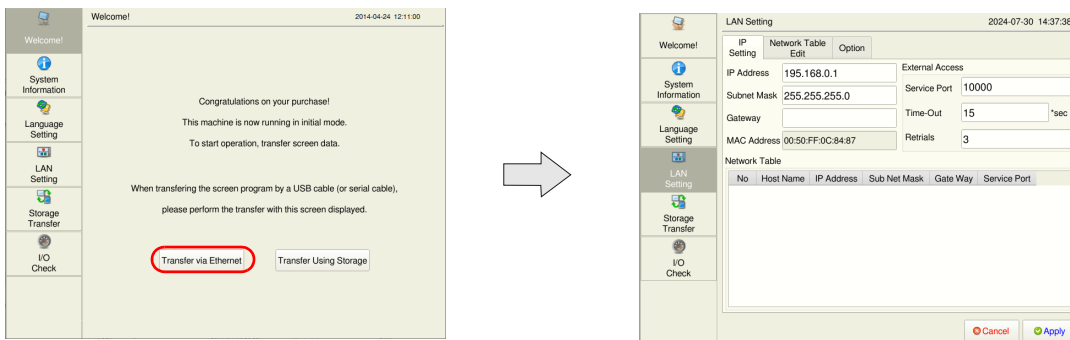
The IP address of MONITOUCH must be configured in advance to allow Ethernet communication.

#### Configuring a New MONITOUCH Unit

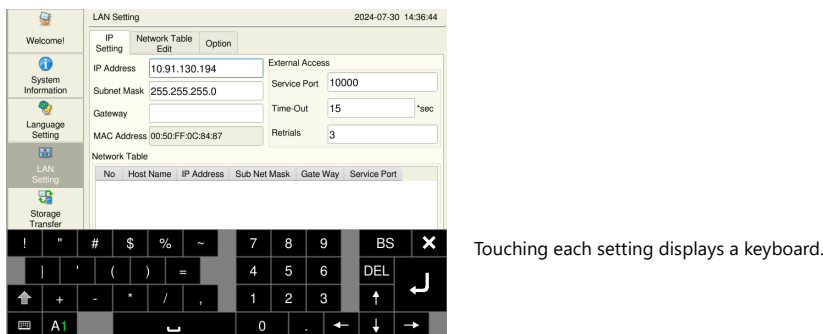
1. The following screen is displayed after the power is turned on. Selecting a language displays the "Welcome!" screen.



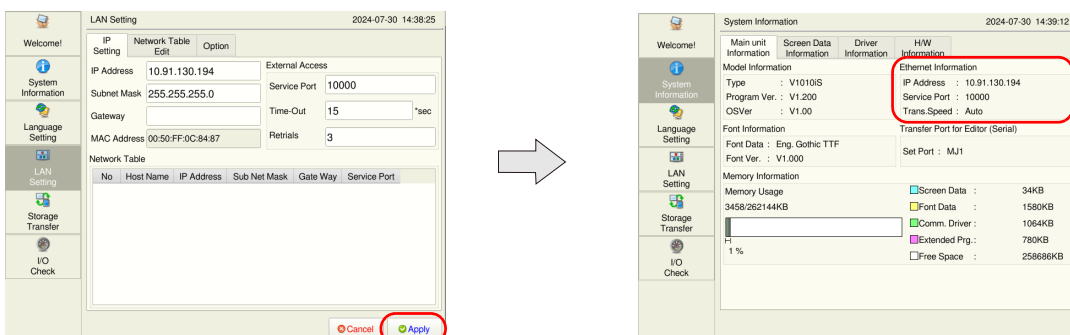
2. Press the [Transfer via Ethernet] switch to display the LAN Setting screen.



3. Configure each setting.



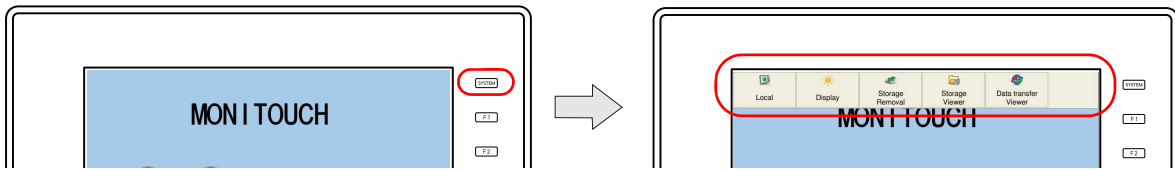
4. Press the [Apply] switch to confirm the IP address. Press [System Information] and check the IP address displayed under [Ethernet Information].



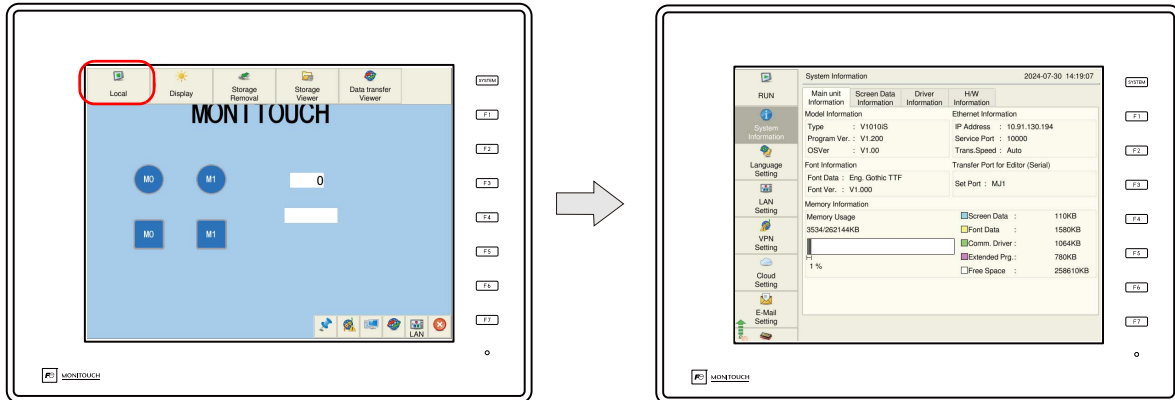
This completes the IP address settings. Next, perform screen program transfer.

## Configuring an Existing MONITOUCH Unit

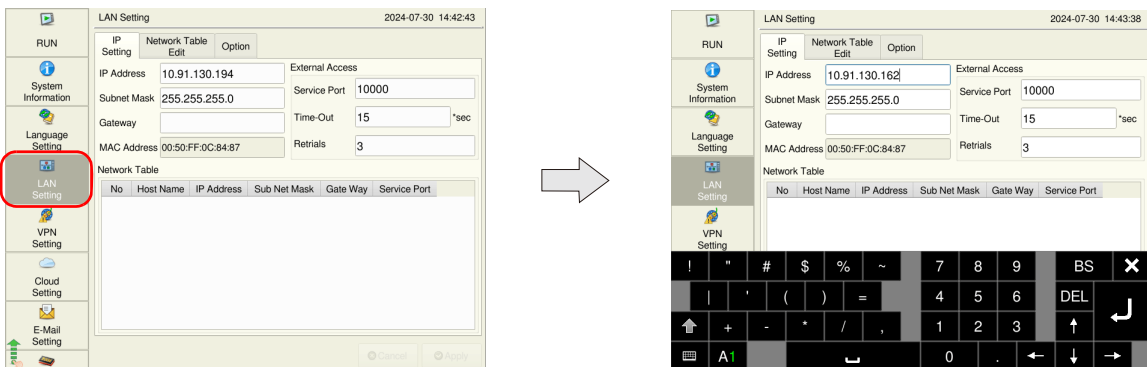
1. The PLC communication screen is displayed after the power is turned on. If a PLC is not connected, the [Communication Error: Time-Out] screen is displayed.
2. Press the [SYSTEM] switch to display the system menu at the top of the screen.



3. Press the [Local] switch on the system menu. MONITOUCH switches to Local mode.

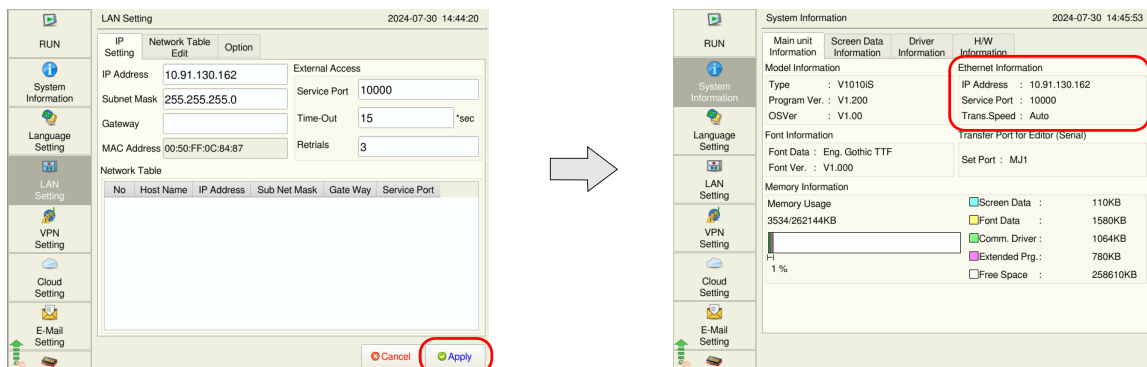


4. Configure each setting on the LAN Setting screen.



Touching each setting displays a keyboard.

5. 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

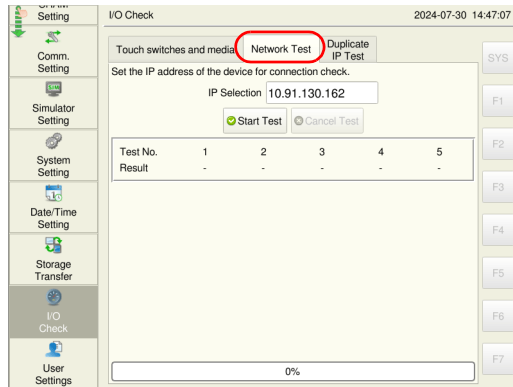
The following two methods can be used to check whether there is a problem with the Ethernet connection.

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

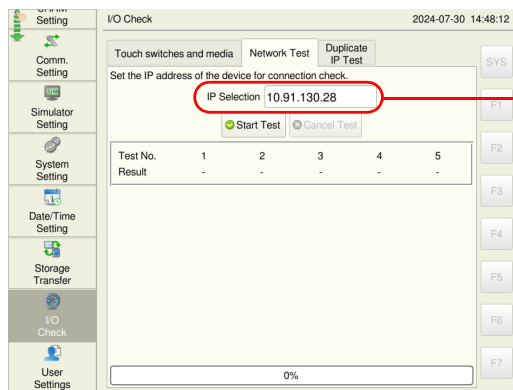
### Testing in Local mode on MONITOUCH

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

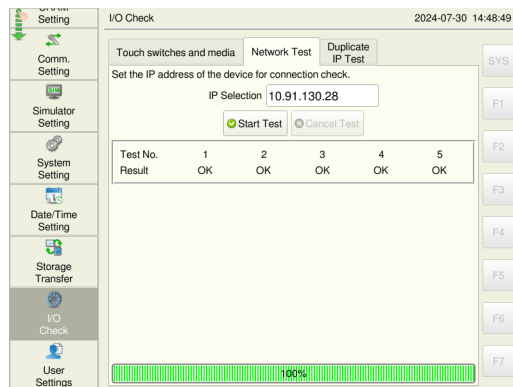
1) Select [I/O Check] → [Network Test].



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

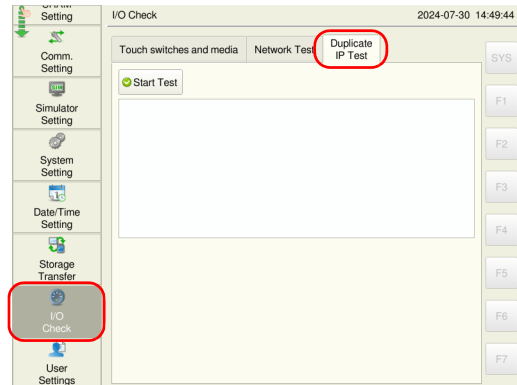


3) The test results are displayed.

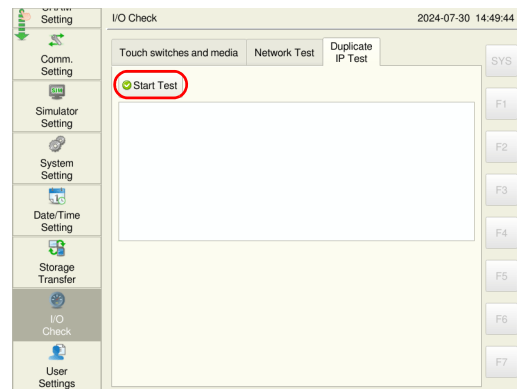


- Duplicate IP address test  
Check whether any devices having a duplicate IP address are on the network.

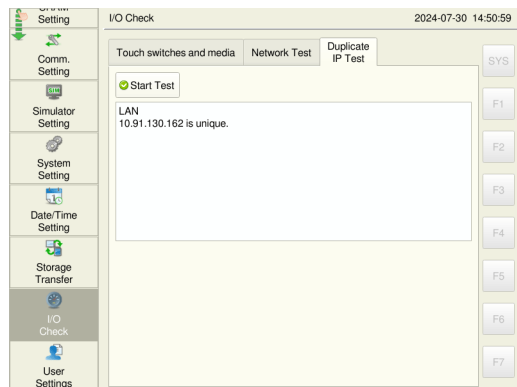
1) Select [I/O Check] → [Duplicate IP Test].



2) Press the [Start Test] switch.



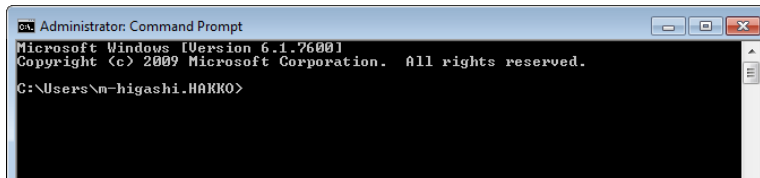
3) The test results are displayed.



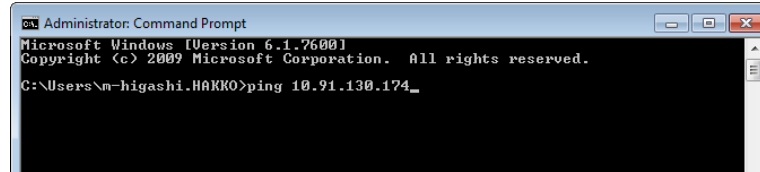
## Testing using the ping command on the computer

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

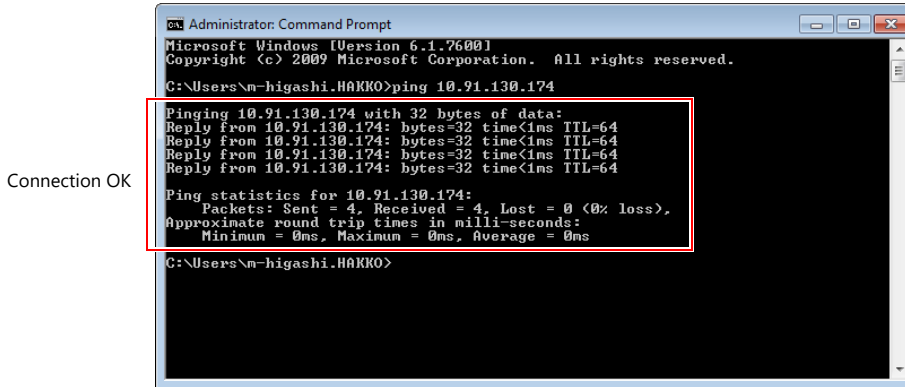
1. Open a [Command Prompt] window on the computer.



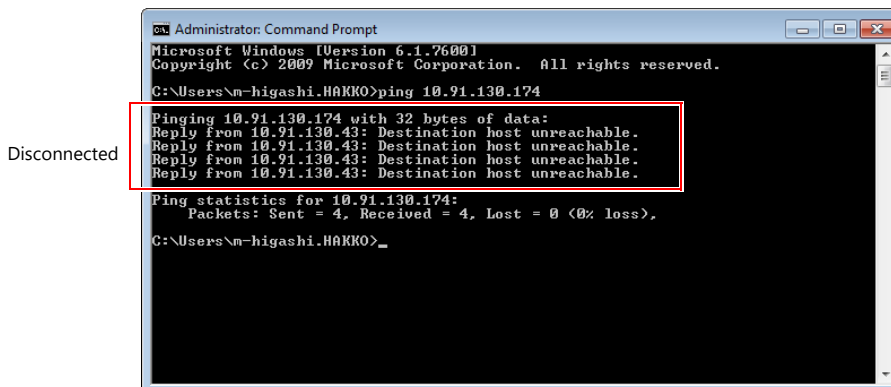
2. Enter "ping 10.91.130.174" on the command line using the keyboard and press the [Enter] key.



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

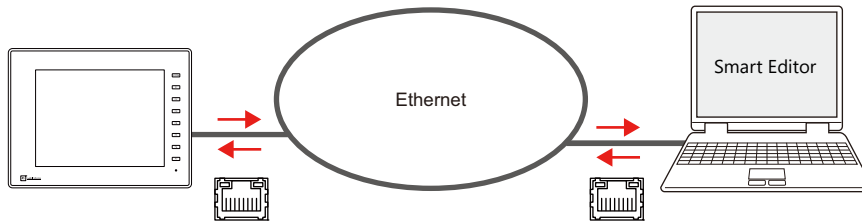


4. The following result is displayed if MONITOUCH is disconnected.  
Check the IP address of MONITOUCH and the computer as well as the connection cable.



## 10.3.2 Transfer

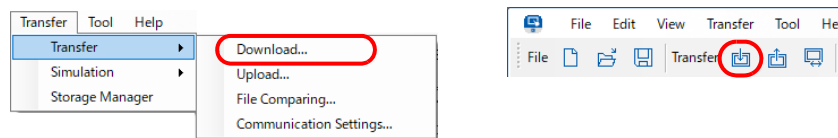
Connect the LAN port on MONITOUCH to the computer using a LAN cable.



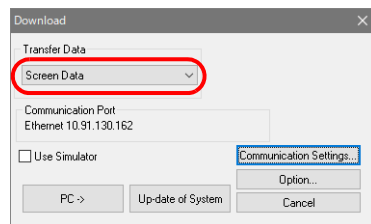
### Download

Transfer a screen program from the computer.

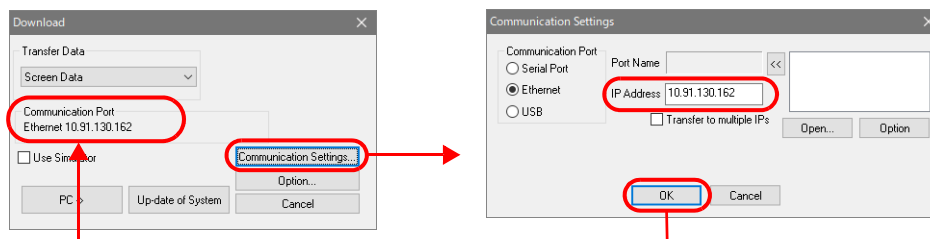
1. Click [Transfer] → [Transfer] → [Download], or click the [Download] icon on the toolbar.



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.



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

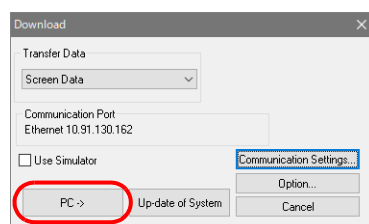


#### Simulator

If a PLC is not available during debugging, use the simulator to check screen operation with only MONITOUCH and no PLC.

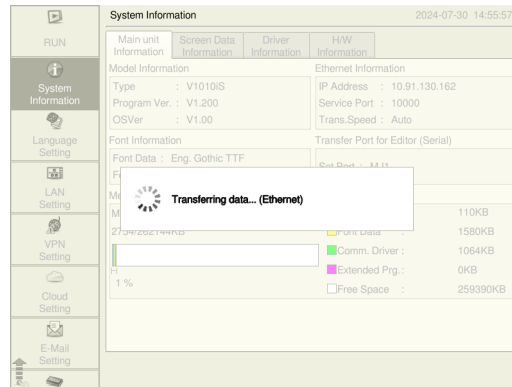
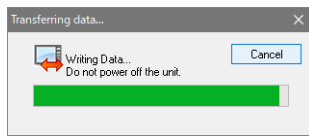
The simulator that runs on the computer acts as the PLC. For details, refer to "11.1 Simulator".

5. Click [PC →] to start transfer.



## 10. Screen Program Transfer

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

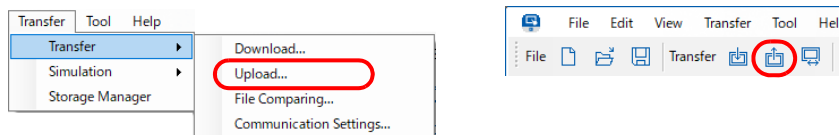


- When transfer is complete, the "Transferring data" indication disappears and communication with the PLC starts. Check the operation on MONITOUCH.

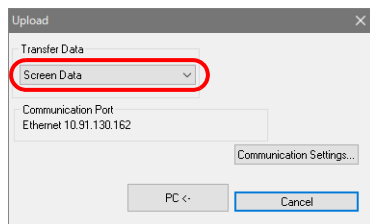
## Upload

Export the screen program from MONITOUCH to the computer.

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



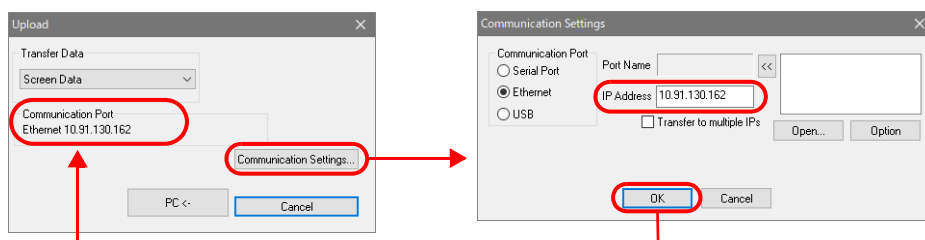
- Set [Transfer Data] to "Screen Data" on the [Upload] window.



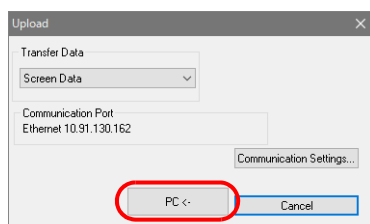
- Check the [Communication Port] setting.

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.



- Click [PC ←] to start export.

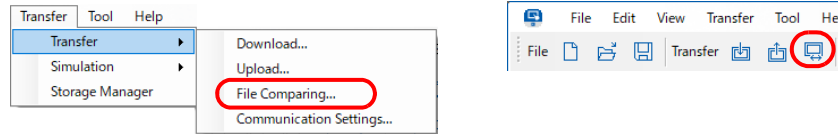


- When export is complete, the "Transferring data" indication disappears and the exported program is displayed. Name and save the program.

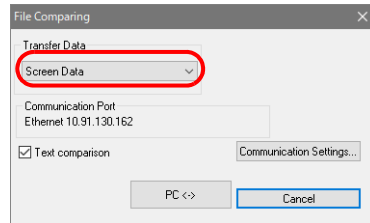
## File Comparing

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

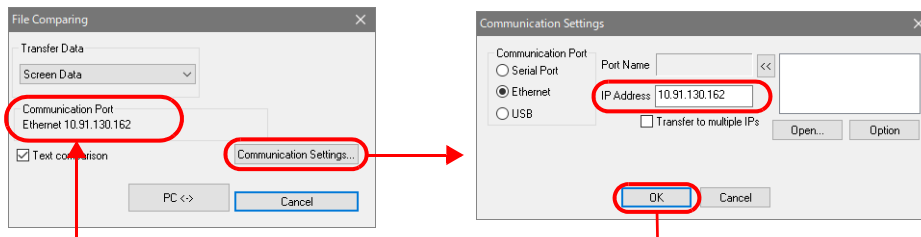
1. Click [Transfer] → [Transfer] → [File Comparing], or click the [File Comparing] icon on the toolbar.



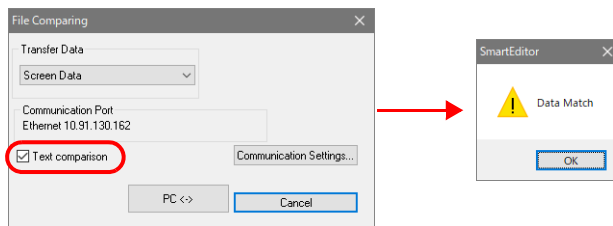
2. Set [Transfer Data] to "Screen Data" on the [File Comparing] window.



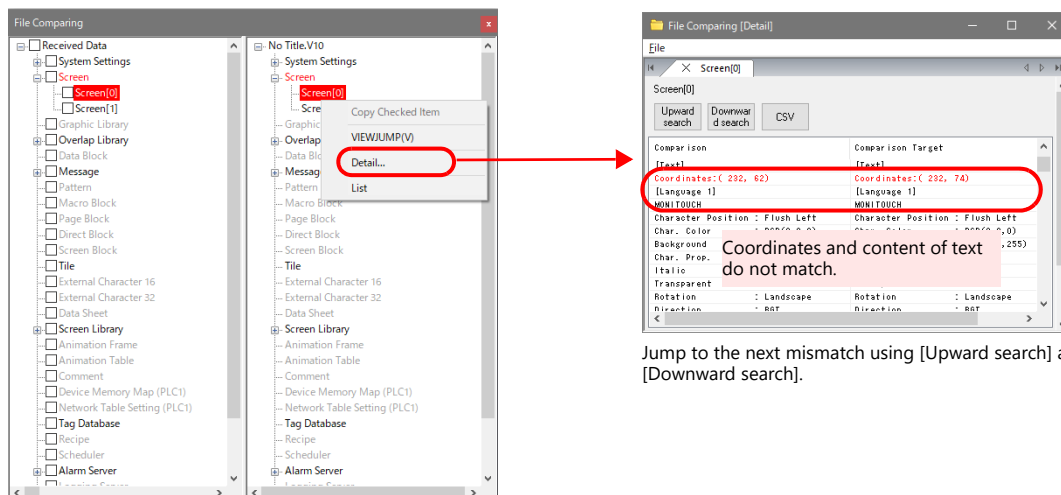
3. Check the [Communication Port] setting.  
If the setting is Ethernet and the IP address is correct, proceed to step 4.  
If the setting is a serial port or USB, click the [Communication Settings] button, select "Ethernet" under [Communication Port], and set the IP address of MONITOUCH.



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.

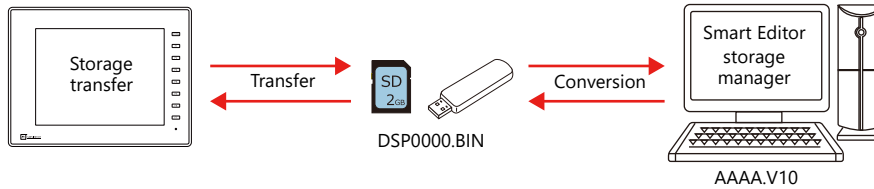


Jump to the next mismatch using [Upward search] and [Downward search].

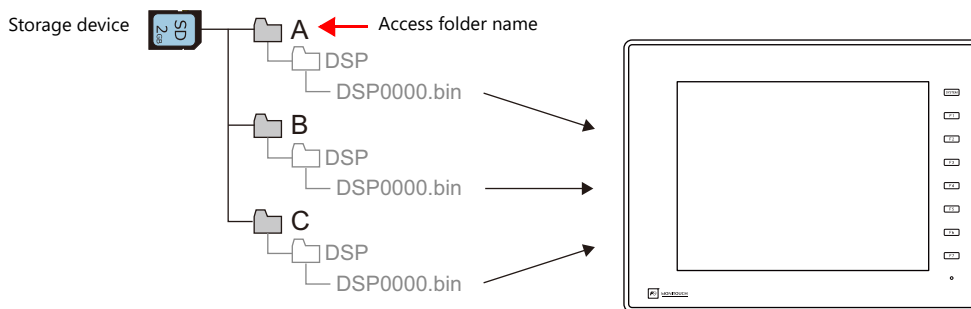
## 10.4 Storage Transfer

### 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.



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

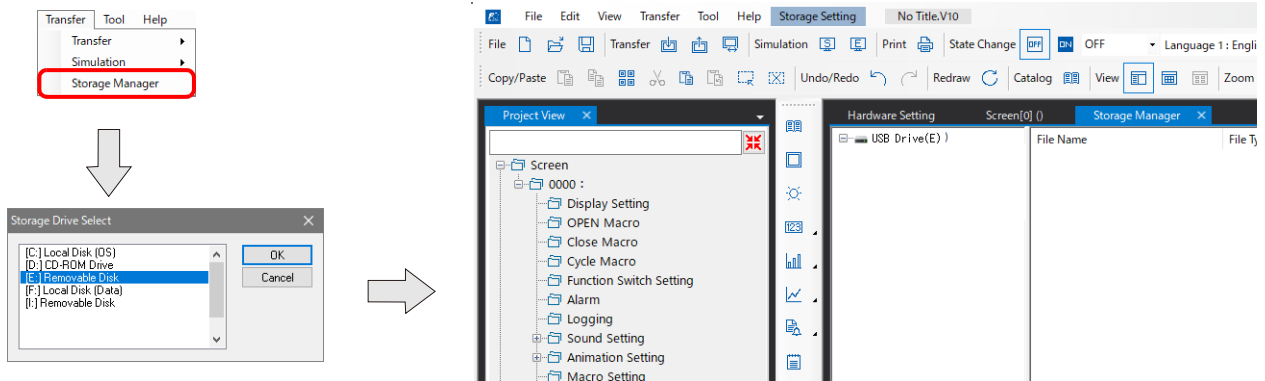
\*1 Depending on the files on the storage device, the version may be lowered.

## 10.4.1 Storage Manager

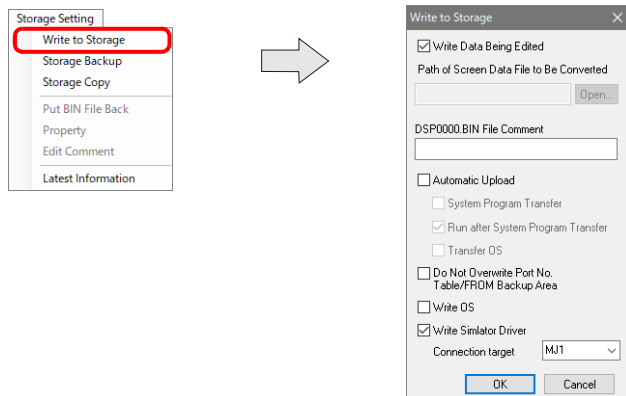
The storage manager is an application that facilitates writing of screen programs to a storage device, and importing of data from a storage device for conversion into other file formats.

### 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	- Access folder - DSPDEF	- Access folder - OSUPDATE_100 (Manual)	- Access folder - DSPDEF - OSUPDATE_100 (Auto)

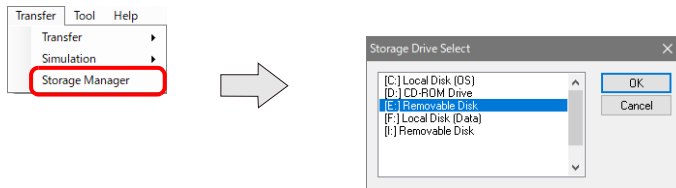
- \* A "DSP0000.BIN" file converted from a screen program is saved in the access folder → "DSP" folder.
- \* A "DSPDEF.BIN" file converted from a screen program is saved in the "DSPDEF" → "DSP" folder.



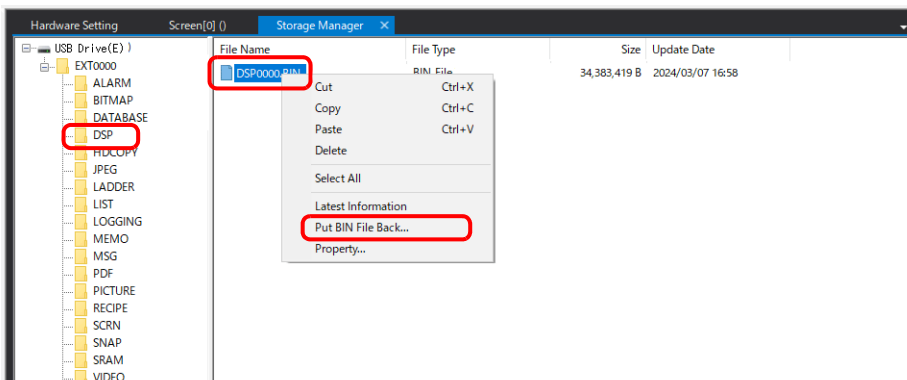
Auto update cannot be performed using a storage device that contains files for manual update. Manual update can be performed using a storage device that contains files for auto update.

## Reading from Storage to a PC

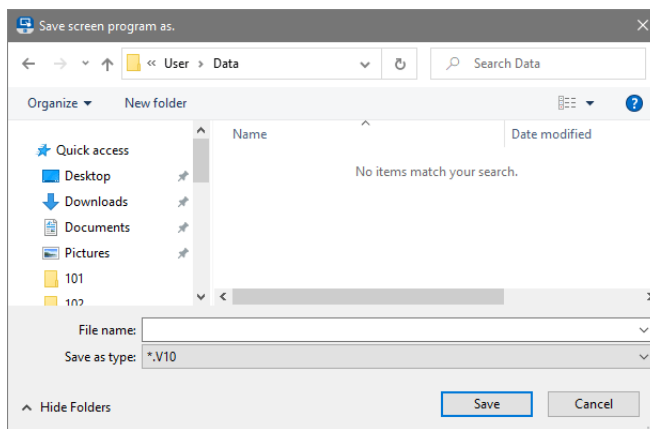
1. Start Smart Editor.
2. Click [Transfer] → [Storage Manager]. The window for specifying a drive is displayed.
3. Specify the drive where the storage device is connected and click [OK]. The [Storage Manager] window is displayed.



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].



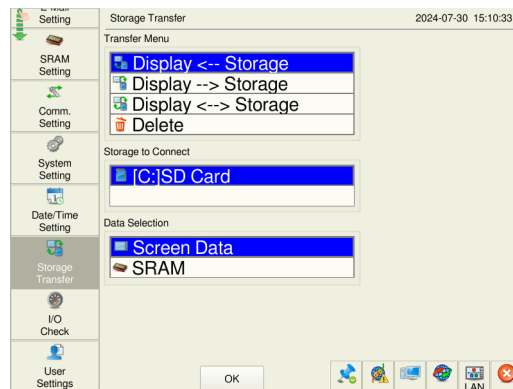
6. The following window is displayed. Specify the folder to save in and the filename and click [Save].



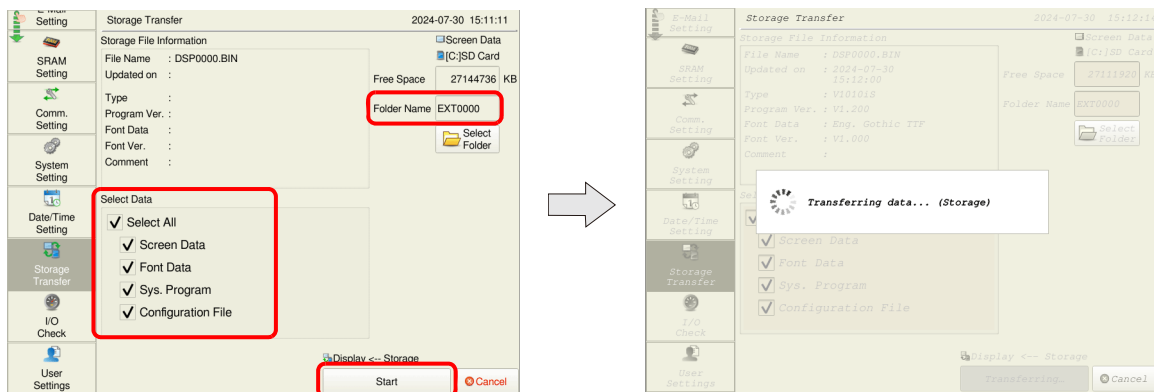
## 10.4.2 MONITOUCH Operations

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

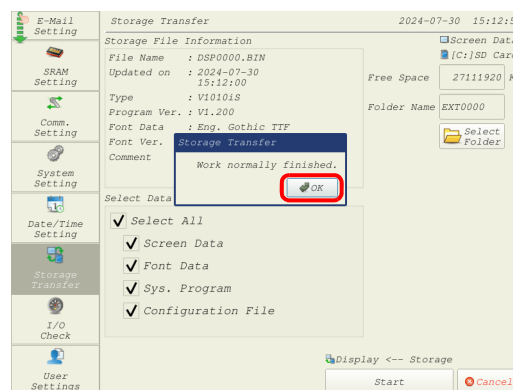
1. Connect the storage device to MONITOUCH.
2. Press the [SYSTEM] switch to display the system menu and then press the [Local] switch. MONITOUCH switches to Local mode.
3. Make the following settings on the Storage Transfer screen.
  - Transfer Menu: Display ← Storage
  - Storage to Connect: SD card or USB flash drive
  - Data Selection: Screen Data
 Then press the [OK] switch.



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.
- 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.

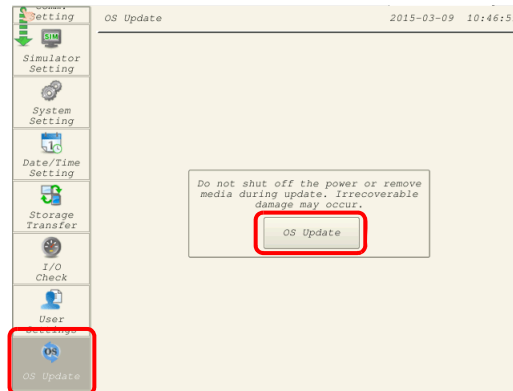
### Notes

- 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 V10 (or V9)." 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.

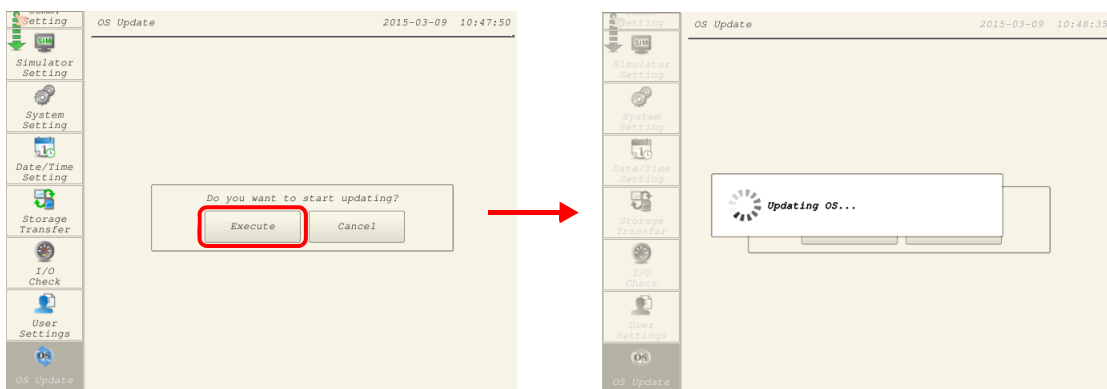
\*1 The [OS Update] switch for displaying the OS Update screen is displayed at the very bottom of the screen switches only when a storage device containing an "OSUPDATE" folder is connected.



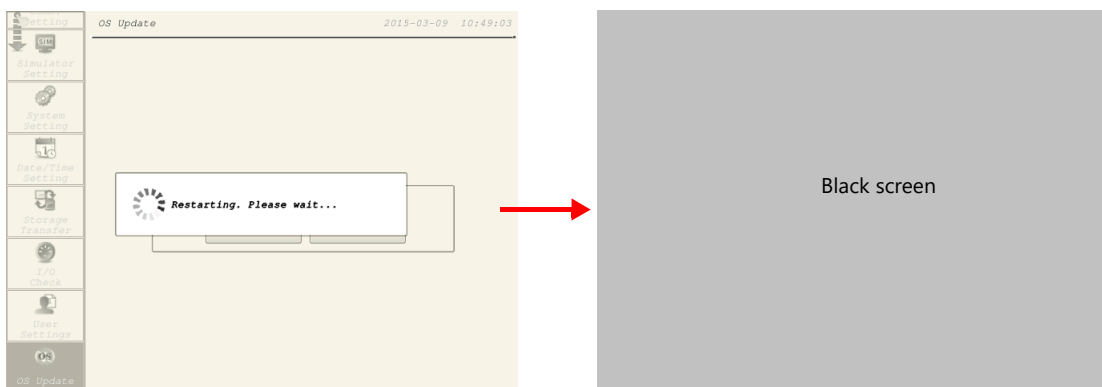
6. The following confirmation message appears. Press [Execute]. Updating of the operating system starts.



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.

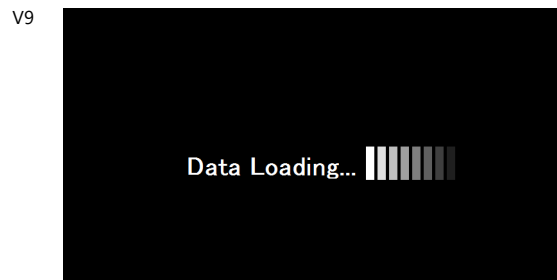
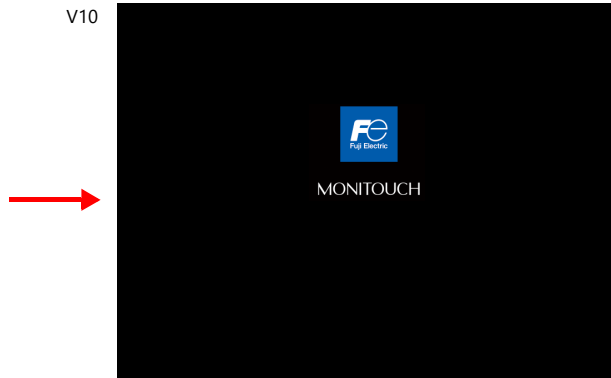


## 10. Screen Program Transfer

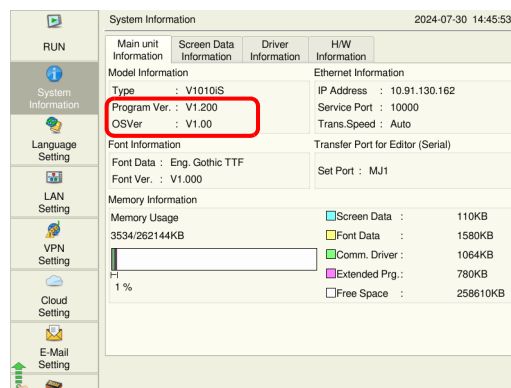
8. The following screen is displayed while the operating system is being updated. (Approximately 3 minutes)



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\_100" 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.

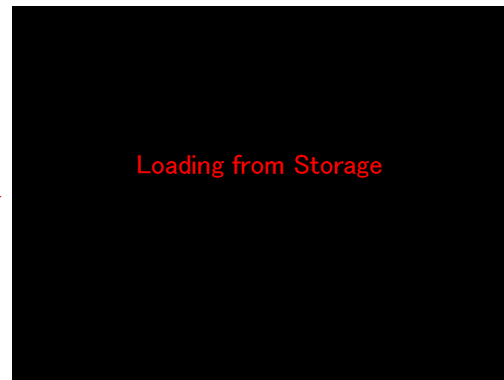
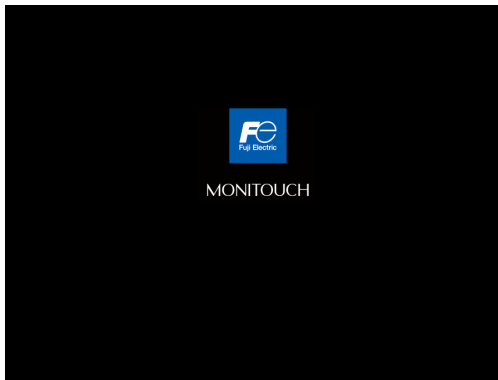
## Updating the OS (Auto)

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.

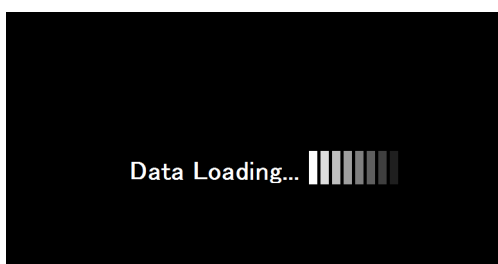


Never turn off the power of MONITOUCH or remove the storage device until the update is completed.

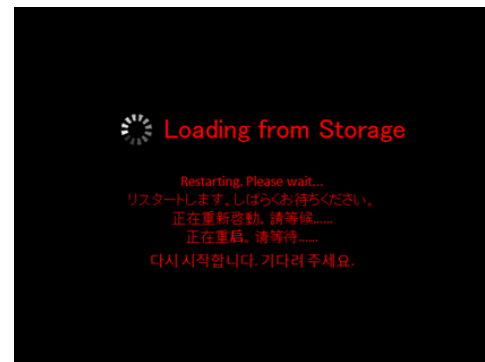
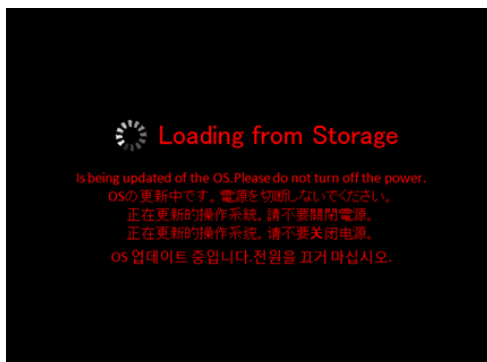
V10



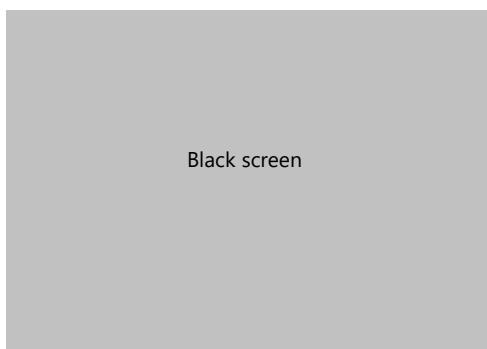
V9



5. The following message appears.

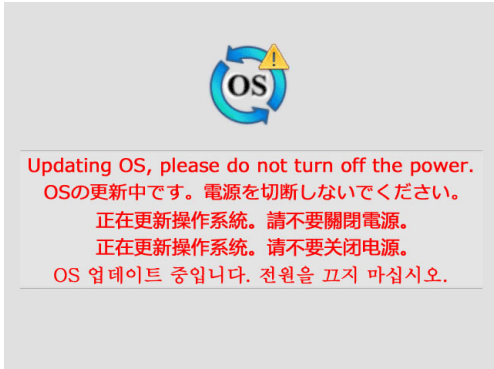


6. The screen turns black briefly.

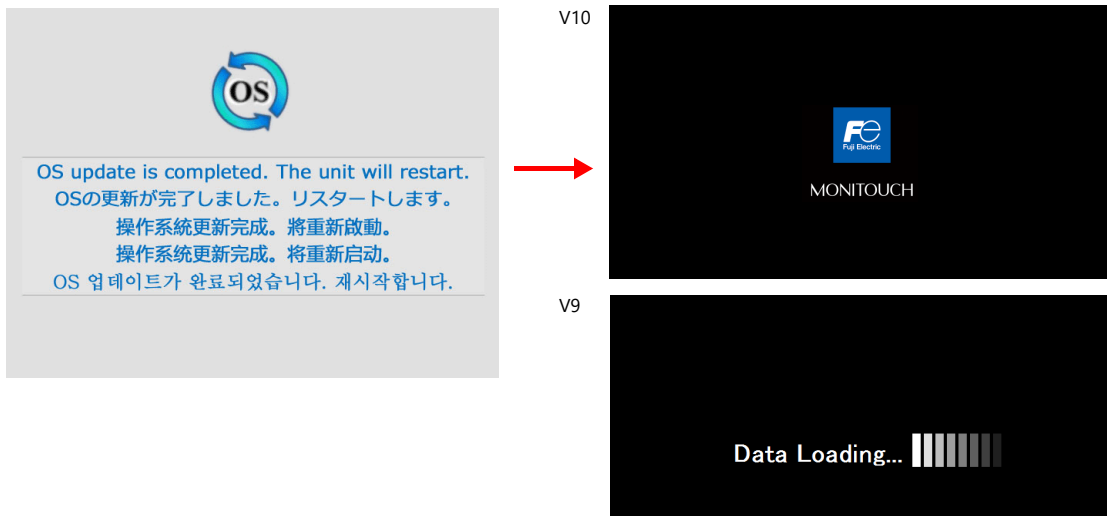


10. Screen Program Transfer

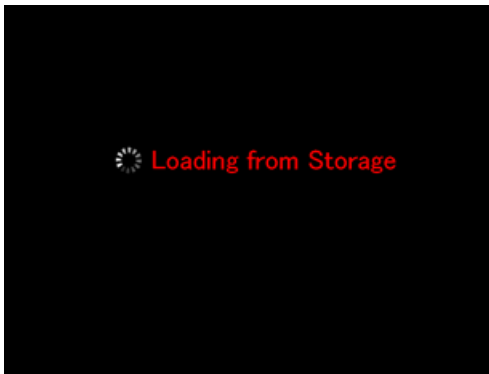
7. The following screen is displayed while the operating system is being updated. (Approximately 3 minutes)



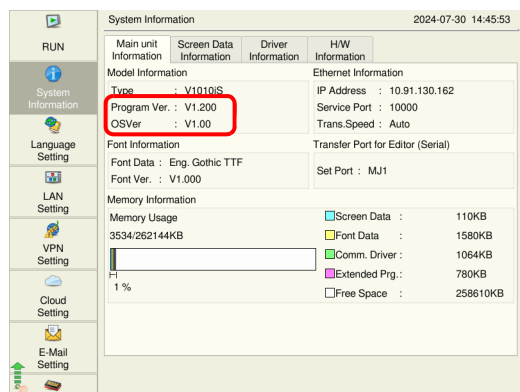
8. When the update completes without any errors, the following screen is displayed and MONITOUCH automatically reboots.



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.



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## Notes

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- 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 V10 (or V9)." 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.



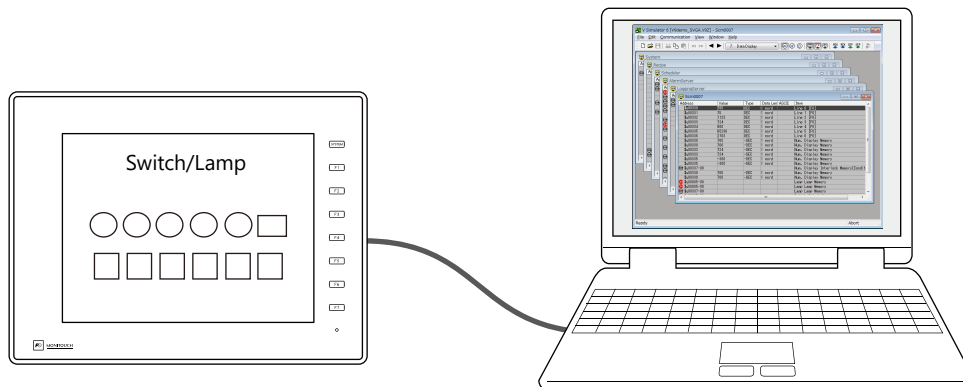
# 11 Simulator Function

## 11.1 Simulator

### 11.1.1 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.



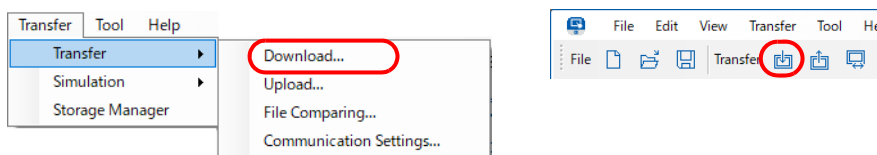
- \* The simulator can be used for only 1:1 connections. It cannot be used for 1:n and n:1 connections.
- \* The simulator cannot be used when the connection device is a barcode reader or slave communication device (V-Link, MODBUS slave).

### 11.1.2 Usage Procedure

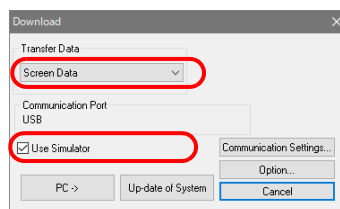
#### 1. Transferring the Simulator Driver

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.

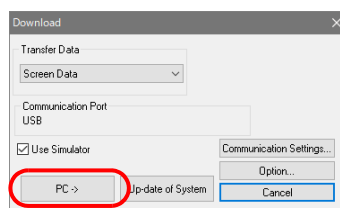
1. Click [Transfer] → [Transfer] → [Download], or click the [Download] icon on the toolbar.



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



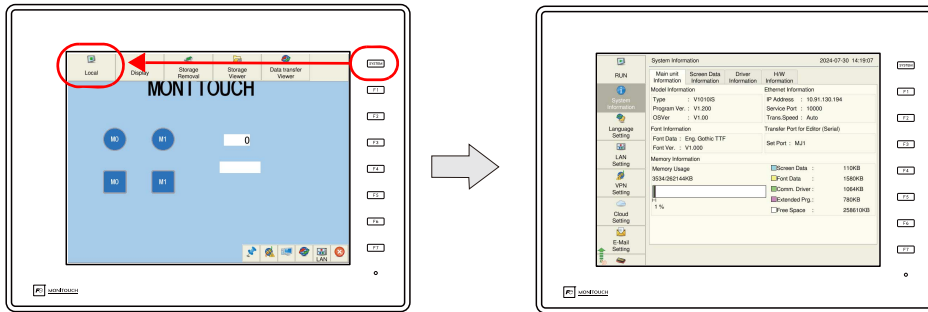
3. Click [PC →] to start transferring the screen program.



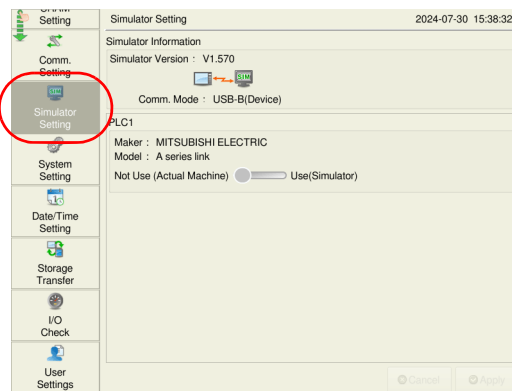
This completes the transfer procedure.

## 2. Settings on MONITOUCH

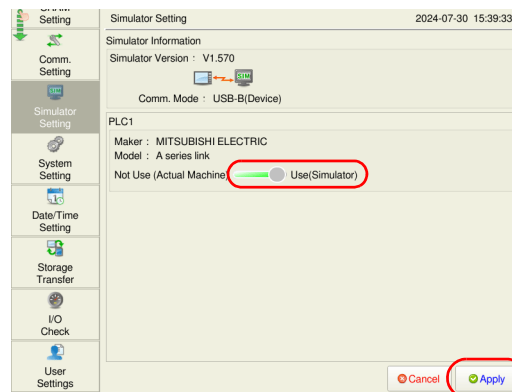
- Switch MONITOUCH to Local mode.  
Press the [SYSTEM] switch to display the system menu and then press [Local].



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

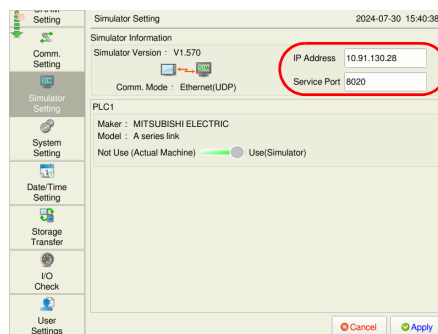


- Select [Use] for the PLC1 setting and then press [Apply].



### Ethernet connection

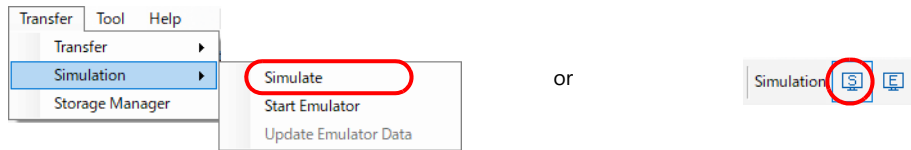
The IP address of the computer must be entered in the simulator information on the [Simulator Setting] screen. Set the service port to "8020".



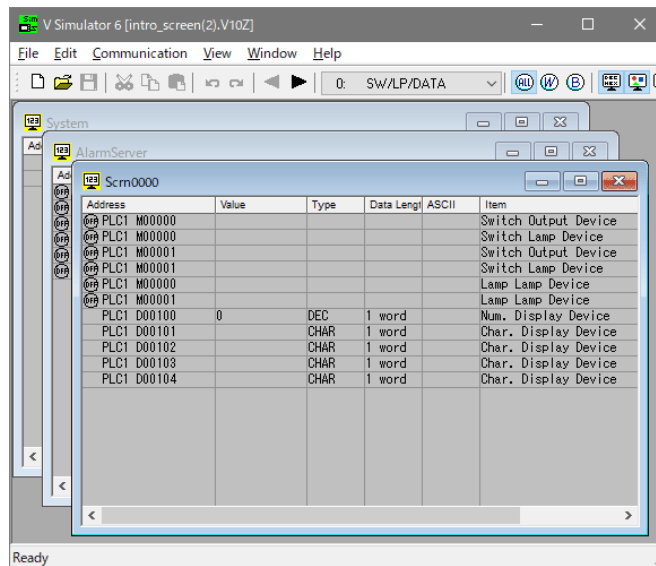
This completes the settings on MONITOUCH. Press [RUN] on the left-side menu in Local mode. MONITOUCH switches to RUN mode.

### 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.



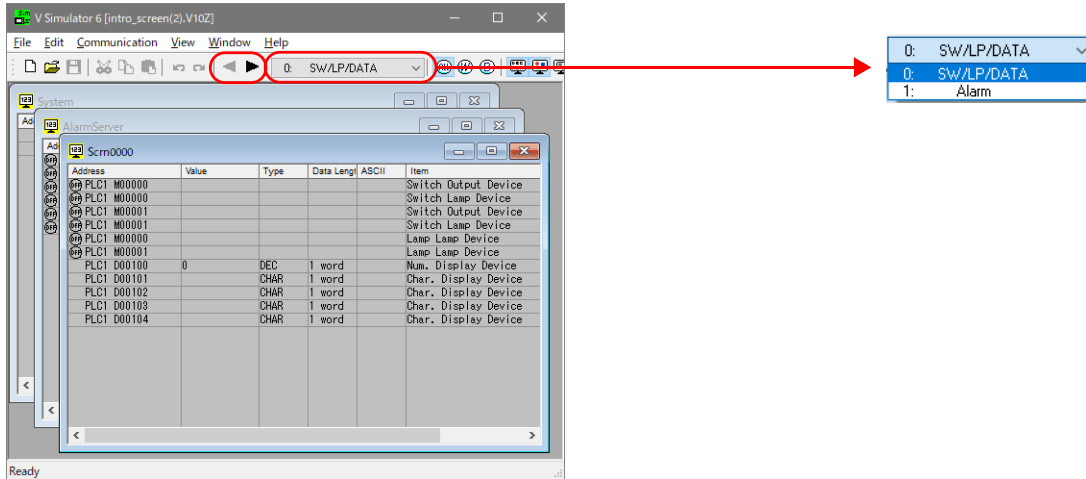
\* If MONITOUCH is in Local mode, it must be switched to RUN mode by pressing [RUN].

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

## 11.1.3 Operating the Simulator

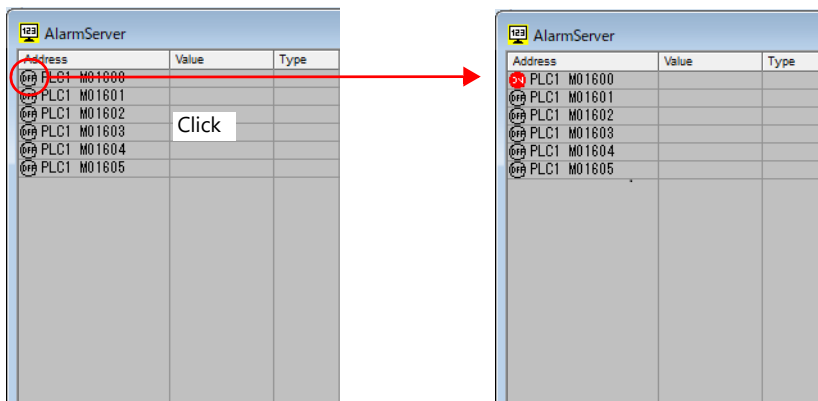
### Screen Changeover

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.



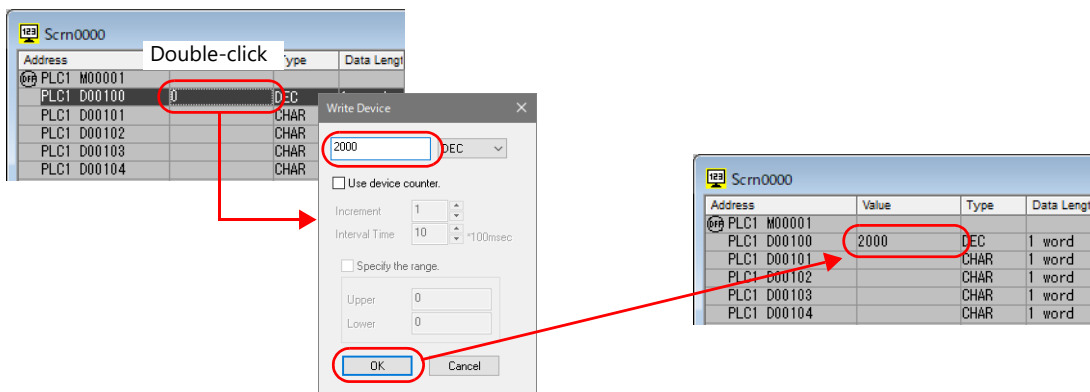
### Bit Operations

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



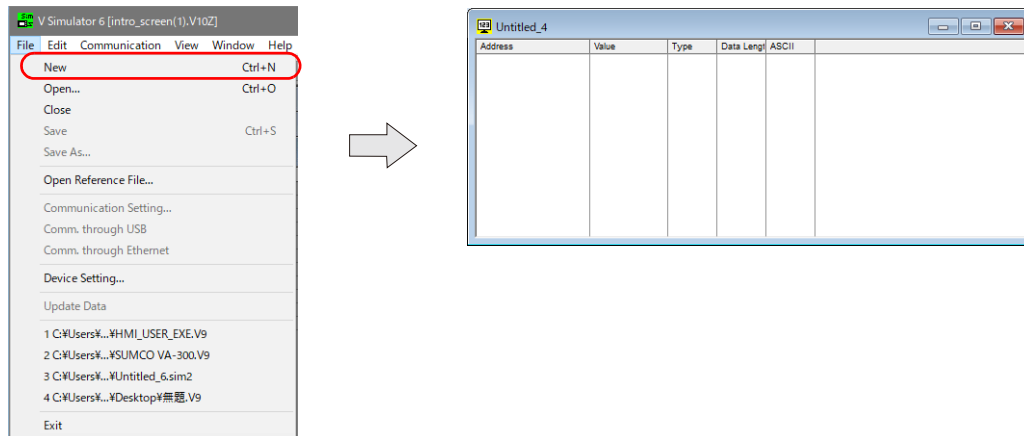
### Writing to Device Memory

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

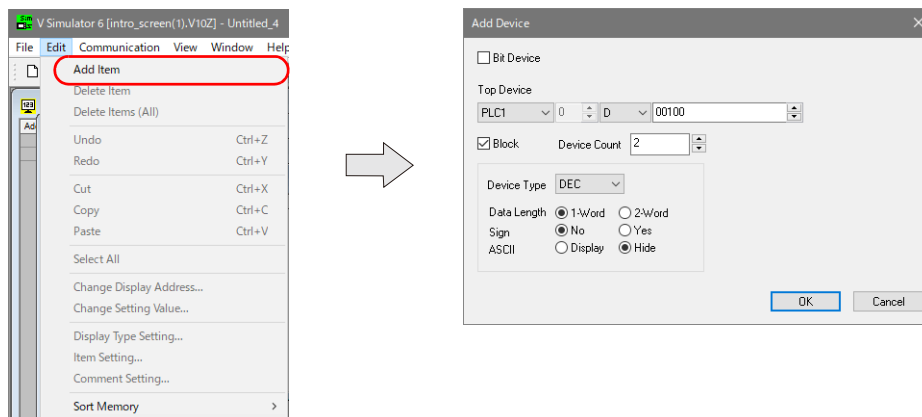


## Adding Device Memory Addresses

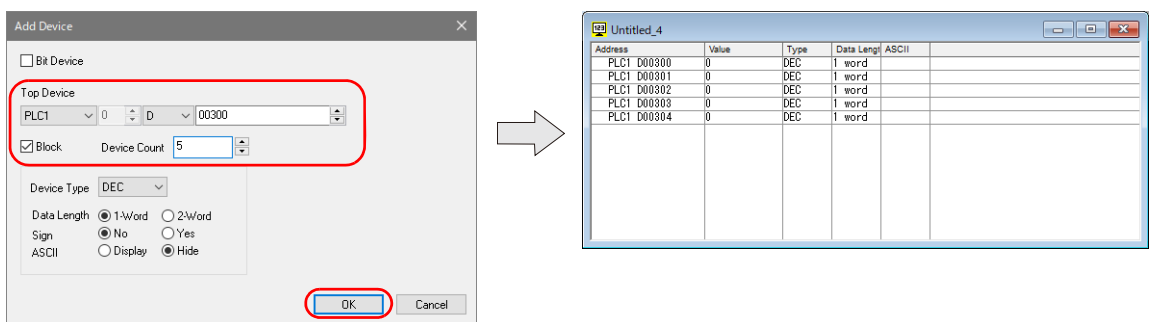
1. Add a new sheet by clicking [File] → [New].



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



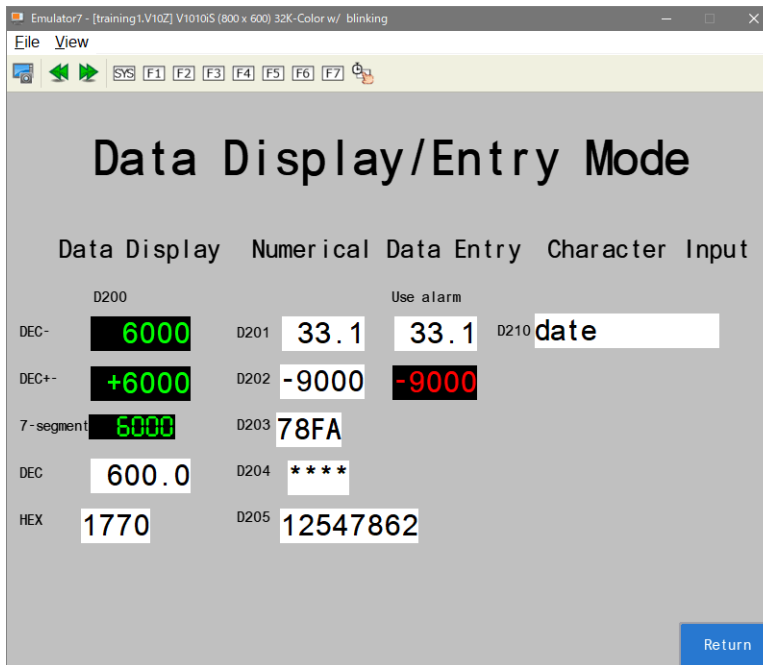
3. Specify the device memory to add and the number of addresses and click [OK]. The device memory addresses are added.



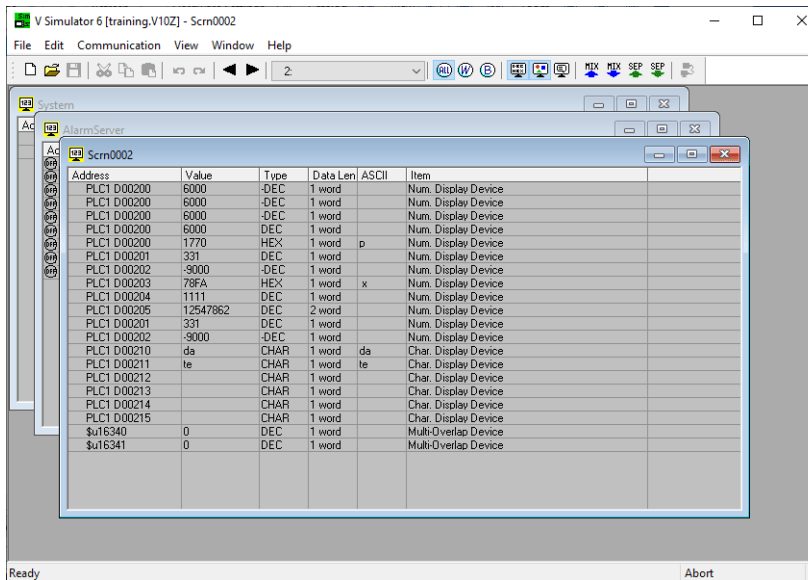
## 11.2 Emulator

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



# 12 Convenient Editor Functions

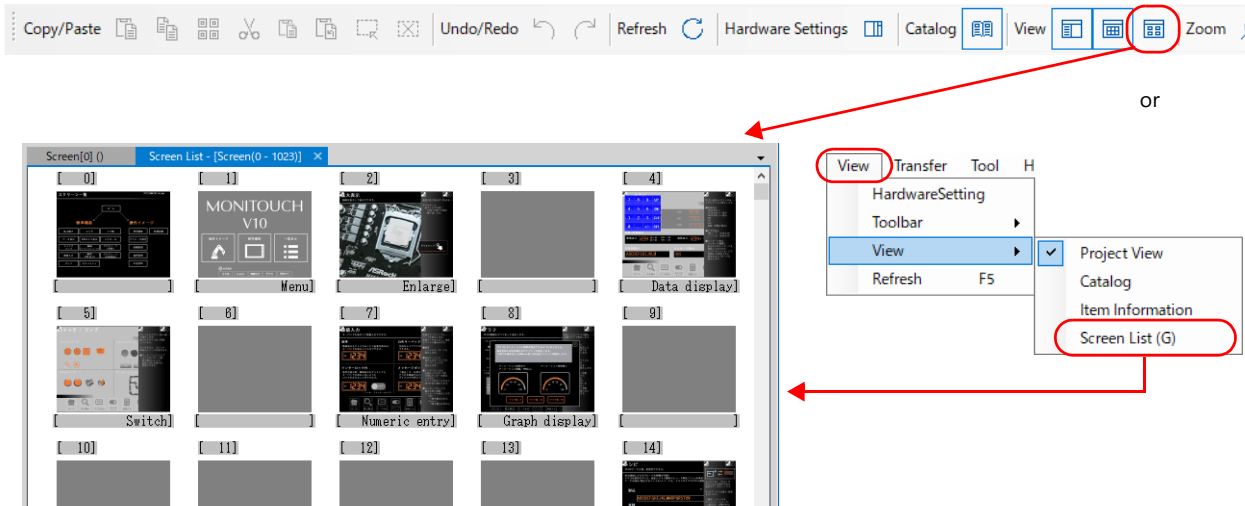
## 12.1 View Panes

### 12.1.1 Screen List

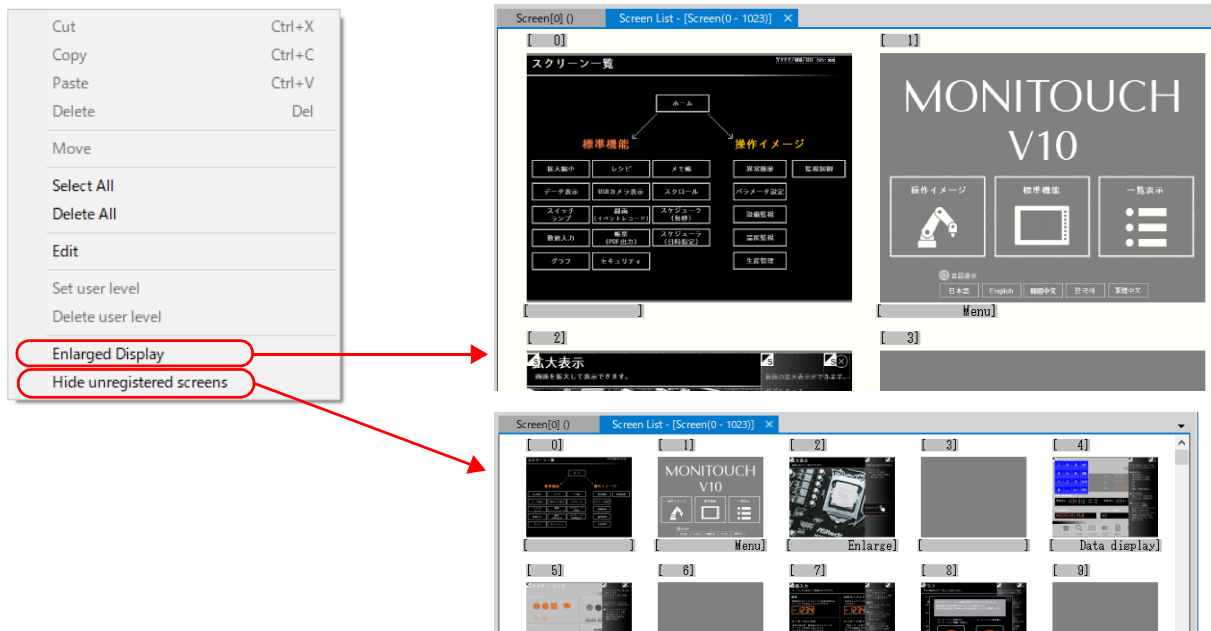
This section explains how to display a list of screens that can be selected for editing or copied.

#### Display Method

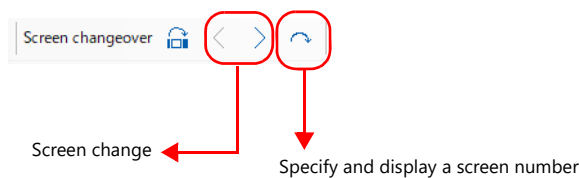
Click the [Screen List] icon on the toolbar, or click [View] → [View] → [Screen List].  
The [Screen List] window is displayed.



Select [Enlarged Display] on the right-click menu to show screens enlarged.  
Screens with no registration can be hidden by selecting [Hide unregistered screens].

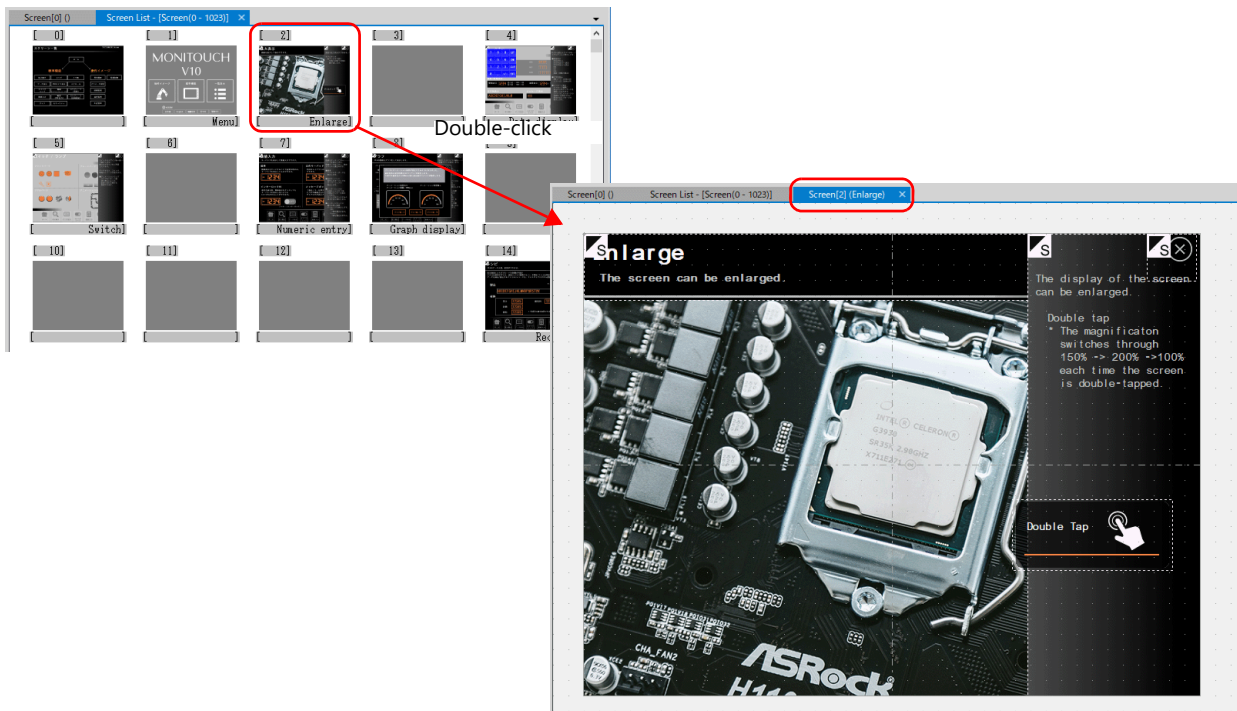


The [Screen List] displays 1024 screens. For screen numbers 1024 and after, use the [Previous Screen]/[Next Screen] icons on the toolbar or the [Jump] icon to specify and display a particular screen number.



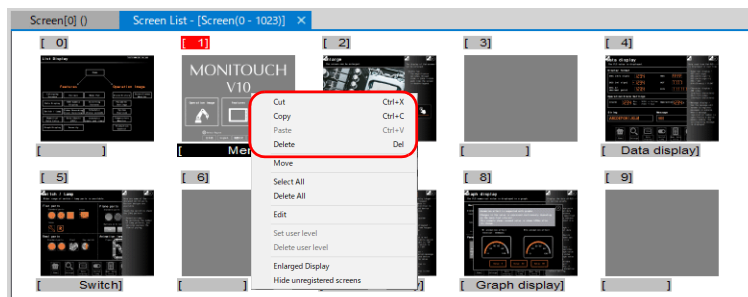
## Selecting Screens for Editing

With the [Screen List] window displayed, double-click the screen for editing to display it.

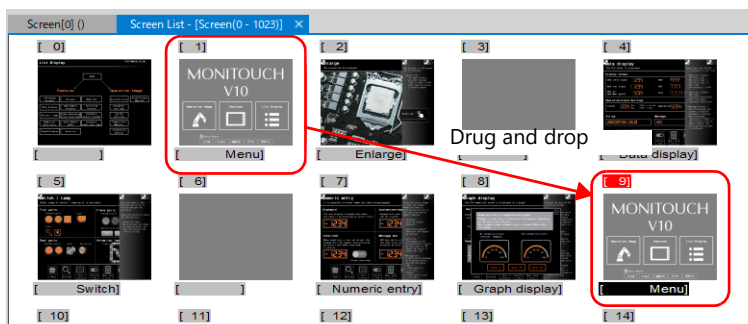


## Copying and Deleting Screens

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

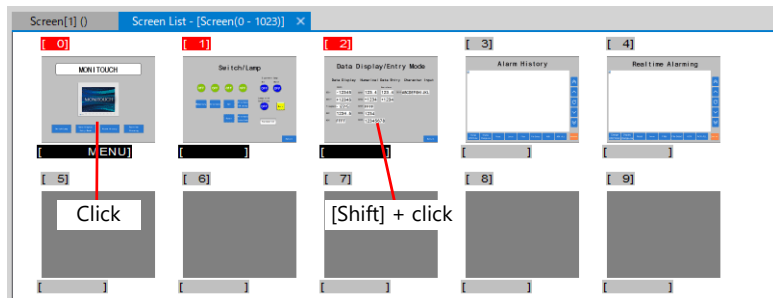


- Using drag and drop  
Select the screen to copy and drag it to the copy destination to copy the screen.

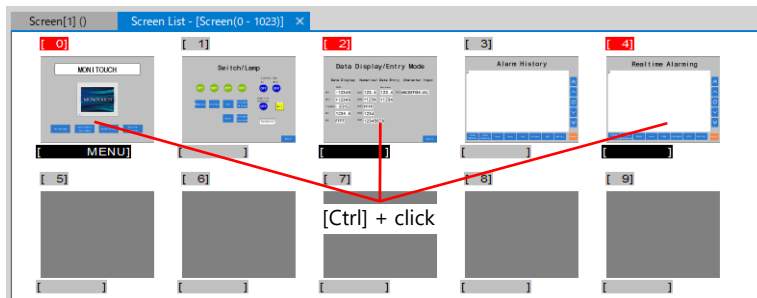




- Selecting multiple screens
  - After clicking the first screen, hold down the [Shift] key and then click the last screen to consecutively select multiple screens.



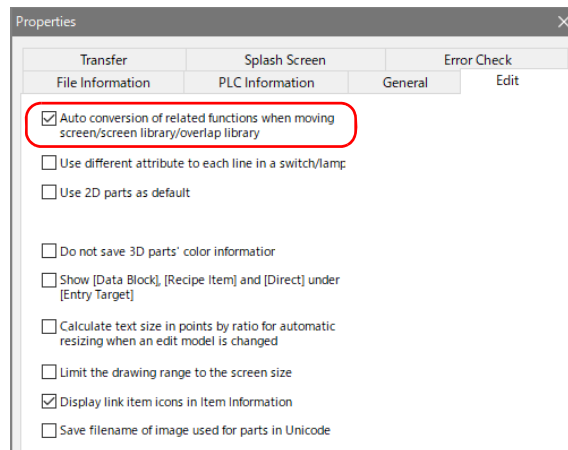
- Hold down the [Ctrl] key to only select the screens that are clicked.



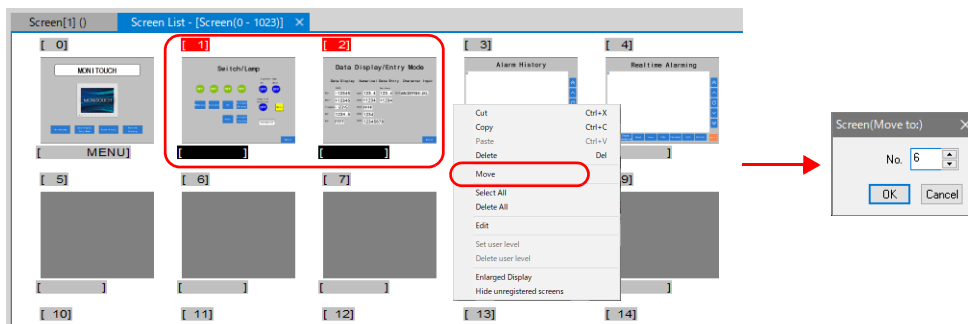
## Moving Screens

To change the screen registration number, the settings of [Screen Change-over] switches can be converted automatically by using the [Move] command on the [Screen List] window.

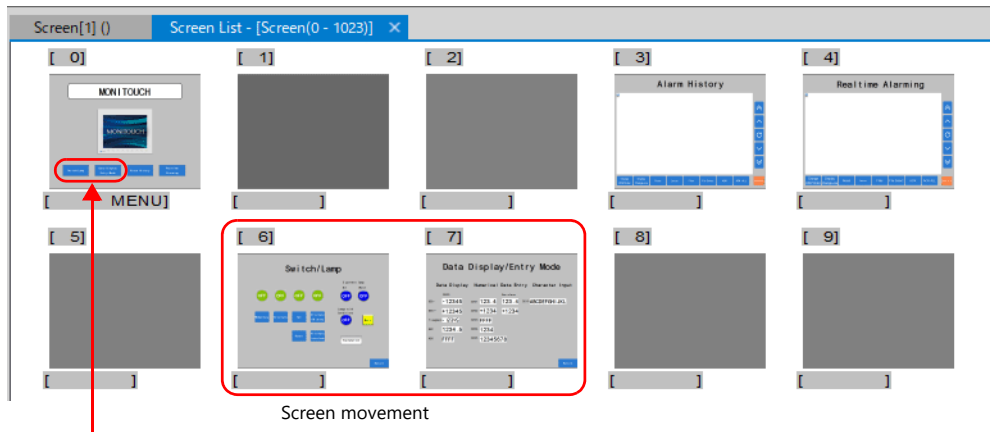
1. Select the [File] → [Properties] → [Edit] → [Auto conversion of related functions when moving screen/screen library/overlap library] checkbox.



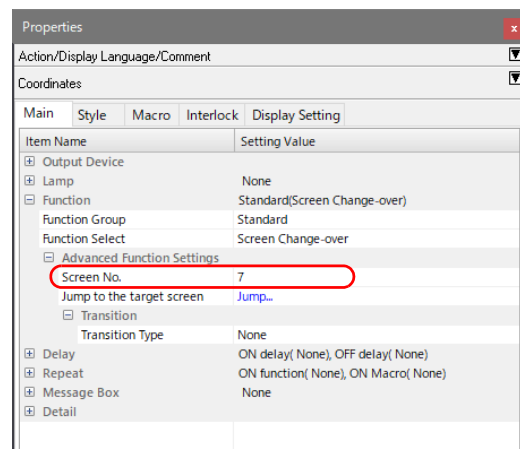
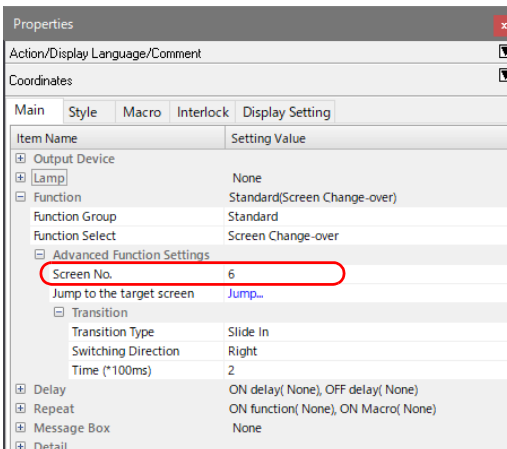
2. Select the screen to move on the [Screen List] window, click [Move] on the right-click menu, and specify the destination number.



- The number settings of relevant screen changeover switches are automatically converted when the screen is moved.



Automatic conversion of screen changeover switches



## 12.1.2 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].

or

View Transfer Tool H  
HardwareSetting  
Toolbar  
View  
Refresh F5

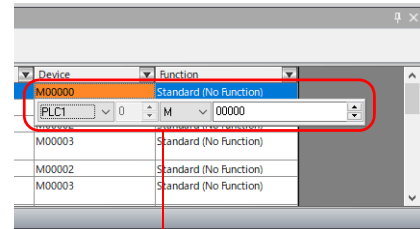
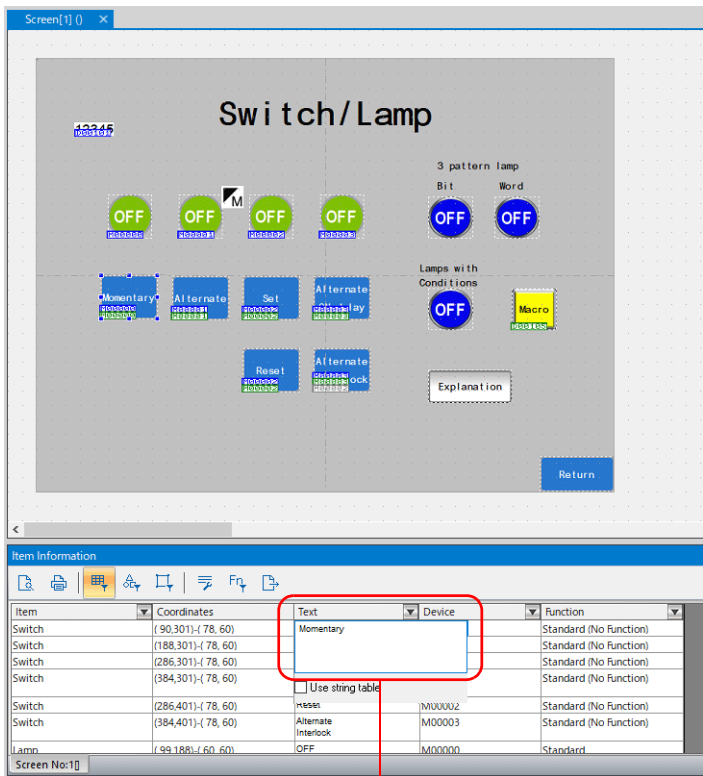
Project View  
Catalog  
Item Information  
Screen List (G)

Item	Coordinates	Text	Device	Function
Switch	(90,301)-(78,60)	Momentary	M00000	Standard (No Function)
Switch	(188,301)-(78,60)	Alternate	M00001	Standard (No Function)
Switch	(286,301)-(78,60)	Set	M00002	Standard (No Function)
Switch	(384,301)-(78,60)	Alternate ON delay	M00003	Standard (No Function)
Switch	(286,401)-(78,60)	Reset	M00002	Standard (No Function)
Switch	(384,401)-(78,60)	Alternate Interlock	M00003	Standard (No Function)
Lamp	(99,188)-(60,60)	OFF	M00000	Standard

Screen No:1

## Utilizing Item Information

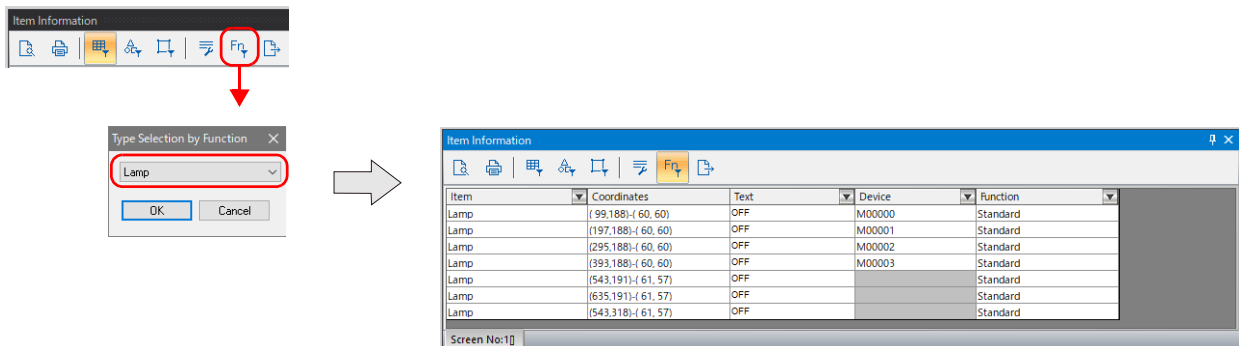
- Selecting items  
Click the name of an item on the [Item Information] pane to select the item.  
The settings of items displayed in the item list can be changed directly.



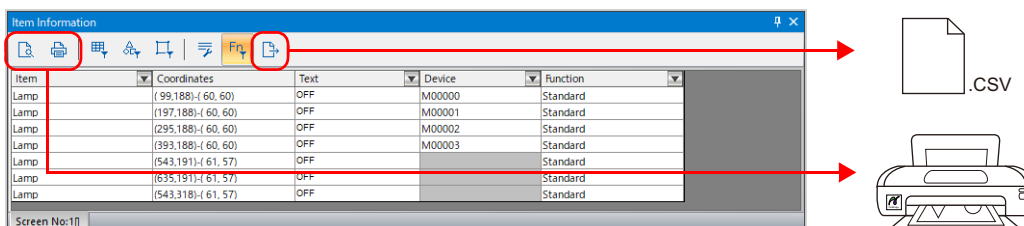
Text change

Device memory change  
Double-click to change device memory settings.

- 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.

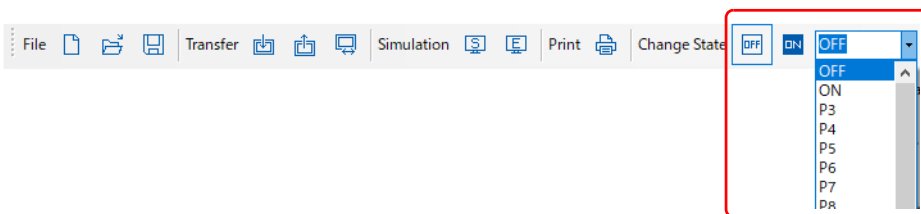


## 12.2 Toolbars

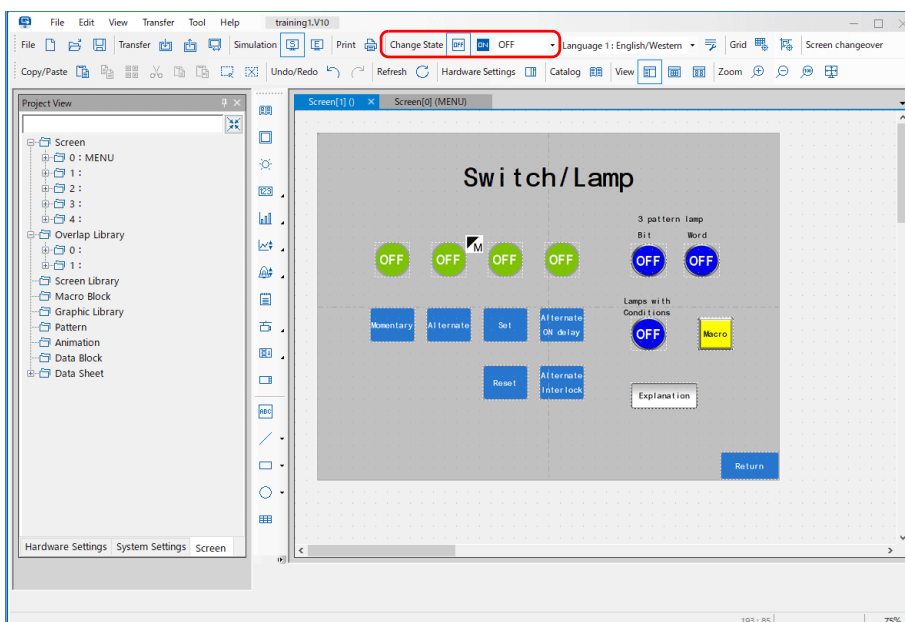
### 12.2.1 Changing Switch and Lamp States

#### Entire Screen

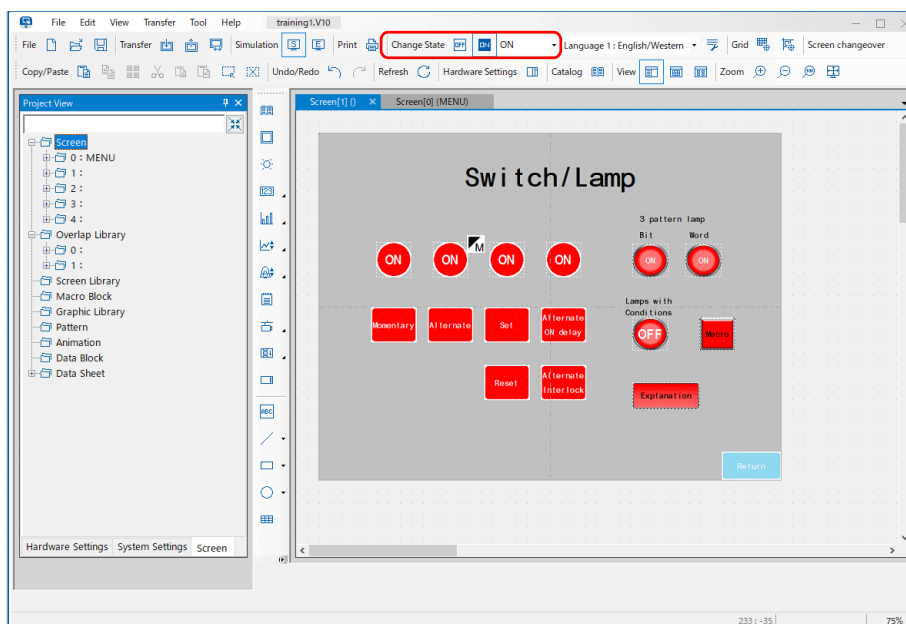
The ON/OFF state of switches and lamps placed on the screen can be changed.



- OFF



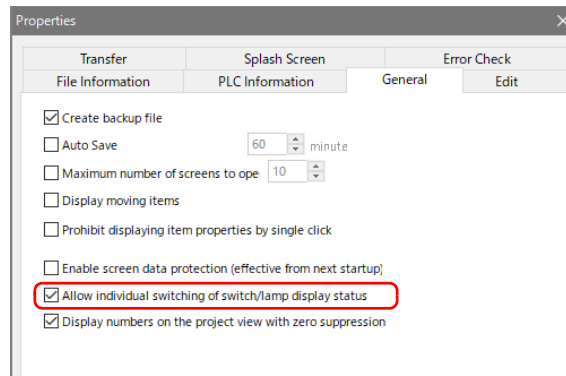
- ON



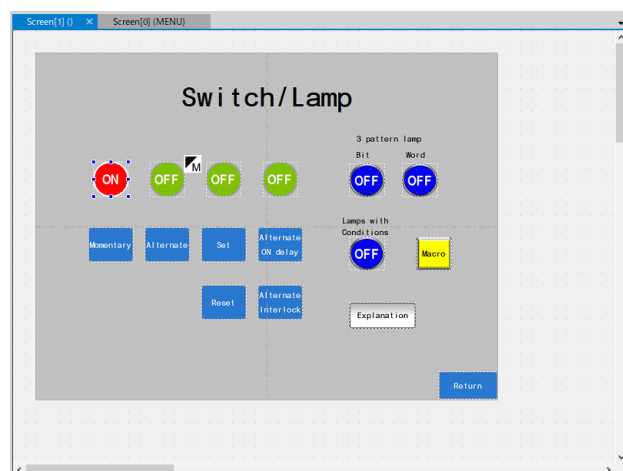
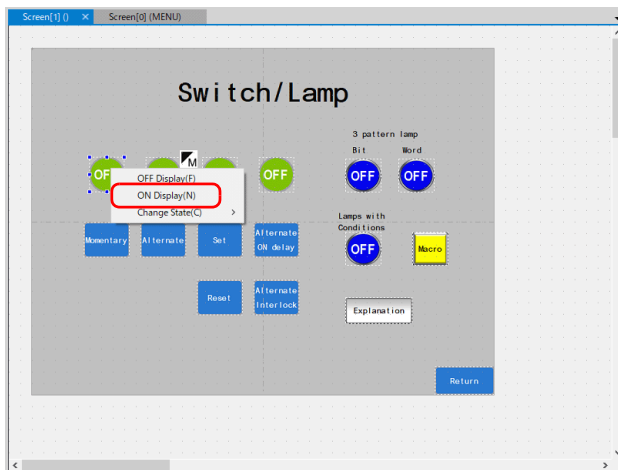
## Individual Parts

The ON/OFF state of selected switches and lamps can be changed.

1. Select the [File] → [Properties] → [General] → [Allow individual switching of switch/lamp display status] checkbox.

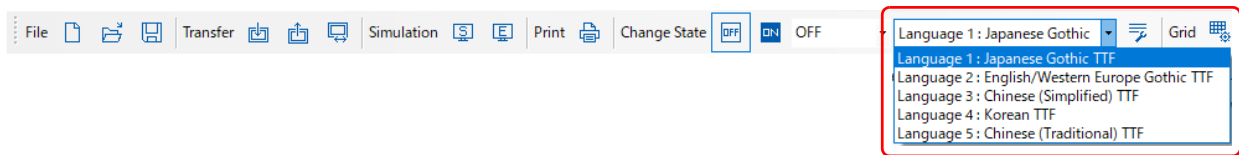


2. Click a part on the screen. Wait without moving the mouse to display the status change menu.
3. Select [ON Display].



## 12.2.2 Changing Languages

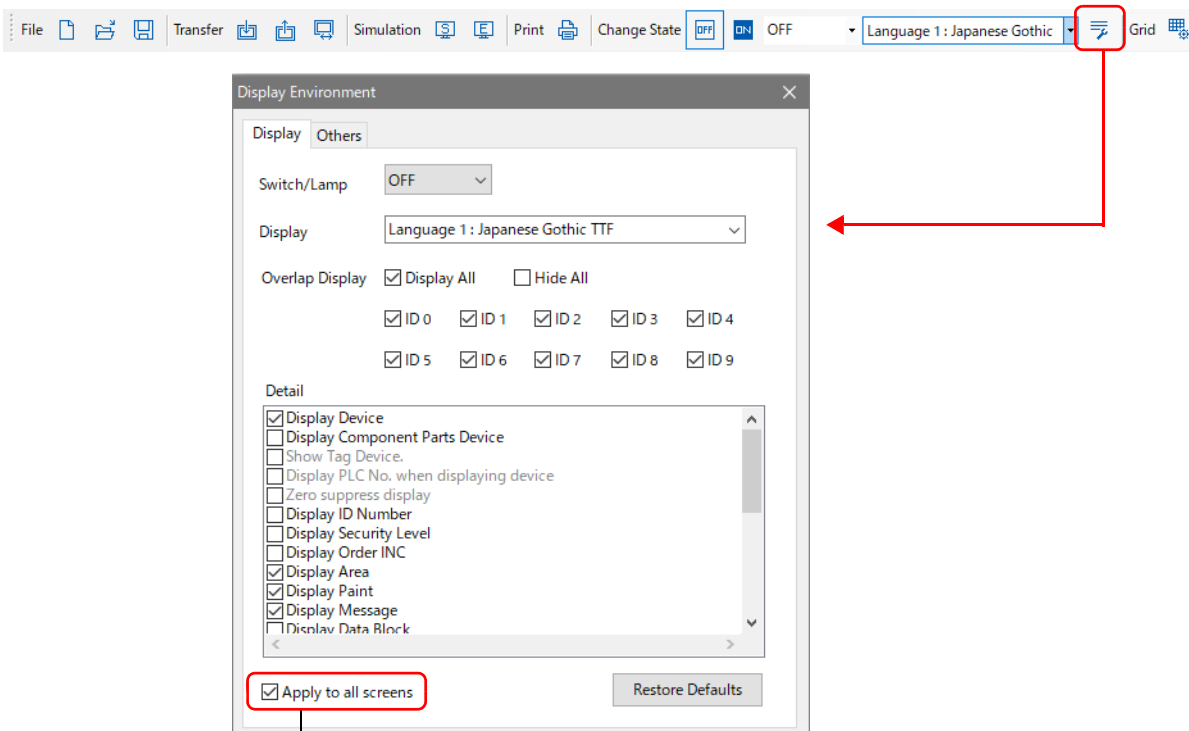
For screens with multiple display languages, the text on items placed on the screen can be changed to the text registered for each language.



## 12.2.3 Display Environment

The content displayed on screens can be batch configured.

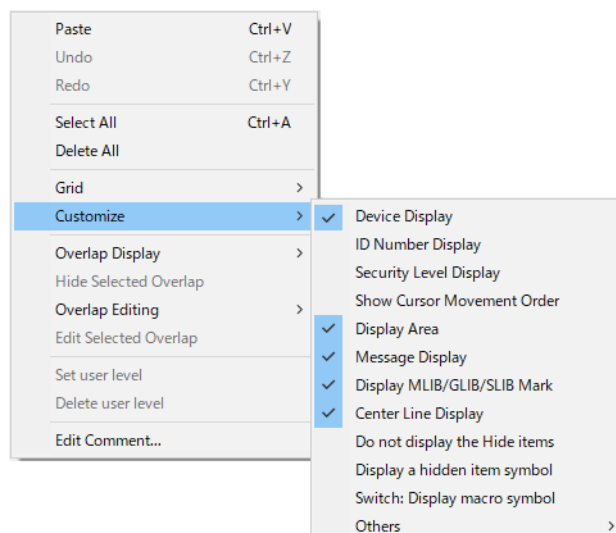
### Display Method



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

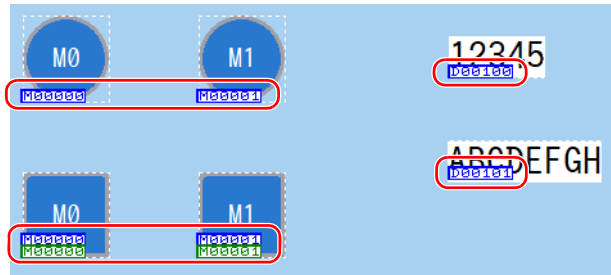
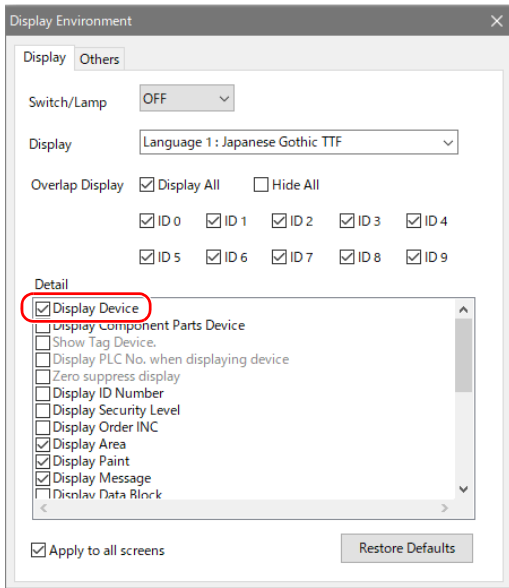


Display environment setting items can also be selected from the right-click menu.



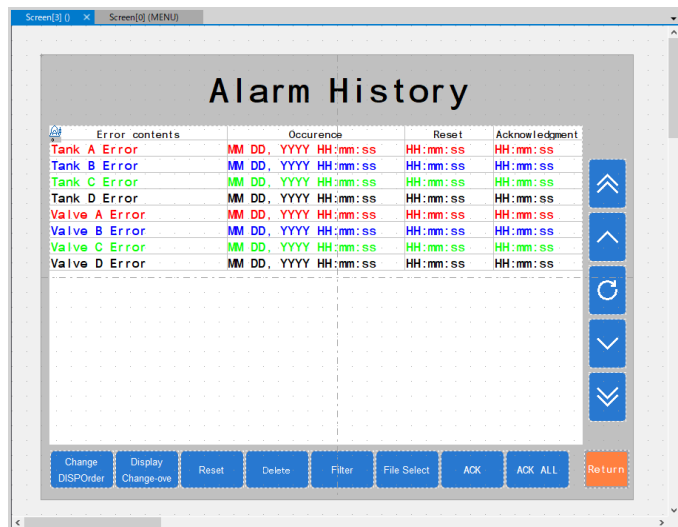
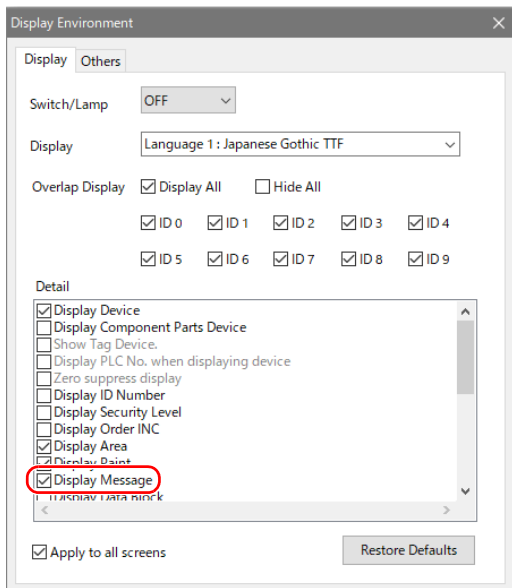
## Device Memory

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



## Message

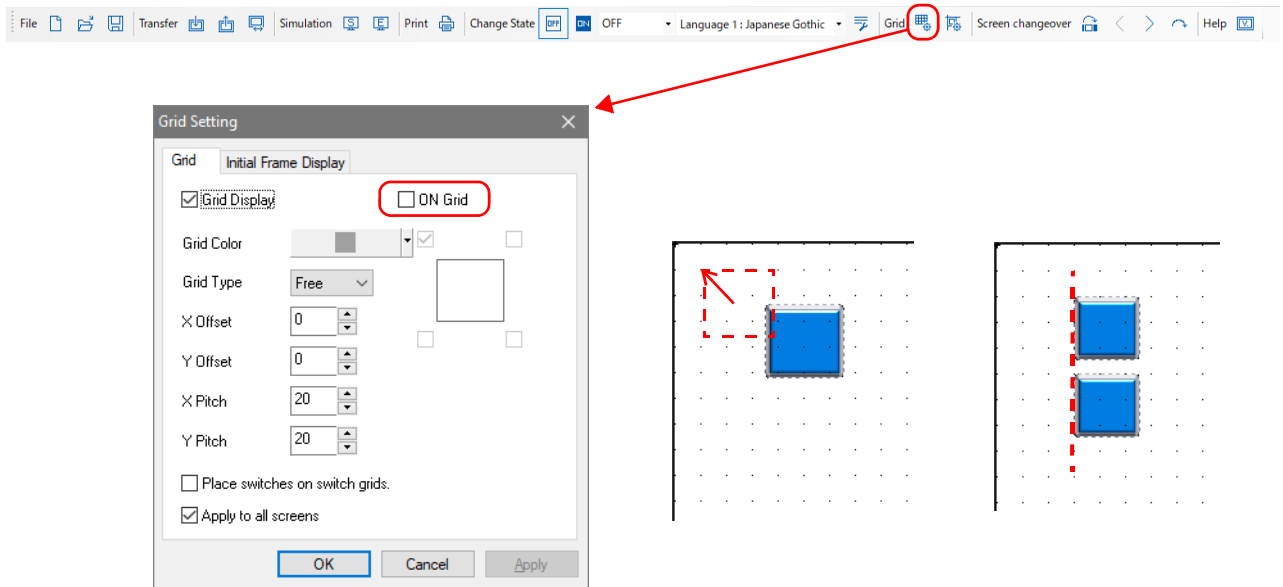
Messages specified using the alarm function etc. can be checked on the screen.



## 12.2.4 Grid

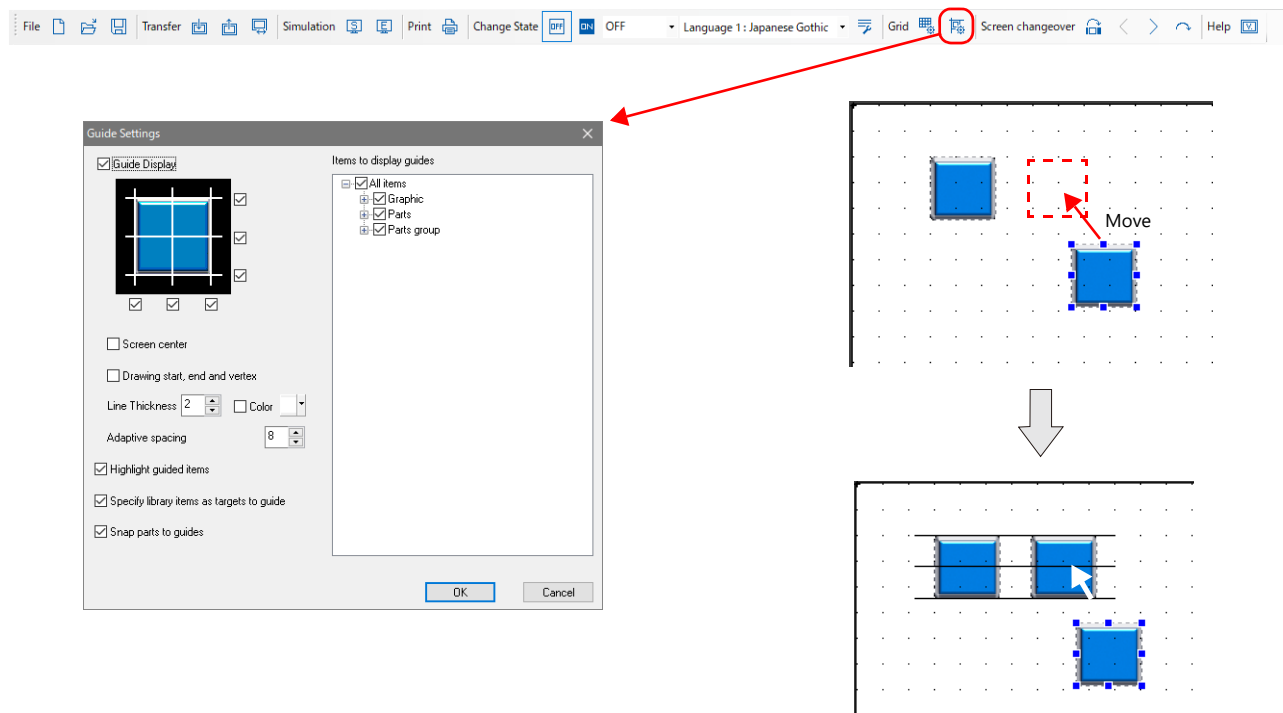
### Grid Display

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



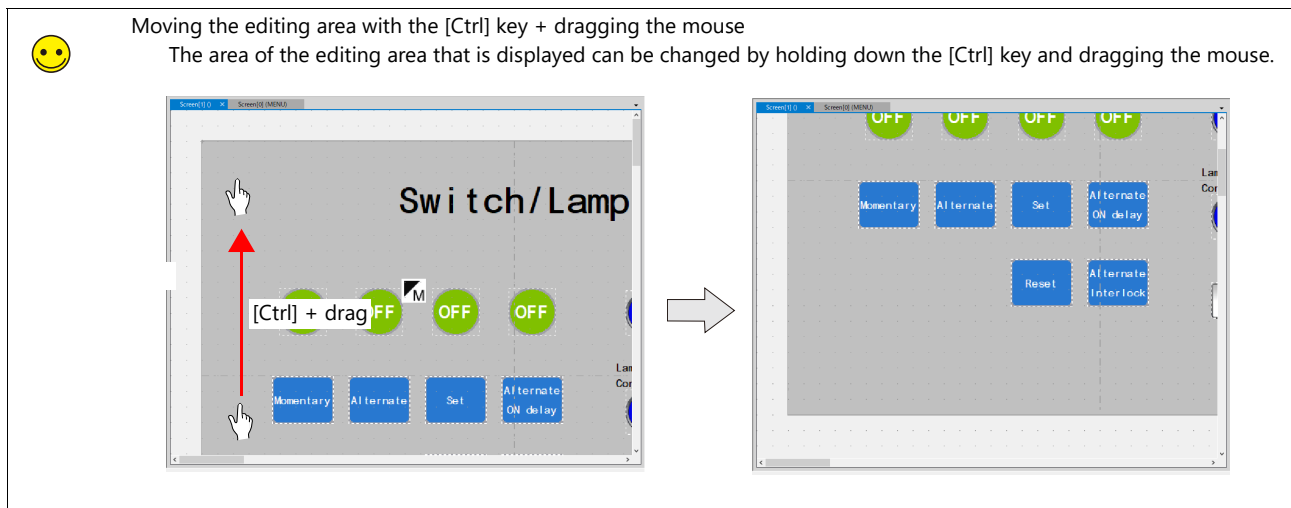
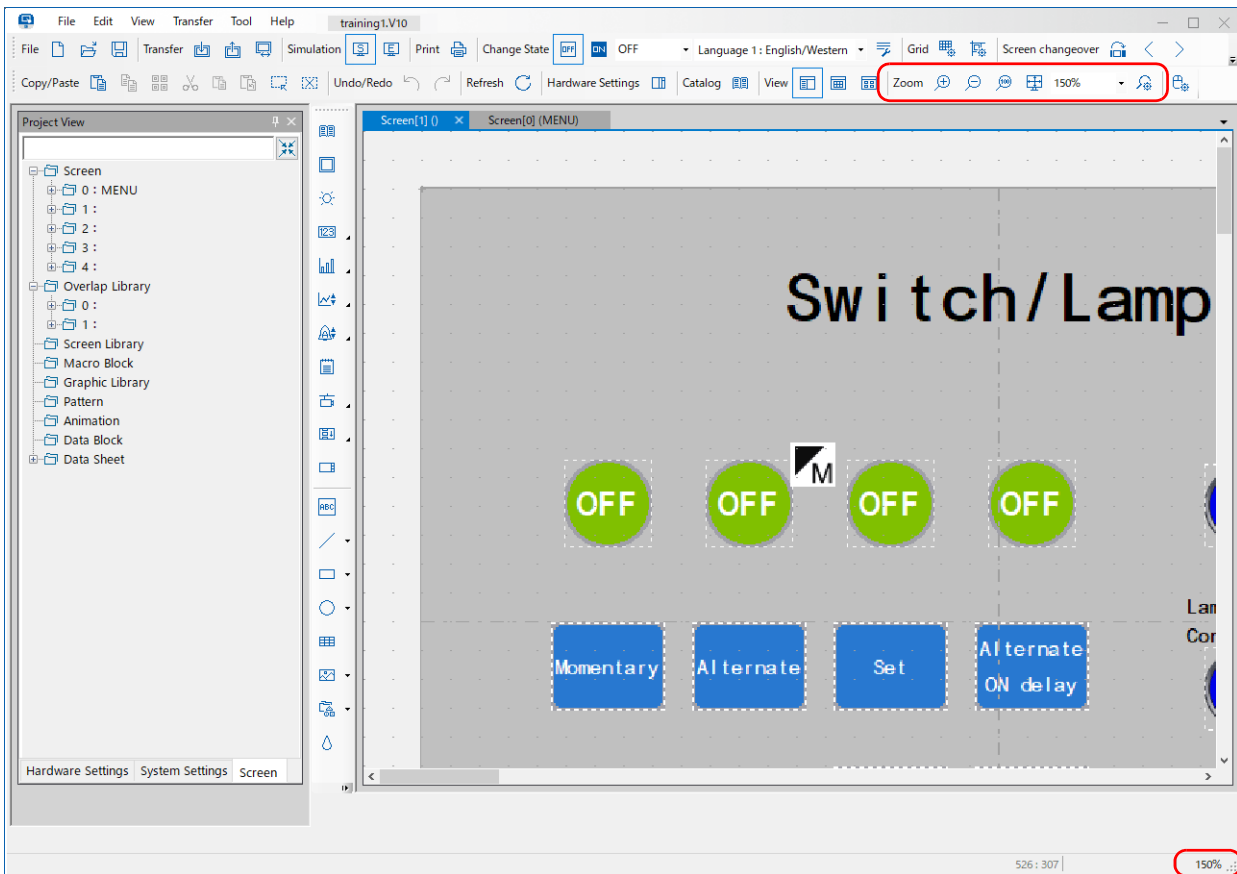
## 12.2.5 Guides

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



## 12.2.6 Zoom

The display size of the screen can be changed.



## 12.3 Layout

### 12.3.1 Alignment

Use the [Edit] menu to align the placement of multiple selected items.

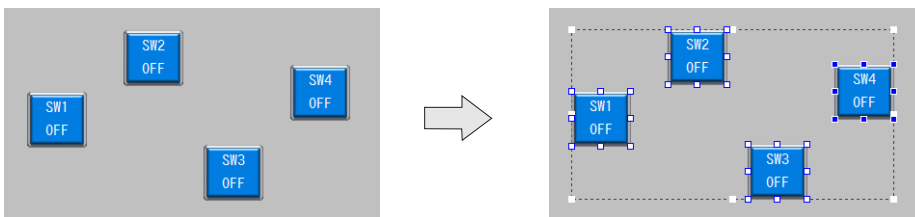
Toolbar



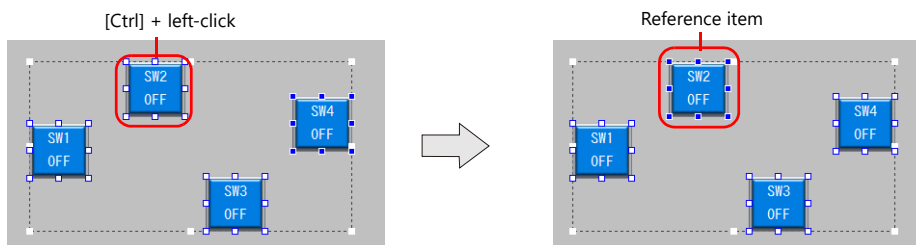
Item	Description
1. Align Left	Aligns the position of the selected items to the left edge of the reference item.
2. Align Right	Aligns the position of the selected items to the right edge of the reference item.
3. Align Top	Aligns the position of the selected items to the top edge of the reference item.
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 horizontal center of the reference item.
6. Align Middle	Aligns the position of the selected items to the vertical center of the reference item.

### Operating Procedure

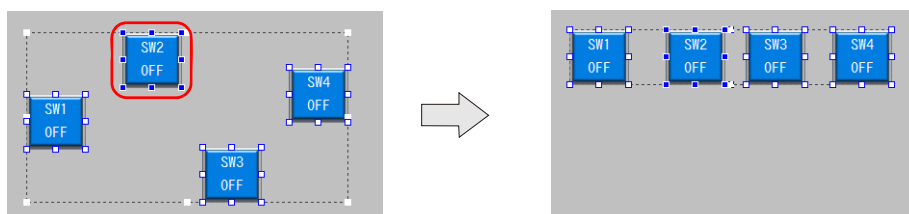
1. Select multiple items for arrangement.



2. Select the reference item by holding down the [Ctrl] key and left clicking.

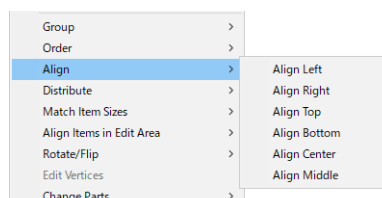


3. Select an alignment icon.
  - Example: When [Align Top] is selected



The alignment commands are also accessible from the right-click menu.

The same commands can be applied by selecting the items for alignment and then right-clicking the mouse and selecting the desired command.



## 12.3.2 Distribution

Use the distribution commands to evenly distribute multiple selected items.

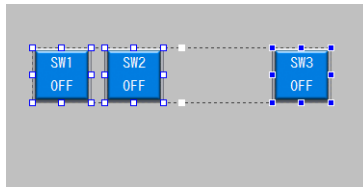
Toolbar



Item	Description
1. Distribute Horizontally (Fixed-width)	Distributes the selected items at equal intervals horizontally.
2. Distribute Vertically (Fixed-width)	Distributes the selected items at equal intervals vertically.
3. Distribute Horizontally (Specified-width)	Distributes the selected items at the specified interval horizontally.
4. Distribute Vertically (Specified-width)	Distributes the selected items at the specified interval vertically.

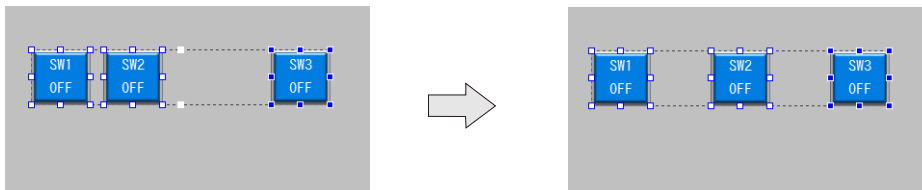
### Operating Procedure

1. Select multiple items for distribution.



2. Select the distribution method from the [Distribute] icons.

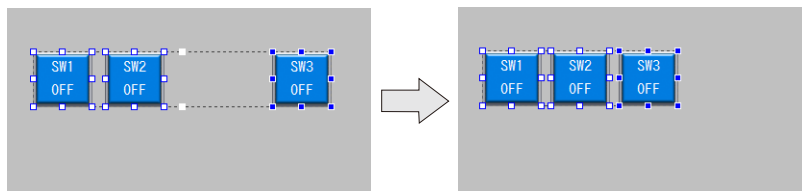
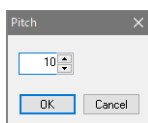
- Example 1: When [Distribute Horizontally (Fixed-width)] is selected



- Example 2: When [Distribute Horizontally (Specified-width)] is selected

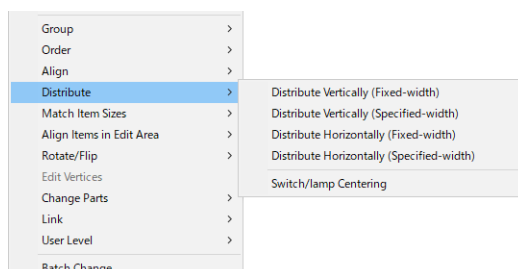
When [Distribute Horizontally (Specified-width)] or [Distribute Vertically (Specified-width)] is selected, the distribution interval can be specified.

Specify the interval in dots.



The distribution commands are also accessible from the right-click menu.

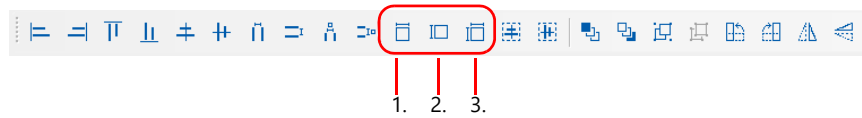
The same commands can be applied by selecting the items for distribution and then right-clicking the mouse and selecting the desired command.



## 12.3.3 Matching Size

Use the [Edit] menu to match the size of multiple selected items.

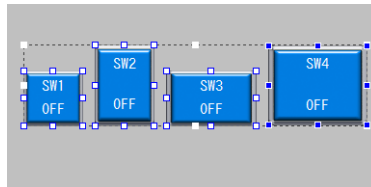
Toolbar



Item	Description
1. Width	Matches the width of the selected items to the width of the reference item.
2. Height	Matches the height of the selected items to the height of the reference item.
3. Whole	Matches the size of the selected items to the dimensions of the reference item.

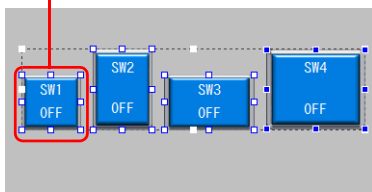
### Operating Procedure

1. Select multiple items for size matching.

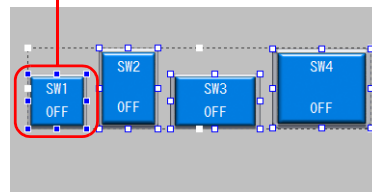


2. Select the reference item by holding down the [Ctrl] key and left clicking.

[Ctrl] + left-click

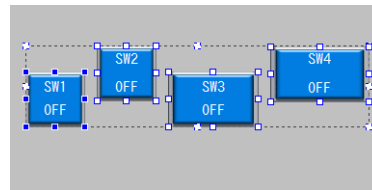
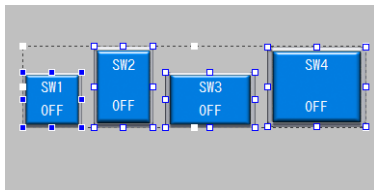


Reference item



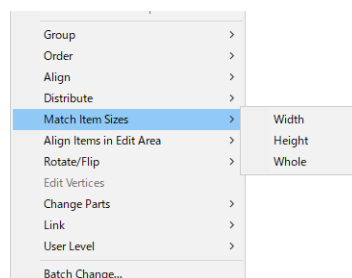
3. Select the items to be matched and select a size matching command.

- Example: When [Match Height] is selected



The size matching commands are also accessible from the right-click menu.

The same commands can be applied by selecting the items for matching and then right-clicking the mouse and selecting the desired command.



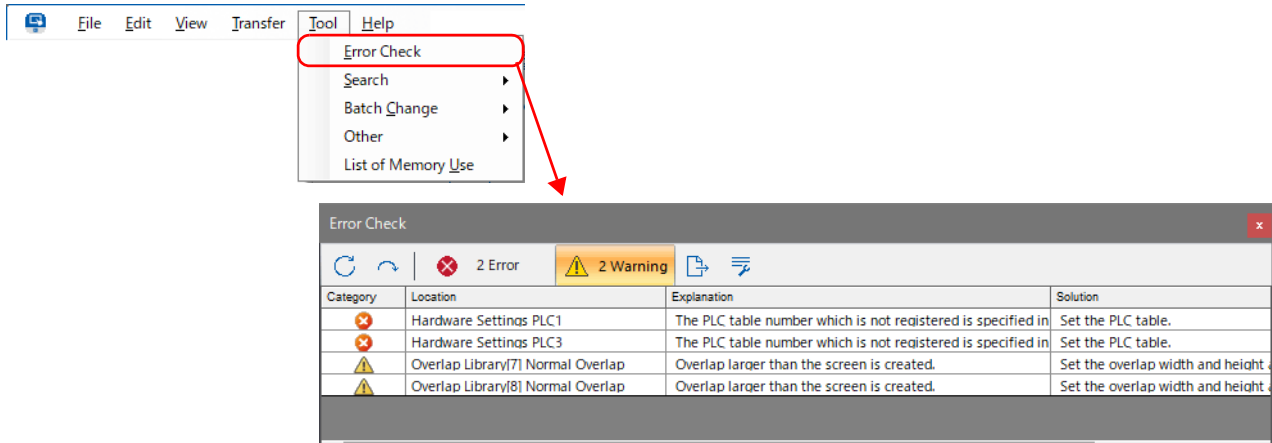
## 12.4 Tool Menu

### 12.4.1 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.

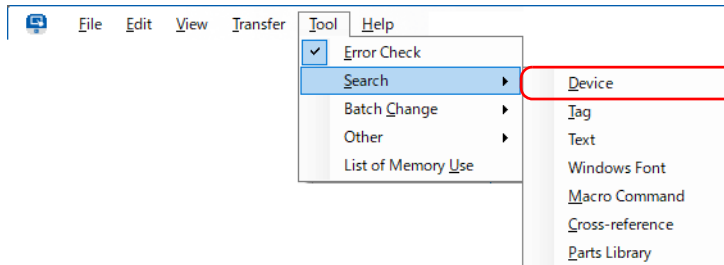
## 12.4.2 Search

### Device Memory

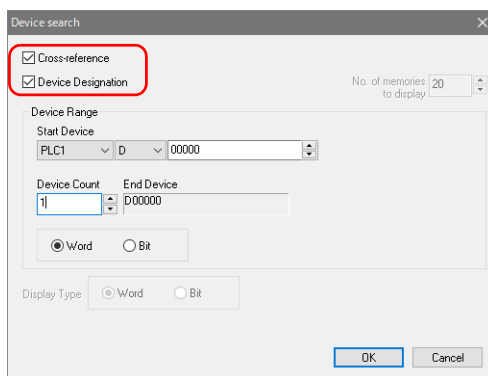
Search the device memory addresses used in the entire file and check the locations of use.

#### Search Method

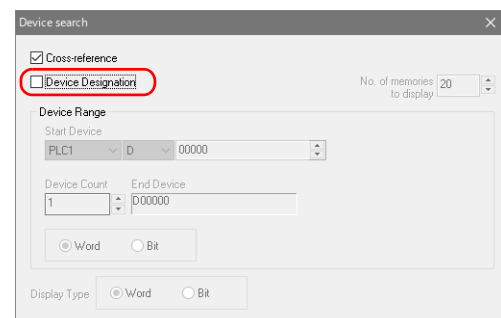
1. Click [Tool] → [Search] → [Device]. The [Device search] window appears.



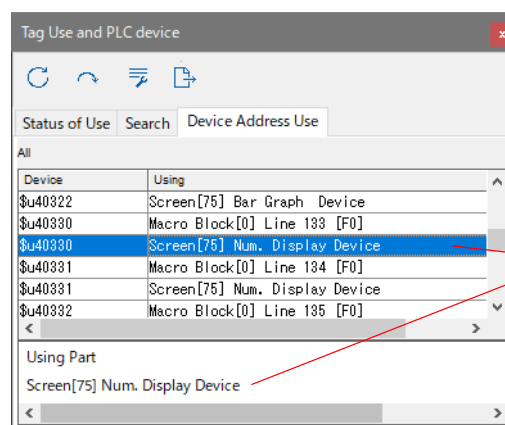
2. Select [Cross-reference] and [Device Designation], and specify the range of device memory addresses to search.



- \* 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.

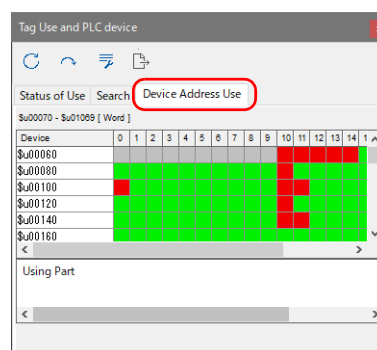


Double-click to jump to the location of use.



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

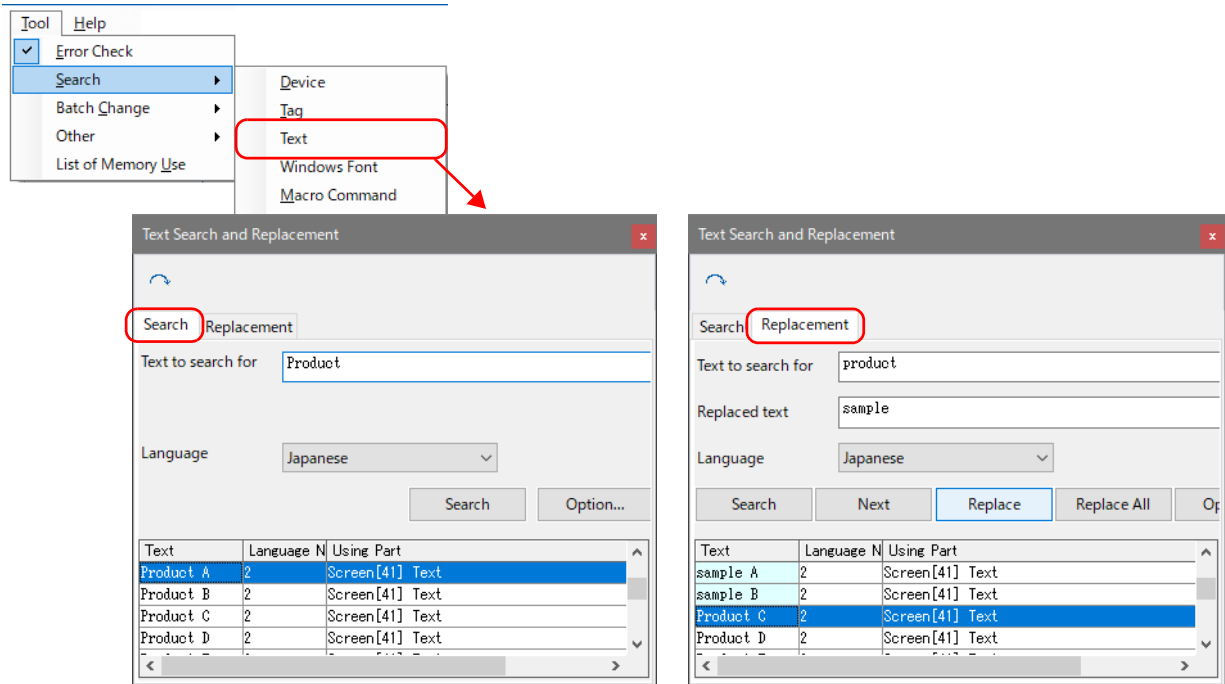
## Text

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.



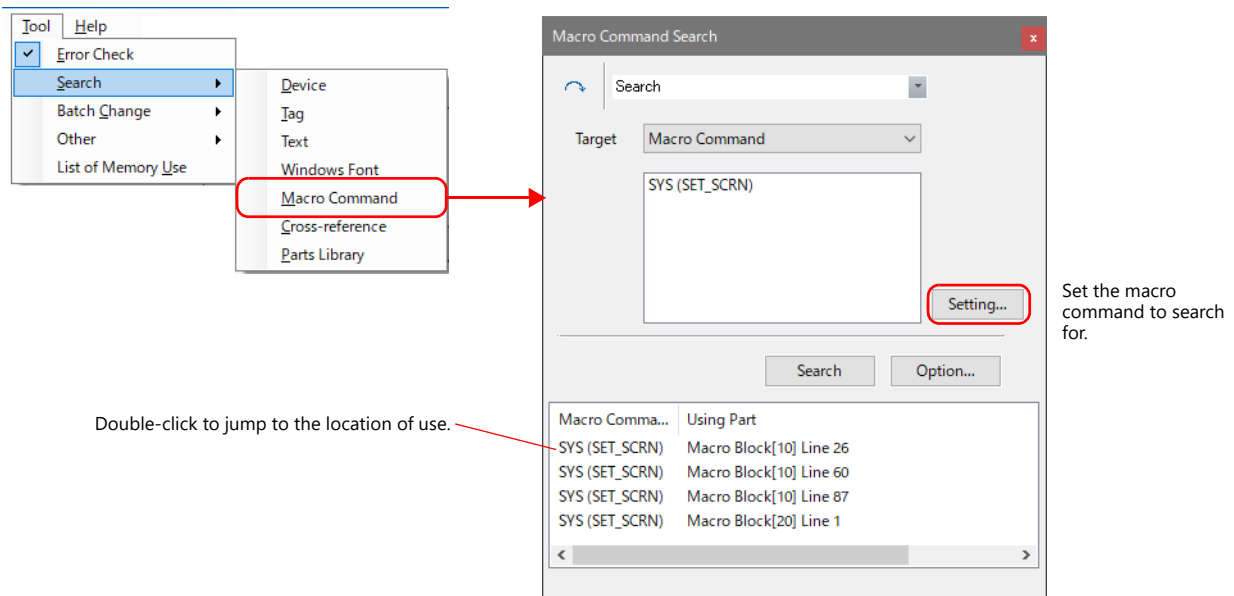
## Macro Command

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].

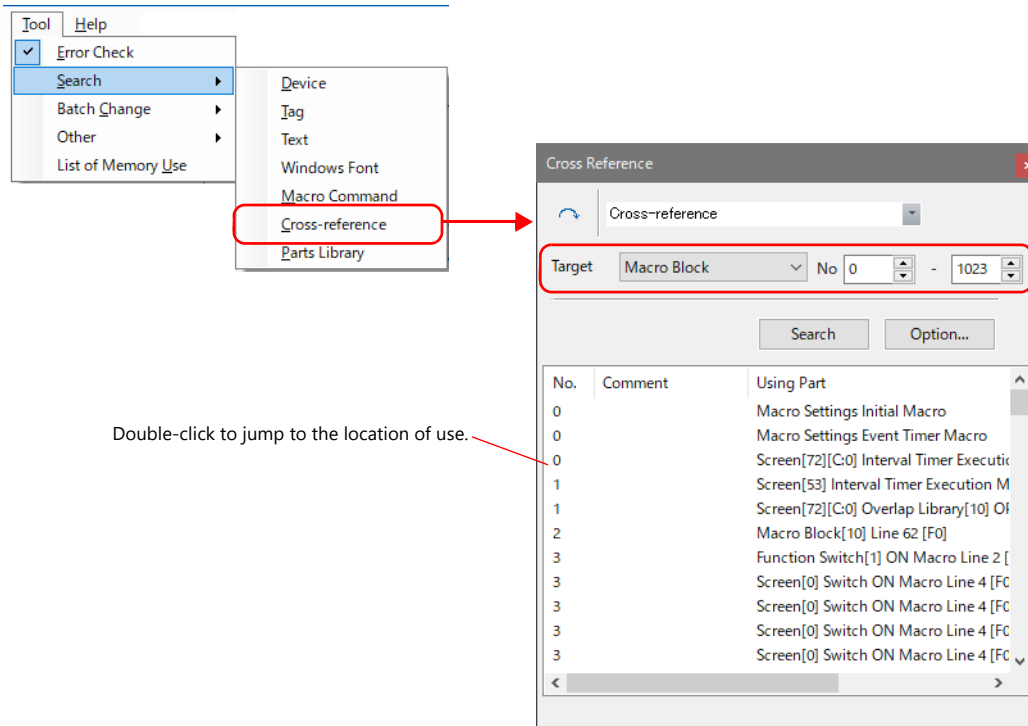


## Cross-reference

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.



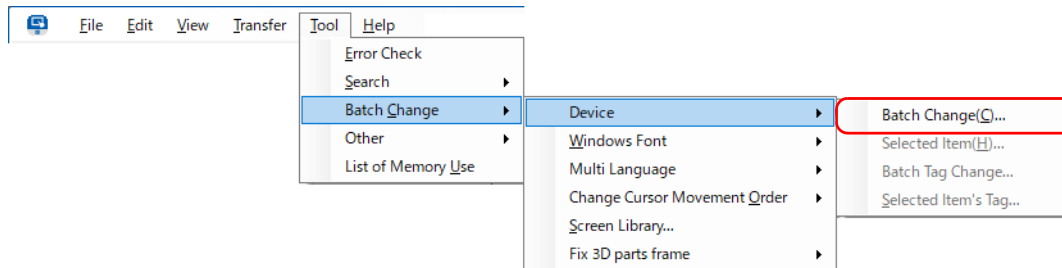
## 12.4.3 Batch Change

### Device Memory

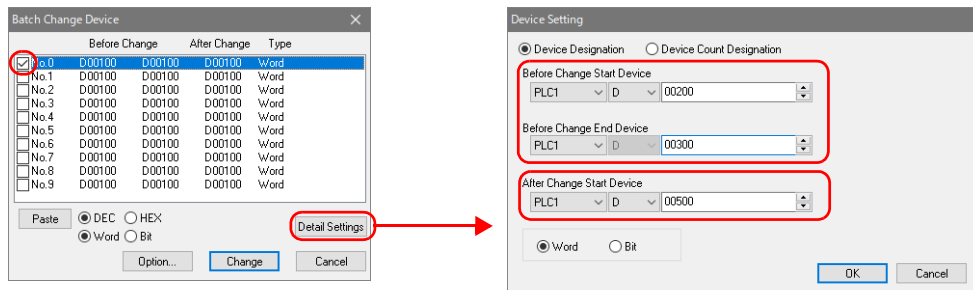
Collectively change multiple device memory addresses used in the file to other addresses.

### 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.

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