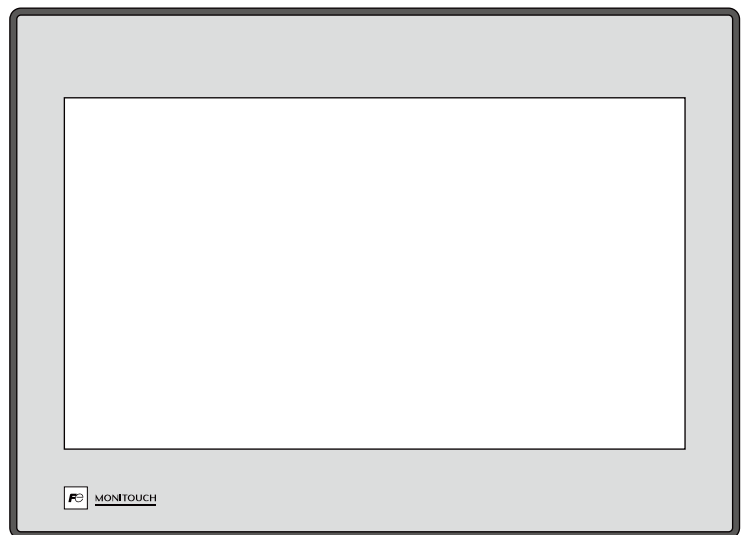


# MONITOUCH

Unit Operation / Local Mode / Error Screen



# TS4000 Series

**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
July, 2025	1216NE0	First edition

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## Preface

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Thank you for selecting the MONITOUCH TS4000 series.

For correct use of the TS4000 series, you are requested to read through this manual to understand more about the product.

The manuals shown below are related manuals for the TS4000 series. Refer to them as necessary.

Manual Name	Contents	Reference No.
Smart Editor Reference Manual 1	Explains the functions and operation of the V10/V9/TS4000 series.	1210NE
Smart Editor Reference Manual 2		1211NE
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
TS4000 Series Unit Operation / Local Mode / Error Screen Manual	Explains the operating procedures, Local mode screens, and error list for the TS4000 series.	1216NE
V10/V9/X1 Series Macro Reference	Provides an overview of macros of V-SFT version 6 and explains macro editor operations and macro command descriptions in detail.	1071NE
TS4000 Series Connection Manual 1	Explains the connection and communication parameters for the TS4000 series and controllers in detail.	2221NE
TS4000 Series Connection Manual 2		2222NE
TS4000 Series Connection Manual 3		2223NE
TS4000 Series Hardware Specifications	Explains hardware specifications and precautions when handling the TS4000 series.	2026NE

For details about controllers (PLCs, temperature controllers, etc.), refer to the manual issued by each controller manufacturer.

### Notes:

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5. While the utmost care has been taken in the production of this manual, please contact your local sales representative regarding any doubts on the accuracy of explanations.

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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 TS4000 series for operations that may threaten human life or damage the system, such as signals used in case of emergency. Please 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.
- 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 TS4000 series uniformly to a torque of 5.31 lbf-in (0.6 N-m). 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.



## 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, consult your local sales representative.
- Operate (or store) the TS4000 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 TS4000 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 TS4000 series uniformly to a torque of 5.0 to 6.0 lbf-in (0.56 to 0.68 N-m). Improper tightening of screws may result in fire, malfunction, or other serious trouble.
- The TS4000 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 TS4000 series in accordance with the specified voltage and wattage. Overvoltage, overwattage, or incorrect cable connection could cause fire, malfunction, or damage to the unit.
- Always ground the TS4000 series. The FG terminal must be used exclusively for the TS4000 series with the level of grounding resistance less than 100  $\Omega$ . Otherwise, you may sustain an electric shock, a fire may occur, MONITOUCH may not recognize touch operations, and malfunctions may occur.

 **CAUTION**

- Prevent any conductive particles from entering into the TS4000 series unit. Failure to do so may lead to fire, damage, or malfunction.
- Do not attempt to repair, disassemble, or modify the TS4000 series unit yourself. Contact Hakko Electronics or the designated contractor for repairs.
- Do not repair, disassemble, or modify the TS4000 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 TS4000 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 TS4000 series unit, it must be treated as industrial waste.
- Before touching the TS4000 series unit, discharge static electricity from your body by touching grounded metal. Excessive static electricity may cause malfunction or trouble.
- If storage (USB flash drive) is removed while it is being accessed, the data in storage may become corrupted. Only remove storage after pressing the [Storage Removal] switch.
- Do not press two or more 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.

[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 TS4000 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 TS4000 series in the correct orientation. Failure to do so may lead to damage or malfunction.
- Do not use thinners for cleaning because it may discolor the TS4000 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 TS4000 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 TS4000 series unit. Discharging static electricity on the mounting panel may cause malfunction due to noise.
- The TS4000 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 TS4000 series is equipped with a battery that contains lithium metal and therefore observance of transport regulations is necessary. Hakko Electronics ships TS4000 series units packed in accordance with transport regulations. If there is a need to transport a TS4000 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 TS4000 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.

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# **1 MONITOUCH Operations**

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- 1.1 Before Operation
- 1.2 System Menu
- 1.3 Status Bar
- 1.4 Soft Function Switches

## 1.1 Before Operation

### 1.1.1 Procedure before Operation

1. Mount and install the TS4000 series unit on the mounting panel, and carry out wiring.  
For more information, refer to the Hardware Specifications manual.
2. Install peripheral equipment, such as PLCs and temperature controllers, and carry out wiring.  
For more information, refer to the Connection Manual.
3. Turn on the power to the TS4000 series unit.
4. If turning on the power to the TS4000 series unit for the first time, select an interface language for the unit.

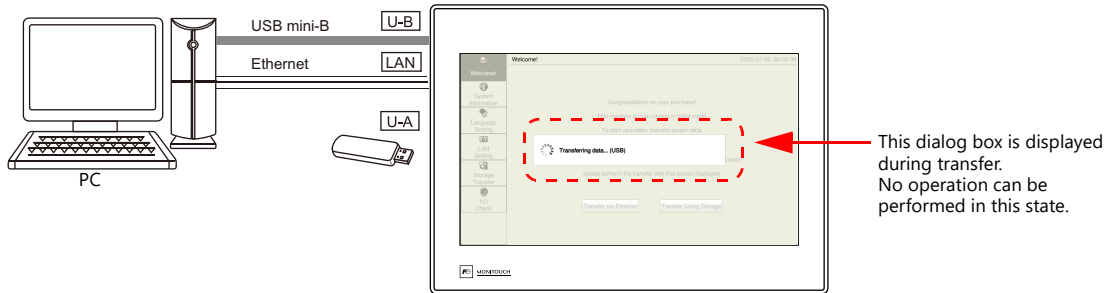


5. Transfer the screen program created using the Smart Editor.  
For details on screen program transfer, refer to [page 1-2](#).
6. Start operation.  
When the connection with controllers has been established, MONITOUCH enters RUN mode.
  - \* If MONITOUCH does not operate normally and shows an error message, refer to Chapter 3 and eliminate the cause of the error.

## 1.1.2 Screen Program Transfer

There are four methods for transferring a screen program as described below.

When a screen program is transferred for the first time:



### 1. Transfer via USB

Connect a USB mini-B cable to the U-B port on the TS4000 series unit, and transfer the screen program from a PC.

### 2. Transfer via Ethernet

Connect an Ethernet cable to the LAN port on the TS4000 series unit, and transfer the screen program from a PC.

When turning on the power to MONITOUCH for the first time, the [Transfer via Ethernet] switch appears at the center of the screen. Pressing this switch displays the LAN Setting screen on which you can set the IP address of the TS4000 series unit.

### 3. Transfer from storage

Use a USB flash drive (storage).

Load a screen program from the computer to a storage device in advance.

When turning on the power to MONITOUCH for the first time, the [Transfer Using Storage] switch appears at the center of the screen. Pressing this switch displays the Storage Transfer screen and you can transfer the screen program.

### 4. Transfer from storage (automatic upload)

Transfer a screen program from the computer to the USB flash drive (storage) in advance.

When the power to the TS4000 is turned on, screen program transfer automatically starts.



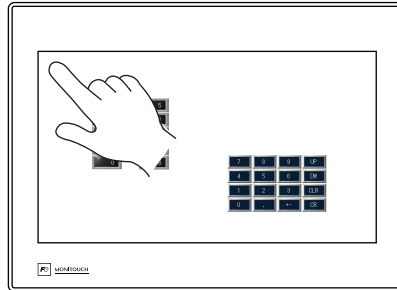
For more information on methods 1 to 3, refer to the Introductory Manual.  
For more information on method 4, refer to Reference Manual 2.

## 1.2 System Menu

### 1.2.1 Display Method

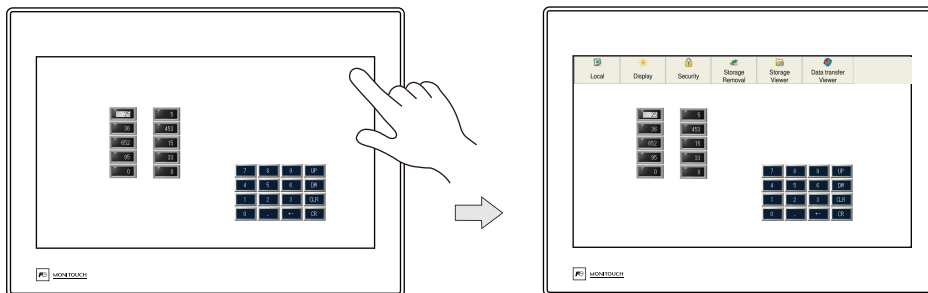
#### Displaying on the RUN Mode Screen

1. Press one corner of the screen for at least 2 seconds and release your finger when there is a beep.



Press the upper left corner for at least 2 seconds.

2. Next, press any of the remaining corners for more than 2 seconds within 1 second of releasing the first corner to display a system menu.



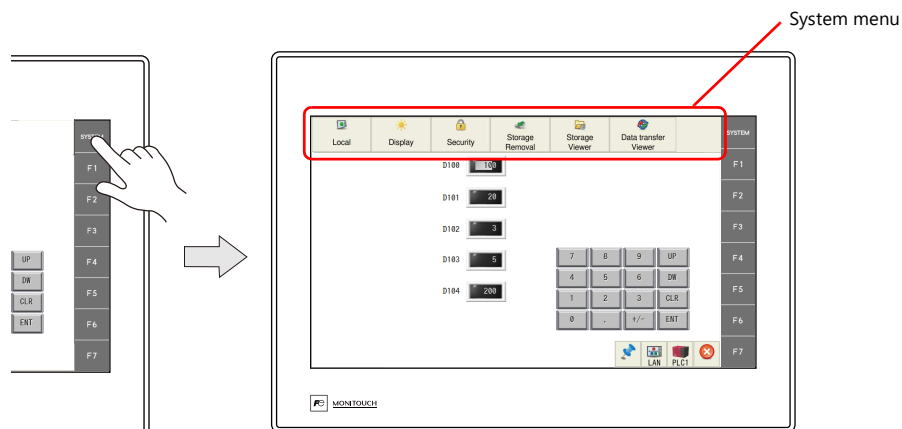
Press a different corner for at least 2 seconds.


System menu

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

#### When using soft function switches

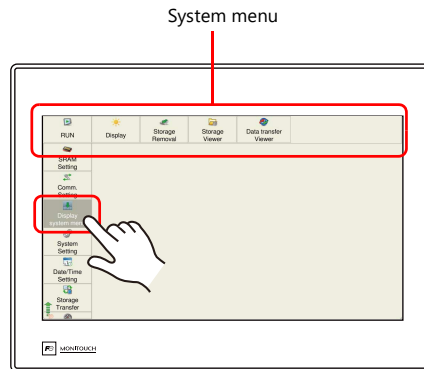
Press the [SYSTEM] switch to display the system menu.



 For details on soft function switches, refer to "1.4 Soft Function Switches" page 1-26.

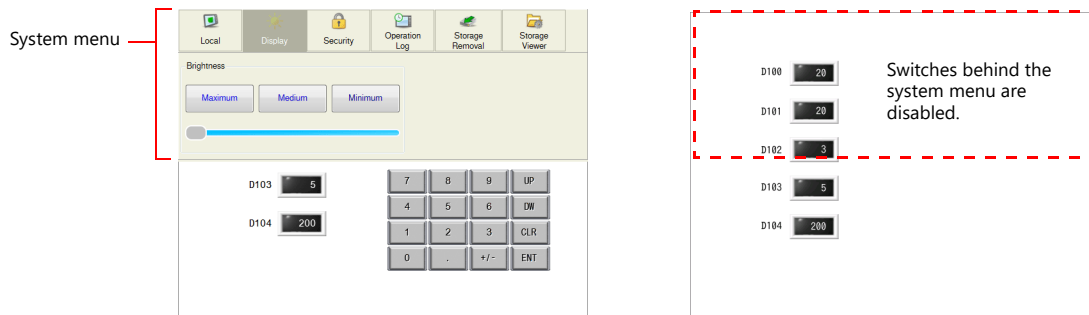
## Displaying on the Local Mode Screen

Press the [Display system menu] switch.

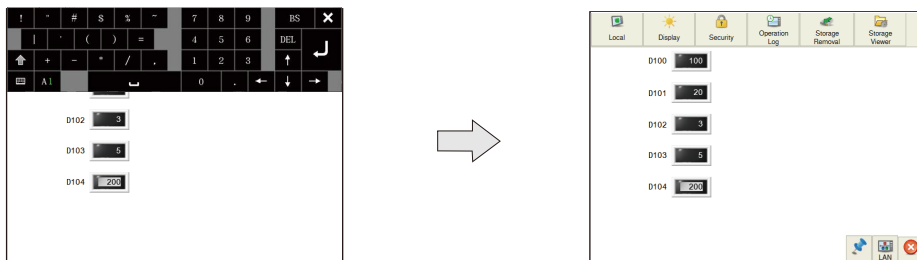


## Precautions during System Menu Display

- Any switches that are hidden by the system menu are disabled while the system menu is showing.



- The system menu has priority even over scrolling messages.
- The system menu and system keyboard cannot be displayed at the same time. If an attempt is made to display the system menu while the system keyboard is showing, the system keyboard will disappear and then the system menu will appear.



- Operation of soft function switches is disabled when the TS4000 series unit is in RUN mode and the system menu is displayed.
- The soft function switches are hidden when the operation log, storage viewer, data transfer viewer, or picture viewer is displayed from the system menu.

## Timing of Hiding

- Five seconds after displaying the system menu \*
- Upon pressing the [SYSTEM] switch with the system menu displayed when using soft function switches
  - \* When the [Display], [Security] or [Storage Removal] switch on the system menu is selected, the system menu will remain displayed.

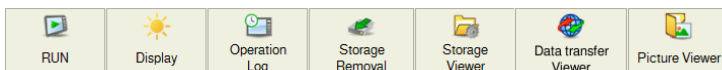
## 1.2.2 System Menu Types

There are two types of system menus as shown below:

### System menu in RUN mode



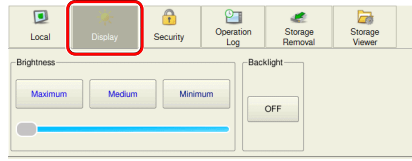
### System menu in Local mode



Item	Description	Reference
Local / RUN	Switches the operation mode between RUN and Local.	–
Display	Used for brightness adjustment and backlight control.	<a href="#">page 1-6</a>
Security	Displayed only when the security function is configured on the screen configuration software and the system menu is displayed in RUN mode.	<a href="#">page 1-6</a> Reference Manual 2
Operation Log	Displayed only when operation log settings are configured on the screen configuration software. This displays the operation log viewer.	Reference Manual 2
Storage Removal	Used for stopping access to a connected storage device and reconnecting to a storage device.	<a href="#">page 1-12</a>
Storage Viewer	Used for checking the information of the connected storage device, or copying, moving, and deleting data between the connected storage devices.	<a href="#">page 1-14</a>
Data Transfer Viewer	Used for uploading and downloading files and folders with the data transfer service function.	Reference Manual 2
Picture Viewer	Displayed only when picture viewer settings are configured on the screen configuration software. This displays the picture viewer.	Reference Manual 2

### 1.2.3 Display

When the [Display] switch is pressed in the system menu, brightness adjustment and backlight control of the TS4000 series unit can be performed.



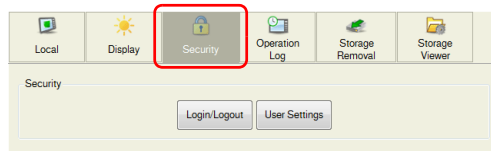
Item		Description
Brightness *1	Maximum/Medium/Minimum	Brightness adjustment is possible in 3 levels.
	Slider switch	Brightness adjustment is possible in 16 levels.*2
Backlight *3	OFF	Turns off the backlight.*4

- \*1 When the brightness is reduced, the backlight life may be slightly extended.
- \*2 The brightness can be adjusted in 127 levels by using the macro command "BRIGHT". For details, refer to the Macro Reference Manual.
- \*3 [Backlight] is displayed under the following conditions:
  - When [Action] is set to anything other than [Always ON] on the screen configuration software <Location of setting> [Project View] pane → [Hardware Settings] tab → [MONITOUCH Settings] → [Unit Settings] → [Backlight]
    - \* The backlight settings can also be changed on the TS4000 series unit. For details, refer to "Backlight Setting" page 2-35.
  - When in RUN mode (in operation)
  - When the backlight control device memory is used and it is set to "0"
- \*4 This is valid only when communication with the connected device is correctly established with [Comm. Error Handling: Disconnect] selected.

### 1.2.4 Security

When the [Security] switch is pressed in the system menu, the security level can be changed (by logging in/out) and user names and their passwords for the security function can be registered.

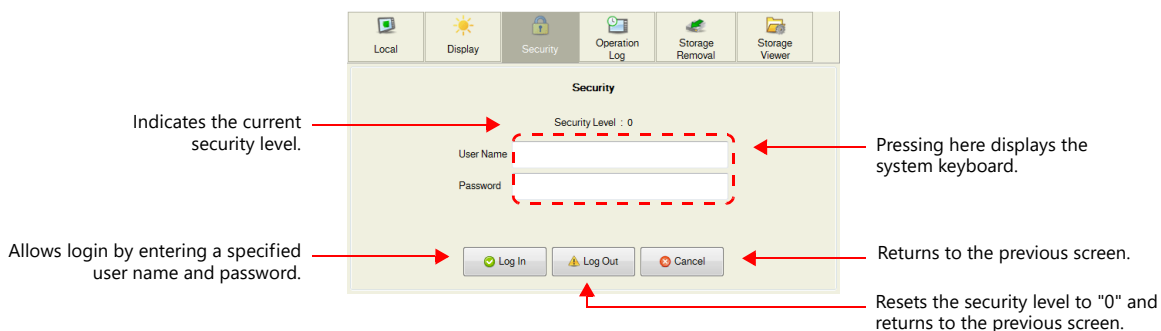
- \* The [Security] switch is displayed only in RUN mode (in operation).
  - ☞ When configuring user settings in Local mode, refer to "User Settings" page 2-58. For details on the security function, refer to the Reference Manual 2.



Item		Description	Reference
Security	Login/Logout	Displays the login/logout screen.	<a href="#">page 1-6</a>
	User Settings	Displays the administrator authentication screen.	<a href="#">page 1-8</a>

#### Login/Logout


The security level can be changed.



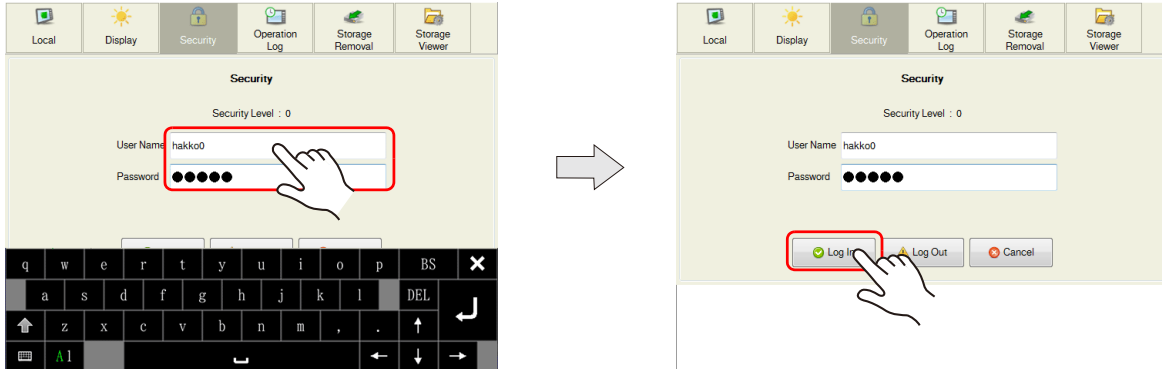
## Login

This section explains the login procedure for a user of security level 4.

1. Display the system menu, press [Security] in the system menu and press the [Login/Logout] switch.

 For details on how to display the system menu, refer to [page 1-3](#).

2. Enter a user name and a password, and press the [Log In] switch.




3. The security level is set to "4" and the previous screen is displayed.

\* Login is prohibited for users with a security level lower than that of the currently displayed screen. If such an attempt is made, the message "Level does not match." appears.

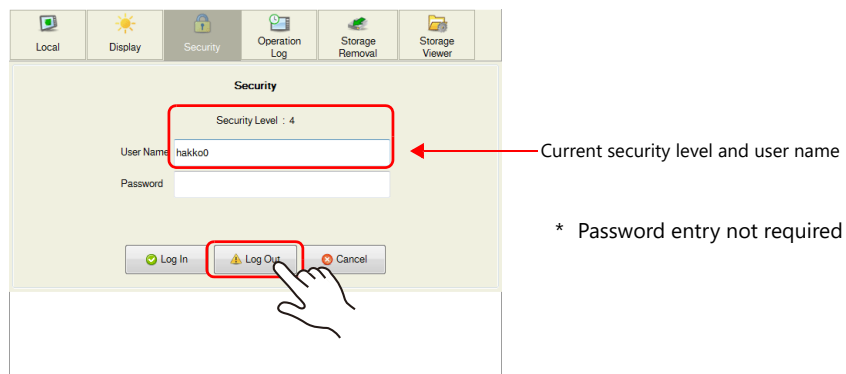
## Logout

This section explains the logout procedure for a user at security level 4.

1. Display the system menu, press [Security] in the system menu and press the [Login/Logout] switch.

 For details on how to display the system menu, refer to [page 1-3](#).

2. Press the [Log Out] switch.




3. The security level is reset to "0" and the previous screen is displayed.

\* When logout is executed, the security level is set to zero (0).

Since the previous screen is displayed again, logout must be done on a lower-security screen.

## User List

Users registered for the security function are displayed in list form. In this list, a new user account can be added and the registered user accounts can be deleted or edited.

 To display a list of all users in Local mode, refer to "User Settings" page 2-58.




To display the user list by pressing [Security] in the system menu, a user with administrator privileges must log in (administrator authentication).

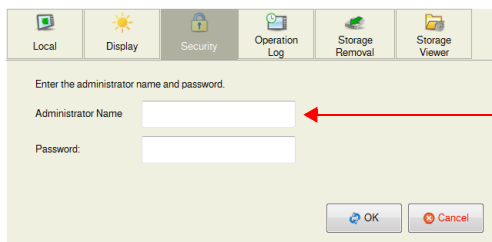
### Administrator Authentication

Perform authentication to display the user list.

1. Display the system menu, press [Security] in the system menu and press the [User Settings] switch.

 For details on how to display the system menu, refer to page 1-3.

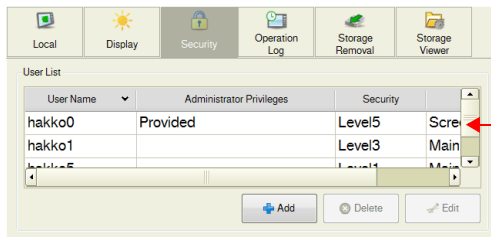
2. The administrator authentication screen is displayed. Enter an administrator name and password, and press the [OK] switch.



The screenshot shows the 'Security' menu with fields for 'Administrator Name' and 'Password'. A red arrow points to the 'Administrator Name' field.

Pressing each setting field brings up the system keyboard to be used for configuration.

3. Registered user accounts are listed as shown below.



The screenshot shows a table of registered user accounts. A red arrow points to the 'Security' column.

User Name	Administrator Privileges	Security	
hakko0	Provided	Level5	Scree
hakko1		Level3	Main

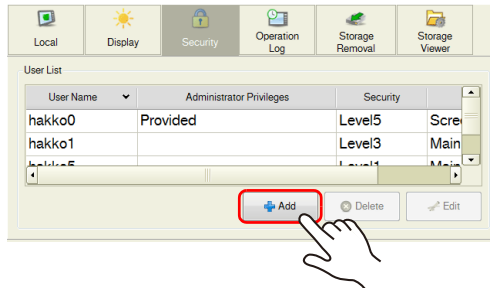
Registered user accounts are listed.

\* When the [Security] switch in the system menu is pressed, administrator authentication is automatically cancelled.

## Adding a User Account

This section explains how to add a new user account in the user list. A maximum of 32 accounts can be registered on the TS4000 series unit.

1. Press the [Add] switch in the user list.

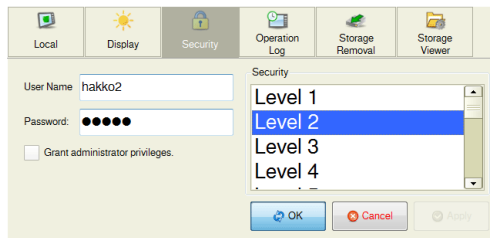


2. Input a user name and password to add, and select a security level.

A maximum of eight one-byte alphanumeric characters (case sensitive) can be used for a user name or password.

To grant administrator privileges, select the [Grant administrator privileges.] checkbox.

- \* The user name must be unique.
- \* The same password can be set for multiple users.



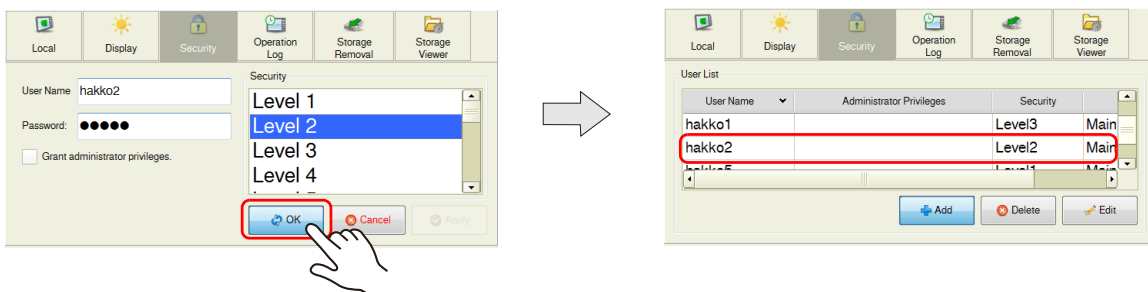
### Administrator privileges

Operations that can be performed on the TS4000 series unit differ depending on whether or not the user has administrator privileges.

User	With administrator privileges	Without administrator privileges
Addition of a new user account	Permitted	Not permitted
Deletion of a registered user account ( <a href="#">page 1-10</a> )		
Editing of a registered user account ( <a href="#">page 1-11</a> )		
Display of the user list from [Security] in the system menu *		

\* Administer privileges are not required when displaying the user list from "User Settings" in Local mode.

3. Press the [OK] switch to add the user account to the list.



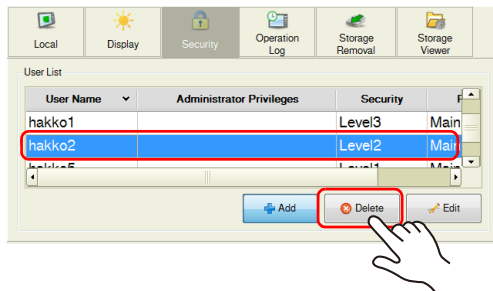
## Deleting a User Account

This section explains how to delete a registered user account from the user list.

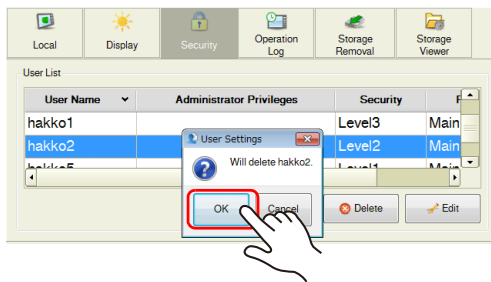
1. Select a user account to delete from the user list and press the [Delete] switch.



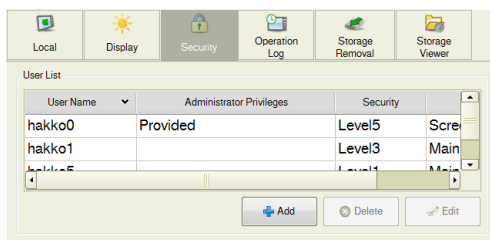
- Only accounts registered on MONITOUCH can be deleted. Accounts registered in the screen program cannot be deleted.
- Only the account of the user currently logged in (authenticated) as well as users with no administrator privileges granted can be deleted. Accounts of other administrator users cannot be deleted.



2. The confirmation dialog shown below is displayed. To delete, press the [OK] switch.



3. The selected user account is deleted from the list.



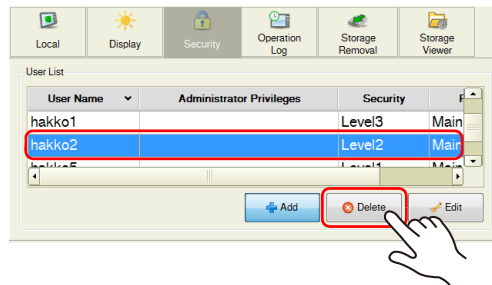
## Editing a User Account

This section explains how to edit a registered user account in the user list.

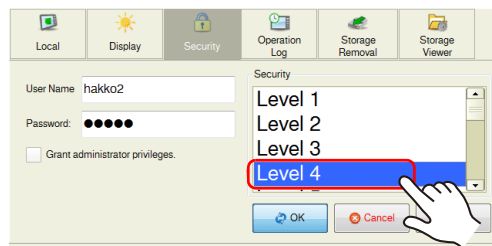
1. Select a user account to edit from the user list and press the [Edit] switch.



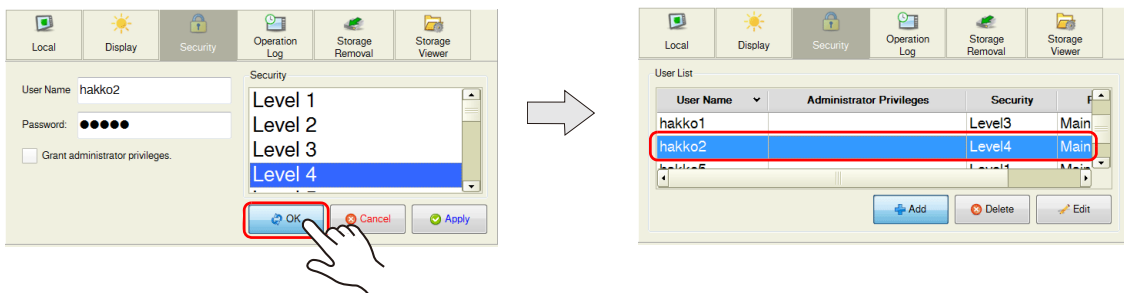
- Only accounts registered on MONITOUCH can be edited. Accounts registered in the screen program cannot be edited.
- Only the account of the user currently logged in (authenticated) as well as users with no administrator privileges granted can be edited. Accounts of other administrator users cannot be edited.



2. Change the settings.



3. After change, press the [Apply] or [OK] switch. The settings are updated.




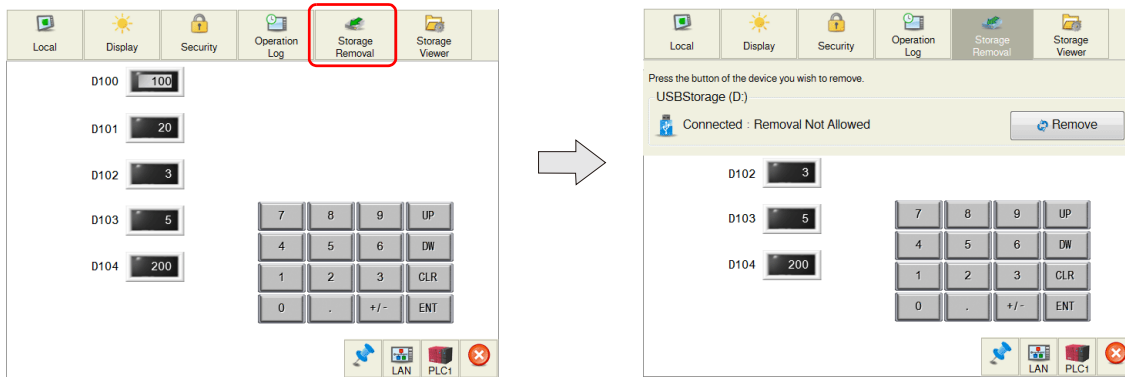
## 1.2.5 Storage Removal



When the [Storage Removal] switch is pressed in the system menu, the display is changed as shown below. On this screen, access to the connected storage device can be stopped to remove the device safely. Each drive can be removed individually.



Before removing the storage device safely, be sure to select [Storage Removal] in the system menu or press the [Storage Removal] switch, regardless of the operation mode, RUN or Local.

 For details on the [Storage Removal] switch, refer to the Reference Manual 1.




Item		Description
USB Storage (D:)	Connection status	Displays the connection status of the storage device connected to the USB-A port.   Not connected (gray)  Connected (blue): Removal allowed or removal prohibited
	Remove/Reconnect	Removes a connected storage device or reconnects a disconnected storage device. For details, refer to <a href="#">page 1-13</a> .

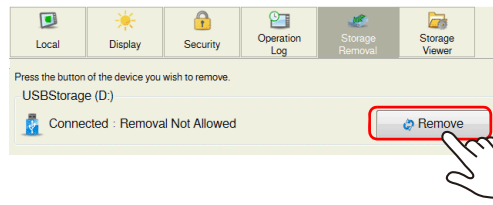
## Removing the Storage Device

This section explains how to remove the storage device that is connected to the USB-A port.

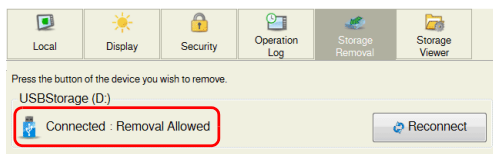
1. Display the system menu and press the [Storage Removal] switch.

 For details on how to display the system menu, refer to [page 1-3](#).

2. Press the [Remove] switch under [USB Storage (D:)].




3. When removal is completed, the display changes as shown below.



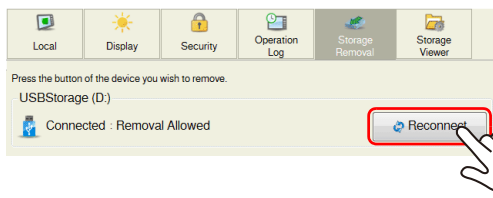
## Reconnecting the Storage Device

This section explains how to reconnect a storage device to the USB-A port after the [Remove] switch has been pressed.

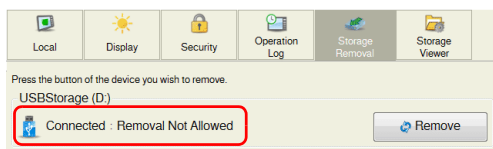
1. Display the system menu and press the [Storage Removal] switch.

 For details on how to display the system menu, refer to [page 1-3](#).

2. Press the [Reconnect] switch under [USB Storage (D:)].



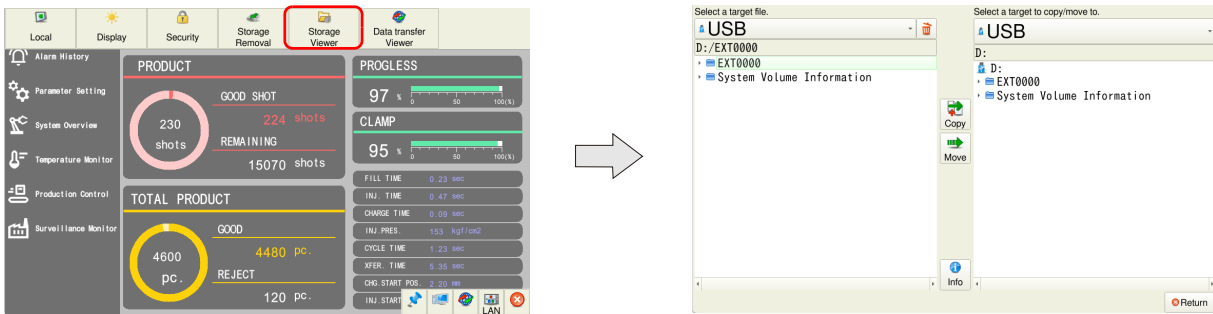
3. When reconnection is completed, the display changes as shown below.



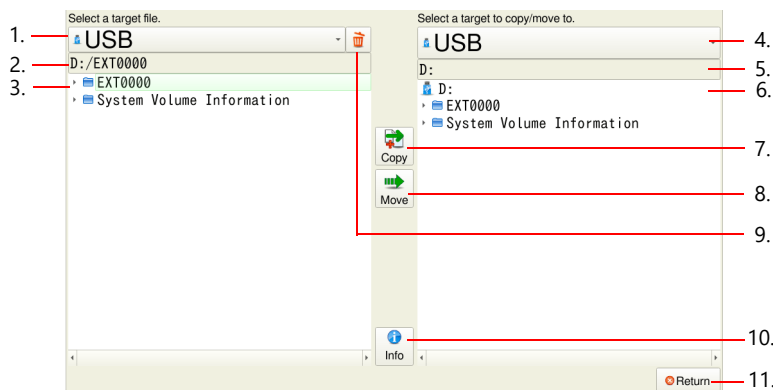
## 1.2.6 Storage Viewer

When the [Storage Viewer] switch is pressed in the system menu, the display changes as shown below.

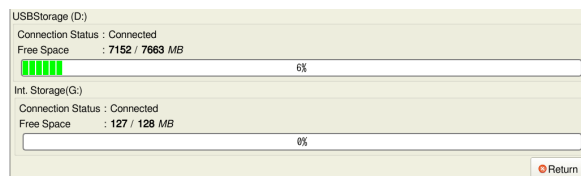
This screen is used for checking the information of the connected storage device, or copying, moving, and deleting data.



The screen is composed of the following items.



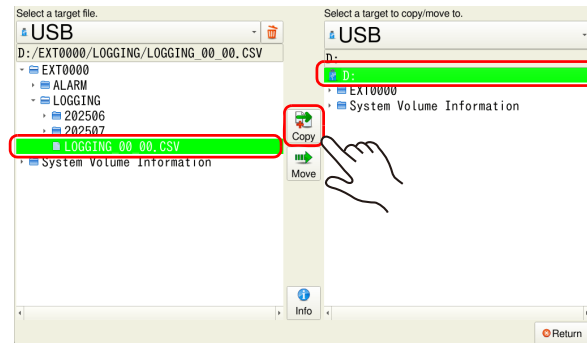
Item	Description
1. Drive selection (Source of copy/move/deletion)	Select a drive from which data is to be copied, moved or deleted. USB: The storage device connected to the USB-A port Internal storage *: Internal storage of MONITOUCH * This is for when using internal storage for the recipe function.
2. Path (Source of copy/move/deletion)	Displays the path to the file or folder selected at "1."
3. File information	Displays the folders and files stored in the storage device selected at "1." Select a file or folder to copy/move to.
4. Drive selection (destination of copy/move)	Select a drive to which data is to be copied or moved.
5. Path (destination of copy/move)	Displays the path to the file or folder selected at "4."
6. Directory selection	Select a directory in the storage device selected at "4." as a copy or move destination.
7. Copy	Copies the selected file or folder. For details on the procedure, refer to <a href="#">page 1-15</a> .
8. Move	Moves the selected file or folder. For details on the procedure, refer to <a href="#">page 1-15</a> .
9. Delete	Deletes the selected file or folder. For details on the procedure, refer to <a href="#">page 1-16</a> .
10. Info	Displays the drive information. You can check the connection status or free space on the storage device connected to the USB-A port. When using the internal drive for the recipe function, the amount of free space left on the internal drive is displayed.
11. Return	Returns to the previous screen.



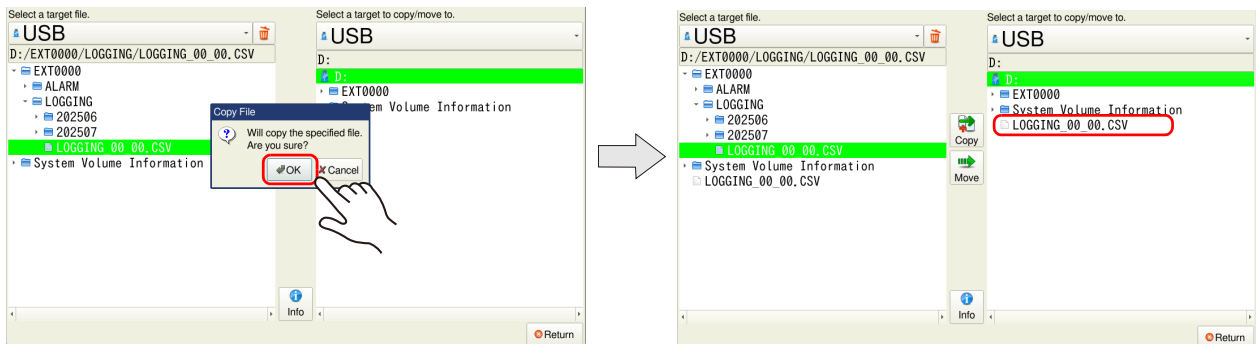
## Copy

This section explains how to copy data to a different folder within a USB flash drive.

1. Display the system menu and press the [Storage Viewer] switch.
  - ☞ For details on how to display the system menu, refer to [page 1-3](#).
2. Select a file to copy as well as its destination, and press the [Copy] switch.



3. The following confirmation dialog appears. Press the [OK] switch. The selected file is copied.

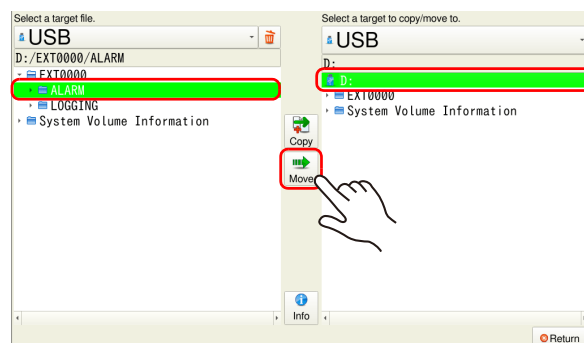


This completes the copy.

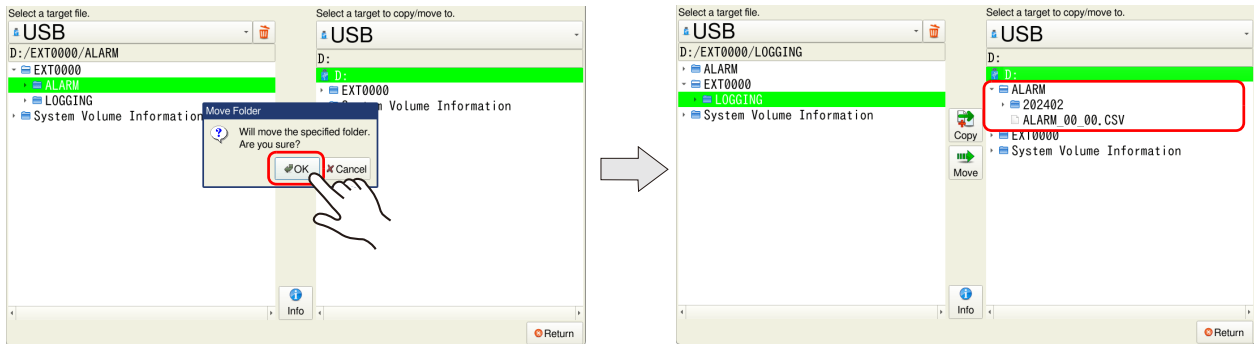
## Move

This section explains how to move data to a different folder within a USB flash drive.

1. Display the system menu and press the [Storage Viewer] switch.
  - ☞ For details on how to display the system menu, refer to [page 1-3](#).
2. Select a file to move as well as its destination, and press the [Move] switch.



3. The following confirmation dialog appears. Press the [OK] switch.




This completes the move.

## Delete

This section explains how to delete data from a USB flash drive.

1. Display the system menu and press the [Storage Viewer] switch.

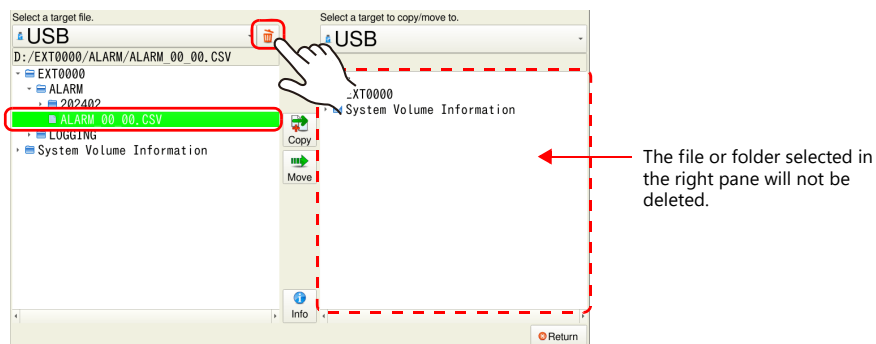
 For details on how to display the system menu, refer to [page 1-3](#).

2. Select a file to delete and press the [Delete] switch.

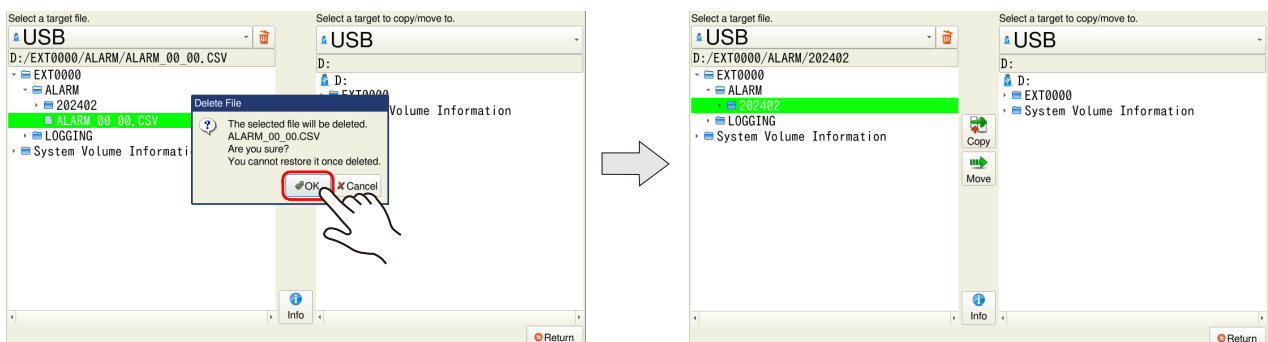


Take care since deleted files cannot be restored.

The file or folder selected in the left pane is deleted. Note that the file or folder selected in the right pane will not be deleted.



3. The following confirmation dialog appears. Press the [OK] switch. The selected file is deleted.

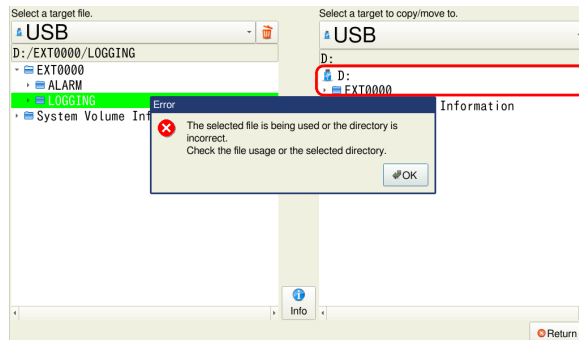


This completes the deletion.

## Error

If a selected file is in use or the selected directory is incorrect, the following error message is displayed. Check the usage status of the selected file, or check if the selected directory is correct.

Example: When copying a file, the copy destination directory was incorrect.



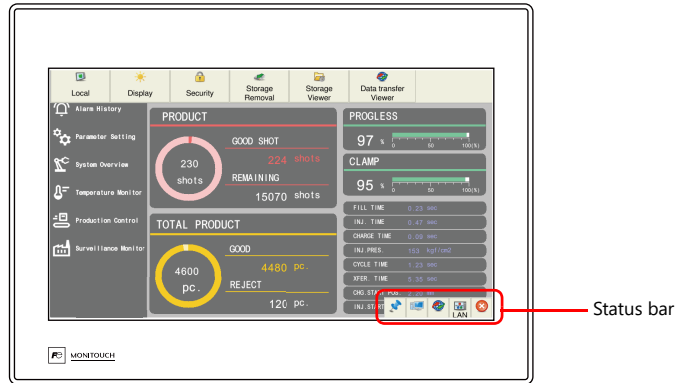
## 1.3 Status Bar

### 1.3.1 Displaying/Hiding

#### Timing of Displaying

The status bar is displayed at the following times.

- When the system menu is displayed \*

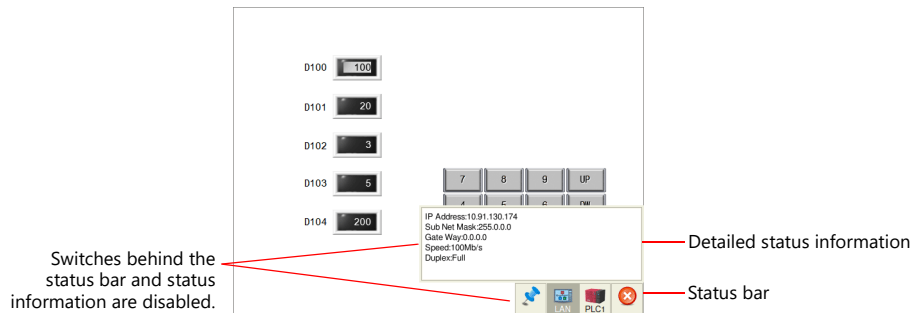


\* If the status bar is not displayed, [Status Bar Prohibited] (page 1-19) may be enabled in the screen program.

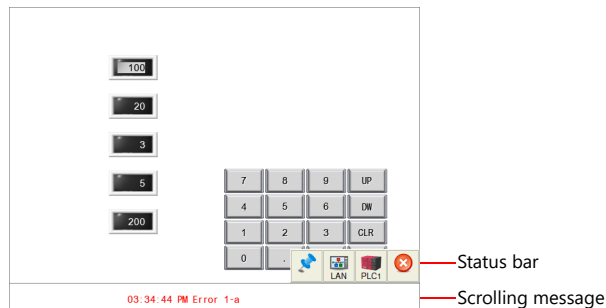
- When the status of communication with the connected device is changed (from normal to error) \*
- \* When the communication status is changed while the backlight is off, the backlight is forcibly turned on.

#### Precautions during Status Bar Display

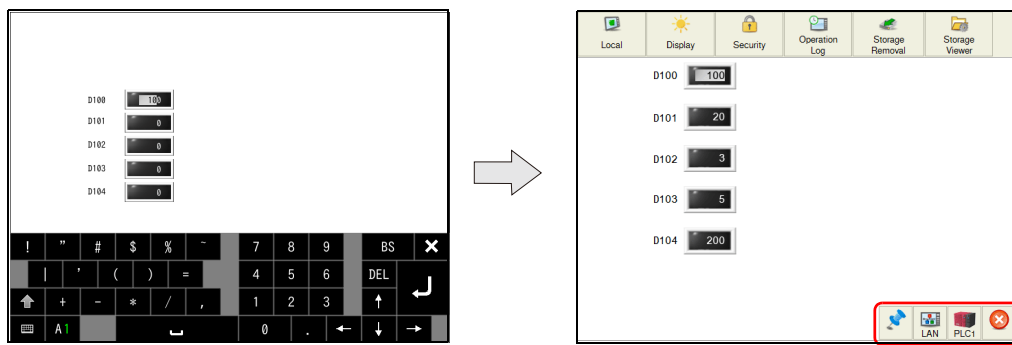
- Any switches that are hidden by the status bar and detailed status information are disabled while the status bar is showing.



- The status bar has priority over scrolling messages displayed at the bottom of the screen.



- The status bar and system keyboard cannot be displayed at the same time. If an attempt is made to display the status bar while the system keyboard is showing, the system keyboard will disappear and then the status bar will appear.



## Timing of Hiding

The status bar is hidden at the following times.

- Upon pressing the [Close] icon at the right end of the status bar

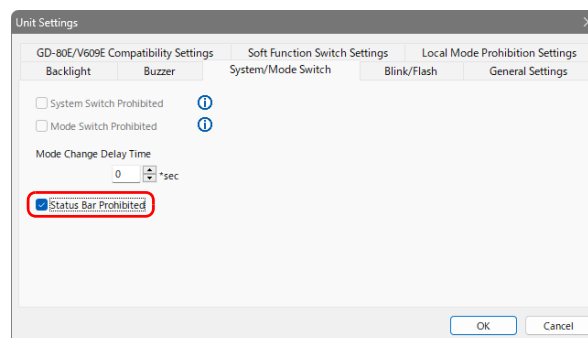


- 15 seconds after displaying the status bar <sup>\*1</sup> <sup>\*2</sup>
- Upon pressing the [SYSTEM] switch with the status bar displayed when using soft function switches <sup>\*1</sup>
- Upon recovery of communication with all communication equipment
  - \*1 When the status bar is set to "display at all times", it will not disappear.
  - \*2 It will not disappear when the detailed status information is displayed.

## Display Prohibition

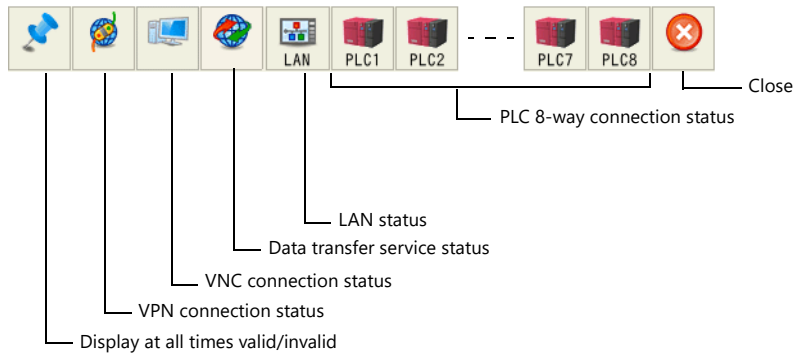
Display of the status bar can be prohibited on the screen configuration software.



- Location of setting:  
[Project View] pane → [Hardware Settings] tab → [MONITOUCH Settings] → [Unit Settings] → [System/Mode Switch] → [Status Bar Prohibited]



## 1.3.2 Status Bar Types

The status bar includes the following icons.

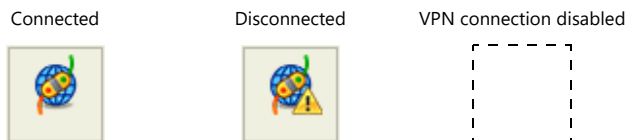


Item	Description	Reference
Display at all times	Select whether or not to display the status bar at all times. <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Display at all times: valid</p>  </div> <div style="text-align: center;"> <p>Display at all times: invalid</p>  </div> </div>	-
VPN connection status	This icon is shown during VPN connection. When VPN connection is disabled, the icon disappears.	<a href="#">page 1-21</a>
VNC connection status	This icon is shown during connection with the VNC client. When the client is disconnected, the icon disappears.	<a href="#">page 1-22</a>
Data transfer service status	This icon indicates the connection status of the data transfer service.	<a href="#">page 1-23</a>
LAN status	This icon indicates the link status of the LAN connection.	<a href="#">page 1-24</a>
PLC 8WAY connection status	Indicates the status of communication with the connected device when [Comm. Error Handling: Disconnect] is selected.	<a href="#">page 1-25</a>
Close	Hides the status bar.	-

### 1.3.3 VPN Connection Status

This icon is shown when VPN connection is enabled. When VPN connection is disabled, the icon disappears.

#### Connection Status



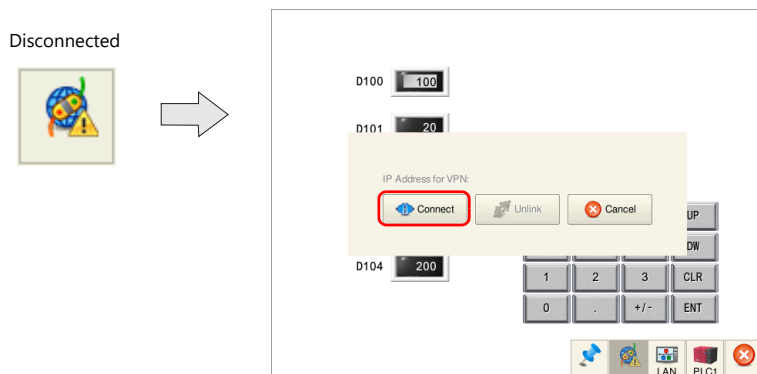
#### Disconnection

When the VPN connection status icon is pressed during connection, the following confirmation dialog appears. Press the [Unlink] switch to disconnect from the VPN.



#### Connection

When the VPN connection status icon is pressed when disconnected from the VPN, the following confirmation dialog appears. Press the [Connect] switch to allocate an IP address for VPN connection and connect to the VPN.



For details on VPN connection, refer to the separately provided "Web Machine Interface" manual.

## 1.3.4 VNC Connection Status

This icon is displayed when the VNC server is used with the client connected.  
When the client is disconnected, the icon disappears.

### Connection Status

Connected



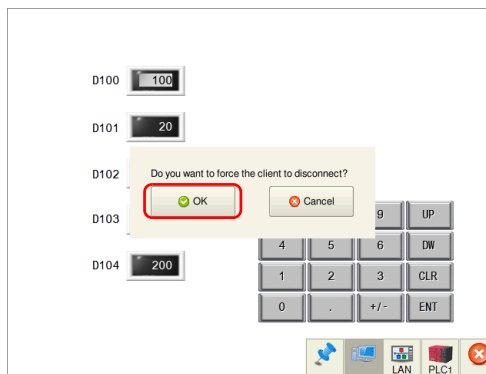
Disconnected




### Forced Disconnection

When the VNC connection status icon is pressed while the client is connected, the following confirmation dialog appears. Pressing the [OK] switch forcibly disconnects the client.

Connected

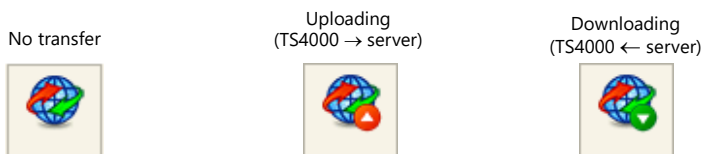


 For details on the VNC server, refer to the Reference Manual 2.

## 1.3.5 Data Transfer Service Status

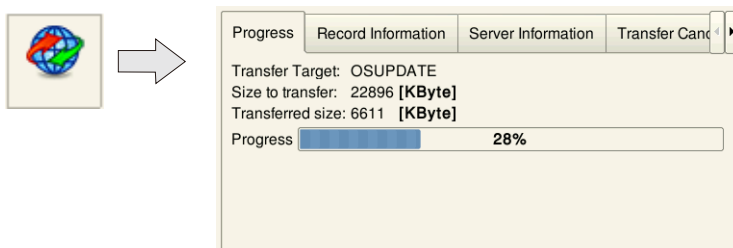
This icon indicates the connection status of the data transfer service.

Press the icon to check the progress of a transfer or the detailed information of the data for transfer. Cancellation of data transfer is also possible.



### Progress

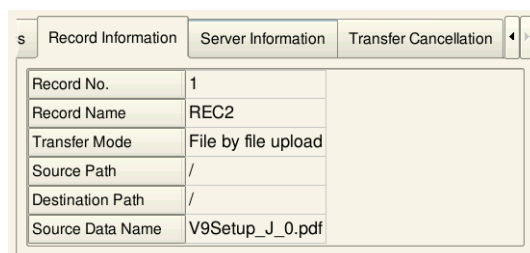
The file currently being transferred and the progress of the data transfer is displayed.



\* The size and progress are shown per file.

### Record information

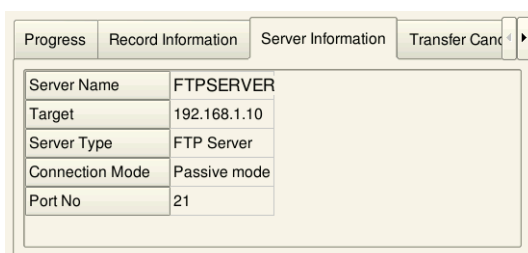
The record number of the current data transfer and its detailed information is displayed.



\* [Record No.] and [Record Name] are not displayed when using the data transfer viewer.

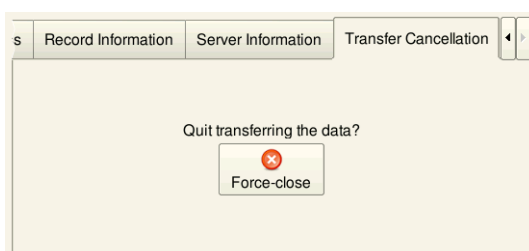
### Server information

The information of the server with which the current data transfer is being executed is displayed.



### Transfer cancellation

The data transfer is forcibly cancelled.



For details on the data transfer service, refer to the Reference Manual 2.

## 1.3.6 LAN Status

This icon indicates the link status of LAN connection.  
 When the LAN status icon is pressed, detailed information can be viewed.

### Link Status

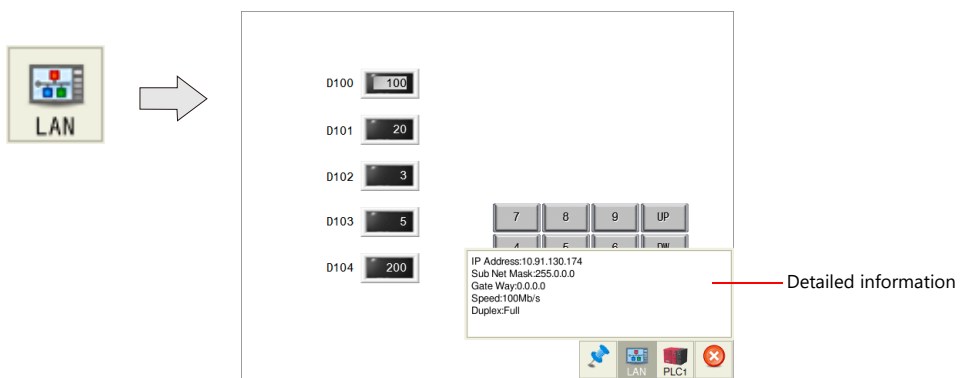
Link established



Cable disconnected or link not established



### Detailed Information



Item	Description
IP Address	Indicates the IP address, subnet mask, and default gateway of the TS4000 series unit.
Sub Net Mask	
Gate Way	
Speed	Indicates the communication speed, 100 Mb/s, 10 Mb/s.
Duplex	Indicates the communication mode, Full (full duplex) or Half (half duplex).

## 1.3.7 PLC 8WAY Connection Status

This icon indicates the status of communication with the connected device when [Comm. Error Handling: Disconnect] is selected.

### Communication Status

Link established



Link not established



When connected with the simulator \*, the following icon is displayed instead.



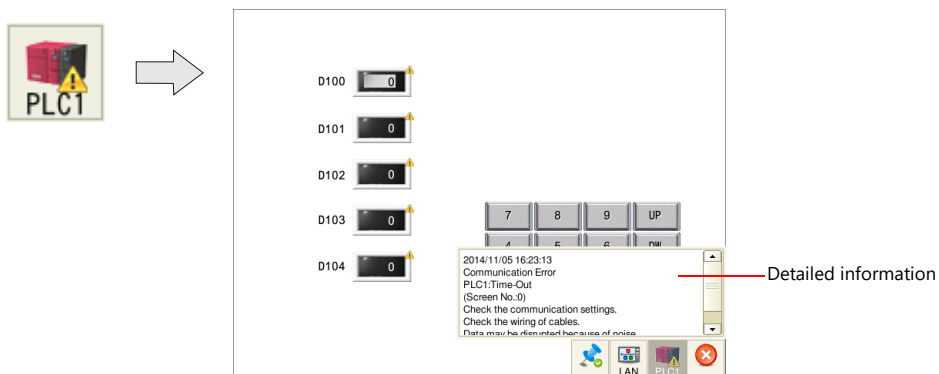
\* For details on the simulator, refer to [page 2-33](#).

### Detailed Information

When the PLC 8WAY connection status icon is pressed with no link established, the detailed information can be viewed.

The information is updated every five seconds.

\* If the PLC 8WAY connection status icon is pressed with a link established, nothing is displayed.



Item	Description
Time	Displays the time when the communication error was detected.
Error message	Displays the contents of the communication error.
Measure	Displays a countermeasure to the communication error.

For details on error messages, refer to [page 3-7](#).

## 1.4 Soft Function Switches

The TS4000 series unit is capable of software function switches.

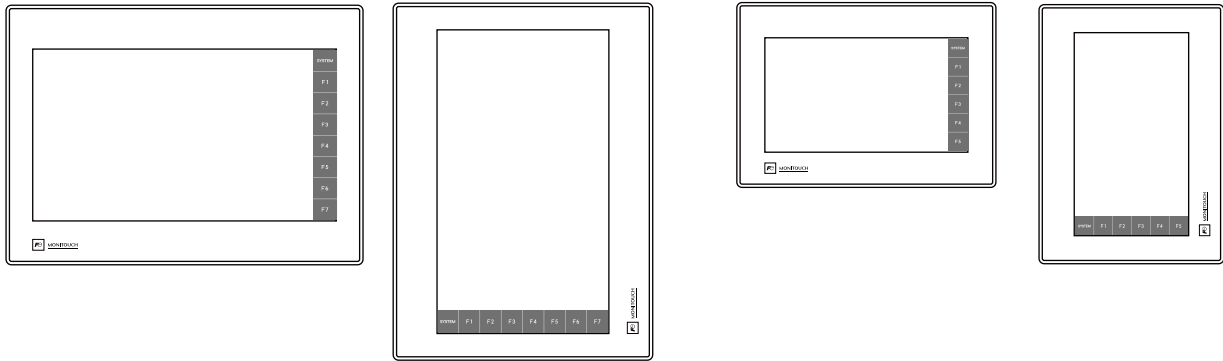
If using the software function switches, the switches can either be displayed at all times or be displayed only when necessary.

Location of setting:

[Project View] pane → [Hardware Settings] tab → [MONITOUCH Settings] → [Unit Settings] → [Soft Function Switch Settings]

- TS4150/4120/4100: [SYSTEM], [F1] to [F7]

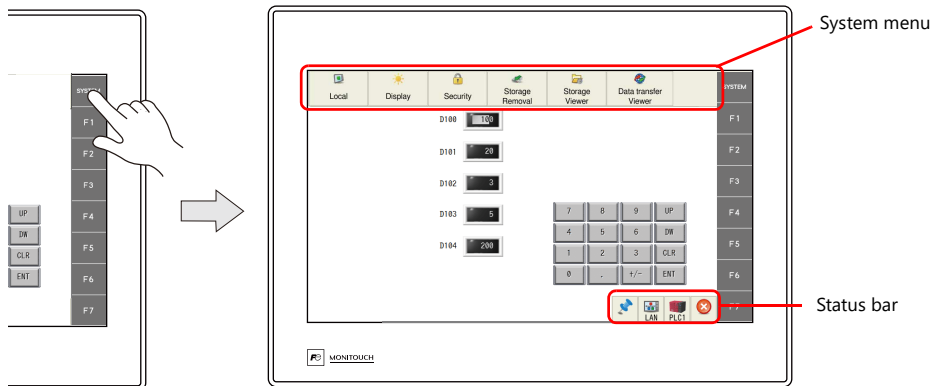
- TS4070: [SYSTEM], [F1] to [F5]



### 1.4.1 [SYSTEM] Switch

The [SYSTEM] switch is an alternate action switch.

When it is pressed once, the system menu appears at the top of the screen, and the status bar appears\* at the bottom right of the screen.



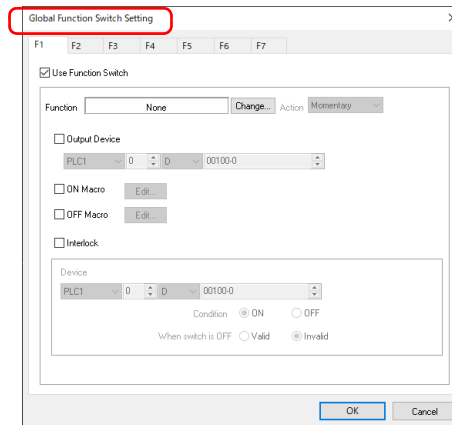
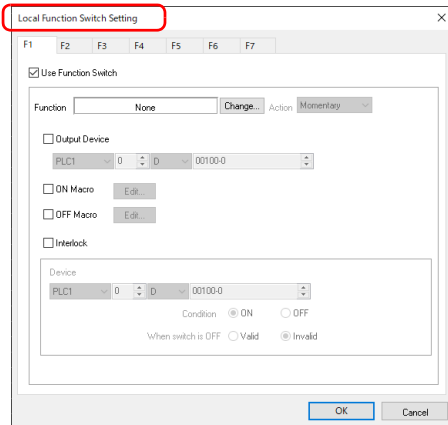
\* If the status bar is not displayed even if the [SYSTEM] switch is pressed, the [Status Bar Prohibited] setting may be enabled in the screen program.

For details on the system menu, refer to [page 1-3](#). For the status bar, refer to [page 1-18](#).

## 1.4.2 [F1] to [F7] Switches

Each function switch can be used freely by the user when the TS4000 series unit is in RUN mode (operating status) <sup>\*1</sup> without the system menu displayed. <sup>\*2</sup> Settings are to be done on the screen configuration software.

- Setting individually for each screen (local function switch settings)  
[Project View] pane → [Screen] tab → [Screen] → screen number → [Function Switch Settings]
- Setting an action common to all screens <sup>\*3</sup> (global function switch settings)  
[Project View] pane → [Hardware Settings] tab → [MONITOUCH Settings] → [Global Function Switch]



- \*1 When the TS4000 series unit is in Local mode, the function switches do not work even if they are pressed.
- \*2 If the TS4000 series unit is in RUN mode and the operation log, storage viewer, data transfer viewer, or picture viewer is selected from the system menu, the function switches will be hidden.
- \*3 When a screen with local function switch settings is displayed, settings configured in the [Local Function Switch Setting] window override those configured in the [Global Function Switch Setting] window.



## **2 Local Mode Screen**

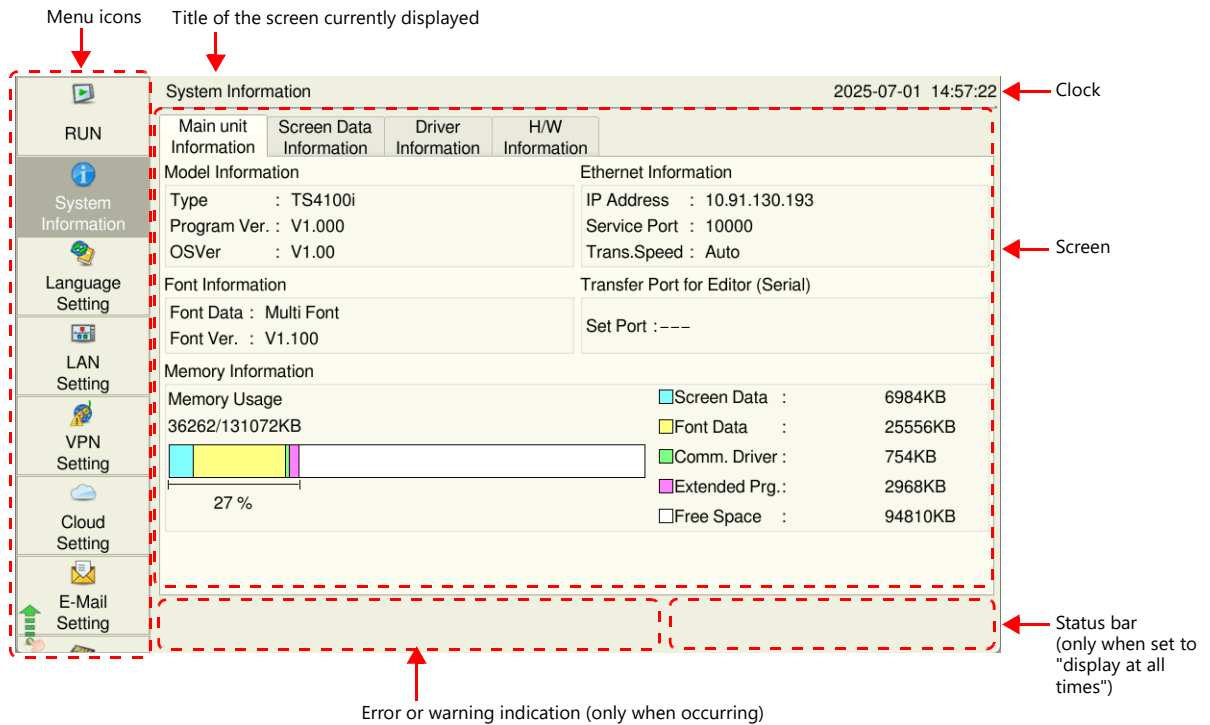
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- 2.1 Local Mode Screen
- 2.2 Composition of Local Mode Screens
- 2.3 Handling Data Changed in Local Mode

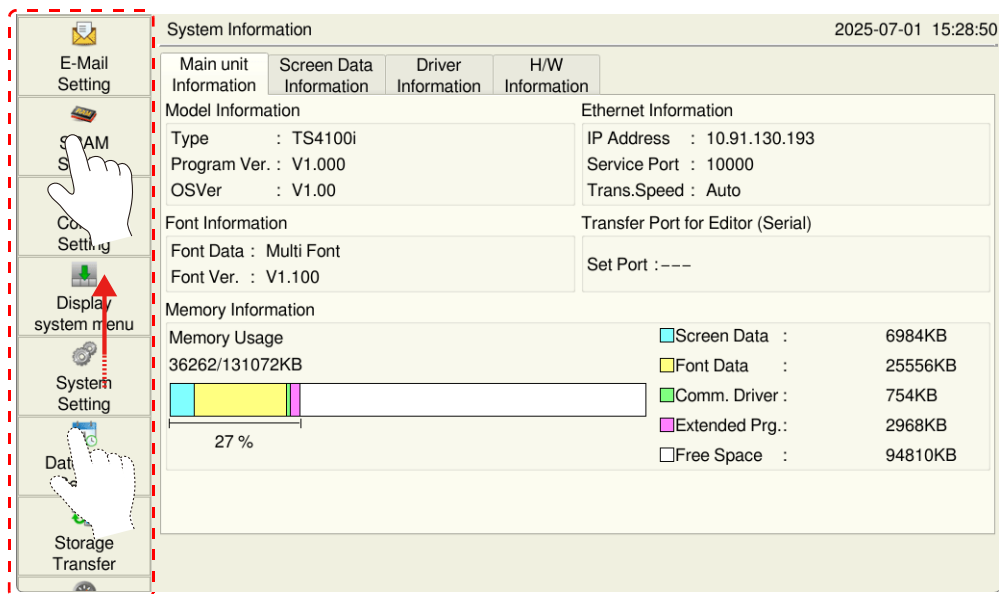
## 2.1 Local Mode Screen

The Local mode screen shows various information about the TS4000 series, such as system information, and screen program information, etc.

Also, it works as a system screen for transferring a screen program between a PC and TS4000 series unit.



Menu icons can be scrolled up and down.

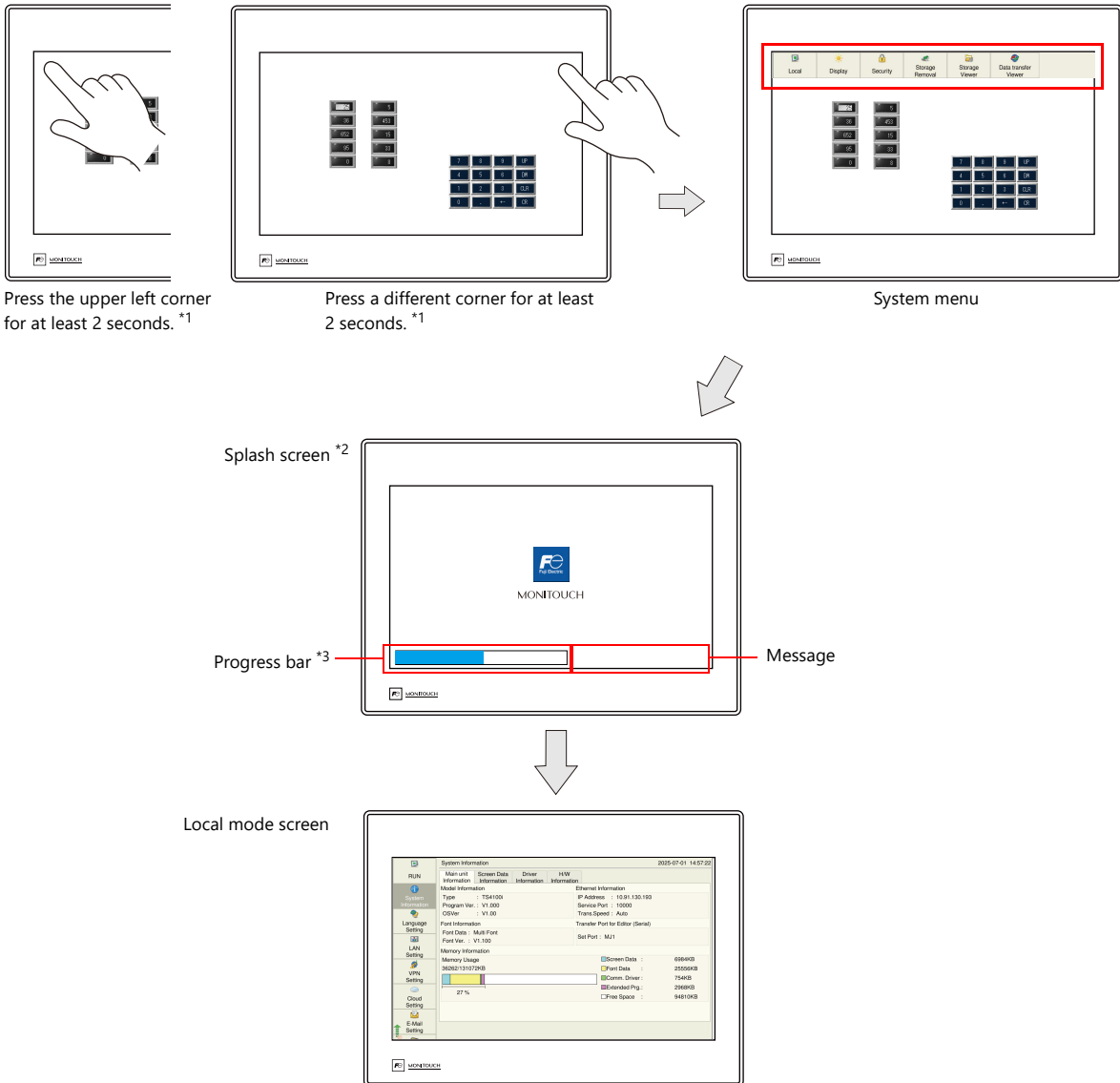


## 2.1.1 Switching to Local Mode

Switching from RUN mode to Local mode can be done by either of the following methods.

### Method 1: System Menu

1. Press one corner of the screen for at least 2 seconds and release your finger when there is a beep.
2. Next, press any of the remaining corners for more than 2 seconds within 1 second of releasing the first corner to display a system menu.
3. Press the [Local] switch on the system menu. The Local mode screen is displayed.



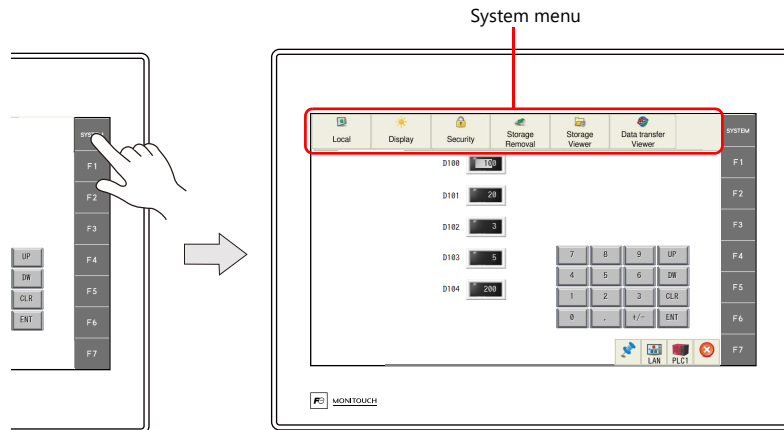
\*1 If there is a switch, data display part with a switch, display area, slider switch, scroll bar, or a table data display part in the pressed corner, this operation is not possible. Press a corner where these items are not located. If any of these items are placed in all four corners of the screen, switch the screen to one that has open corners and perform the above procedure to switch to Local mode.

\*2 The splash screen can be changed as desired. For details, refer to Reference Manual 2.

\*3 The progress bar can be hidden. For details, refer to Reference Manual 2.

## Method 2: Soft Function Switch

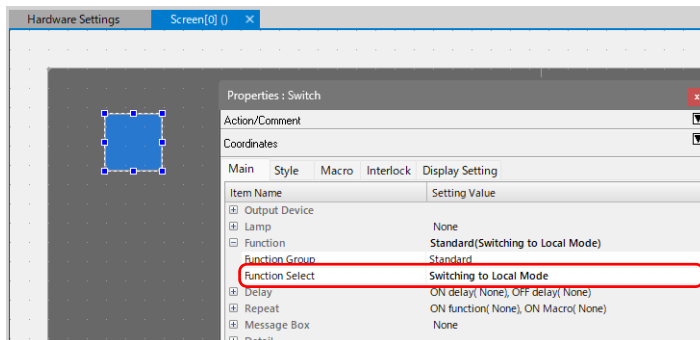
Press the [SYSTEM] switch to display the system menu and then press the [Local] switch.



## Method 3: Created Switch

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

- Smart Editor



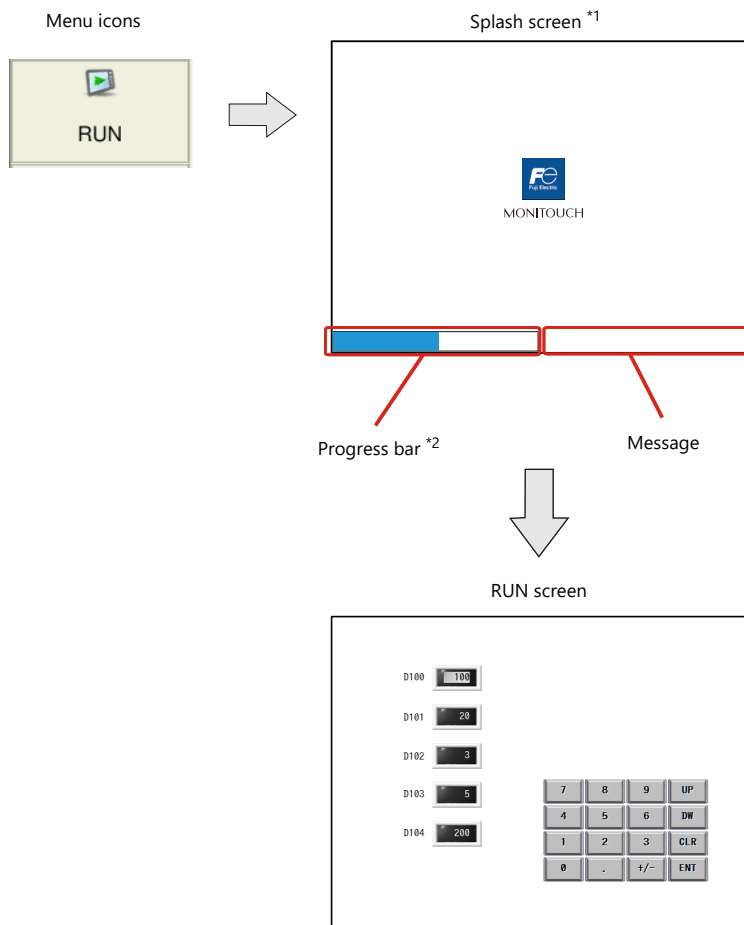
## 2.2 Composition of Local Mode Screens

The Local mode screens are configured as shown below:

Item		Reference
RUN mode		<a href="#">page 2-5</a>
System Information	Main unit Information	<a href="#">page 2-6</a>
	Screen Data Information	<a href="#">page 2-7</a>
	Driver Information	<a href="#">page 2-7</a>
	H/W Information	<a href="#">page 2-8</a>
	Extended Information	<a href="#">page 2-8</a>
Language Setting	Language Setting	<a href="#">page 2-9</a>
	Keyboard	<a href="#">page 2-10</a>
LAN Setting	IP Setting	<a href="#">page 2-11</a>
	Network Table Edit	<a href="#">page 2-16</a>
	Option	<a href="#">page 2-18</a>
VPN Setting		<a href="#">page 2-19</a>
Cloud Setting		<a href="#">page 2-19</a>
E-Mail Setting	Connection Setting	<a href="#">page 2-21</a>
	Mail Setting	<a href="#">page 2-22</a>
SRAM Setting		<a href="#">page 2-24</a>
Communication Setting	Communication Parameter	<a href="#">page 2-27</a>
	Connection Target Setting	<a href="#">page 2-28</a>
	Individual Parameter	<a href="#">page 2-28</a>
	Communication I/F Unit Parameters	<a href="#">page 2-29</a>
	Multi-Link	<a href="#">page 2-33</a>
	Multi-Link2	<a href="#">page 2-30</a>
Display system menu		<a href="#">page 2-33</a>
Simulator Setting		<a href="#">page 2-33</a>
System Setting	Buzzer Setting	<a href="#">page 2-35</a>
	Backlight Setting	<a href="#">page 2-35</a>
Date/Time Setting	Date/Time Setting	<a href="#">page 2-36</a>
	NTP Server Settings	<a href="#">page 2-39</a>
Storage Transfer (screen program transfer)		<a href="#">page 2-40</a>
I/O Check	Touch switches and media	<a href="#">page 2-52</a>
	Network Test	<a href="#">page 2-55</a>
	Duplicate IP Test	<a href="#">page 2-56</a>
	Extension I/O (only for V-I/O connection)	<a href="#">page 2-57</a>
User Settings		<a href="#">page 2-58</a>
Trial Period Setting		<a href="#">page 2-63</a>
OS Update		<a href="#">page 2-67</a>

## 2.2.1 RUN

Pressing [RUN] in the menu icons switches to RUN mode.

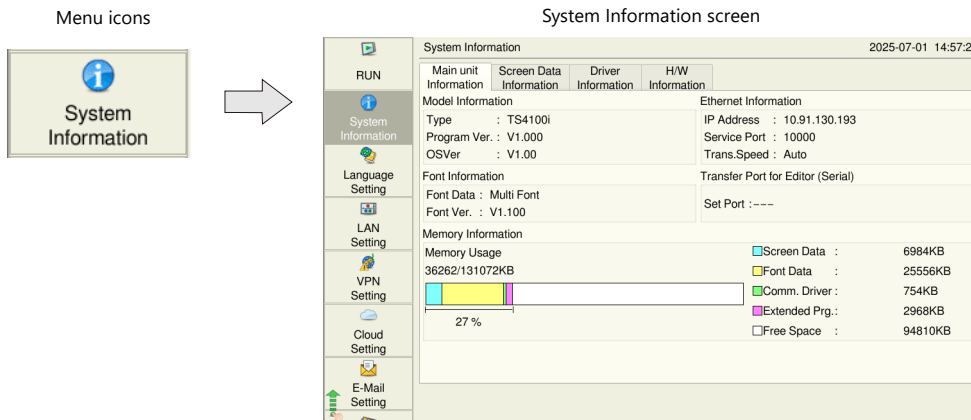


\*1 The splash screen can be changed as desired. For details, refer to the Reference Manual 2.

\*2 The progress bar can be hidden. For details, refer to the Reference Manual 2.

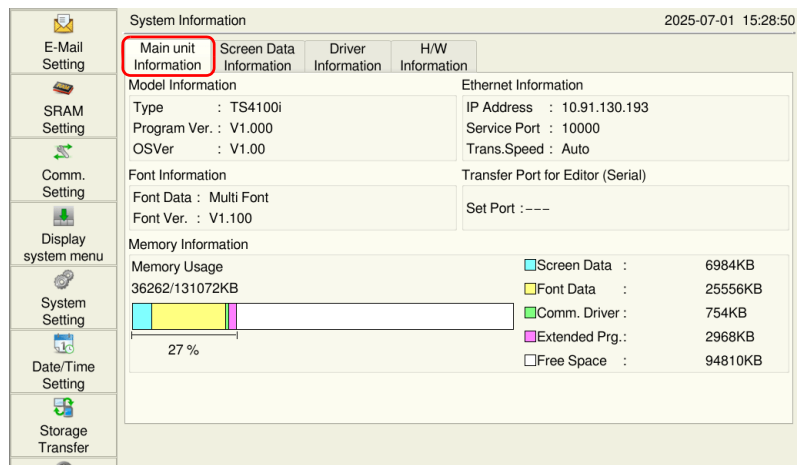
## 2.2.2 System Information

Pressing [System Information] in the menu icons brings up the System Information screen. This screen is used to view the information of the TS4000 series, screen program, etc. This is the screen first displayed when the operation mode is switched from RUN to Local.



### MONITOUCH Information

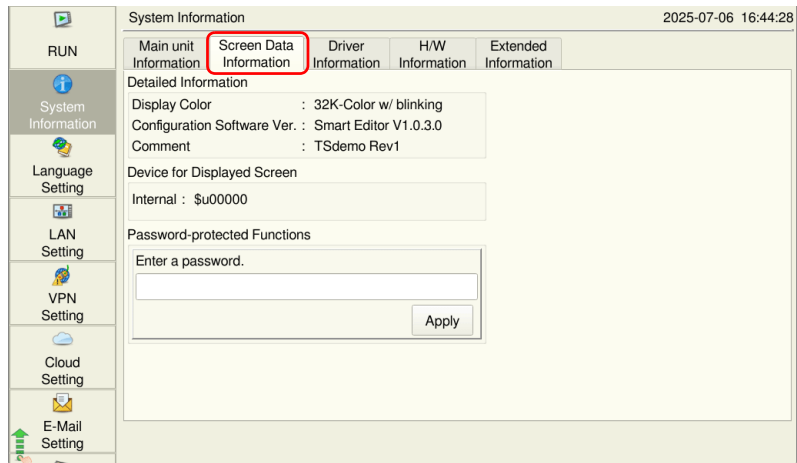
The [Main unit Information] tab window shows information of the TS4000 series unit.



Item		Description
Model Information	Type	Indicates the model of the TS4000 series unit.
	Program Ver.	Indicates the version of the MONITOUCH system program.
	OSVer	Indicates the version of the operating system.
Ethernet information	IP Address	Indicates the IP address of the TS4000 series unit.
	Service Port	Indicates the port number of the TS4000 series unit. This is used for macro commands of EREAD, EWRITE, SEND and MES as well as the Ethernet DLL function.
	Trans. Speed	Indicates the Ethernet transmission speed.
Font Information	Font Data	Indicates the font data transferred into MONITOUCH. When two or more types of fonts have been transferred, "Multi Font" is displayed.
	Font Ver.	Indicates the font version.
Transfer Port for Editor (Serial)	Set Port	"---" is indicated. This is not used with the TS4000 series.
Memory information	Memory Usage	Displays the usage status of FROM.

## Screen Data Information

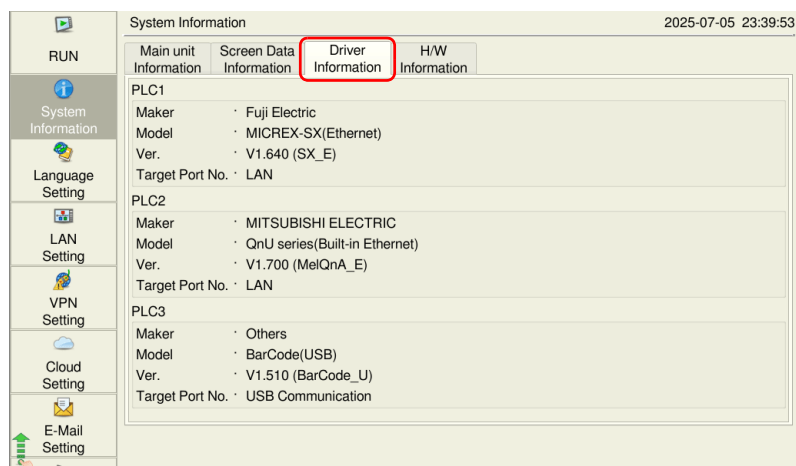
The [Screen Data Information] tab window shows screen program information.



Item	Description	
Detailed information	Display Color	Indicates the display color specified in the screen program.
	Configuration Software Ver.	Indicates the version of the software with which the screen program was created.
	Comment	Indicates a file comment for the screen program.
Device for Displayed Screen	Indicates an address of the device memory that controls the screen by external commands and stores data of the currently displayed screen.	
Password-protected Functions	Displayed when the Local-mode prohibition setting is used and a password for cancelling all prohibition settings at once is set. For details on the password-protected settings, refer to <a href="#">page 2-70</a> .	

## Driver Information

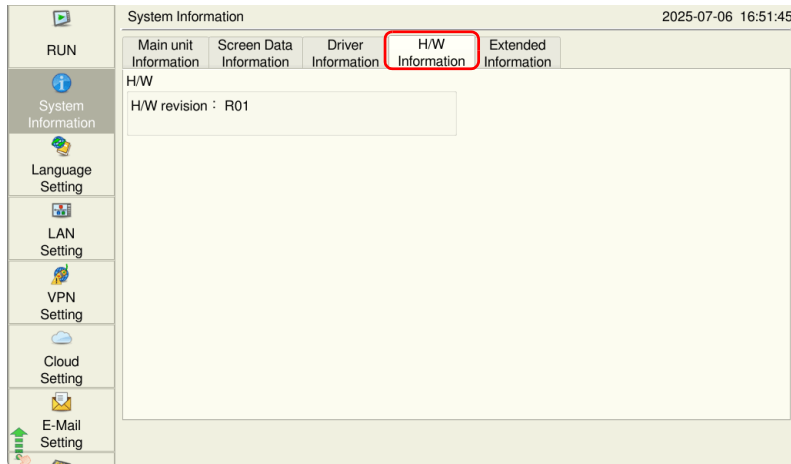
The [Driver Information] tab window shows information of connected devices.



Item	Description	
PLC1 - 8	Maker	Indicates the maker of the connected device.
	Model	Indicates the model of the connected device.
	Ver. (driver file name)	Indicates the version of the communication I/F driver and its file name.
	Target Port No.	Indicates the specified connection port.

## H/W Information

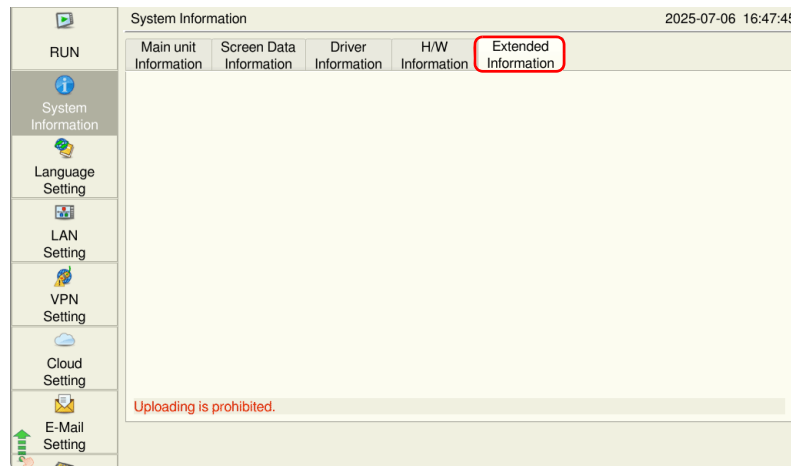
The [H/W Information] tab window shows the hardware information of the TS4000 series unit.

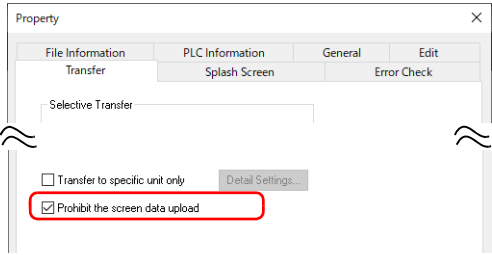


Item		Description
H/W information	H/W revision	Indicates the revision number of the hardware.

## Extended Information

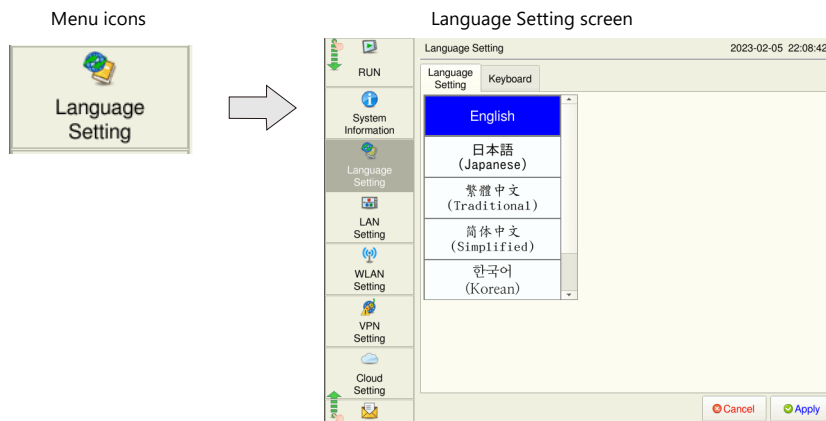
The [Extended Information] tab window is used to check the extended information of the TS4000 series unit.



Item	Description
Uploading is prohibited.	<p>Uploading of screen programs is prohibited. Uploading cannot be performed by transferring from a PC or a storage device.</p> <p>This is displayed when a screen program is transferred and the [Prohibit the screen data upload] checkbox is selected at [File] → [Property] → [Transfer].</p> 

## 2.2.3 Language Setting

Pressing [Language Setting] in the menu icons brings up the Language Setting screen. This screen is used to change the interface language for Local mode and the USB keyboard type.

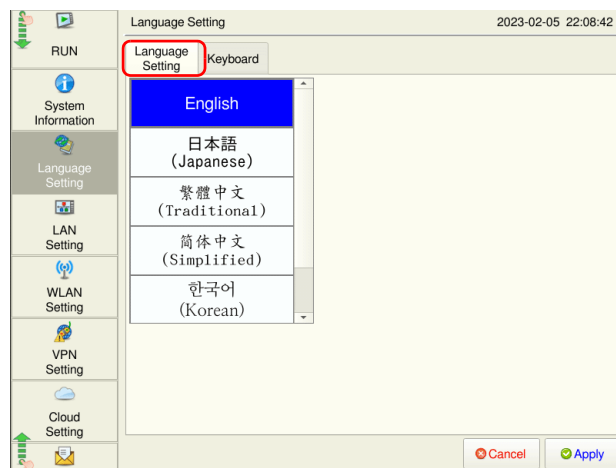


The Language Setting screen can be displayed when any of the following screens are displayed:

- Default screen
  - \* On the default screen, the interface language can be selected from English, Japanese, Chinese (simplified), Chinese (traditional) or Korean.
- Local mode screen
- Error message screen

### Language Setting

The [Language Setting] tab window is used to change the interface language of the Local mode screen.



Select a desired language and press the [Apply] switch to confirm the setting.

Item	Description
Language Setting	Select an interface language.

\* The languages selected at [Font Setting] → [Transfer Font Setting] on the screen configuration software are displayed. English can always be selected.

The language selected in the [Language Setting] tab window is applied to the following screens:

- Local mode screen
- System menu
- Status bar
- Messages at the bottom right of the splash screen
- Dialog box displayed during transfer
- Error message screen

## Keyboard

The [Keyboard] tab window is used to set the type of keyboard or USB barcode reader to connect to the USB-A (master) port.

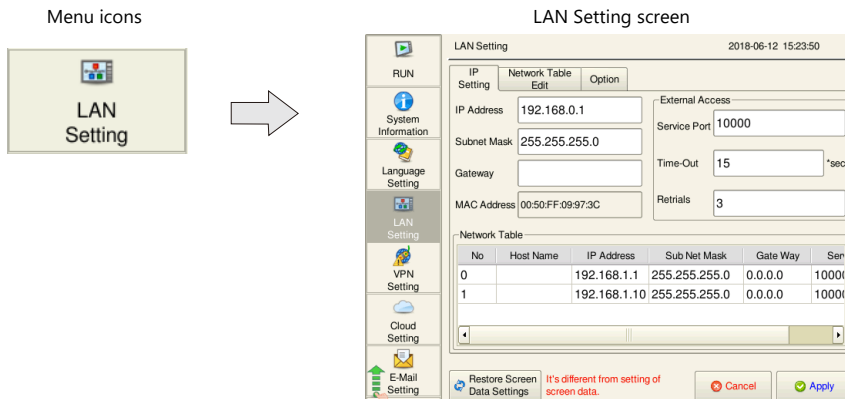


Item		Description
Keyboard Selection	English Japanese	Select a keyboard type. *

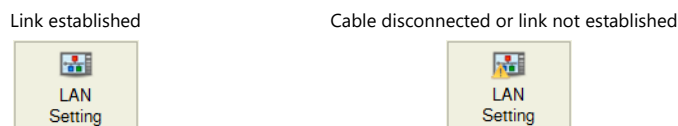
\* [English] is selected as default.  
After changing the keyboard type in the [Keyboard] tab window and pressing the [Apply] switch, the selected type is retained even if the power is turned off and back on again.

## 2.2.4 LAN Setting

Pressing [LAN Setting] in the menu icons brings up the LAN Setting screen, respectively. This screen is used to set an IP address of the TS4000 series unit.



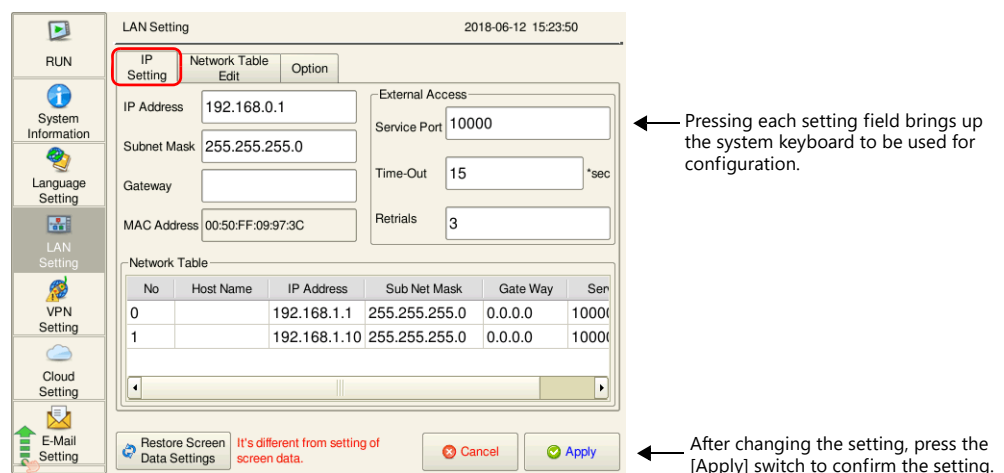
When no LAN cable is connected or a link is not established, the [LAN Setting] icon changes as follows.



Item	Description
Restore Screen Data Settings	Restores the screen program settings after the IP settings were changed on the TS4000 series unit. When settings are restored, the changes made on the unit are cancelled. For details on the handling of a screen program changed in Local mode, refer to <a href="#">page 2-68</a> .

## IP Setting

The [IP Setting] tab window is used to set or change the IP address setting of the TS4000 series unit.



Item	Description
IP Address *1	Set the IP address for the TS4000 series unit. Default: 192.168.0.1
Subnet Mask *1	Set the subnet mask.
Gateway *1	Set the default gateway. If a gateway is not used, leave this field blank or set "0.0.0.0".
MAC Address	Indicates the MAC address.

## 2. Local Mode Screen

Item		Description
External Access	Service Port <sup>*1</sup>	Set the port number to be used for the EREAD, EWRITE, SEND, and MES macro commands and Ethernet DLL functions. No.1024 to 65535 ("8001" is not available.)
	Time-Out	Set the timeout time.
	Retrials	0 to 255 Set the number of retries to be performed when a timeout occurs.
Network Table		When a network table setting is set in the screen program, the contents of the network table are displayed. Tap an IP address to select from the network table.

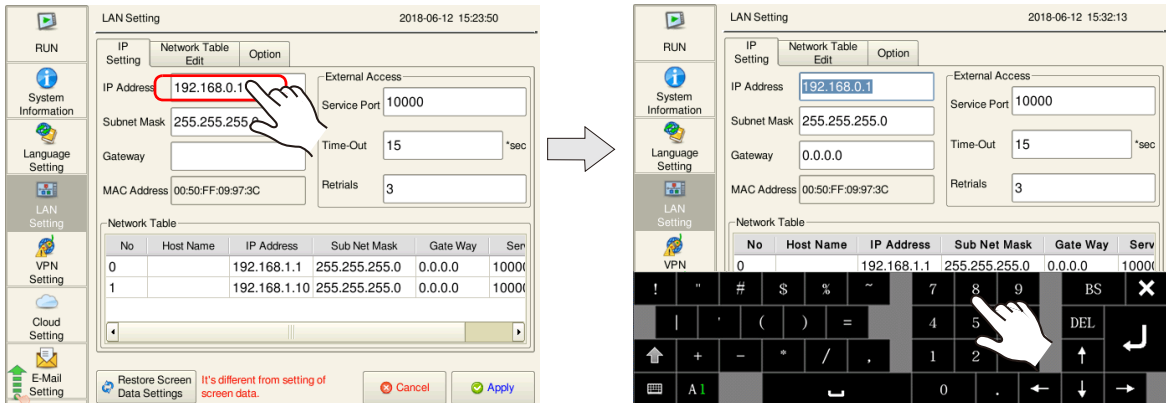
\*1 For details on the setting items, refer to [page 2-15](#).

## IP Address Setting for the TS4000 Series

When using the Ethernet function, set the IP address for the TS4000 series unit.  
An IP address can be set either on the TS4000 unit or in the screen program.

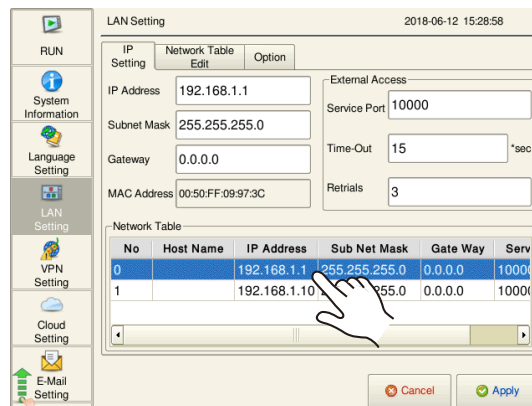
### Method 1: Setting on the TS4000 Unit

1. Press the [LAN Setting] switch to open the [IP Setting] tab window.
2. Set each item.
  - When inputting directly:  
Press each item and make a setting using the system keyboard.

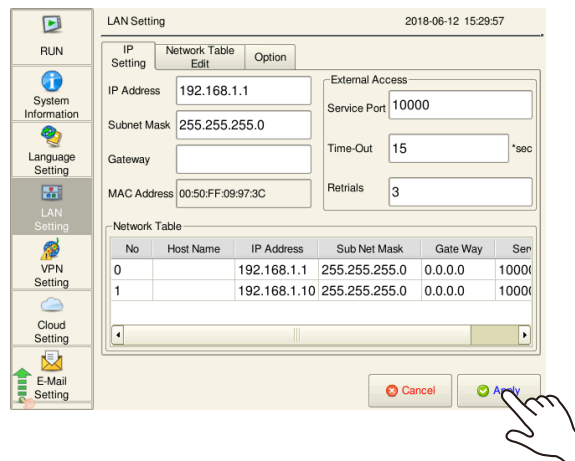


If a gateway is not used, leave the field blank.

- When selecting from the network table:  
Tap an IP address to select from the network table.



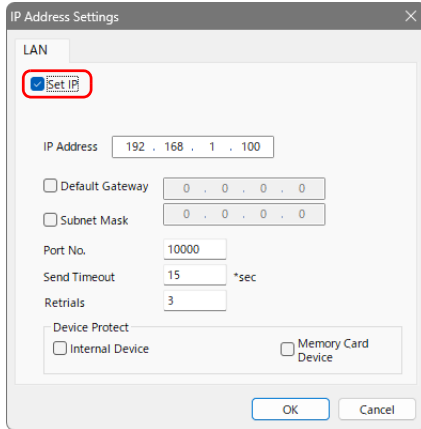
3. Press the [Apply] switch to confirm the setting.  
Select [System Information] → [MONITOUCH Information], and check the contents in the [Ethernet Information] field.



**Method 2: Using the Smart Editor**

Set the IP address in the [IP Address Settings] on the screen configuration software.

- Location of setting:  
[Project View] pane → [Hardware Settings] tab → [MONITOUCH Settings] → [Ethernet] → [Local Port IP Address]
1. Select the [Set IP] checkbox in the [LAN] tab window, and set each item.



Item	Description
Select IP Address from Network Table	This is valid when the IP address of the TS4000 series unit has been registered in the network table. Select a network table number from 0 to 255 to set the IP address.
IP Address *	Set the IP address for the TS4000 series unit.
Default Gateway *	Set the default gateway.
Subnet Mask *	Set the subnet mask. When this box is not checked, the subnet mask is automatically assigned based on the first octet of the IP address.  Example: For Class A (0.0.0.0 to 127.255.255.255): 255.0.0.0 For Class B (128.0.0.0 to 191.255.255.255): 255.255.0.0 For Class C (192.0.0.0 to 223.255.255.255): 255.255.255.0
Port No. *	This is used for macro commands of EREAD, EWRITE, SEND and MES as well as the Ethernet DLL function. Set a port number from 1024 to 65535. ("8001" is not available.)
Send Timeout	Set a timeout period for transmitting macro commands EREAD, EWRITE, SEND, MES or Ethernet DLL functions.
Retrials	0 to 255 Set the number of retries to be performed when a timeout occurs.
Device Protect Internal Device Memory Card Device	Select these checkboxes to write-protect the corresponding device memory from PCs or other stations.

\* For details on the setting items, refer to [page 2-15](#).

2. Click [OK].
3. Transfer the screen program to the TS4000 series unit.
4. Press the [Restore Screen Data Settings] switch in the [LAN Setting] → [IP Setting] tab window in Local mode, and press the [Apply] switch.
5. Select [System Information] → [MONITOUCH Information], and check the contents in the [Ethernet Information] field.



### IP Address

This is an address that is used for recognizing each node on the Ethernet and should be unique. The IP address is 32-bit data which consists of the network address and the host address and can be classified into classes A to C depending on the network size.

Class A	0	Network address (7)	Host address (24)
Class B	10	Network address (14)	Host address (16)
Class C	110	Network address (21)	Host address (8)

#### <Notation>

Data consisting of 32 bits is divided into four segments in decimal notation and each segment is delimited with a period.

Example: The IP address in class C shown below is represented as "192.128.1.50".

11000000 10000000 00000001 00110010

#### <Unavailable IP addresses>

"0" is specified for the first octet.

Example: 0.x.x.x

"127" is specified for the first octet (loop back address).

Example: 127.x.x.x

"224" or more is specified for the first octet (for multi-cast or experiment).

Example: 224.x.x.x

The host address consists of only "0" or "255" (broadcast address).

Example: 128.0.255.255, 192.168.1.0

### Port No.

Multiple applications run on each node and communications are carried out for each application between the nodes.

Consequently, it is necessary to have a means to identify the application that data should be transferred to. The port number works as this identifier. While the range of port numbers is 0 to 65535, the lower port numbers of 0 to 1024 are generally reserved for other uses. When assigning port numbers, use numbers higher than 1024.

For details on port numbers used by the TS4000, refer to Reference Manual 2. When changing any port number, select an unused number from the range of 1024 to 65535. For a PLC or a computer, set the port number in the range of 256 to 65535. It is recommended to set a greater number.

### Default Gateway

A gateway and a router are used for communication between different networks.

The IP address of the gateway (router) should be set to communicate with the node(s) on other networks.

### Subnet Mask

A subnet mask is used for dividing one network address into multiple networks (subnet).

The subnet is assigned by specifying a part of the host address in the IP address as a subnet address.

Class B	10	Network address (14)	Host address (16)
Subnet Mask		255. 255.	255. 0
	11111111	11111111	11111111 00000000
	Network address	Subnet address	Host address

#### <Unavailable subnet masks>

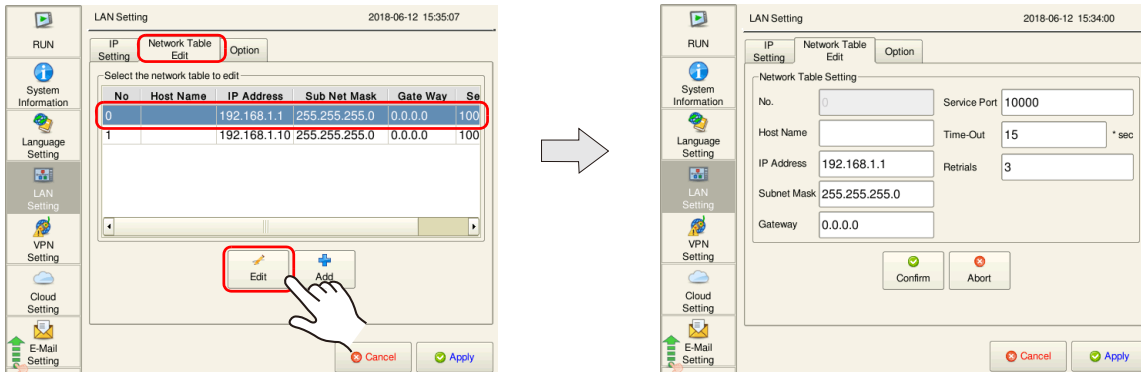
- All bits are set to "0". 0.0.0.0
- All bits are set to "1". 255.255.255.255

## Network Table Edit

The [Network Table Edit] tab window is used to edit and add network tables.

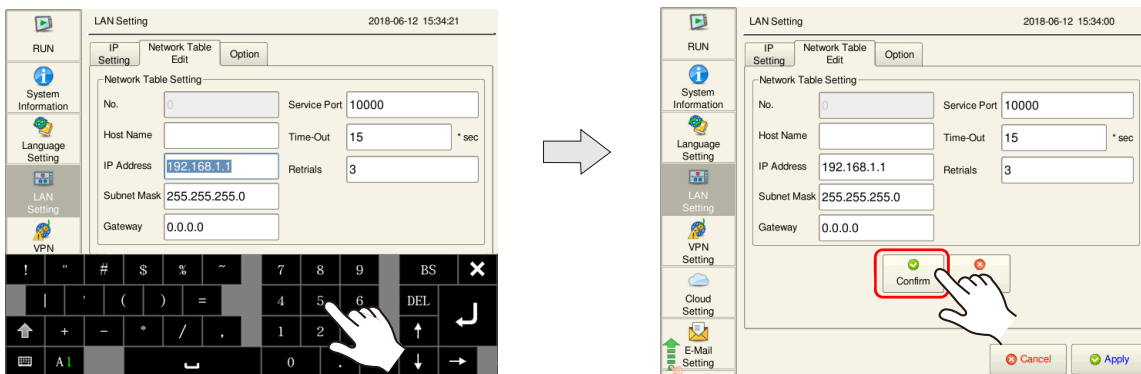
### Editing Procedure

1. Press [LAN Setting] in the menu icons and open the [Network Table Edit] tab window.
2. Press the [Edit] switch.

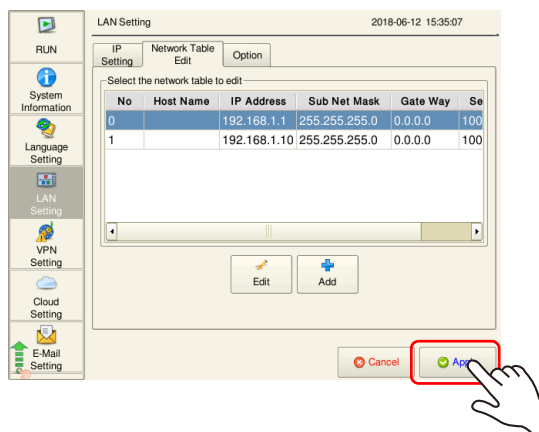


3. Press each item and input settings using the system keyboard. Then press the [Confirm] switch.

- \* The network table number cannot be changed.
- \* If a gateway is not used, leave this field blank or set "0.0.0.0".



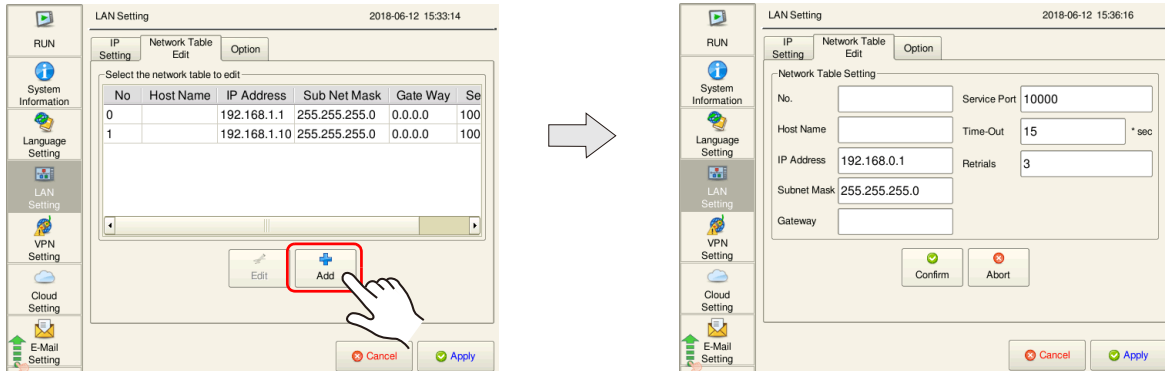
4. Press the [Apply] switch to confirm the settings.



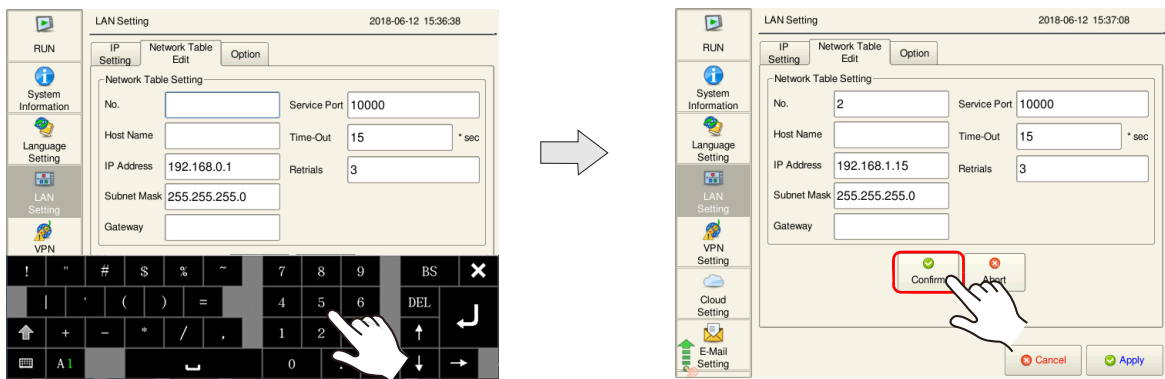
When the [Select IP Address from Network Table] checkbox is selected in the [IP Address Settings] (page 2-14) of the screen program, the network table number set in the screen program can be edited on the TS4000 unit but is not reflected to the local station address ([IP Setting] tab).

## Adding Procedure

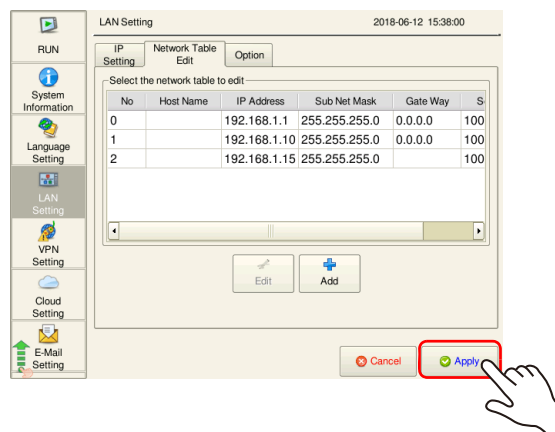
1. Press [LAN Setting] in the menu icons and open the [Network Table Edit] tab window.
2. Press the [Add] switch.



3. Press each item and input settings using the system keyboard. Then press the [Confirm] switch.
  - \* Be sure to register a network table number.
  - \* If a gateway is not used, leave this field blank or set "0.0.0.0".

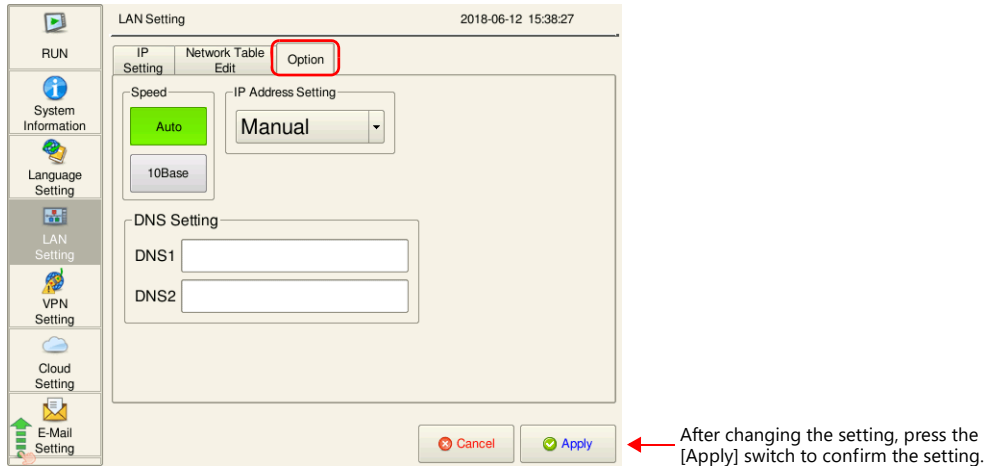


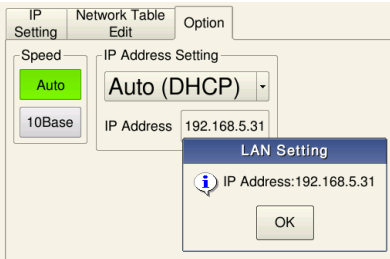
4. Press the [Apply] switch to confirm the settings.



## Option

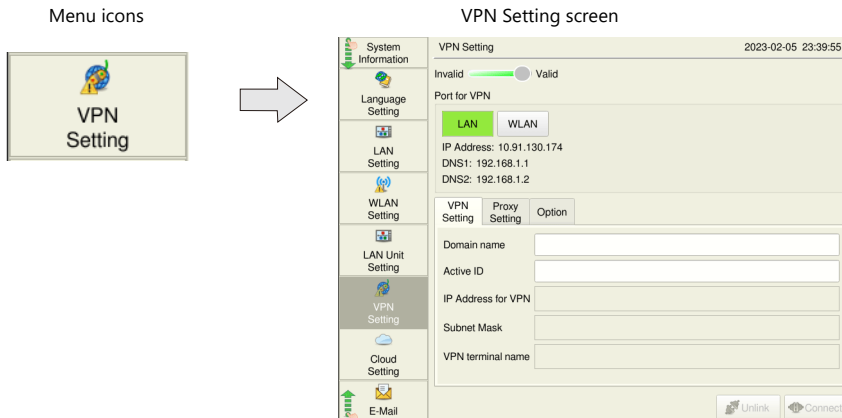
The [Option] tab window is used to set the Ethernet speed and the IP address setting method.




Item		Description
Speed	Auto (default)	The auto negotiation mode is set.
	10Base	The communication mode is fixed to 10Base-T.
IP Address Setting	Manual (default)	Manually set the IP address, subnet mask, and gateway.
	Auto (DHCP)	<p>Automatically acquire the information necessary to establish an internet connection (IP address, subnet mask, and gateway) from the DHCP server (router etc.).</p> <p>When automatic allocation is successful, the allocated IP address is displayed.</p>  <p>After automatic allocation, the display and operation of items change as follows:</p> <ul style="list-style-type: none"> <li>• The IP address, subnet mask, and gateway settings on the [IP Setting] tab window are grayed out.</li> <li>• Network tables displayed on the [IP Setting] tab window cannot be selected.</li> <li>• Network tables cannot be edited or added on the [Network Table Edit] tab window.</li> </ul>
DNS Setting	DNS1 DNS2	<p>Set the DNS.</p> <p>Always set to "DNS1" when [E-Mail Setting] is set to [Sending Mail Server (SMTP)].</p> <p>When the IP address is set using [Auto (DHCP)], the DNS is also set automatically.</p>

## 2.2.5 VPN Setting

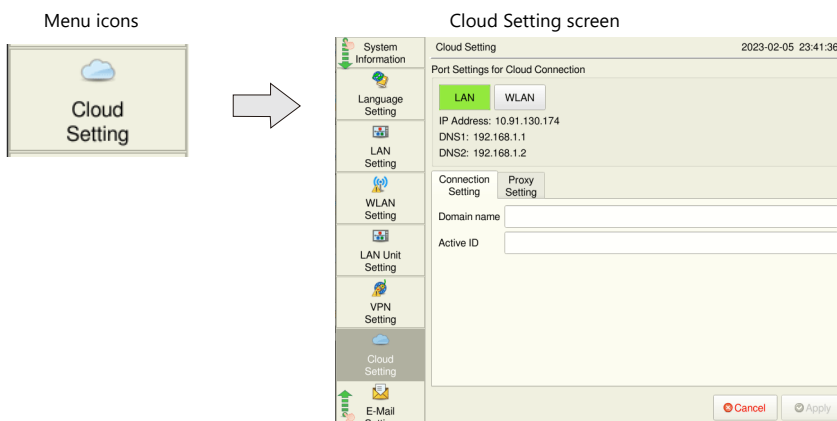
Pressing [VPN Setting] in the menu icons brings up the VPN Setting screen. This screen is used when connecting the TS4000 series unit to a VPN.




 For details on VPN connection, refer to the separately provided "Web Machine Interface" manual.

## 2.2.6 Cloud Setting

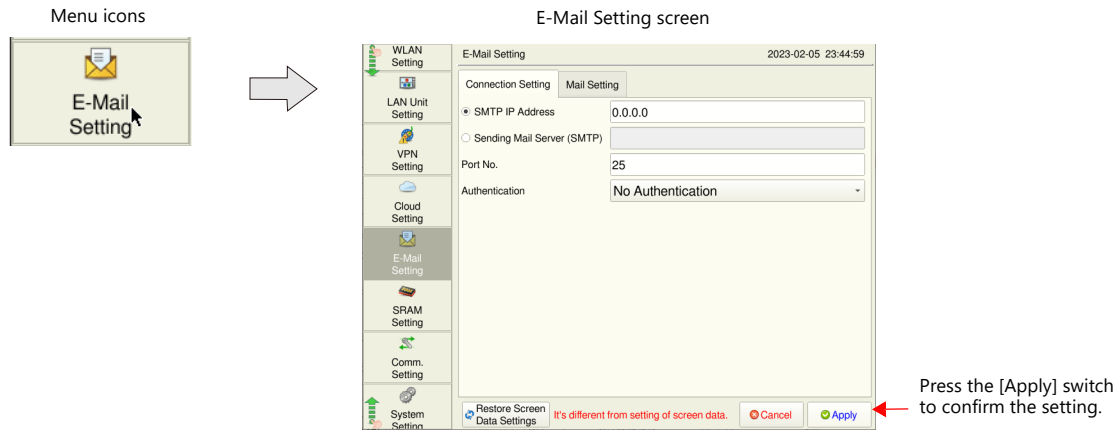
Pressing [Cloud Setting] in the menu icons brings up the Cloud Setting screen. This screen is used to configure settings necessary for using the cloud data service.



 For details on the cloud data service, refer to the separately provided "Web Machine Interface" manual.

## 2.2.7 E-Mail Setting

Pressing [E-Mail Setting] in the menu icons brings up the E-Mail Setting screen. This screen is used to view and configure connection settings and destination settings for sending e-mail notifications.

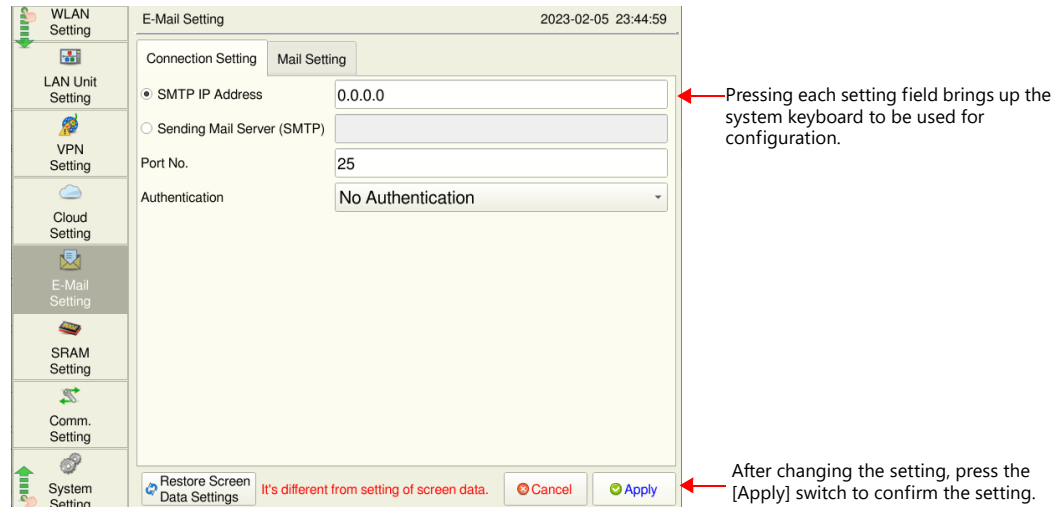


Item	Description
Restore Screen Data Settings	<p>Returns the e-mail settings made on the TS4000 series unit to those set in the screen program.</p> <p>When the [Restore Screen Data Settings] switch is pressed, settings made in the [Connection Setting] and [Mail Setting] tab windows are canceled, and those in the screen program are restored.</p> <p>* When settings are restored, the changes made on the unit are cancelled.</p> <p>For details on the handling of a screen program changed in Local mode, refer to <a href="#">page 2-68</a>.</p>


## Connection Setting

The [Connection Setting] tab window is used to configure connection settings for sending e-mail notifications.

When e-mail settings have been configured using the screen configuration software, the settings in the screen program are displayed.

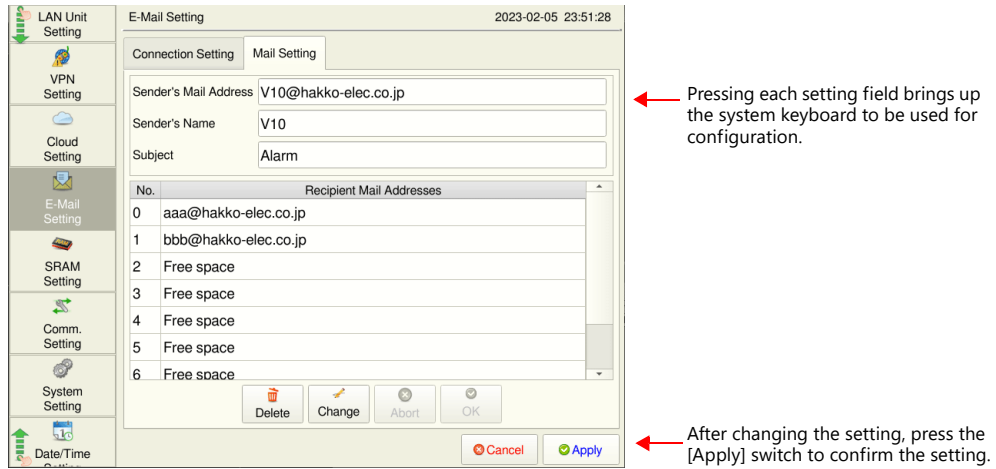


Item	Description	
Mail Server	SMTP IP Address	Set the IP address of the mail server on the network.
	Sending Mail Server (SMTP)	Set the server name of the mail server to connect. (up to 255 alphanumeric and symbols characters) Setting of the [LAN Setting] → [Option] → [DNS Setting] is required as well.
Port No.		Set the SMTP port number. (Default: 25)  When using SSL/TLS communication, set "465" for the port number. When using STARTTLS communication, set "587" for the port number.
Authentication	No Authentication	No authentication is performed.
	POP before SMTP	Authentication is performed with the POP3 server. Configure the following settings. <ul style="list-style-type: none"> <li>POP3 IP address</li> <li>Account name (within 63 one-byte characters)</li> <li>Password (within 63 one-byte characters)</li> </ul>
	SMTP-AUTH	Authentication is performed with the SMTP server. Configure the following settings. <ul style="list-style-type: none"> <li>Encryption Method</li> <li>Account name (within 63 one-byte characters)</li> <li>Password (within 63 one-byte characters)</li> </ul>
Encryption Method		Displayed when [Authentication: SMTP-AUTH] is selected. Select encryption method. <ul style="list-style-type: none"> <li>None</li> <li>SSL/TLS</li> <li>STARTTLS</li> </ul>
POP3 IP Address		Displayed when [Authentication: POP before SMTP] is selected. Set the POP3 IP address.
Account Name		Displayed when other than [Authentication: No Authentication] is selected. Set an account name used for connecting to the POP3 server or SMTP server.
Password		Displayed when other than [Authentication: No Authentication] is selected. Set a password used for connecting to the POP3 server or SMTP server.

 For details on e-mail notifications, refer to the Reference Manual 2.

## Mail Setting

The [Mail Setting] tab window is used to specify destinations for sending e-mail notifications. When e-mail settings have been configured using the screen configuration software, the settings in the screen program are displayed.

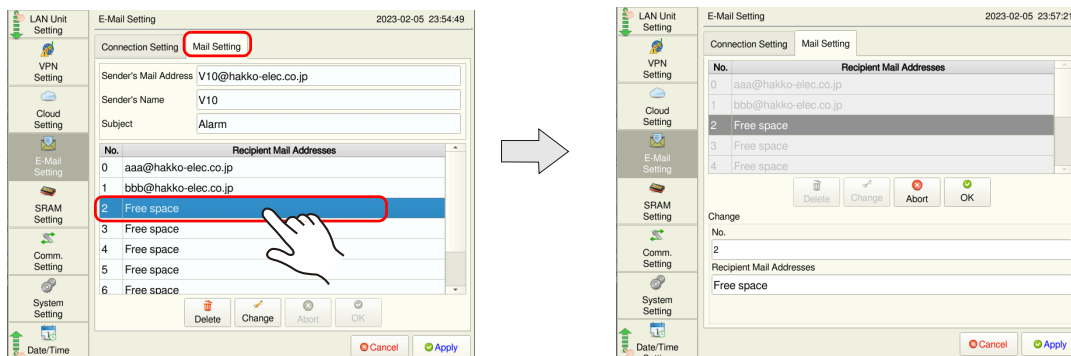


Item	Description
Sender's Mail Address	Set the sender's mail address. It is recommended to create a dedicated account for the TS4000 series unit on the mail server and to set its address here.
Sender's Name	Set the sender's name. A name can only consist of either one- or two-byte characters; not both. It is displayed in the "Sender" field in an incoming e-mail.
Subject	Set the subject. It is displayed in the "Subject" field in an incoming e-mail.
Recipient Mail Addresses	Max. 8 addresses Register all mail addresses to receive notifications from the TS4000 series unit.

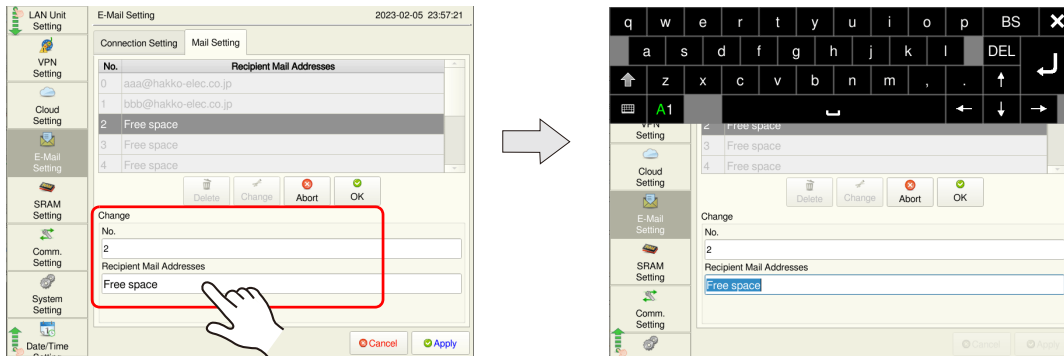
For details on e-mail notifications, refer to the Reference Manual 2.

## Editing the Recipient Mail Addresses

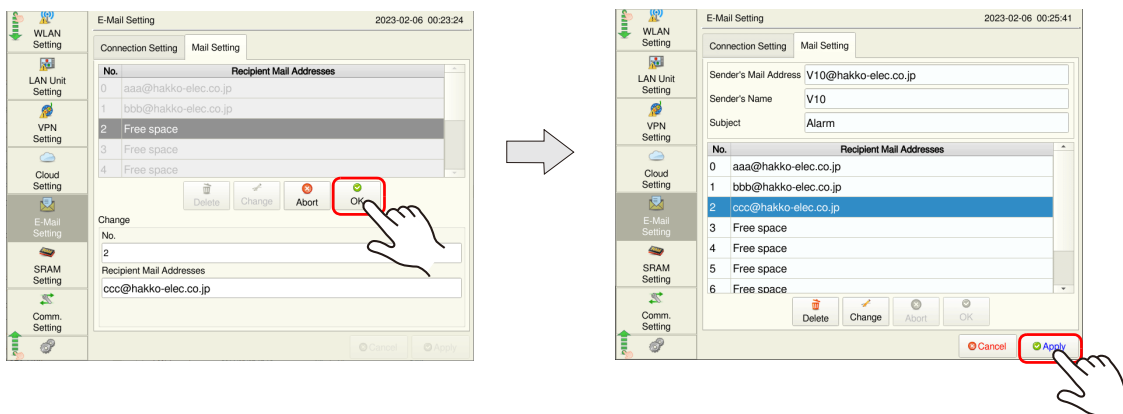
1. Press [E-Mail Setting] in the menu icons and open the [Mail Setting] tab window.
2. Select a mail address to edit and press the [Change] switch.



- Pressing each setting field brings up the system keyboard to be used for configuration. Set the recipient mail address. When [No.] is changed, the set address is copied to the selected number.

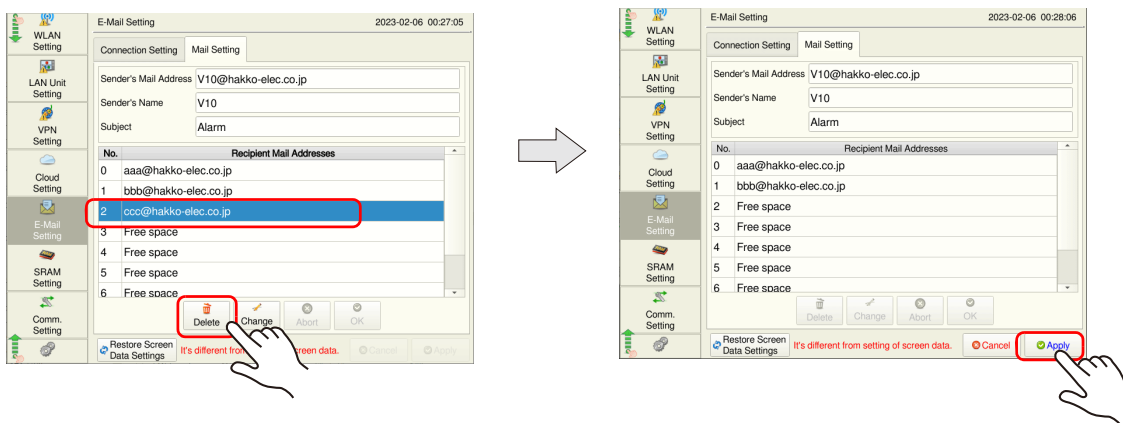


- Press the [OK] switch and then the [Apply] switch. The changed address takes effect.



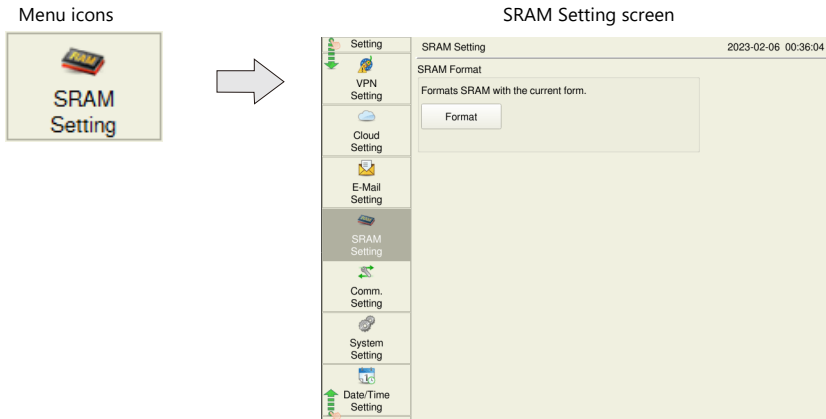
## Deleting the Recipient Mail Addresses

- Press [E-Mail Setting] in the menu icons and open the [Mail Setting] tab window.
- Select a mail address to delete and press the [Delete] switch. Press the [Apply] switch to confirm the setting.




## 2.2.8 SRAM Setting

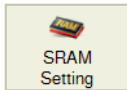
Pressing [SRAM Setting] in the menu icons brings up the SRAM Setting screen. This screen is used to format the SRAM area in the TS4000 series unit.



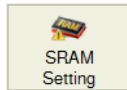
If the SRAM area allocated in the TS4000 series unit is different from that configured in the [SRAM Setting] window on the screen configuration software, the [SRAM Setting] menu icon changes as shown below.

\* The  icon also appears when the SRAM area is occupied, the battery becomes weak or no battery is set.

When the format matches:



When the format differs:



Item		Description
SRAM Format *1	Format	Formats the SRAM area. For details on the formatting procedure, refer to <a href="#">page 2-24</a> .

\*1 When using the SRAM area, be sure to set a battery. Otherwise, the contents in the SRAM area cannot be retained.

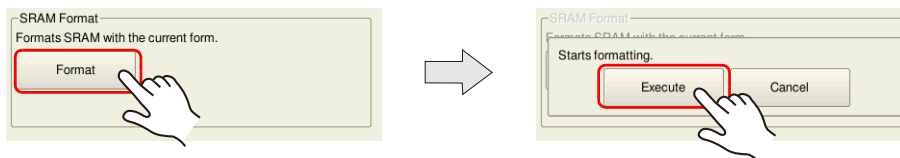
### Formatting SRAM

An SRAM area can be formatted.

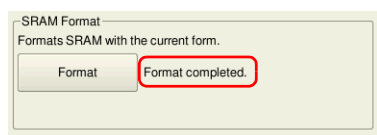
When the SRAM area is formatted, any saved data (history data saved in SRAM, internal device memory \$L, etc.) is completely cleared. Double-check before formatting the SRAM.

1. Press [SRAM Setting] in the menu icons. The SRAM Setting screen is displayed.
2. Press the [Format] switch and the [Execute] switch.

The SRAM area is formatted in the format specified in the current screen program.

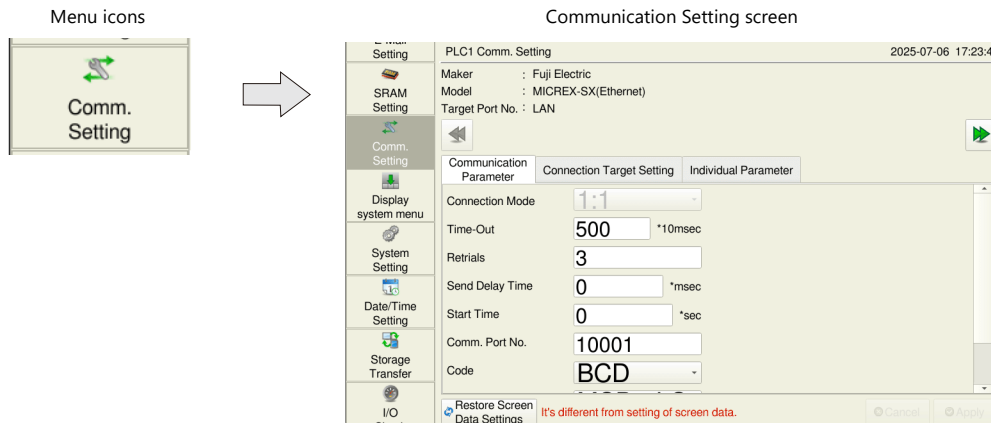


3. When formatting has been completed, the message "Format completed." is displayed.

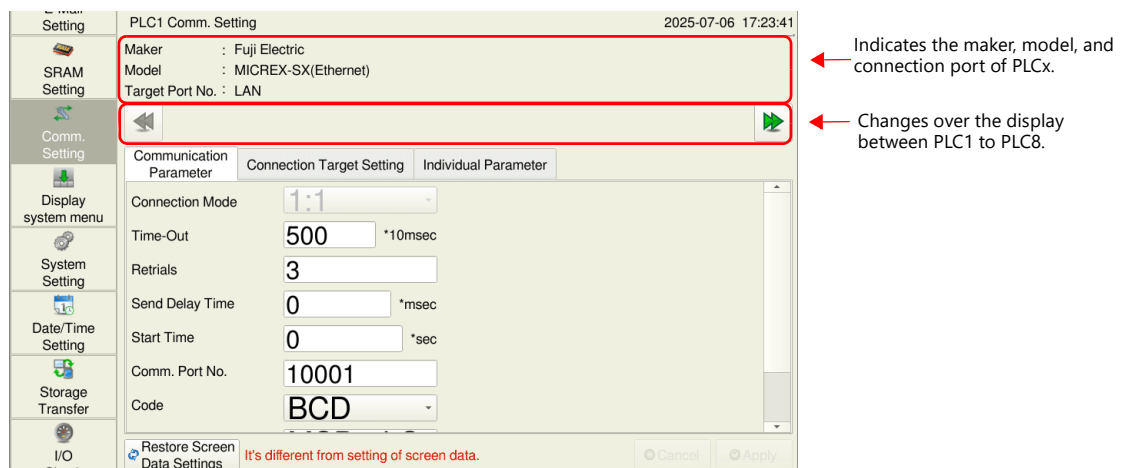


## 2.2.9 Communication Setting

Pressing [Comm. Setting] in the menu icons brings up the Communication Setting screen. This screen is used to view and configure communication parameters.



### PLC1 to PLC8 Communication Setting



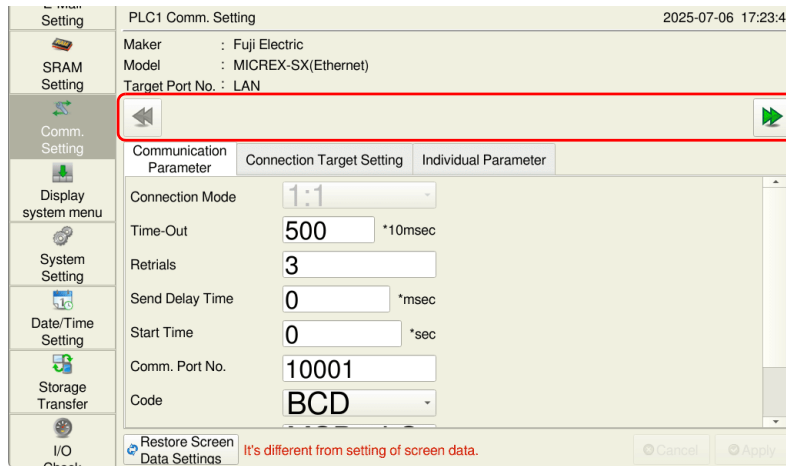
Item	Description	
PLC1 - PLC8 Communication Setting	Maker	Indicates the maker of the connected device.
	Model	Indicates the model of the connected device.
	Target Port No.	Indicates the specified connection port.
<<	Changes over the display of the communication settings between PLC1 to PLC8.	
>>	If only PLC1 is used, the display cannot be changed over.	
Restore Screen Data Settings	Restores communication settings that were changed on the TS4000 series unit to those set in the screen program. For details, refer to <a href="#">page 2-26</a> . * When settings are restored, the changes made on the unit are cancelled. For details on data changed in Local mode, refer to <a href="#">page 2-68</a> .	

\* The model and connection port cannot be changed on the TS4000 series unit.

## Restoring Settings in the Screen Program

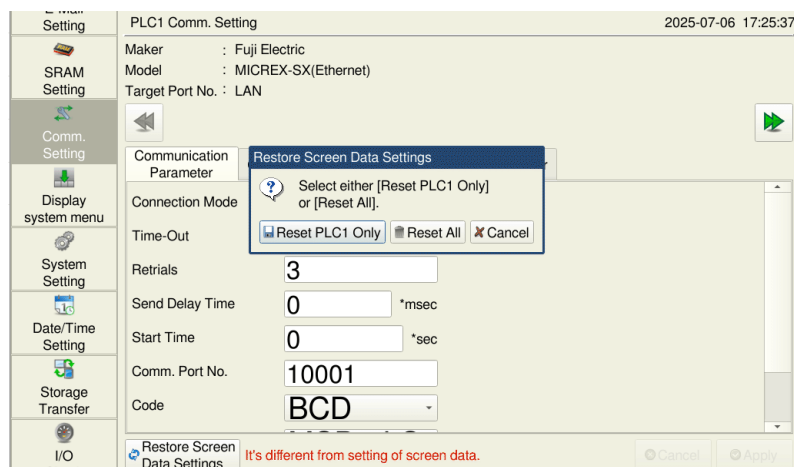
This section explains how to restore the screen program settings after the communication settings were changed on the TS4000 series unit.

1. Press [Comm. Setting] in the menu icons. The Communication Setting screen is displayed.
2. To restore a specific communication parameter for PLCx, press [<<] and [>>] switches to select the connected device targeted for restoration.



3. Press the [Restore Screen Data Settings] switch. The following dialog box appears.  
To restore the screen program settings for only the currently displayed PLCx, press the [Reset PLCx Only] switch. To restore for all PLCs 1 to 8, press the [Reset All] switch.

\* When restored, changes made on the TS4000 series unit are cancelled.



4. Communication settings are refreshed and the [System Information] screen is displayed.

## Communication Parameter

The [Communication Setting] tab window is used to check and set parameters for connected devices.

Indicates communication parameters of PLCx.  
Pressing each setting field brings up the system keyboard to be used for configuration.

After changing the setting, press the [Apply] switch to confirm the setting.

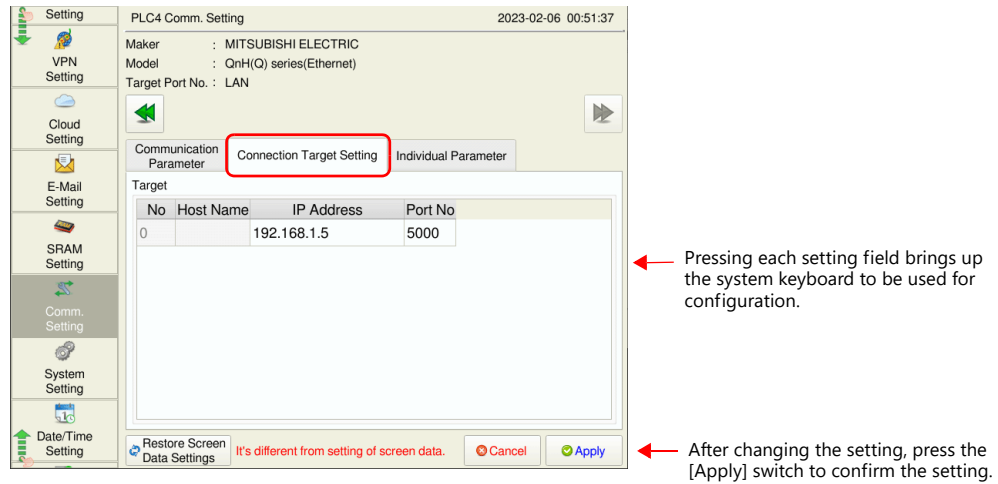
Item	Description
Connection Mode	Displays the communication parameters of PLCx.
Signal Level	Press an item to change the communication parameter on the TS4000 series unit. *1
Baud Rate	For more information, refer to the Connection Manual.
Data Length	
Parity	
Stop Bit	
Stat. No.	
Local Port No.	
Time-Out	
Retrials	
Send Delay Time	
Start Time	
Comm. Port No.	
Code	
Text Process	
Comm. Error Handling	
Recovery Condition	

\* The connection mode cannot be changed on the TS4000 series unit.

## Connection Target Setting

The [Connection Target Setting] tab window is used to check and change the IP address and port number of connected devices.

- \* The [Connection Target Setting] tab window is displayed only when Ethernet connection is used.



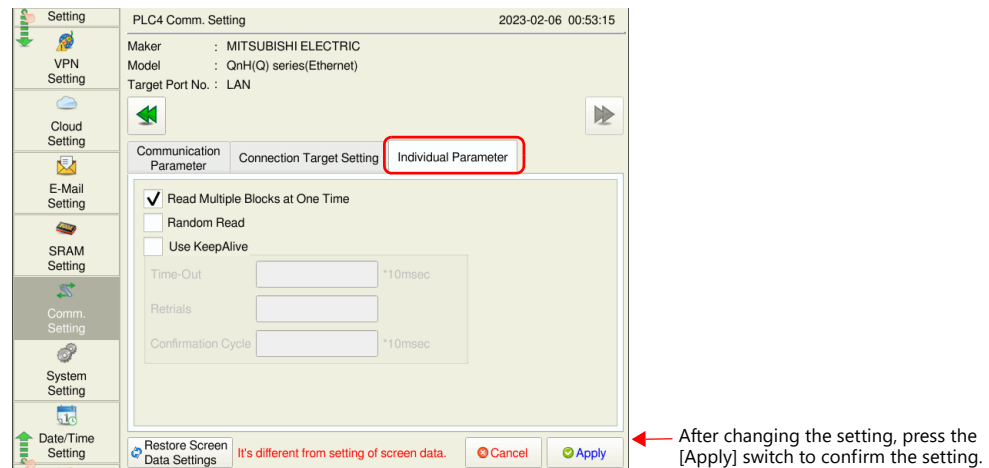
Item	Description	
Target *1	No	Displays the number of the connection target. (Cannot be changed.)
	Host Name	Displays the station name set in the screen program. (Cannot be changed.)
	IP Address	Set the IP address for the connected device.
	Port No.	Set the port number of the connected device.

- \*1 When the connection mode is 1:1, only the connected device is displayed.  
When the connection mode is 1:n, all connection targets set in the PLC table on the screen configuration software are displayed.  
Addition or deletion of a connected device is not possible.

## Individual Parameter

The [Individual Parameter] tab window is used to set detailed communication settings.

- \* [Use Port No. Table] and [Node Address] are not displayed.

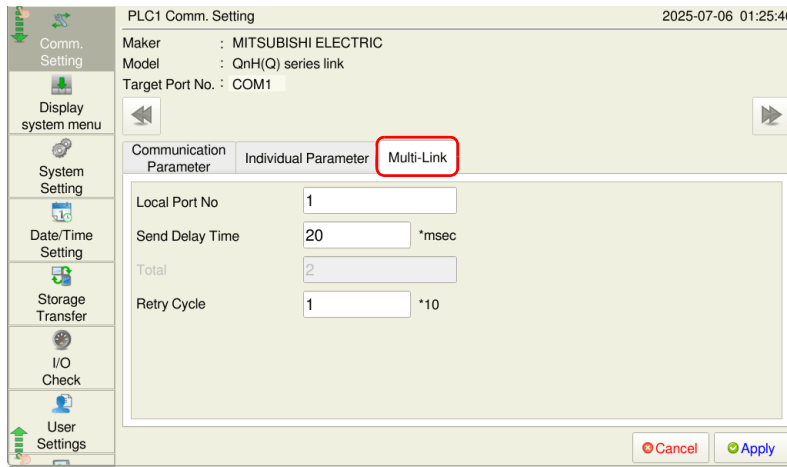


Item	Description
Transmission Mode	Displays the settings menu of the corresponding PLC model.
Read Multiple Blocks at One Time	For more information, refer to the Connection Manual.
Random Read	
Series Selection	
Use KeepAlive	This is displayed only for Ethernet communication. For more information, refer to the Connection Manual.

## Multi-Link

The [Multi-Link] tab window is used to view and configure multi-link settings.

- \* The [Multi-Link] tab window is available only when the connection mode is multi-link.



← Pressing each setting field brings up the system keyboard to be used for configuration.

← After changing the settings, press the [Apply] switch to confirm the settings.

Item	Description
Local Port No.	Displays the local port number of the TS4000 series unit. Set within the total number of TS4000 series units. Note that if the port number specified is the same as that already set for another TS4000 unit, the system will not operate correctly.
Send Delay Time *	Specify a delay time that elapses before the TS4000 unit sends the next command after receiving data from the PLC.
Total *	Displays the total number of TS4000 units connected in multi-link connection. (Cannot be changed.)
Retry Cycle *	When a TS4000 series unit has a problem, it is temporarily removed from the communication targets, and an inquiry for restoration is sent every number of cycles specified by this setting.

- \* For [Send Delay Time], [Total] and [Retry Cycle], the same values must be set on all the TS4000 series units that are connected in the same communication line.

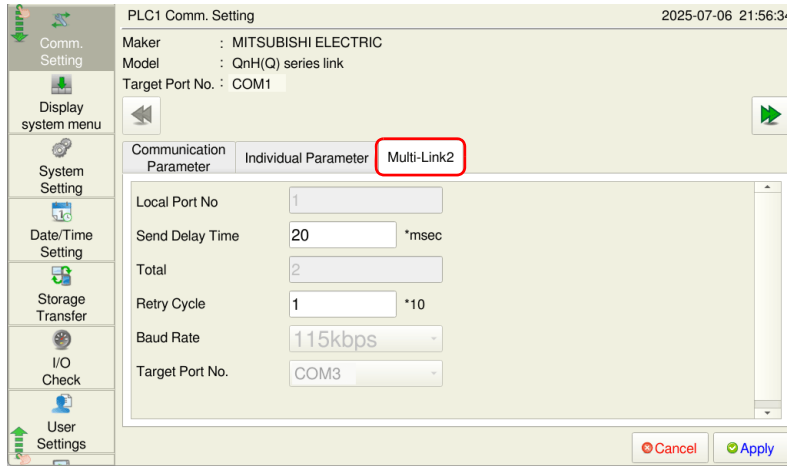
## Multi-Link2

The [Multi-Link2] tab window is used to view and configure multi-link2, multi-link2 (Ethernet), and 1 : n multi-link2 (Ethernet) settings.

- \* The [Multi-Link2] tab window is available only when the connection mode is multi-link2, multi-link2 (Ethernet), or 1 : n multi-link2 (Ethernet).

### Multi-link2

- For the master station

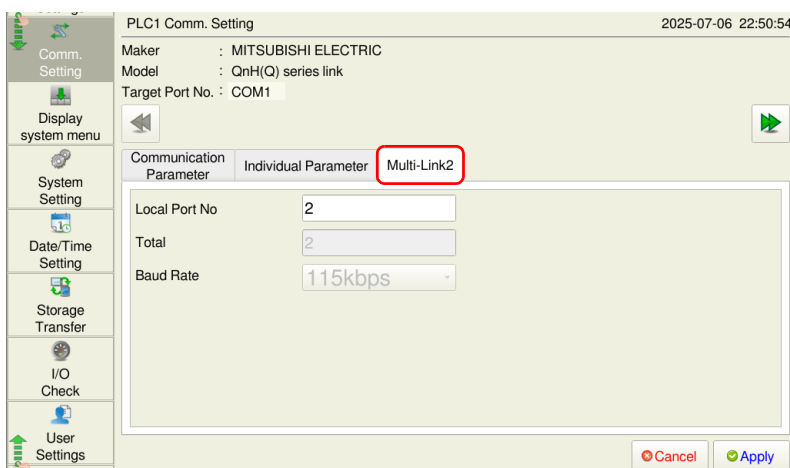


← Pressing each setting field brings up the system keyboard to be used for configuration.

← After changing the settings, press the [Apply] switch to confirm the settings.

Item	Description
Local Port No.	Displays the local port number of the TS4000 series unit. The port number of the master station is "1". (Cannot be changed.)
Send Delay Time	Specify a delay time that elapses before the TS4000 series unit sends the next command after receiving data from the PLC. Normally use the default setting (0).
Total	Displays the total number of TS4000 units connected in multi-link2 connection. (Cannot be changed.)
Retry Cycle	Set the cycle interval at which the master station sends an inquiry for restoration to a slave that has encountered a problem and is disconnected.
Baud Rate	Displays the baud rate for between TS4000 series units. (Cannot be changed.)
Target Port No.	Displays the port for connecting to the slave station. (Cannot be changed.)

- For a slave station



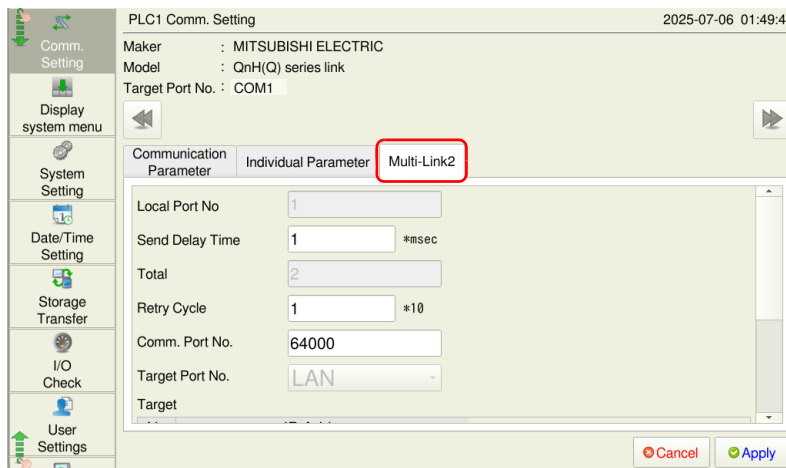
← Pressing each setting field brings up the system keyboard to be used for configuration.

← After changing the settings, press the [Apply] switch to confirm the settings.

Item	Description
Local Port No.	Displays the local port number of the TS4000 series unit. The port number of a slave station is from "2" to "4". Set within the total number of TS4000 series units. Note that if the port number specified is the same as that already set for another TS4000 unit, the system will not operate correctly.
Total	Displays the total number of TS4000 units connected in multi-link2 connection. (Cannot be changed.)
Baud Rate	Displays the baud rate for between TS4000 series units. (Cannot be changed.)

## Multi-link2 (Ethernet)

- For the master station

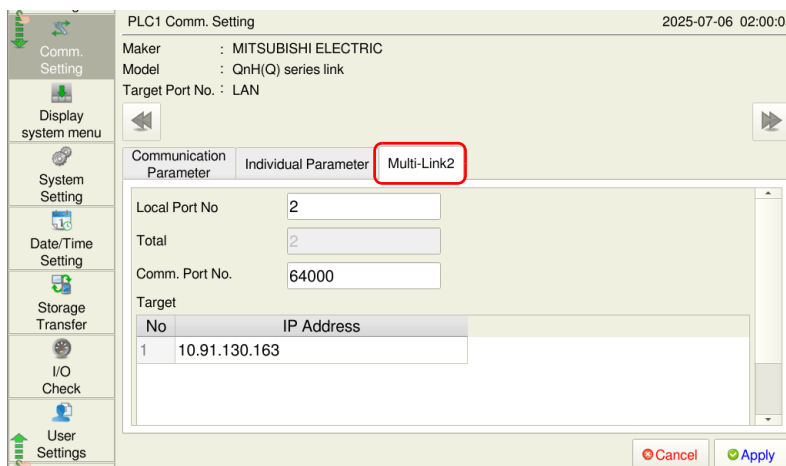


Pressing each setting field brings up the system keyboard to be used for configuration.

After changing the settings, press the [Apply] switch to confirm the settings.

Item	Description
Local Port No.	Displays the local port number of the TS4000 series unit. The port number of the master station is "1". (Cannot be changed.)
Send Delay Time	Specify a delay time that elapses before the TS4000 series unit sends the next command after receiving data from the PLC. Normally use the default setting (0).
Total	Displays the total number of TS4000 units connected in multi-link2 (Ethernet) connection. (Cannot be changed.)
Retry Cycle	Set the cycle interval at which the master station sends an inquiry for restoration to a slave that has encountered a problem and is disconnected.
Comm. Port No.	Set the port number for multi-link2 (Ethernet) communication. Set the same port number for all master and slave stations.
Target	Set the IP addresses of all TS4000 units used as slave to respective local port numbers.

- For a slave station



Pressing each setting field brings up the system keyboard to be used for configuration.

After changing the settings, press the [Apply] switch to confirm the settings.

Item	Description
Local Port No.	Displays the local port number of the TS4000 series unit. The port number of a slave station is from "2" to "32". Set within the total number of TS4000 series units. Note that if the port number specified is the same as that already set for another TS4000 unit, the system will not operate correctly.
Total	Displays the total number of TS4000 units connected in multi-link2 (Ethernet) connection. (Cannot be changed.)
Comm. Port No.	Set the port number for multi-link2 (Ethernet) communication. Set the same port number for all master and slave stations.
Target	Set the IP address of the master TS4000 for No. 1.

### 1 : n Multi-link2 (Ethernet)

- For the master station

PLC1 Comm. Setting 2025-07-06 01:49:45

Maker : MITSUBISHI ELECTRIC  
Model : QnH(Q) series link  
Target Port No. : COM1

Communication Parameter Individual Parameter **Multi-Link2**

Local Port No. 1  
Send Delay Time 1 \*msec  
Total 2  
Retry Cycle 1 \*10  
Comm. Port No. 64000  
Target Port No. LAN  
Target

← Pressing each setting field brings up the system keyboard to be used for configuration.

← After changing the settings, press the [Apply] switch to confirm the settings.

Item	Description
Local Port No.	Displays the local port number of the TS4000 series unit. The port number of the master station is "1". (Cannot be changed.)
Send Delay Time	Specify a delay time that elapses before the TS4000 series unit sends the next command after receiving data from the PLC. Normally use the default setting (0).
Total	Displays the total number of TS4000 units connected in 1 : n multi-link2 (Ethernet) connection. (Cannot be changed.)
Retry Cycle	Set the cycle interval at which the master station sends an inquiry for restoration to a slave that has encountered a problem and is disconnected.
Comm. Port No.	Set the port number for 1 : n multi-link2 (Ethernet) communication. Set the same port number for all master and slave stations.
Target	Set the IP addresses of all TS4000 units used as slave to respective local port numbers.

- For a slave station

PLC1 Comm. Setting 2025-07-06 02:00:05

Maker : MITSUBISHI ELECTRIC  
Model : QnH(Q) series link  
Target Port No. : LAN

Communication Parameter Individual Parameter **Multi-Link2**

Local Port No. 2  
Total 2  
Comm. Port No. 64000  
Target  
No IP Address  
1 10.91.130.163

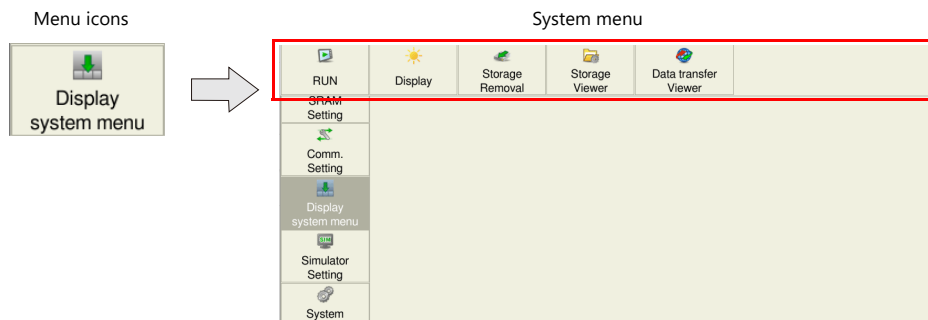
← Pressing each setting field brings up the system keyboard to be used for configuration.

← After changing the settings, press the [Apply] switch to confirm the settings.

Item	Description
Local Port No.	Displays the local port number of the TS4000 series unit. The port number of a slave station is from "2" to "32". Set within the total number of TS4000 series units. Note that if the port number specified is the same as that already set for another TS4000 unit, the system will not operate correctly.
Total	Displays the total number of TS4000 units connected in 1 : n multi-link2 (Ethernet) connection. (Cannot be changed.)
Comm. Port No.	Set the port number for 1 : n multi-link2 (Ethernet) communication. Set the same port number for all master and slave stations.
Target	Set the IP address of the master TS4000 for No. 1.

## 2.2.10 Display System Menu

Pressing [Display system menu] in the menu icons brings up the system menu at the top of the screen.



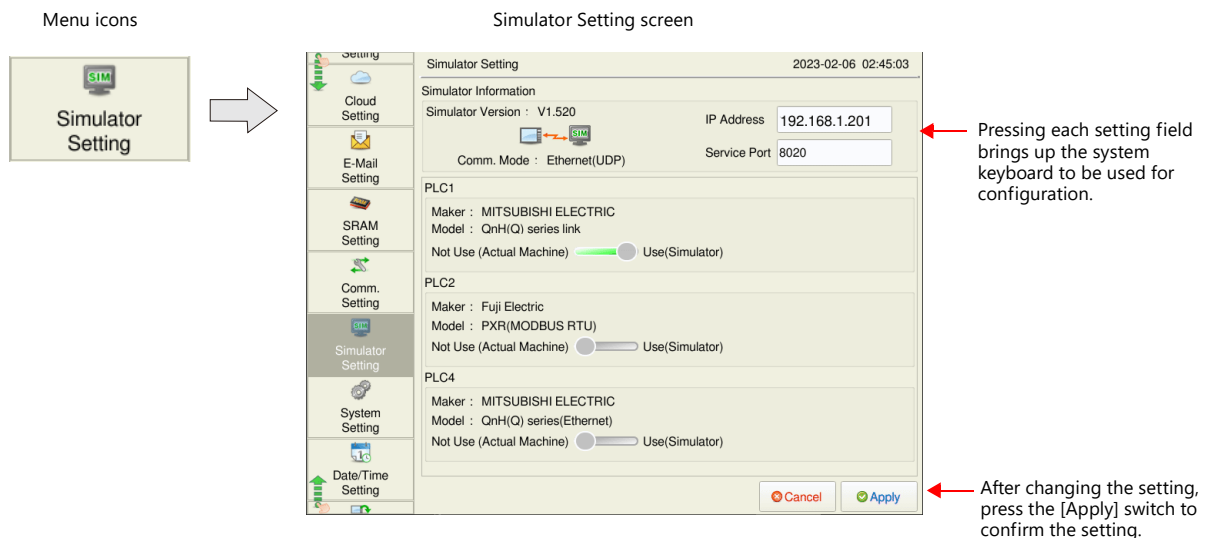
For details on the system menu, refer to "1.2 System Menu" page 1-3.

## 2.2.11 Simulator Setting

Pressing [Simulator Setting] \* in the menu icons brings up the Simulator Setting screen.

This screen is used to show the information of the simulator to use, and select whether or not to use the simulator.

\* The [Simulator Setting] switch is displayed only when a screen program is transferred with [Use Simulator] selected in the [Transfer] window on the screen configuration software.



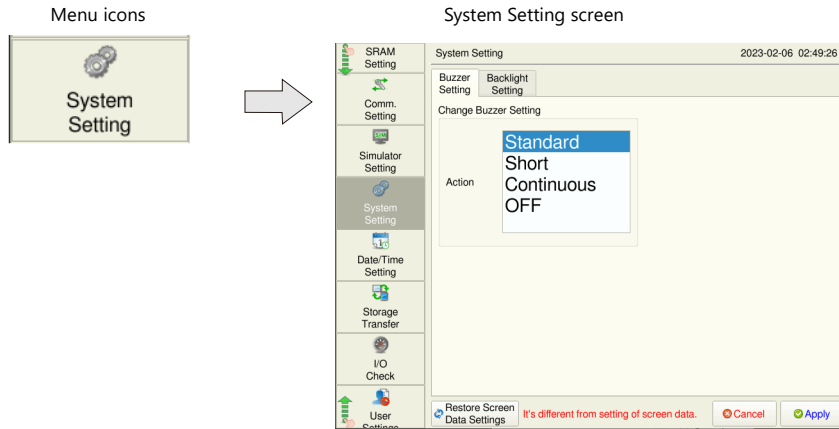
Item	Description	
Simulator Information	Simulator Version	Indicates the version of the simulator program.
	Comm. Mode	Indicates the simulator communication mode. USB: USB-B (Device) Ethernet: Ethernet (UDP)
	IP Address	Displayed only when [Comm. Mode: Ethernet (UDP)] is selected. Set the IP address for the connected PC. (Default: 192.168.1.201)
	Service Port	Displayed only when [Comm. Mode: Ethernet (UDP)] is selected. Set the port number for the simulator. (Default: 8020) Set the same number as the one set for [File] → [Communication Setting] → [Port No.] in the [Simulator] window.
PLC1 to 8	Maker	Indicates the maker of the connected device.
	Model	Indicates the model of the connected device.
	Not Use (Actual Machine) / Use	Select whether or not to use the simulator as a substitute for the actual equipment. Not Use (Actual Machine): Performs communication with an actual machine. Use: Performs communication using the simulator.

## 2.2.12 System Setting

Pressing [System Setting] in the menu icons brings up the System Setting screen. This screen is used to change the settings for the buzzer and backlight.



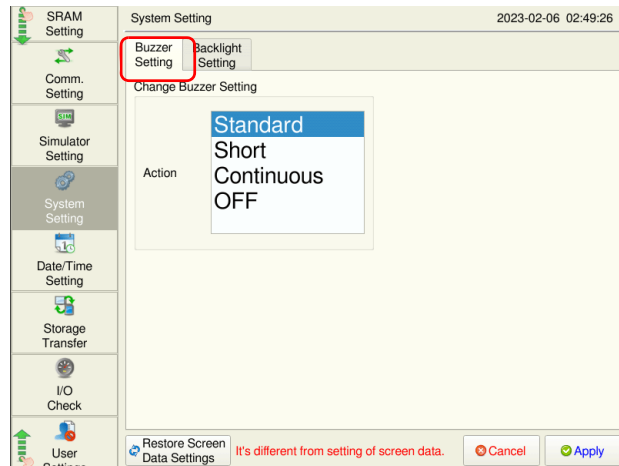
Screen operations cannot be performed over a VNC connection.



Item	Description
Restore Screen Data Settings	<p>Returns the buzzer or backlight settings made on the TS4000 series unit to those set in the screen program. When this switch is pressed while the [Buzzer Setting] or [Backlight Setting] tab window is open, settings in the current tab window are cancelled and those in the screen program are restored. When settings are restored, the changes made on the unit are cancelled.</p> <p>For details on the handling of a screen program changed in Local mode, refer to <a href="#">page 2-68</a>.</p>

## Buzzer Setting

The [Buzzer Setting] tab window is used to change the buzzer sound that is emitted when a switch is pressed.

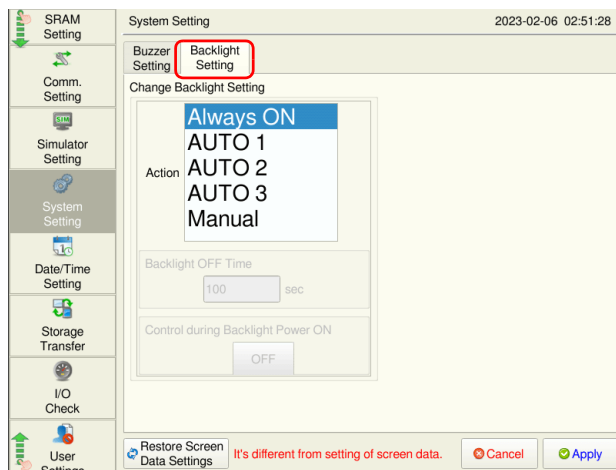


After changing the setting, press the [Apply] switch to confirm the setting.

Item		Description
Change Buzzer Setting	Standard	Changes the buzzer sound. * If you set the buzzer sound for each switch individually, the individual switch setting will take priority.
	Short	
	Continuous	
	OFF	

## Backlight Setting

The [Backlight Setting] tab window is used to change the backlight control setting.

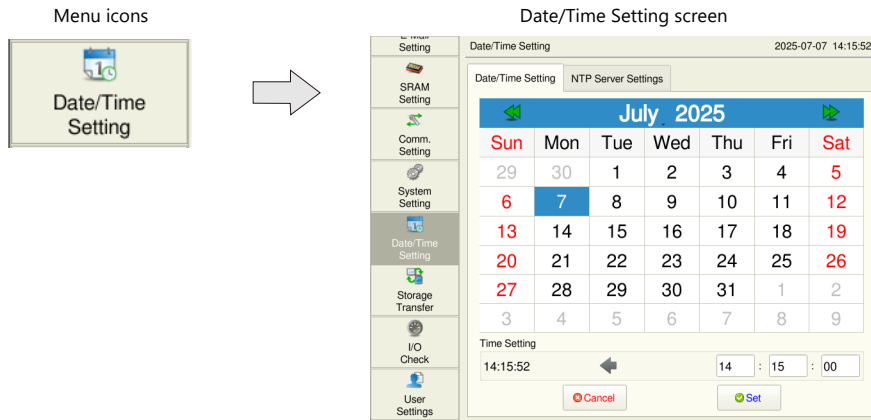


After changing the setting, press the [Apply] switch to confirm the setting.

Item		Description
Change Backlight Setting	Action	Changes the backlight control setting. For details on the difference between these actions, refer to the Reference Manual 1.
	Always ON	
	AUTO 1	
	AUTO 2	
	AUTO 3	
Manual		
Backlight OFF Time		This item can be set only when [AUTO 1], [AUTO 2], or [AUTO 3] is selected. Set the time to elapse until the backlight is turned off.
Control during Backlight Power ON		This item can be set only when [Manual] is selected. Select the backlight status when the power is turned on and when the operation mode is changed from STOP to RUN.

## 2.2.13 Date/Time Setting

Pressing [Date/Time Setting] in the menu icons brings up the Date/Time Setting screen. This screen is used to correct the date and time of the built-in clock in the TS4000 series unit. \*1 The date and time can also be acquired by connecting to an NTP server. (For details, refer to [page 2-39](#).)

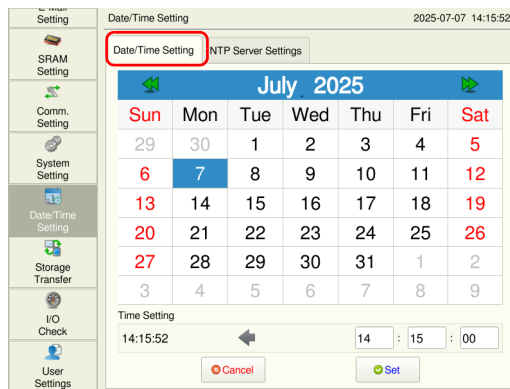


\*1 When using the built-in clock, be sure to set a battery. Otherwise, the clock time cannot be retained.

### Date/Time Setting

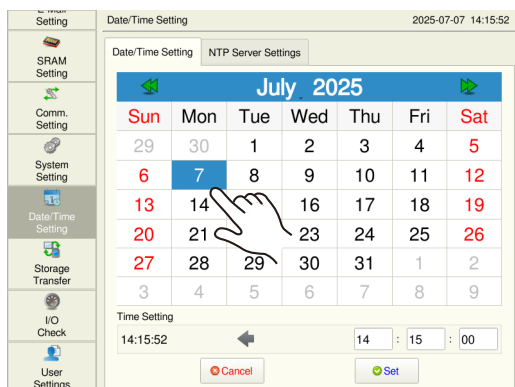
When using the built-in clock of the TS4000 series, the date and time can be corrected on the [Date/Time Setting] tab window. Whether to use the built-in clock or read the PLC's clock is to be set on the screen configuration software.

- Location of [Use Built-in Clock] on screen configuration software:  
[Project View] pane → [Hardware Settings] tab → [MONITOUCH Settings] → [Calendar/Clock] → [Use Built-in Clock]

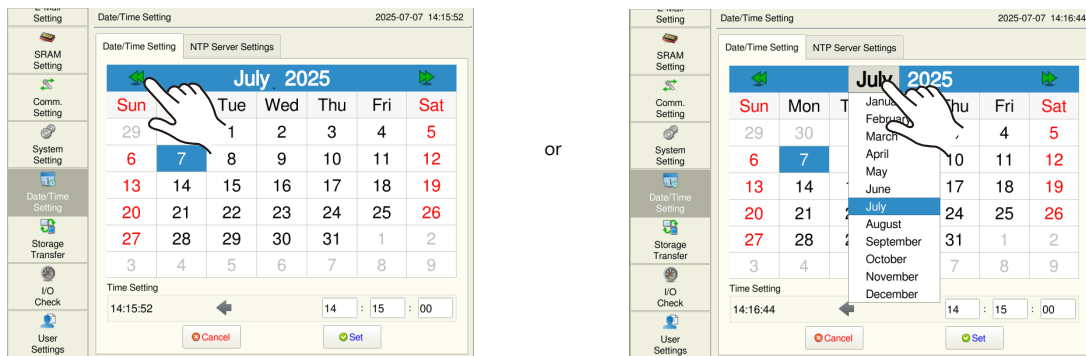


### Date Setting

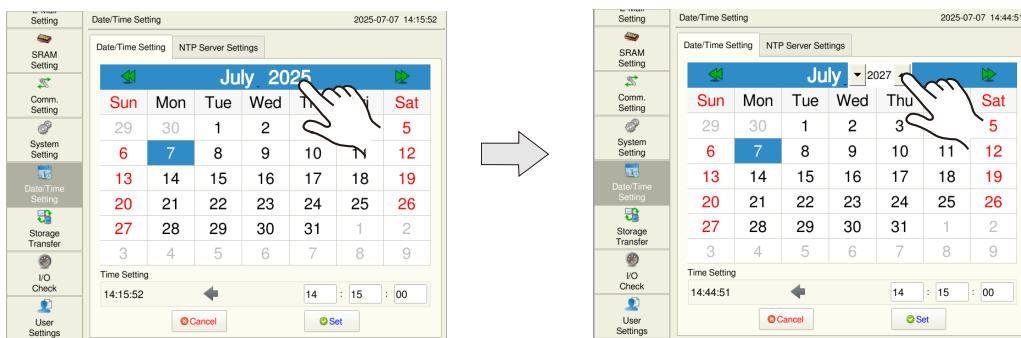
1. Press the [Date/Time Setting] switch. The Date/Time Setting screen is displayed.
2. Select the date and month in the calendar.
  - When changing the date:  
Select the date to set on the calendar.



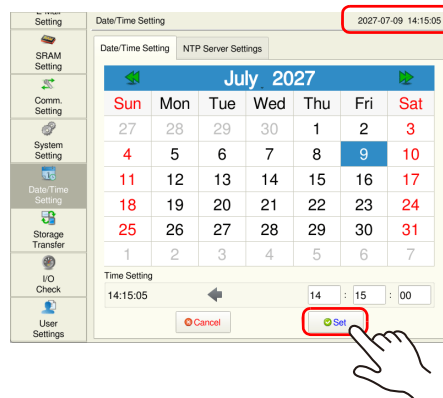
- When changing the month:  
Switch the month using the [<<] and [>>] switches at the top of the calendar, or press the month portion to display the pull-down list for months, and select a month to set.



- When changing the year:  
Press the year portion on the calendar and select a year to set using the [▼] and [▲] switches. When a position other than the [▼] and [▲] switches is pressed, the calendar is changed to the set year.

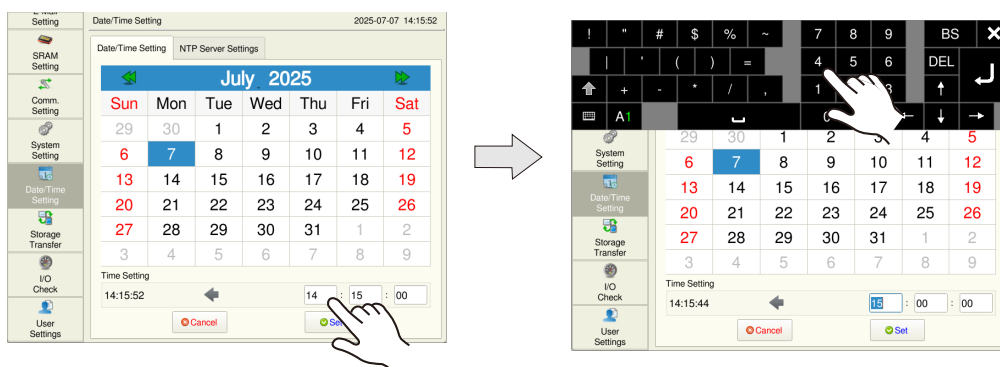


- After changing the year/month, select the date.
- Press the [Set] switch to confirm the setting. The date displayed on the top right is modified.



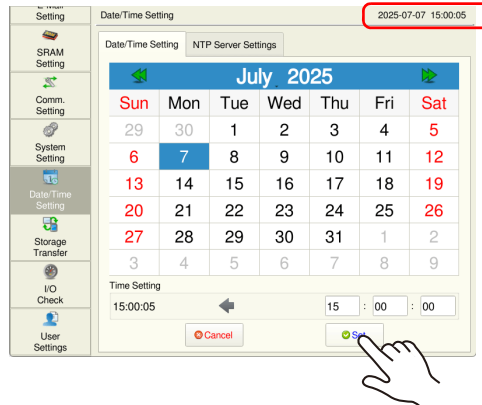
## Time Setting

- Press the [Date/Time Setting] switch. The Date/Time Setting screen is displayed.
- Press the time setting field. The system keyboard appears. Input a time to set.



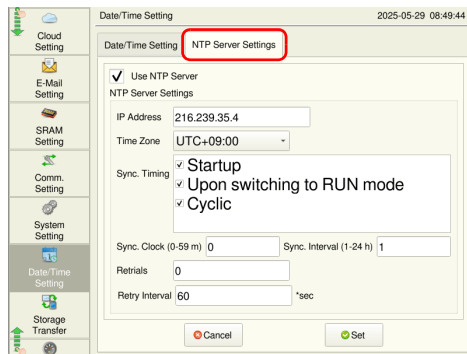
## 2. Local Mode Screen

3. Press the [Set] switch to confirm the setting. The clock displayed on the top right is modified.



## NTP Server Settings

When using the built-in clock, it is possible to connect to an NTP server and synchronize the time. Settings for synchronizing at a fixed cycle are possible, and making the built-in clock capable of displaying an accurate time.



Item	Description	
Use NTP Server	Select this checkbox to connect to an NTP server and correct the time.	
NTP Server Settings	IP Address	Set the IP address of the NTP server to connect to.
	Time Zone	Specify the time zone.
	Sync. Timing *1	Specify the timing for accessing the NTP server and synchronizing the clock.
	Startup	The clock is synchronized when starting RUN mode for the first time after the power is turned on.
	Upon switching to RUN mode	The clock is synchronized each time when switching from Local mode to RUN mode.
	Cyclic	The clock is synchronized at the specified time and interval while in RUN mode.
	Sync. Clock (0 to 59 m)	Specify the time and interval for synchronizing the clock.
	Sync. Interval (1 to 24 hours)	Setting example When [Sync. Clock] is 0 minutes and [Sync. Interval] is 1 hour The clock is synchronized with the NTP server each hour at 0 minutes.
Retrials	Set the number of times and the interval to retry when communication with the NTP server fails.	
Retry Interval		

\*1 The following internal device memory can be used to check the result of synchronization or control the timing of synchronization (only when [Sync. Timing] is set to [Cyclic]).

- \$s100: For writing the correction result of the calendar  
0: Normal, 1: Error (The calendar information could not be read correctly.)
- \$s1816: For controlling synchronization with the NTP server and checking whether synchronization is completed or not

15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

Completion bit \* (← MONITOUCH)  
0 → 1: Time correction completed

\* The user must clear data in the device memory on completion of the operation.

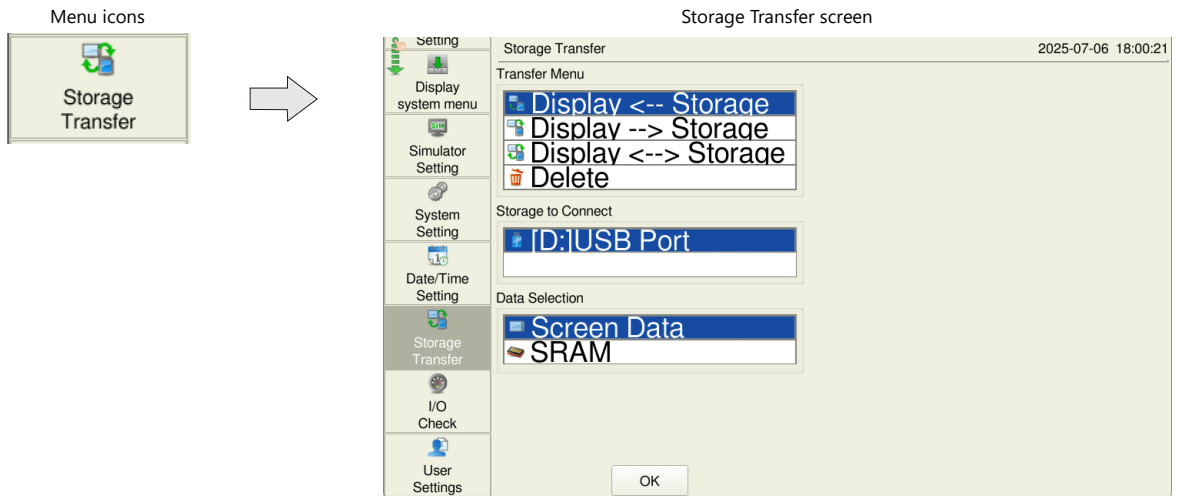
Disabling bit (→ MONITOUCH)  
Available when [Sync. Timing] is set to [Cyclic]  
0: Enable time correction  
1: No time correction

Forcible execution bit (→ MONITOUCH)  
Available when [Sync. Timing] is set to [Cyclic] and the disabling bit is "0"  
0 → 1 (edge): Executes time correction

## 2.2.14 Storage Transfer

Pressing [Storage Transfer] in the menu icons brings up the Storage Transfer screen.

This screen is used for transferring data such as screen programs between the TS4000 series unit and the storage device.



	Item	Description
Transfer Menu	Display ← Storage	Transfers data from a storage device to the TS4000 series unit.
	Display → Storage	Transfers data from the TS4000 series unit to a storage device.
	Display ↔ Storage	Compares stored data between the TS4000 series unit and a storage device.
	Delete	Deletes data from a storage device.
Storage to Connect	[D:] USB Port *	Displayed when a storage device is connected to the USB-A port on the TS4000 series unit.
Data Selection	Screen Data	Select when transferring the screen program to/from the storage device.
	SRAM	Select when backing up data from the SRAM area in MONITOUCH to a storage device before battery replacement or when uploading data from a storage device to SRAM.

\* Displayed only when a storage device is connected.

## Storage Folder Configuration

The table below lists folder names, contents, and file names.  
For details, refer to the Reference Manual 2.

### EXT0000 (Access folder)

User-definable within 64 one-byte uppercase alphanumeric characters

Folder Name (fixed)	Contents	File Name	Transfer Direction
ALARM	Alarm history	ALARM00.BIN - ALARM11.BIN * <sup>1</sup> EVENT00.BIN - EVENT11.BIN * <sup>1</sup> ALARM_aa_bb.CSV * <sup>1</sup> (aa: block No., bb: No.) (filename).CSV * <sup>1</sup> * <sup>2</sup> ALARMxx_nnn_XX_YYYYMMDDHHMMSS.mp4	TS4000 ← Storage * <sup>5</sup> TS4000 → Storage
BITMAP	Pattern data	BMP0000.BIN ~ BMP1023.BIN	TS4000 ← Storage
DATABASE	MES database file (stand-alone configuration)	(arbitrary filename).db * <sup>6</sup>	TS4000 → Storage
DSP	Screen program	DSP0000.BIN	TS4000 ← Storage TS4000 → Storage
HDCOPY	Hard copy image	HD0000.PNG - HD9999.PNG HD000~yy.PNG - HD999~yy.PNG (filename).PNG * <sup>2</sup>	TS4000 → Storage
JPEG	JPEG file	JP00000.JPG - JP32767.JPG (filename).JPG * <sup>2</sup>	TS4000 ← Storage
LADDER	Ladder monitor files	Differs by PLC * <sup>3</sup>	TS4000 ← Storage TS4000 → Storage
LIST	Data sheet output in PDF format	LISTxxxx.PDF * <sup>4</sup> (filename)xxxx.PDF * <sup>2</sup> * <sup>4</sup> (xxxx: Top page number (only when overwriting is selected))	TS4000 → Storage
LOGGING	Logging data	LOGGING00.BIN - LOGGING.11BIN * <sup>1</sup> LOGGING_aa_bb.CSV * <sup>1</sup> (aa: block No., bb: No.) (filename).CSV * <sup>1</sup> * <sup>2</sup>	TS4000 ← Storage * <sup>5</sup> TS4000 → Storage
MEMO	Memo pad data	MEM0000.PNG - MEM0007.PNG	TS4000 → Storage
MSG	Message file	MSGxxyyy.BIN MSGxxyyy.TXT	TS4000 ← Storage
OPELOG	Operation log file	OPELOG_hhmmss.DB	TS4000 ← Storage TS4000 → Storage
PICTURE	Image file	PICT00000.JPG to PICT99999.JPG (arbitrary filename).JPG * <sup>2</sup> PICT00000.PNG to PICT99999.PNG (arbitrary filename).PNG * <sup>2</sup> PICT00000.BMP to PICT99999.BMP (arbitrary filename).BMP * <sup>2</sup>	TS4000 ← Storage
RECIPE	Recipe data	REC0000.CSV - REC9999.CSV (filename).CSV * <sup>2</sup> REC0000.BIN - REC9999.BIN (filename).BIN * <sup>2</sup>	TS4000 ← Storage TS4000 → Storage

## 2. Local Mode Screen

Folder Name (fixed)	Contents	File Name	Transfer Direction
SCRN	Header file	SCHEADER.BIN	TS4000 ← Storage
	Screen file	SC0000.BIN - SC9999.BIN	
	Component part (macro blocks)	MCR0000.BIN - MCR1023.BIN	
	Component part (messages)	MSG0000.BIN - MSG0011.BIN	
	3D part file	3D0001.BIN - 3D1023.BIN	
	Windows font file (for screen creation)	WFS0000.BIN - WFS4095.BIN	
	Windows font file (messages)	WFM0000.BIN - WFM4095.BIN	
SNAP	Snapshots from network camera	VD00000.JPG - VD32767.JPG	TS4000 → Storage
SRAM	SRAM backup data	SRM0000.BIN	TS4000 ← Storage TS4000 → Storage

- \*1 When a file is stored in the backup folder, the year, month, day, hour, minute, and second (\_yyymmddhhmmss) are appended to the filename.  
Example: ALARM00\_20140320150040.BIN
- \*2 Filename: 64 or less one-byte uppercase alphanumeric characters or 32 or less two-byte characters
- \*3 For more information, refer to the Ladder Monitor Specifications manual.
- \*4 When a time stamp is added, the year, month, day, hour, minute, and second (\_yyymmddhhmmss) are appended to the filename.  
Example: LIST0000\_20140320150040.PDF
- \*5 Available with a BIN file only
- \*6 Filename: 32 or less one-byte alphanumeric characters (two-byte characters invalid)

### DSPDEF (Screen program auto-upload folder: Fixed folder name)

Folder Name (fixed)	Contents	File Name	Transfer Direction
DSP	File for auto-uploading (When a storage device is inserted into the TS4000 series unit after DIP switch settings on the unit are finished, the screen program will automatically be uploaded into the storage device.)	DSPDEF.bin	TS4000 ← Storage
Others	Same as the access folder		

### OSUPDATE\_900 (Folder for updating the operating system: Fixed folder name)

Folder Name (fixed)	Description	File Name	Transfer Direction
_	File for updating the operating system	fw.conf etc.	TS4000 ← Storage

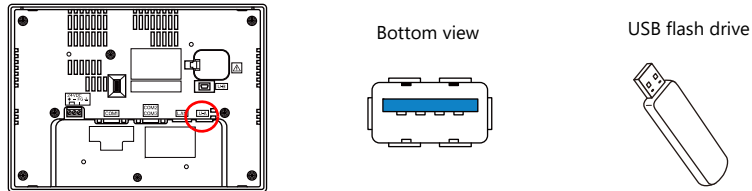
## Transferring a Screen Program

This section explains how to transfer data with a USB flash drive connected to the USB-A port on the TS4000 series.

### 1. USB flash drive connection

Connect a USB flash drive to the USB-A port at the bottom of MONITOUCH.

Example: TS4100



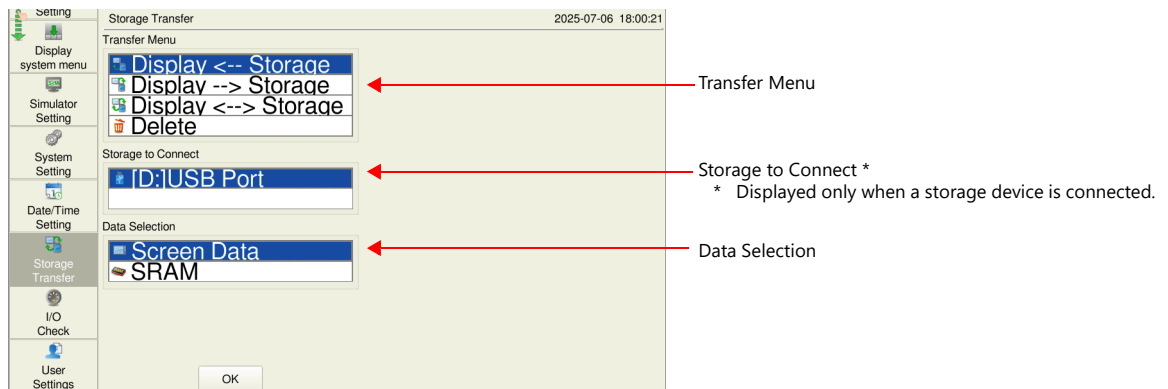
### 2. Storage Transfer screen display

Switch to Local mode and press [Storage Transfer] in the menu icons. The Storage Transfer screen is displayed.

\* Do not disconnect or reconnect the USB flash drive from this point on.

### 3. Target storage device and data selection

Select [USB Port] under [Storage to Connect] and [Screen Data] under [Data Selection].

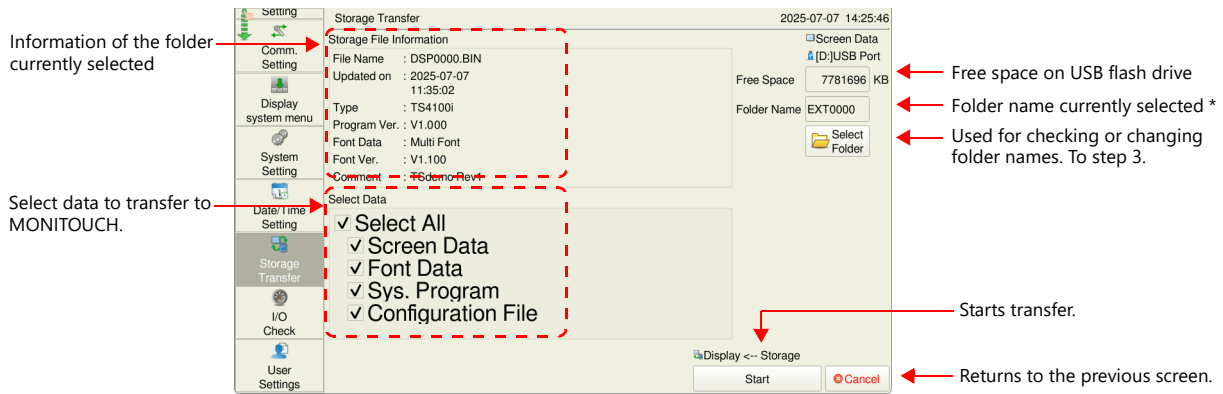


### 4. Transfer operation selection

- Refer to "When [Display ← Storage] Is Selected:" page 2-44.
- Refer to "When [Display → Storage] Is Selected:" page 2-46.
- Refer to "When [Display ↔ Storage] Is Selected:" page 2-47.
- Refer to "Deleting Data from Storage" page 2-50.

### When [Display ← Storage] Is Selected:

1. When [Display ← Storage] is selected, the following screen appears.



\* The access folder name set in the screen program is displayed by default.  
If there is no screen program on the TS4000 series unit, "EXT0000" is displayed.

2. Access folder confirmation

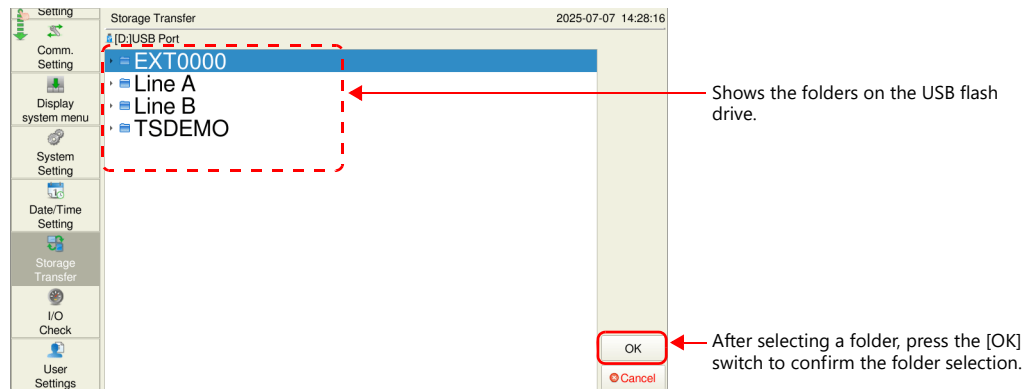
Check the storage information, amount of free space on the storage device, and the folder name. If the selected folder is correct, proceed to step 4.

To change the folder, proceed to step 3.

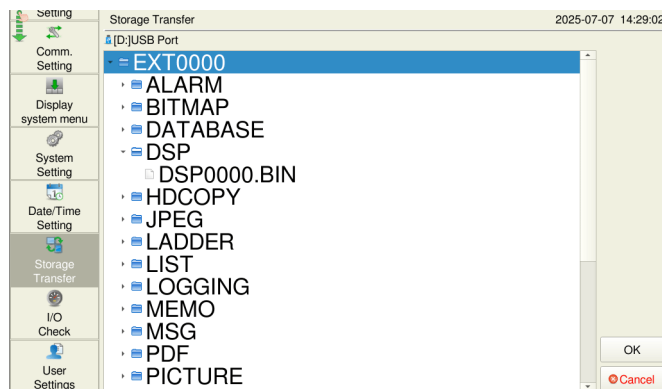
3. Access folder change (showing folders on the USB flash drive)

To change the access folder to another folder, press the [Select Folder] switch.

The following screen appears. Select the desired folder and press the [OK] switch.

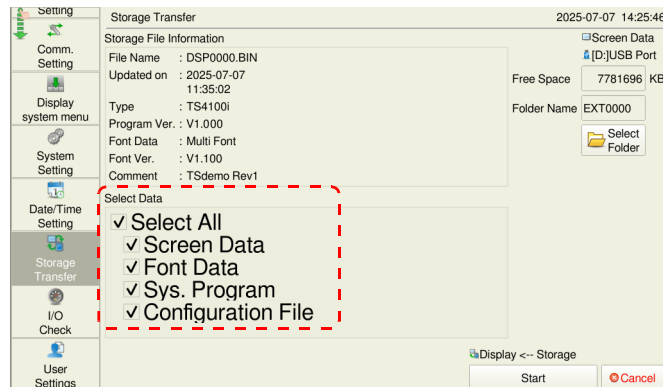


Pressing on the screen shows the contents of the folder.



## 4. Transfer data selection

After selecting the folder under [Select Data], select the data to transfer.

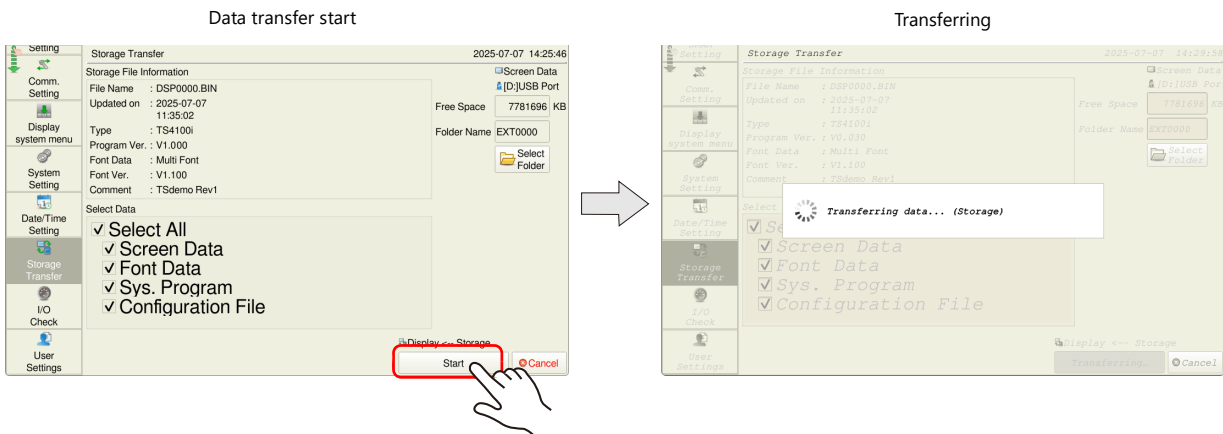


The following table shows the details of data to transfer.

Data to Transfer	Description
Screen Data	Screen program file used on MONITOUCH
Font Data	Source file of fonts used for display on MONITOUCH
Sys. Program	System program file for MONITOUCH Transfer when updating of the system program is required.
Configuration File	File in which settings changed on MONITOUCH are saved

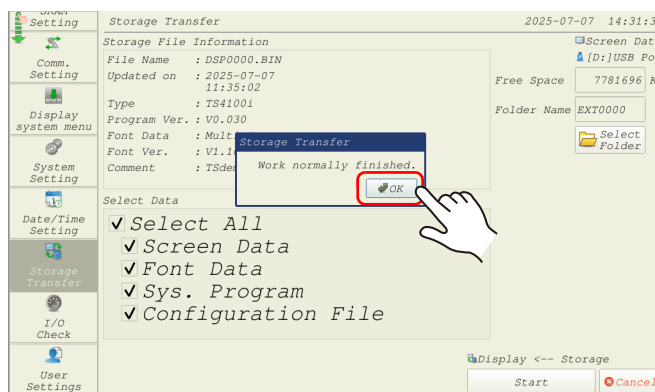
## 5. Data transfer start


Press the [Start] switch. The [Start] switch changes to [Transferring].  
The [Transferring data... (Storage)] dialog is displayed during transfer.



## 6. Data transfer completed

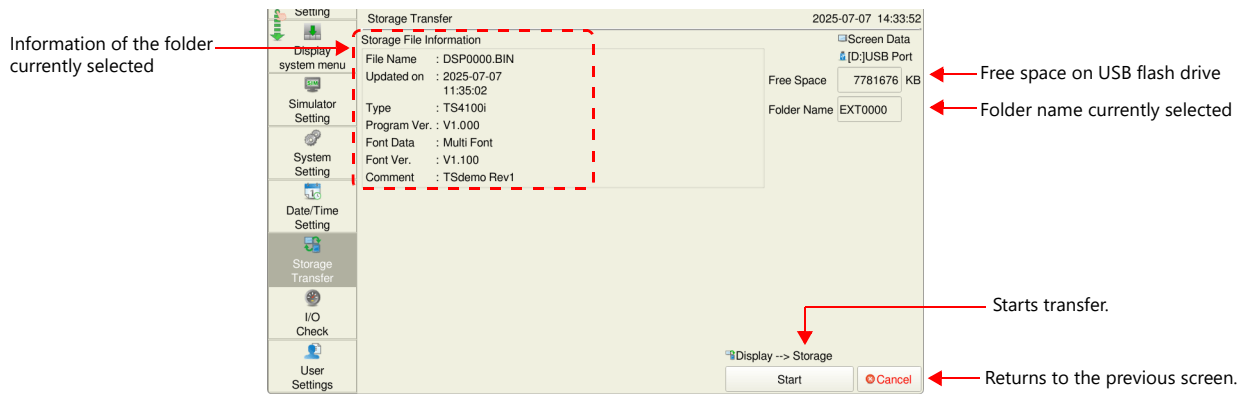
When the data has been transferred successfully, the following message dialog is displayed. Press the [OK] switch.  
The System Information screen is automatically displayed on completion of data transfer.



 If any other message is displayed, refer to [page 2-51](#).

## When [Display → Storage] Is Selected:

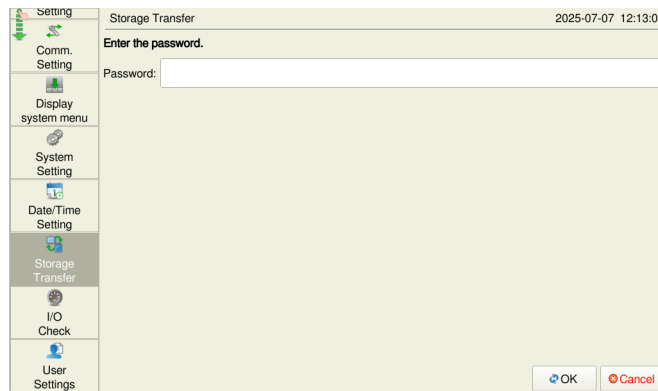
1. When [Display → Storage] is selected, the following screen appears.



When the following setting is made on the screen configuration software, a password entry screen is displayed before the screen shown in step 1.

- [Project View] pane → [System Settings] tab → [Password] → [Transfer] tab → [Storage] → [Password for screen transfer]

Enter a password and press the [OK] switch.



2. Data transfer start

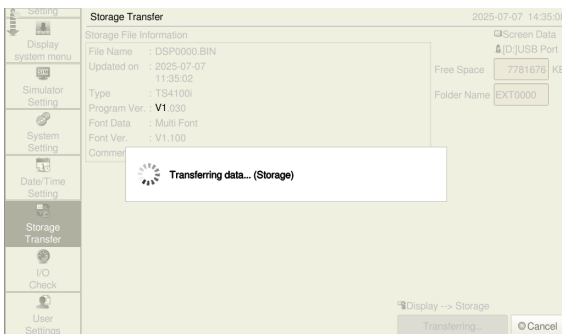
Check the [Storage File Information] area and press the [Start] switch.

- \* If the access folder of the screen program and that on the USB flash drive are named the same, the data on the USB flash drive will be overwritten.

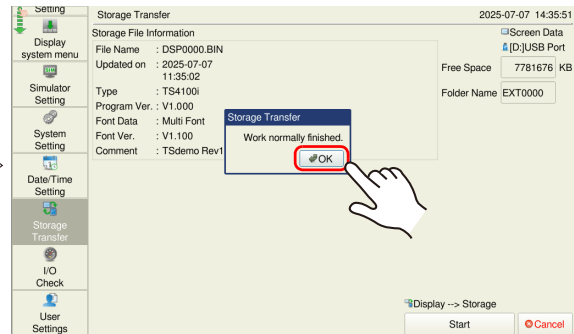
If the [Storage File Information] area is blank, a new file "DSP0000.BIN" will be created in the DSP folder under the access folder.

3. During data transfer to data transfer completed

During data transfer, the [Start] switch changes to [Transferring] and the [Transferring data... (Storage)] dialog is displayed. On successful completion, the following message dialog is displayed. Press the [OK] switch.



Transferring



When the [OK] switch is pressed, the storage information switches to the information on the transferred data.

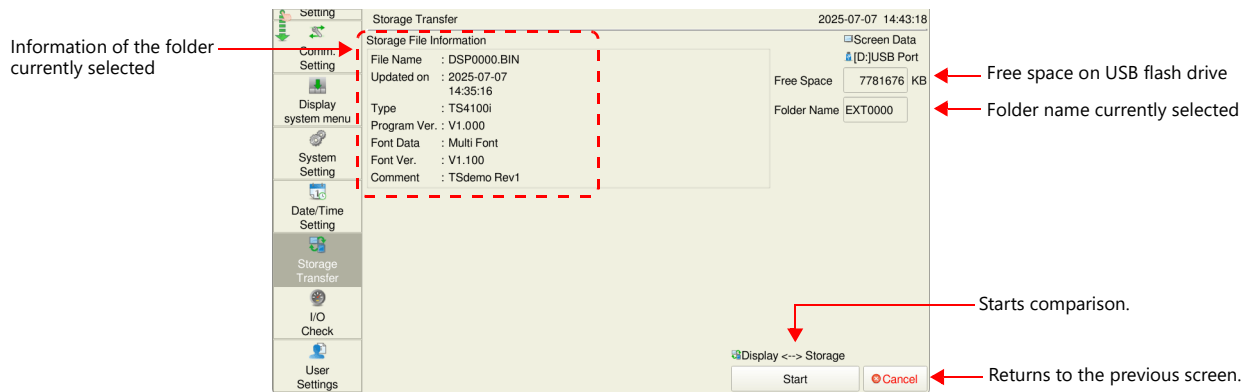


If any other message is displayed, refer to [page 2-51](#).

## When [Display ↔ Storage] Is Selected:

1. When [Display ↔ Storage] is selected, the following screen appears.

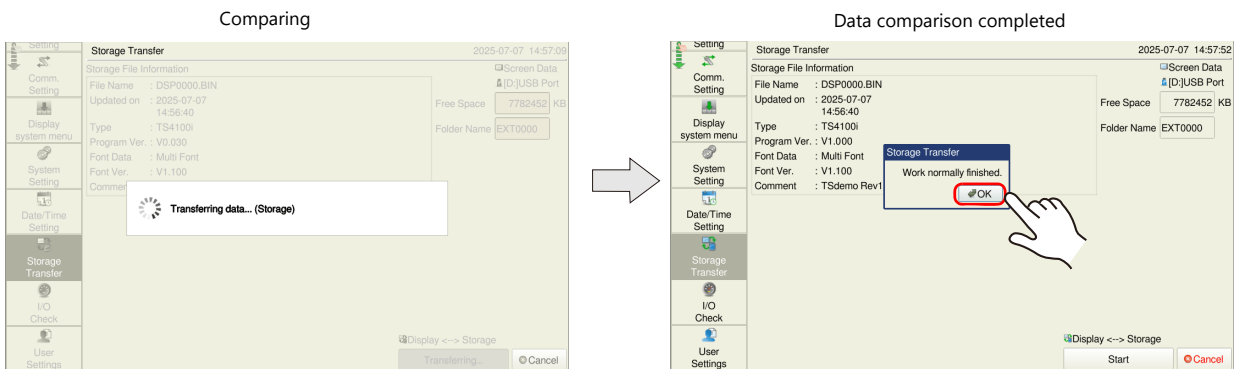
The screen program in MONITOUCH is compared with the screen program (in the DSP folder) in the access folder.



2. Data comparison start  
Press the [Start] switch.

3. During data comparison to end of data comparison

During data comparison, the [Start] switch changes to [Transferring] and the [Transferring data... (Storage)] dialog is displayed. On successful completion, [Work normally finished] is displayed. Press the [OK] switch.

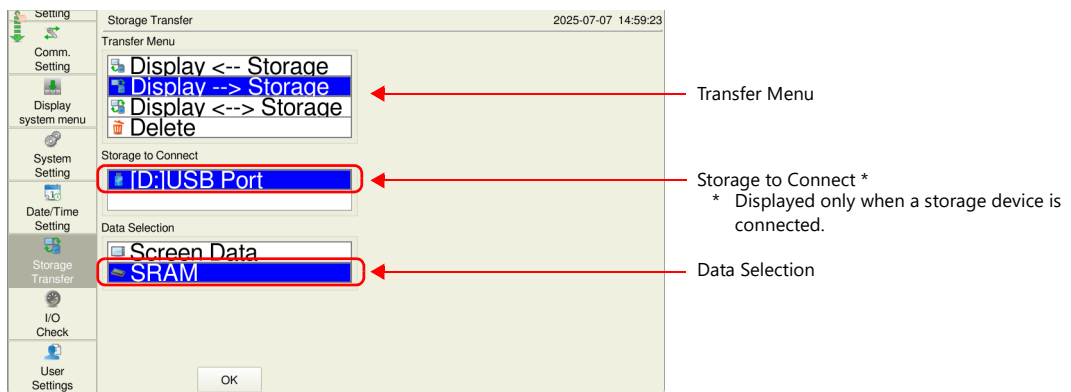


If any other message is displayed, refer to [page 2-51](#).

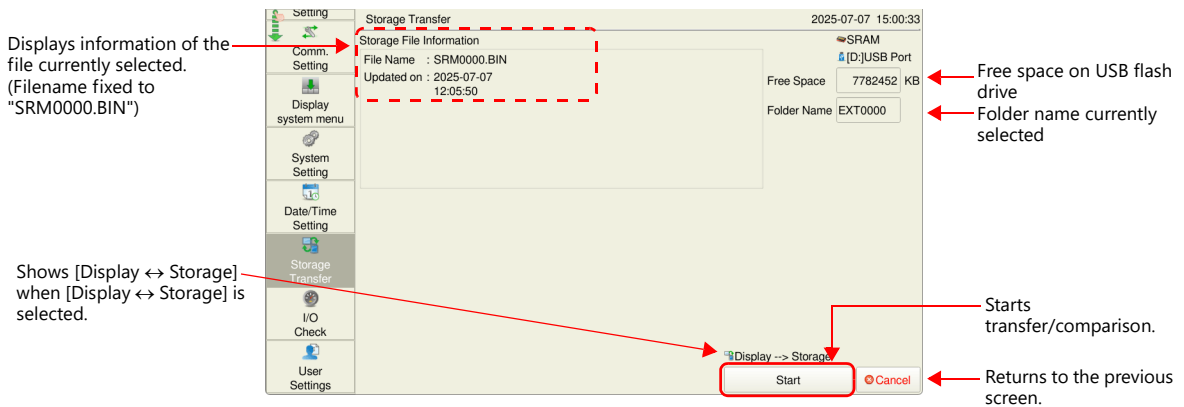
## Saving Backup Copies of SRAM

This section explains how to back up SRAM data with a USB flash drive connected to the USB-A port on the TS4000 series.

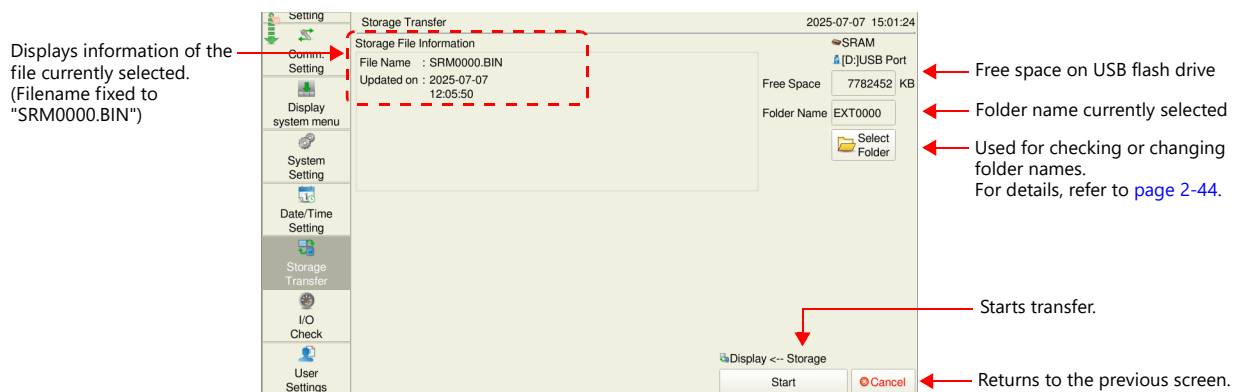
1. USB flash drive connection  
Connect a USB flash drive to the USB-A port at the bottom of MONITOUCH. For details, refer to [page 2-43](#).
2. Storage Transfer screen display  
Switch to Local mode and press [Storage Transfer] in the menu icons. The Storage Transfer screen is displayed.  
\* Do not disconnect or reconnect the USB flash drive from this point on.
3. Target storage device and data selection  
Select [USB Port] under [Storage to Connect] and [SRAM] under [Data Selection].



4. Transfer Menu  
Select [Display ← Storage], [Display → Storage], or [Display ↔ Storage].
5. Access folder confirmation and selection  
The SRAM Transfer screen is displayed.
  - When [Display → Storage] or [Display ↔ Storage] is selected:  
The access folder with the same name as the screen program on the TS4000 unit is selected from the USB flash drive and displayed on the screen.



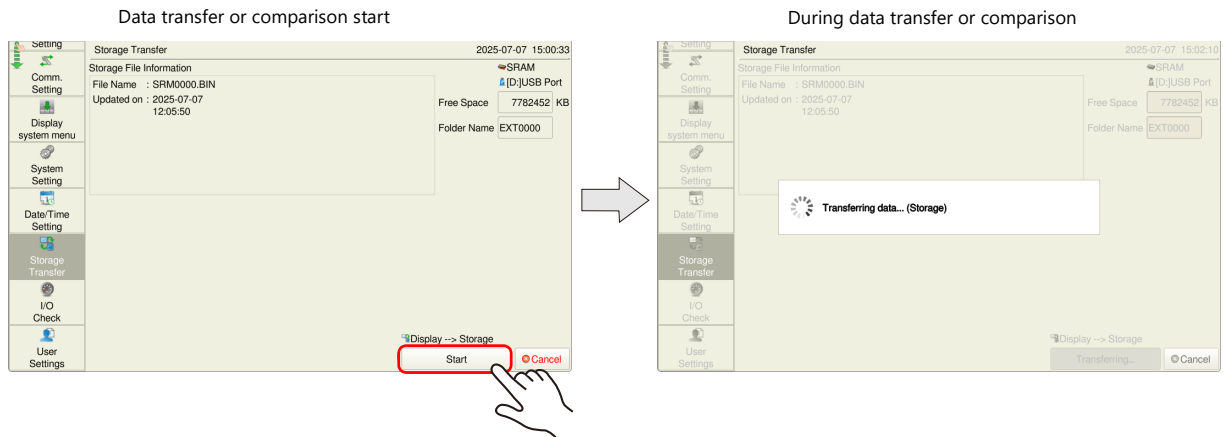
- When [Display ← Storage] is selected:



## 6. Data transfer or comparison start

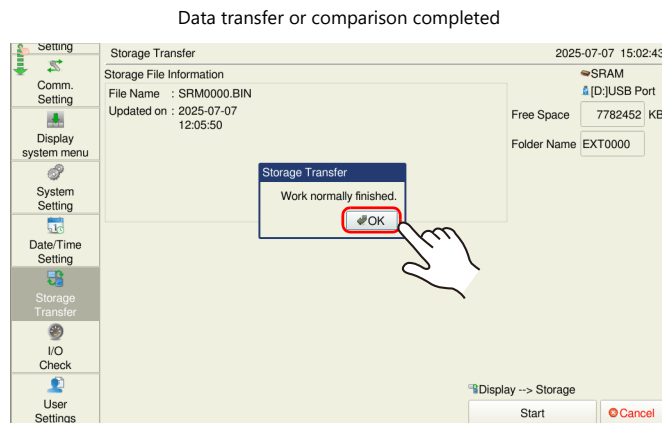
Check the [Storage File Information] area and press the [Start] switch.


During data transfer or comparison, the [Start] switch changes to [Transferring] and the [Transferring data ... (Storage)] dialog is displayed.



## 7. Data transfer completed

On successful completion, the following message dialog is displayed. Press the [OK] switch.

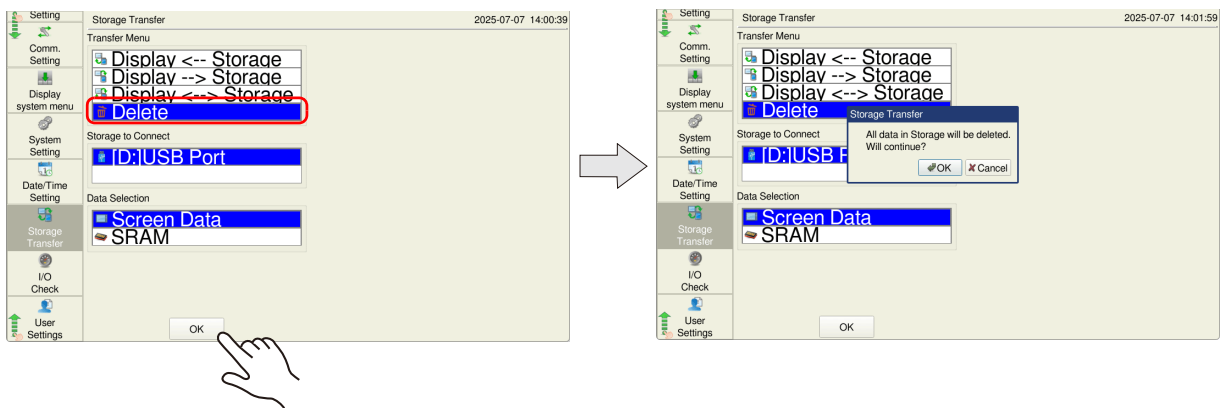


 If any other message is displayed, refer to [page 2-51](#).

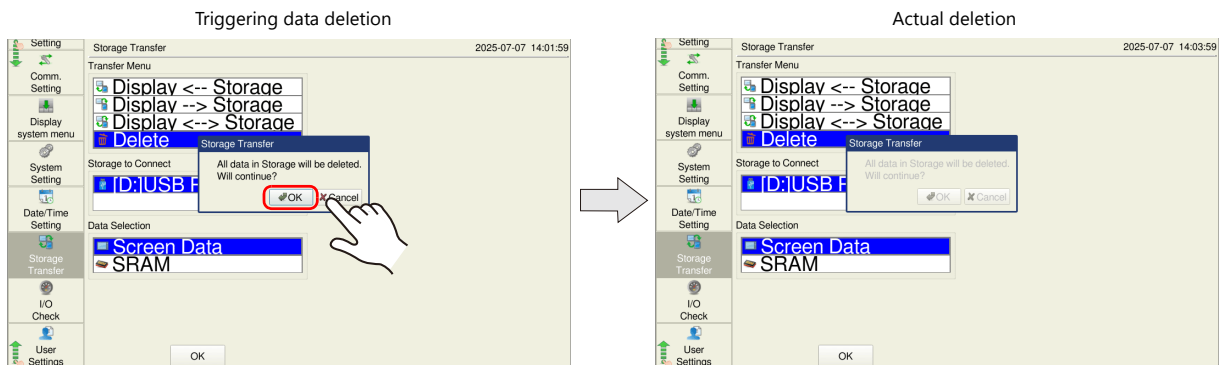
## Deleting Data from Storage

This section explains how to clear data from a USB flash drive connected to the USB-A port on the TS4000 series.

1. USB flash drive connection  
Connect a USB flash drive to the USB-A port at the bottom of MONITOUCH. For details, refer to [page 2-43](#).
2. Storage Transfer screen display  
Switch to Local mode and press [Storage Transfer] in the menu icons.  
The Storage Transfer screen is displayed.  
\* Do not disconnect or reconnect the USB flash drive from this point on.
3. Storage to Connect  
Select [USB Port] under [Storage to Connect].
4. Transfer Menu  
Select [Delete] in the [Transfer Menu] and press the [OK] switch. The following confirmation message is displayed.



5. Triggering data deletion through to actual deletion  
Press the [OK] switch if deleting all data from the USB flash drive. The switch is lit for a while.



6. Data deletion completed  
When the data has been completely deleted, the message "Work normally finished" is displayed.

Data deletion is completed.

## Message Dialog Displayed during Data Transfer (between TS4000 and Storage)

If an error occurs when transferring data, an error message window appears on the screen.

Messages and their contents are shown below.

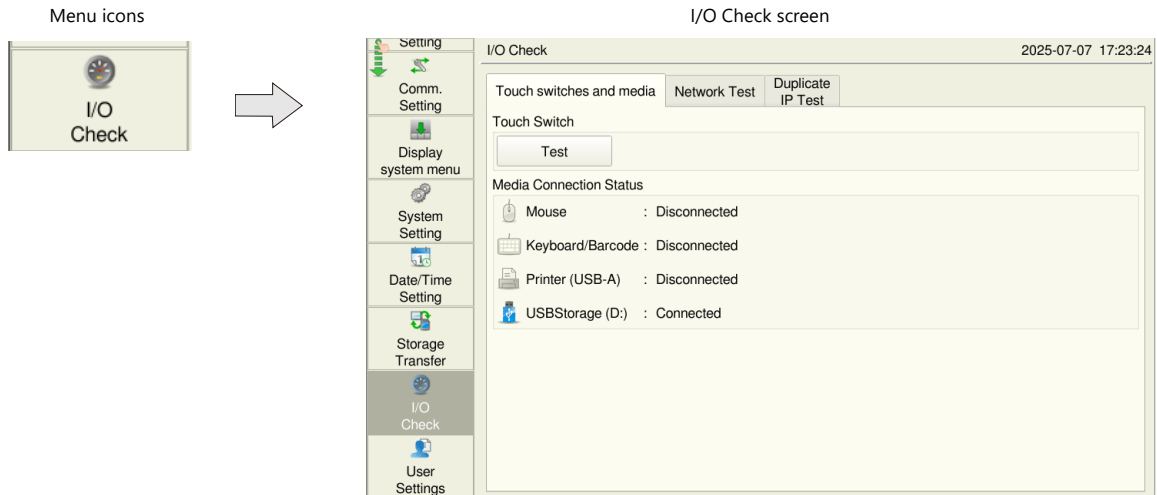
Messages	Description
Work normally finished.	The specified operation has been concluded normally.
Storage is not connected	Storage is not connected
Storage Capacity over	Cannot write data to a storage device because the data size in the TS4000 series unit is larger than the capacity of the storage device.
Write Protect: ON	Cannot write data to a storage device because the device is write-protected with the write-protect switch.
Writing Error occurred.	An error occurred during writing to a storage device.
Selected data does not exist.	The data does not exist in the reading target.
Data type is different.	When writing to the TS4000 series unit, the type of data in the storage device does not match the model of the TS4000 series unit.
Selected data cannot be read.	Data in the storage device cannot be read.
Reading Error occurred.	An error occurred during writing to the flash ROM in the TS4000 series unit.
Data discrepant	Data comparison found a discrepancy between the storage device and the TS4000 series unit.
Undefined Error occurred.	An error occurred due to a cause other than those mentioned above.
Invalid format.	The format of the file system in the storage device cannot be identified. Format it to FAT, FAT32, or exFAT on a computer.
Cannot transfer this data to the connected model.	Data cannot be transferred because the type of data in the storage device does not match the hardware version of the TS4000 series unit.

## 2.2.15 I/O Check

Pressing [I/O Check] in the menu icons brings up the I/O Check screen.

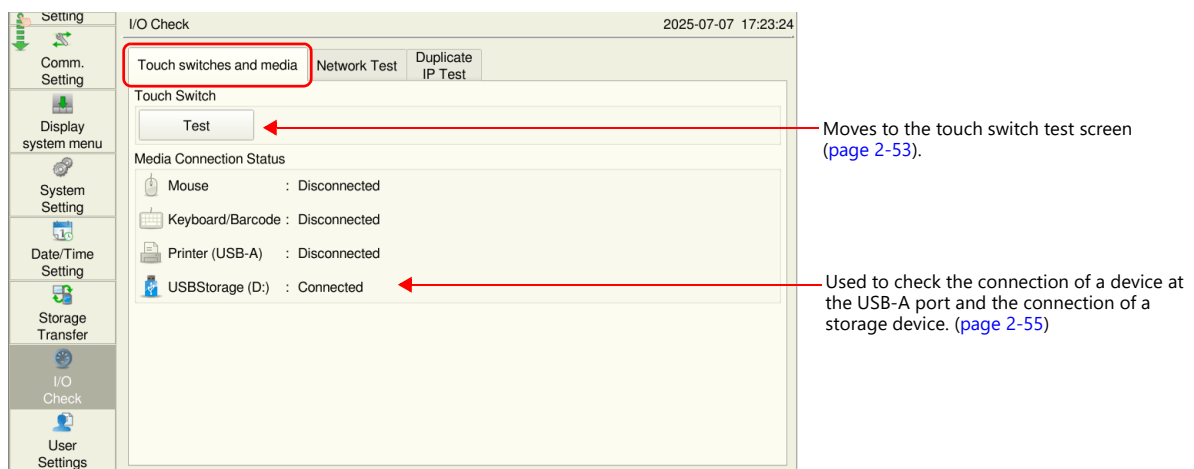
This screen is used to check the touch switch and function switch operations as well as the connection status of the external devices (USB mouse, storage device, etc.) connected to the TS4000 series unit.

A network test can be performed by pinging a specified IP address from the TS4000 series unit. In addition, a test for finding any duplicate IP addresses on the network can be executed.



### Touch Switch and Media

The [Touch switches and media] tab window is used to check touch switch operation and the connection status of an external device.

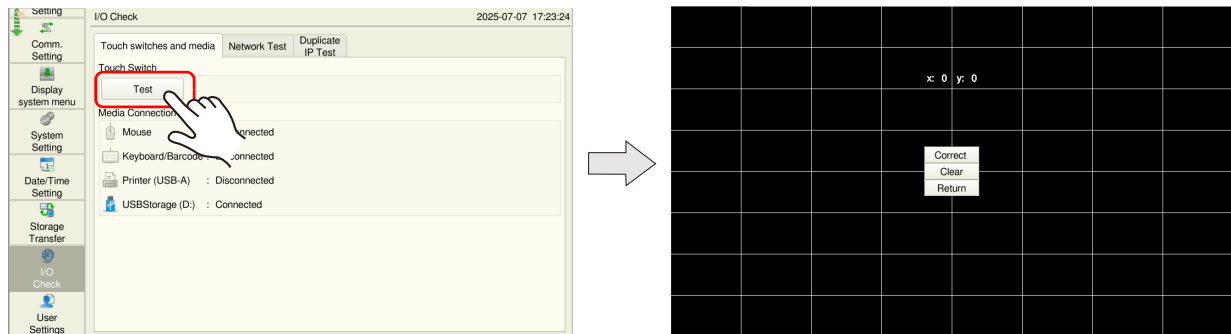


Item		Description
Touch Switch	Test	Switches to the touch switch test screen. For details on the touch switch test, refer to <a href="#">page 2-53</a> . For details on adjustment of the touch switch, refer to <a href="#">page 2-54</a> .
Media Connection Status	Mouse	Checks the connection status of a USB mouse.
	Keyboard/Barcode	Checks the connection status of a USB keyboard or USB barcode reader.
	Printer (USB-A)	Checks the connection status of a printer connected to the USB-A port.
	USB Storage (D:)	Checks the connection status of a USB storage device.

## Touch Switch

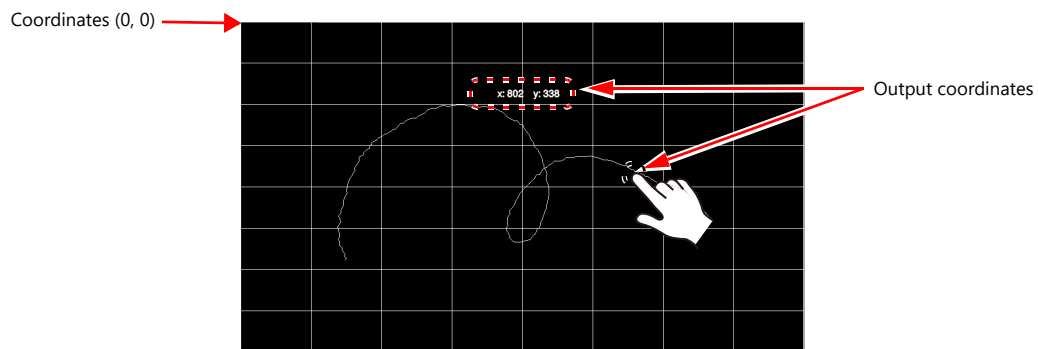
### Test Procedure

1. Press the [I/O Check] switch and open the [Touch switches and media] tab window.
2. Press the [Test] switch. Grids appear on the screen as shown below.



3. Checking the switch output state:

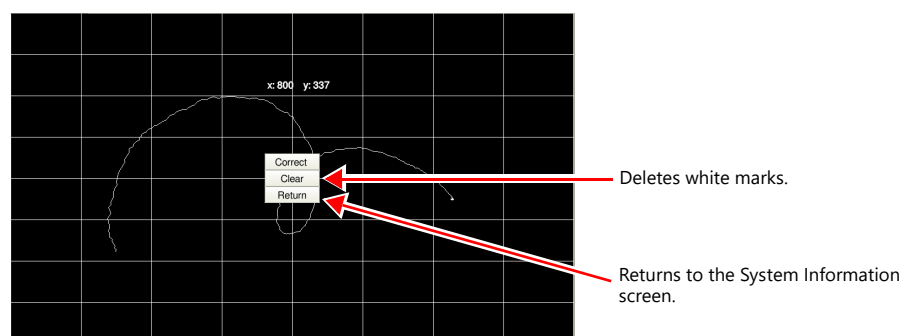
Press a position on the screen, and check if the pressed position turns white. When the pressed position turns white, the switch is activated normally.



When you move your finger off the screen, switches are displayed at the center as shown below.

To delete white marks, press the [Clear] switch.

To return to the System Information screen, press the [Return] switch.



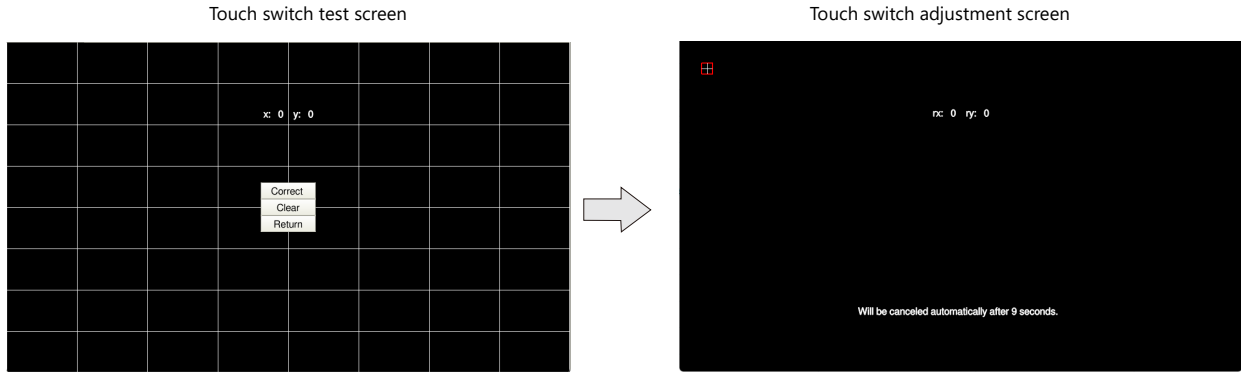
\* If a position different from the pressed position turns white, refer to "Touch Switch Adjustment" on the next page and adjust the touch switch position.

## Touch Switch Adjustment

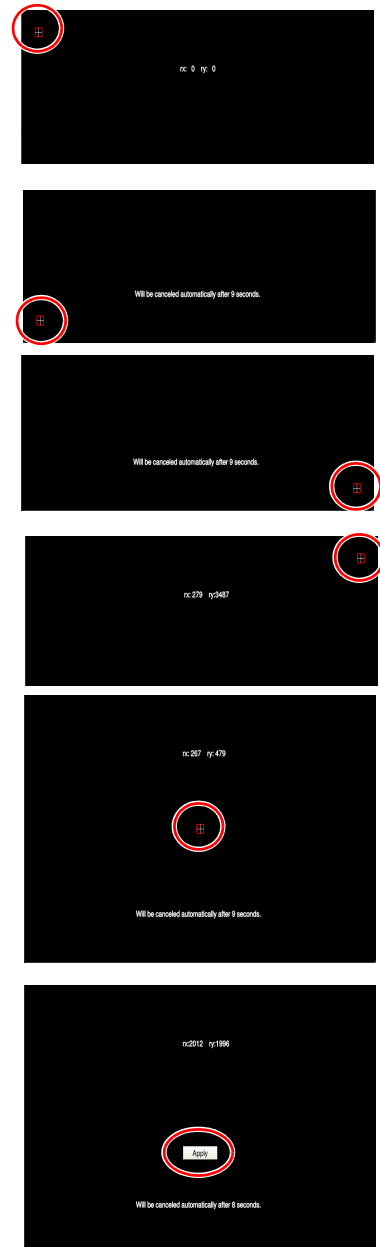
If a position different from the pressed position turned white on the touch switch test described previously, follow the steps described below to adjust the touch switch position.

\* Transition to the adjustment screen is not possible over a VNC connection.

1. Press the [Correct] switch on the touch switch test screen. The touch switch adjustment screen appears.



2. Press on the crosshairs at the top left corner.
  - \* If it is not pressed for longer than 10 seconds, the touch switch adjustment is automatically cancelled and the screen is returned to the touch switch test screen.
3. Press on the crosshairs at the bottom left corner.
  - \* If it is not pressed for longer than 10 seconds, the touch switch adjustment is automatically cancelled and the screen is returned to the touch switch test screen.
4. Press on the crosshairs at the bottom right corner.
  - \* If it is not pressed for longer than 10 seconds, the touch switch adjustment is automatically cancelled and the screen is returned to the touch switch test screen.
5. Press on the crosshairs at the top right corner.
  - \* If it is not pressed for longer than 10 seconds, the touch switch adjustment is automatically cancelled and the screen is returned to the touch switch test screen.
6. Press on the crosshairs at the center.
  - \* If it is not pressed for longer than 10 seconds, the touch switch adjustment is automatically cancelled and the screen is returned to the touch switch test screen.
7. Press the [Apply] to confirm the touch switch position. The touch switch test screen is displayed again.
  - \* To cancel the touch switch positions before confirming, do not press the [Apply] switch for 10 seconds. The touch switch adjustment is automatically cancelled and the touch switch test screen is displayed again.



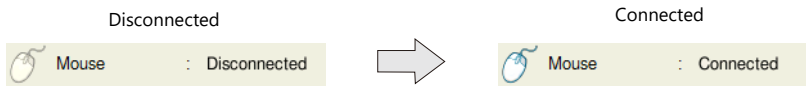
## USB-A/Storage Test

This section describes how to check the connection status of the storage device or other devices connected to the USB-A port.

### Checking the Connection Status

If [Disconnected] is displayed on the screen, the storage device or USB device is not connected or identified correctly. If [Connected] is displayed, it is identified.

Example: Checking the connection with a USB mouse



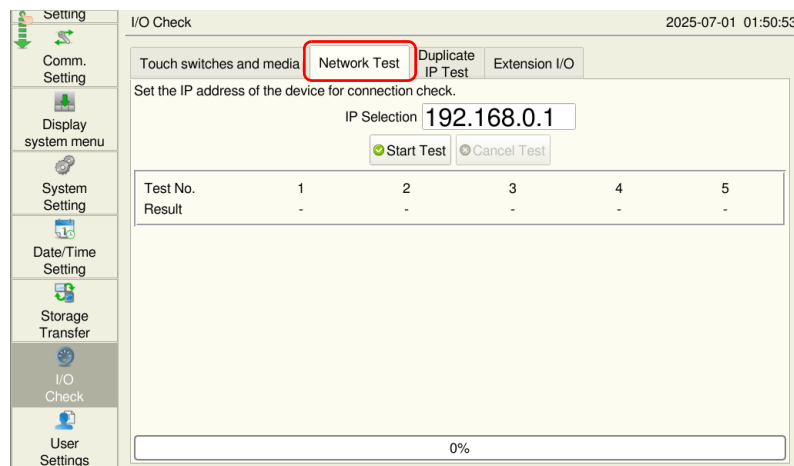
### Notes

The connection status of a keyboard or printer may not be checked in the following cases:  
(They can be used without any problem even if [Disconnected] is displayed.)

- The keyboard or printer does not have information for identification.
- The OS does not have corresponding information for identification.

## Network Test

The [Network Test] tab window is used to execute a connection test from the TS4000 series unit to a specified IP address.

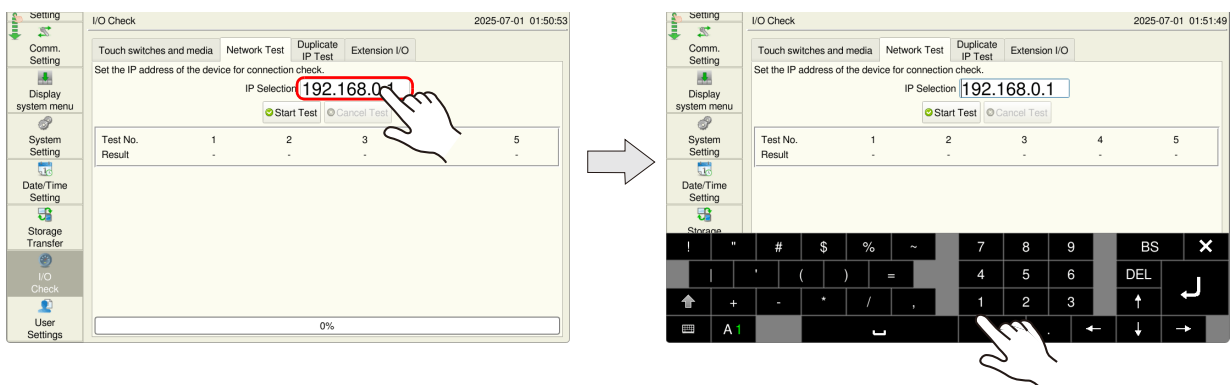


Item	Description	Reference
IP Selection	Set an IP address for testing the connection from the TS4000 series unit.	<a href="#">page 2-55</a>

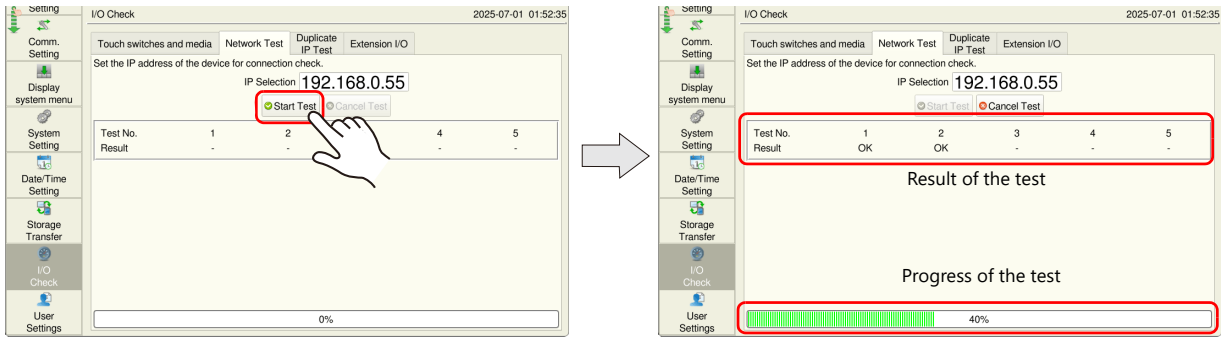
### Test Procedure

This section describes how to check the network status by checking the connection with a specified IP address from the TS4000 series unit.

1. Press the [I/O Check] switch and open the [Network test] tab window.
2. Press the [IP Selection] field to display the system keyboard. Enter the IP address of the device targeted for a connection test.

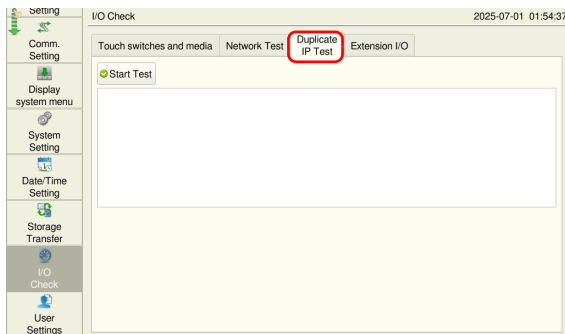


3. Press the [Start Test] switch. The test is repeated five times and the result is shown.



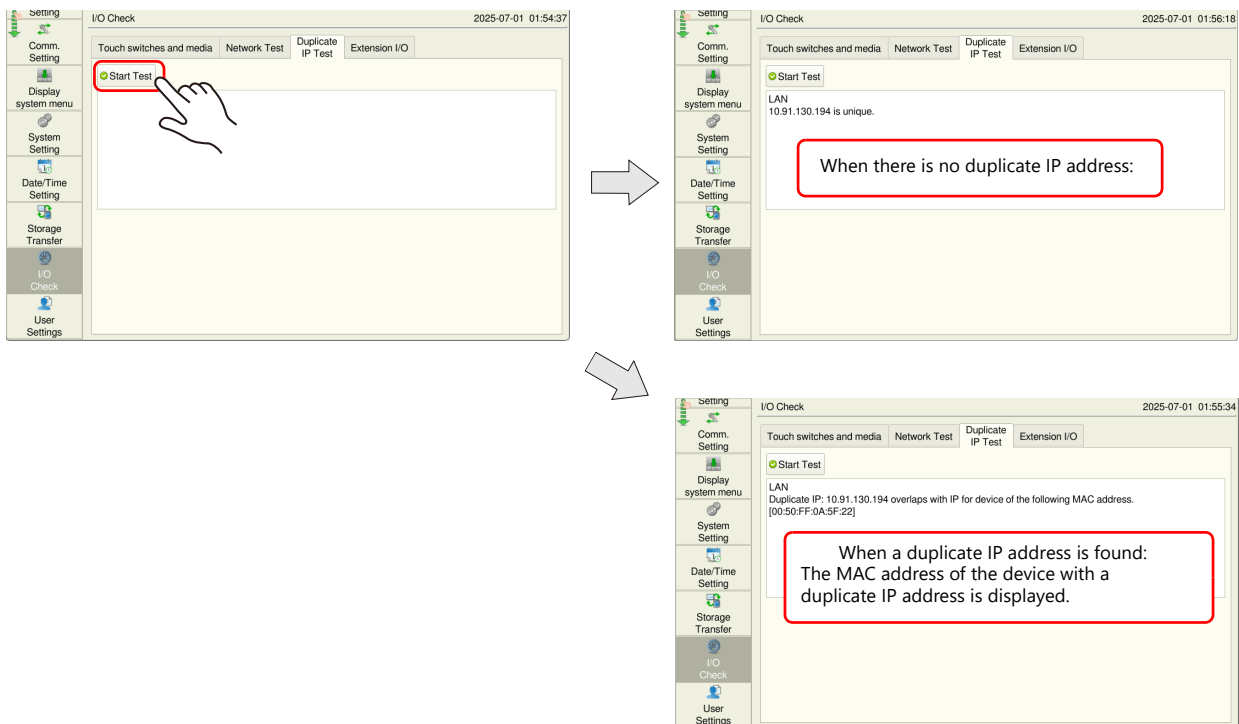
## Duplicate IP Test

The [Duplicate IP Test] tab window is used to check if there are any duplicate IP addresses between the TS4000 series unit and the devices on the network.



## Test Procedure

1. Press the [I/O Check] switch and open the [Duplicate IP Test] tab window.
2. Press the [Start Test] switch. The result is shown on the screen.



## Extension I/O

The [Extension I/O] tab window is used to check if the serial expansion I/O "V-I/O (optional)" is working properly.

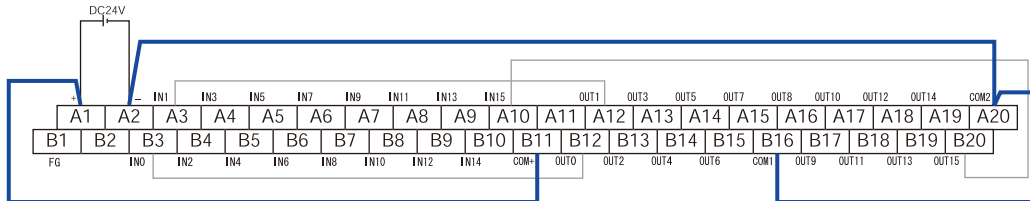
\* The [Expansion I/O] tab is displayed only when "V-I/O" is set in the screen data.

### Test Method

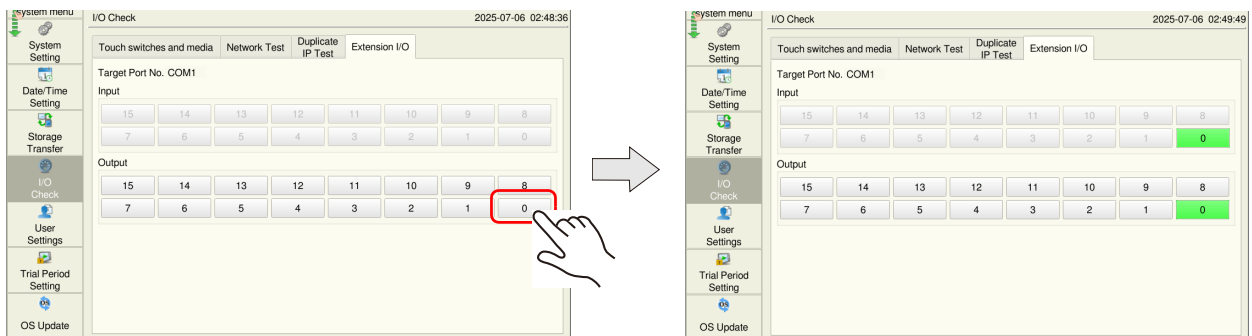
Check if the input/output pins of the V-I/O connected to the TS4000 series are normal.

1. Connect all OUT and IN pins with the same number, such as OUT0 (B12) and IN0 (B3), OUT1 (A12) and IN1 (A3), ..., OUT15 (B20) and IN15 (A10) of V-I/O.
2. Connect the power supply to 24V+ (A1) and 0V (A2) of V-I/O.  
Connect 24V+ (A1) to COM+ (B11), 0V (A2) to COM1 (B16) and COM2 (A20) to supply power to each terminal.

(Example) To check I/O pins 0, 1, and 15



3. Press the [I/O Check] switch to display the [Extension I/O] tab.
4. Press output buttons 0 to 15, and if the input lamp of the same number lights up, the operation is normal.

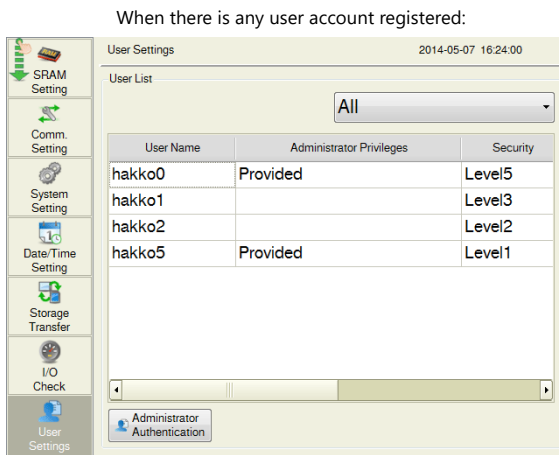
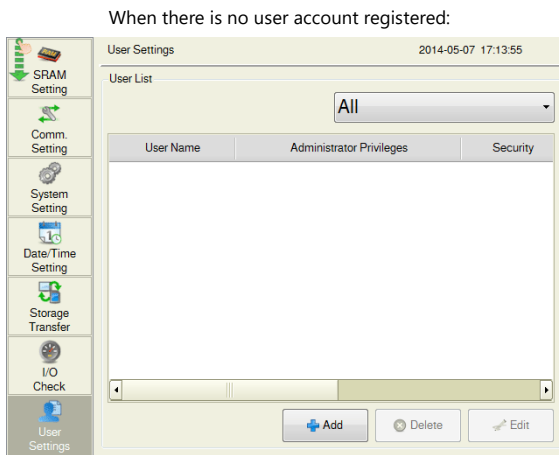
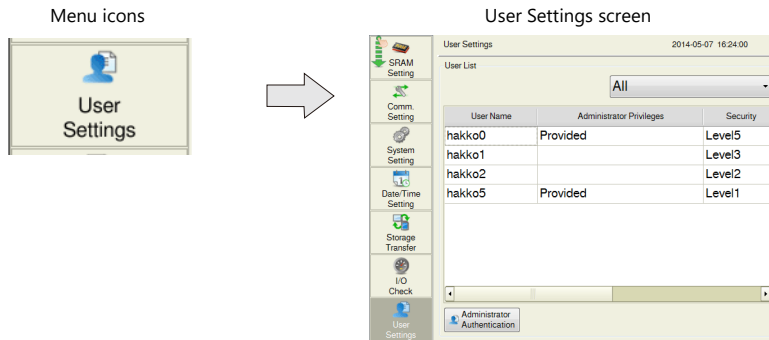


## 2.2.16 User Settings

Pressing [User Settings] in the menu icons brings up the User Settings screen. This screen is used to register and view users who can use password-protected functions. User accounts can be added, deleted, and edited on this screen.

The following functions require user settings.

- Security function
- VNC server
- FTP server



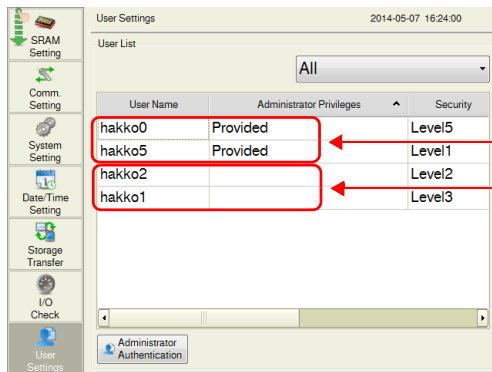
Item	Description
User List	Displays the users with user settings configured (with a user name and password registered). For users who were added on the screen configuration software, registered user names are displayed.
All [Security] Only [VNC Server] Only [FTP Server] Only	Select a criterion to display specific users in the user list. <ul style="list-style-type: none"> <li>• All: All user names are listed.</li> <li>• [Security] Only: Only users who are granted security privileges (with a security level set) are listed.</li> <li>• [VNC Server] Only: Only users who are allowed to access the VNC server are listed.</li> <li>• [FTP Server] Only: Only users who are allowed to access the FTP server are listed.</li> </ul>
Add	Adds a new user account. For details, refer to <a href="#">page 2-60</a> .
Administrator Authentication	Displays the administrator authentication screen. Authentication of administrator privileges is required before adding a new user account or deleting/editing a registered user account, if any. For details, refer to <a href="#">page 2-59</a> .

## Administrator Authentication

Authentication of administrator privileges is required before adding a new user account or deleting/editing a registered user account, if any.



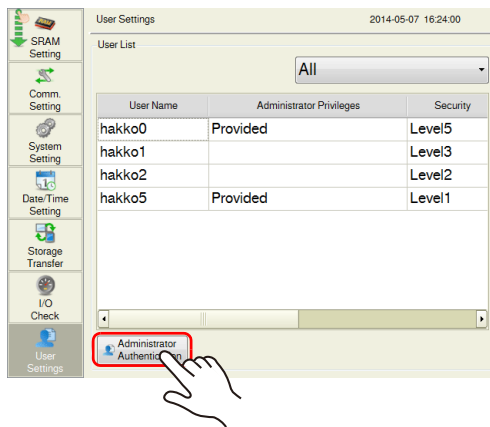
Without administrator privileges, no account can be added, deleted, nor edited.



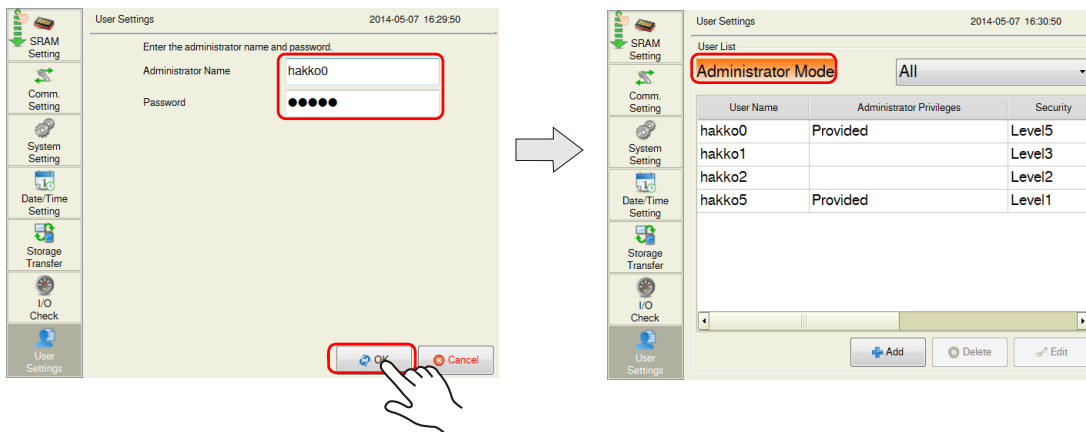
Addition, deletion and editing of a user account possible

Addition, deletion and editing of a user account impossible

1. Press the [User Settings] switch and press the [Administrator Authentication] switch.



2. The screen for administrator authentication is displayed. Enter an administrator name and password, and press the [OK] switch. "Administrator Mode" is displayed on the screen.



\* If the User Settings screen is switched to other screens after authentication, administrator authentication is automatically cancelled.

### Adding a User Account

This section explains how to add a new user account in the administrator mode.  
 A maximum of 32 user accounts can be registered on the TS4000 series unit.

1. Press the [Add] switch.

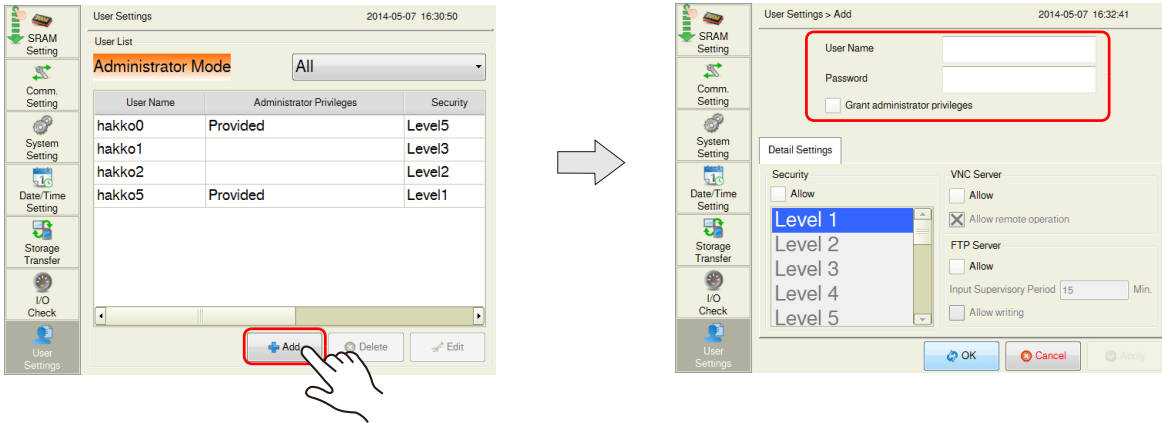
Enter a user name and password to add.

A maximum of 16 one-byte alphanumeric characters (case sensitive) can be used for a user name or password.

- \* When permitting access to a certain security level, set a user name and password within eight one-byte alphanumeric characters.
- \* The user name must be unique.
- \* The same password can be set for multiple users.

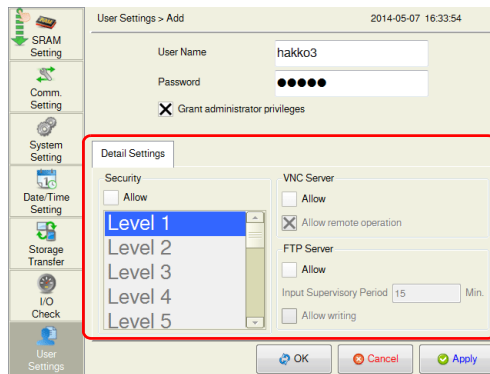
To grant administrator privileges, select the [Grant administrator privileges.] checkbox.

- \* For details on administrator privileges, refer to "Administrator privileges" page 1-9.

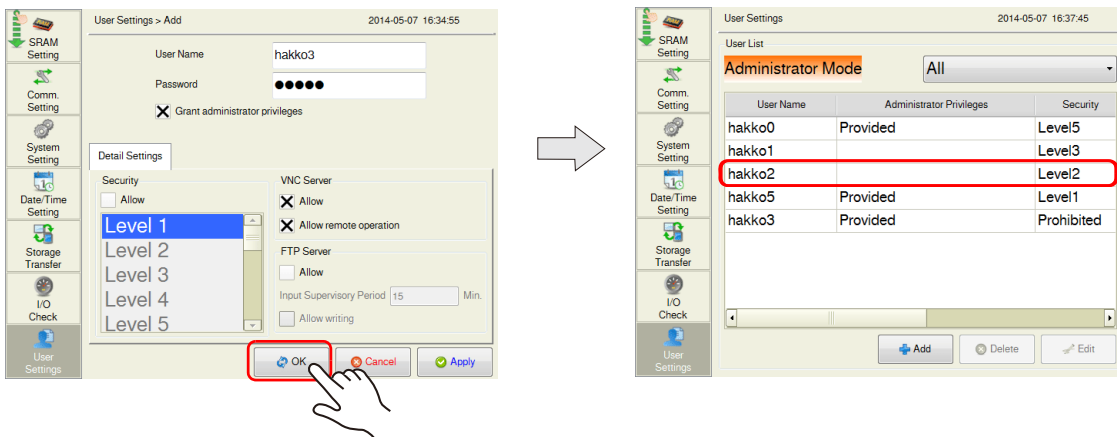


2. In the [Detail Settings] tab window, select whether or not to allow the user to access a certain security level, VNC server, or FTP server.

- \* For details on each function, refer to the Reference Manual 2.



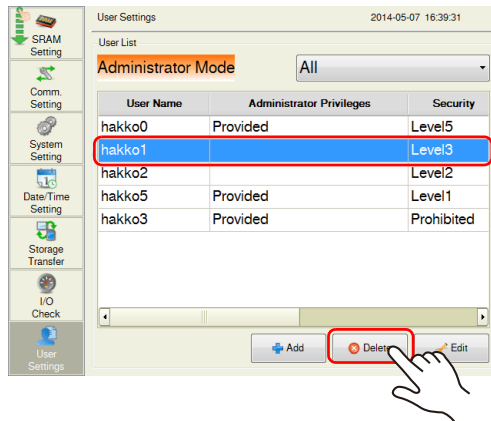
3. Press the [Apply] or [OK] switch. The set user account is added to the list.



## Deleting a User Account

This section explains how to delete a registered user account in the administrator mode.

1. Select a user account to delete from the user list and press the [Delete] switch.



- User accounts that can be deleted
  - The account of an administrator user that is currently logged in
  - User accounts which were registered on MONITOUCH ([Registered in: Main unit]) and are not granted administrator privileges
- User accounts that cannot be deleted
  - The account of users granted administrator privileges (other than the administrator user that is currently logged in)
  - User accounts which were registered in the screen program ([Registered in: Screen Data])

Example: When administrator "hakko5" is logged in:

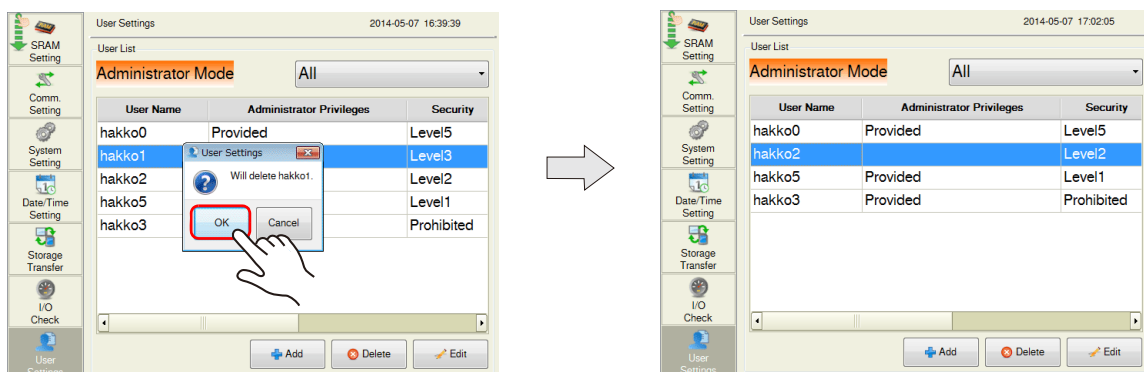
User Name	Administrator Privileges	Security	VNC Server	FTP Server	Registered in
hakko0	Provided	Level5	Prohibited	Allow	Screen Data
hakko1		Level3	Prohibited	Allow(Write)	Main unit
hakko2		Level2	Prohibited	Prohibited	Main unit
hakko5	Provided	Level1	Prohibited	Prohibited	Main unit
hakko3	Provided	Prohibited	Allow(Operation)	Prohibited	Main unit

← Deletion impossible (for hakko0)

← Deletion possible (for hakko1, hakko2)

← Deletion impossible (for hakko5, hakko3)

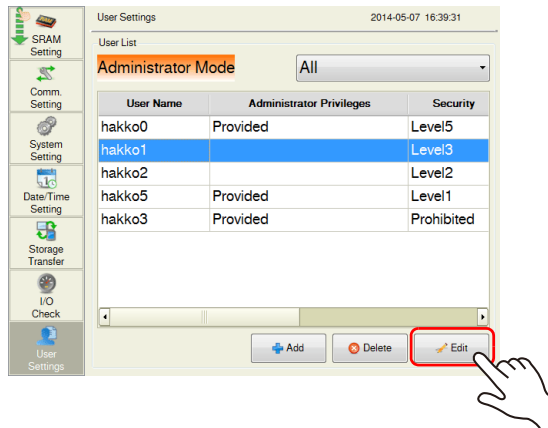
2. The confirmation dialog shown below is displayed. To delete, press the [OK] switch.  
The selected user account is deleted from the list.



### Editing a User Account

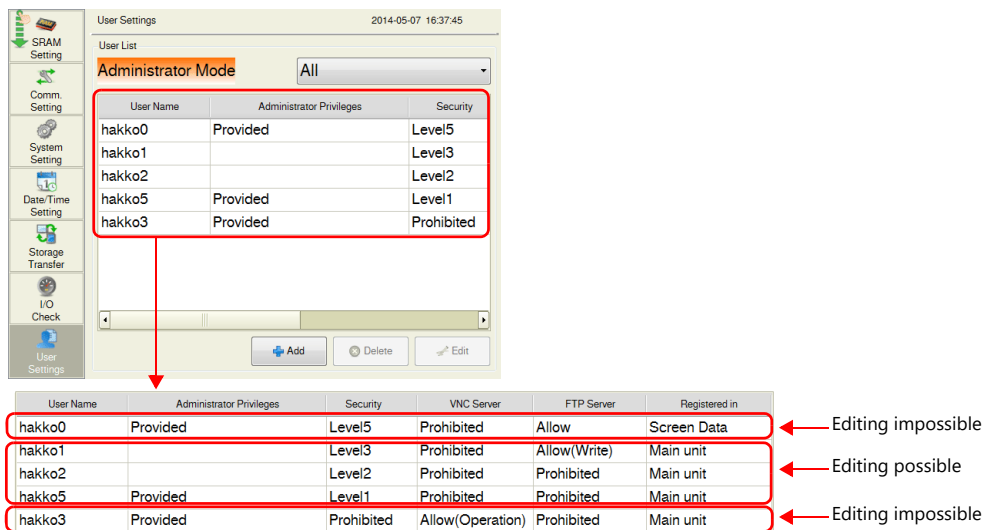
This section explains how to edit a registered user account in the administrator mode.

1. Select a user account to edit from the user list and press the [Edit] switch.

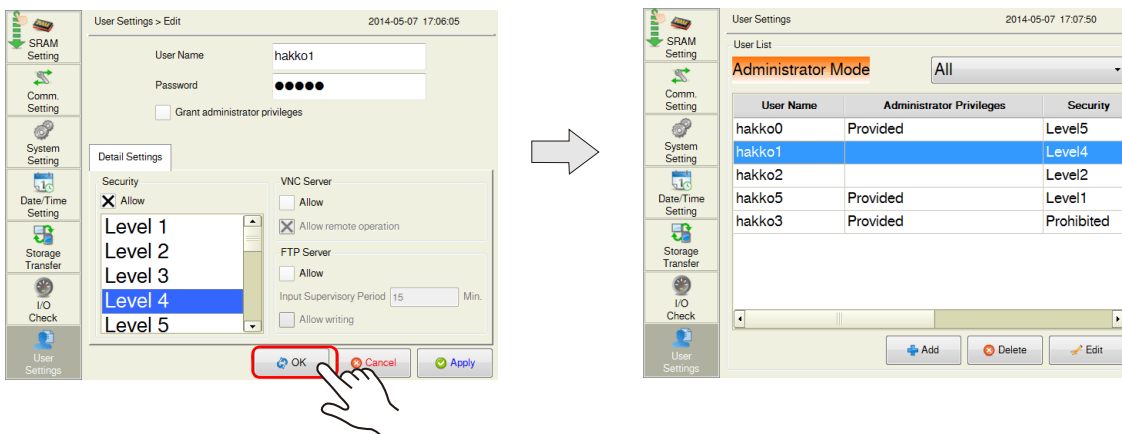


- User accounts that can be edited
  - The account of an administrator user that is currently logged in
  - User accounts which were registered on MONITOUCH ([Registered in: Main unit]) and are not granted administrator privileges
- User accounts that cannot be edited
  - The account of users granted administrator privileges (other than the administrator user that is currently logged in)
  - User accounts which were registered in the screen program ([Registered in: Screen Data])

Example: When administrator "hakko5" is logged in:

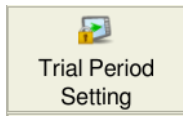


2. After changing the settings, press the [Apply] or [OK] switch. The settings are updated.

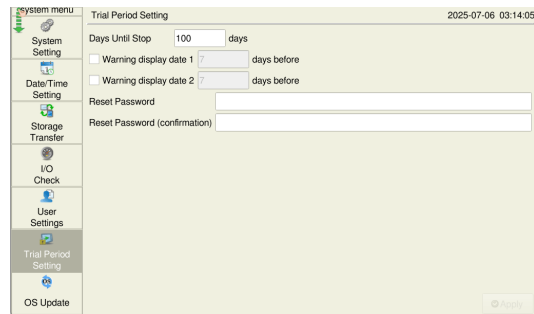


## 2.2.17 Trial Period Setting

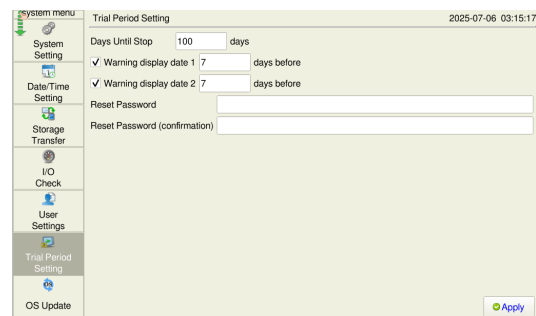
Pressing [Trial Period Setting] in the menu icons brings up the Trial Period Setting screen.



- When the trial period function is disabled:

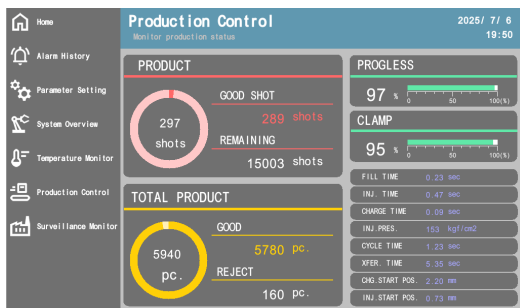


- When the trial period function is enabled:

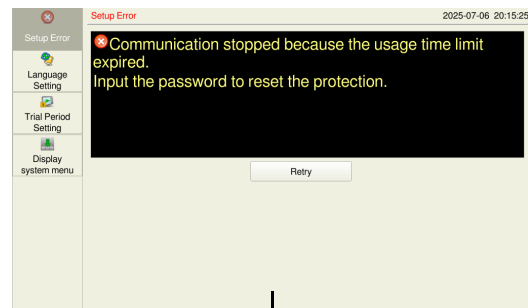


The trial period function allows a trial period to be applied to the TS4000 series unit. It is possible to protect the TS4000 series unit from starting (displaying the RUN mode screen) once the specified period expires. A password can be entered to reset the protection.

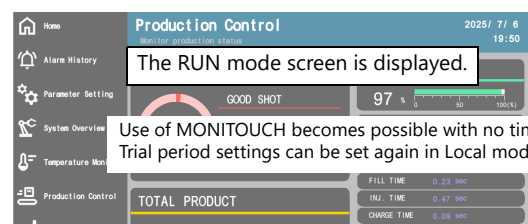
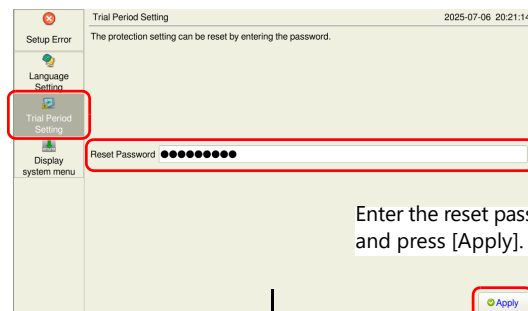
- Before expiry: The RUN mode screen is



- After expiry: A setup error occurs (stopped status).



Tap the [Trial Period Setting] switch.



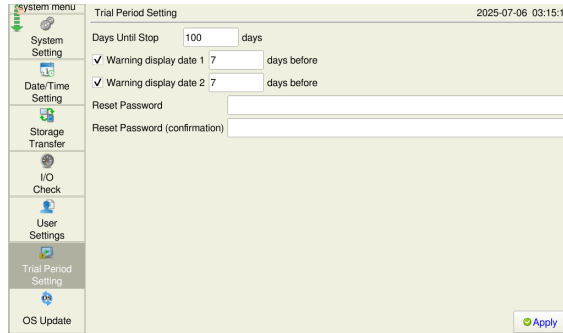
- If the trial period function is enabled, it cannot be reset unless the reset password is entered.
- The password must be kept by the customer's responsibility. Take appropriate measures to avoid losing the password.



## Trial Period Setting

When the trial period function is disabled:

Input the following items and press [Apply] to enable the trial period function.

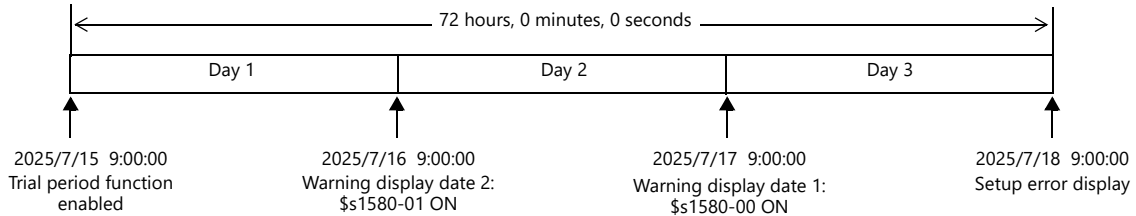


Item	Description																
Days Until Stop *1, *2	<p>Set the number of days until the usage period is to expire (stop). When this time period expires, a setup error will occur on the TS4000 series unit. The RUN mode screen cannot be displayed unless a password is input to reset the protection.</p> <p>Setting range: 1 to 32,767 days (Default: 100 days)</p>																
Warning display date 1 *1, *2	<p>The relevant bit of the system device memory (\$s1580) turns ON prior to expiry by the set number of days. By monitoring the bit, such as with a lamp part, a warning can be displayed.</p> <p>Setting range: 1 to days specified for [Days Until Stop] (Default: 7 days before)</p> <ul style="list-style-type: none"> <li>\$s1580</li> </ul> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>09</td><td>08</td><td>07</td><td>06</td><td>05</td><td>04</td><td>03</td><td>02</td><td>01</td><td>00</td> </tr> </table> <p style="text-align: center;">Warning display date 2 _____ Warning display date 1 _____</p> <p style="text-align: center;">1: Warning display date elapsed * 0: Warning display date not elapsed or trial period function disabled</p> <p style="text-align: center;">* If the warning display date is already exceeded when the power is turned on, the bit turns ON upon power-on.</p>	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
15		14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	
Warning display date 2 *1, *2																	
Reset Password	<p>Set the password for resetting the trial period setting function. The password must be kept by the customer's responsibility. Take appropriate measures to avoid losing the password.</p> <p>4 to 32 one-byte alphanumeric characters (Default: blank)</p>																
Reset Password (confirmation)	<p>Enter the same password as that entered for [Reset Password].</p>																
Apply	<p>Enables the trial period function. The following message appears. Press [OK] to enable.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p style="text-align: center; margin: 0;">Trial Period Setting</p> <p style="text-align: center; margin: 0;"> <b>Set the trial period for MONITOUCH.</b>                      When the usage time limit expires, communication with all external devices stops.                      Do you want to proceed?                 </p> <p style="text-align: right; margin: 0;"> <input type="button" value="OK"/> <input type="button" value="Cancel"/> </p> </div> <p>If there is an invalid setting when [Apply] is pressed, an error message will be displayed.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p style="text-align: center; margin: 0;"> <b>Passwords do not match</b> </p> </div> <ul style="list-style-type: none"> <li>Error list</li> </ul> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Error Message</th> <th style="width: 50%;">Description</th> </tr> </thead> <tbody> <tr> <td>The [Warning Display Date 1] (warning display date 2) setting is incorrect.</td> <td>The [Warning display date 1] (warning display date 2) setting is longer than the time until the trial period expires. Set a number of days that is shorter than [Days Until Stop].</td> </tr> <tr> <td>Enter a password.</td> <td>The [Reset Password] or [Reset Password (confirmation)] is not set.</td> </tr> <tr> <td>Passwords do not match</td> <td>The [Reset Password] and [Reset Password (confirmation)] do not match.</td> </tr> </tbody> </table>	Error Message	Description	The [Warning Display Date 1] (warning display date 2) setting is incorrect.	The [Warning display date 1] (warning display date 2) setting is longer than the time until the trial period expires. Set a number of days that is shorter than [Days Until Stop].	Enter a password.	The [Reset Password] or [Reset Password (confirmation)] is not set.	Passwords do not match	The [Reset Password] and [Reset Password (confirmation)] do not match.								
Error Message	Description																
The [Warning Display Date 1] (warning display date 2) setting is incorrect.	The [Warning display date 1] (warning display date 2) setting is longer than the time until the trial period expires. Set a number of days that is shorter than [Days Until Stop].																
Enter a password.	The [Reset Password] or [Reset Password (confirmation)] is not set.																
Passwords do not match	The [Reset Password] and [Reset Password (confirmation)] do not match.																

\*1 Time is counted in seconds.

Example: [Days Until Stop: 3 days], [Warning display date 1: 1 day], [Warning display date 2: 2 days]

- When the remaining trial period becomes 2 days (48 hours, 0 minutes, 0 seconds), the system device memory \$s1580-01 for [Warning display date 2] turns ON.
- When the remaining trial period becomes 1 day (24 hours, 0 minutes, 0 seconds), the system device memory \$s1580-00 for [Warning display date 1] turns ON.
- When three days (72 hours, 0 minutes, 0 seconds) elapse, a setup error is displayed.

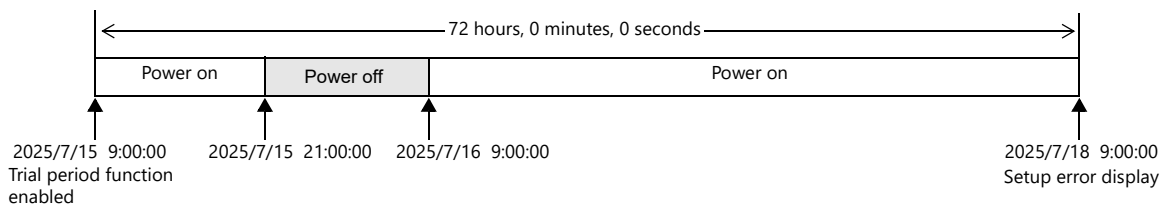


\*2 Counting of remaining days during power off

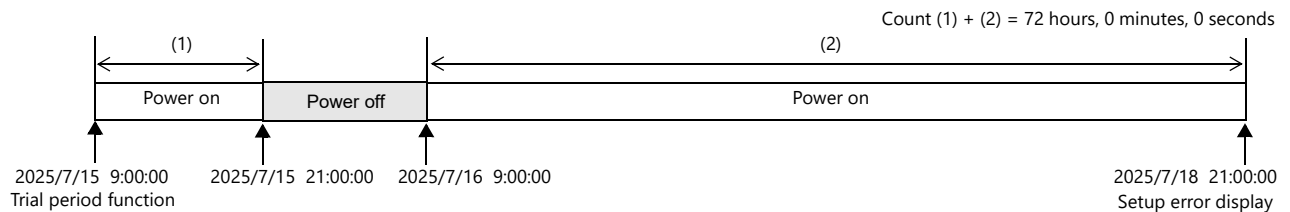
The operation differs depending on whether a battery is used or not.

Example: Setup error display after the [Days Until Stop: 3 days] (72 hours, 0 minutes, 0 seconds) elapses

- When a battery is used  
The remaining number of days is counted even if the TS4000 unit power is turned off.

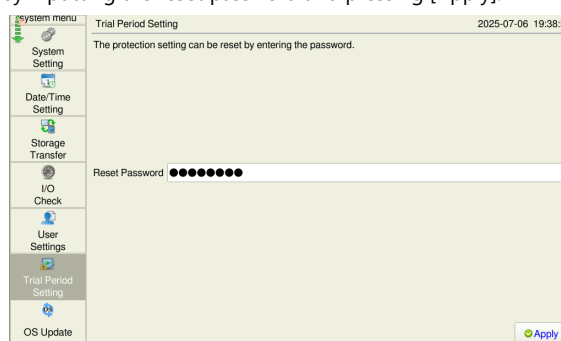


- Battery not connected or battery voltage low  
The remaining number of days is not counted while the power is off.



When the trial period function is enabled

The trial period function can be reset by inputting the reset password and pressing [Apply].



Item	Description						
Reset Password	Enter the reset password.						
Apply	Resets the trial period function. If the password is correct, the trial period function is reset and the RUN mode screen is displayed. If the password is incorrect, an error message is displayed. <ul style="list-style-type: none"> <li>• Error list</li> </ul> <table border="1"> <thead> <tr> <th>Error Message</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Enter a password.</td> <td>The reset password is not entered.</td> </tr> <tr> <td>Entered password is incorrect.</td> <td>The reset password is incorrect.</td> </tr> </tbody> </table>	Error Message	Description	Enter a password.	The reset password is not entered.	Entered password is incorrect.	The reset password is incorrect.
Error Message	Description						
Enter a password.	The reset password is not entered.						
Entered password is incorrect.	The reset password is incorrect.						

## Notes on Using the Trial Period Function

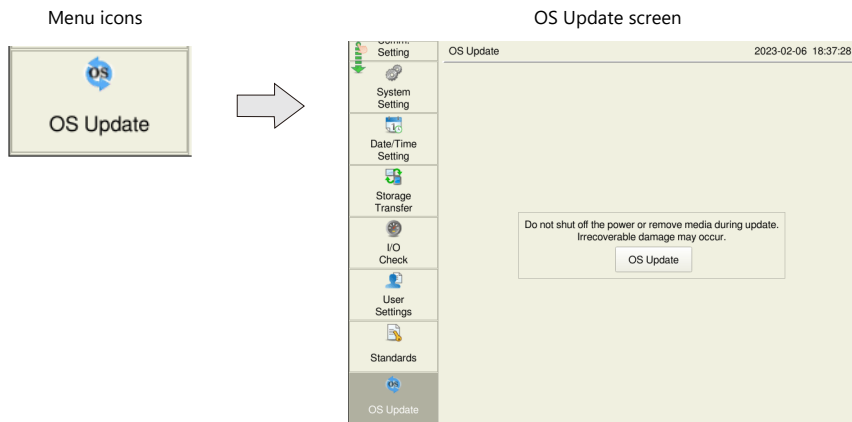
- The trial period function can only be configured on MONITOUCH. Configured settings remain valid even if the screen program is changed.  
After the set number of days elapse, a setup error occurs and the RUN mode screen can no longer be displayed.
- If the trial period function is enabled, it cannot be reset unless the reset password is entered. Take appropriate measures to avoid losing the password.
- The number of days is counted by the second from the moment when the trial period function is enabled. The remaining time until expiry will not change even if the [Date/Time Setting] is changed in Local mode.


## 2.2.18 OS Update

Pressing [OS Update] in the menu icons brings up the OS Update screen.

This screen is used when manually updating the operating system (OS) for operating the TS4000 series unit.

- \* The [OS Update] menu icon is displayed only when a storage device containing the file for updating the operating system is connected. If it is not displayed, switch to RUN mode and then back to Local mode.



 For details on updating the operating system, refer to the Reference Manual 2.

## 2.3 Handling Data Changed in Local Mode

The following items set in the screen program can be changed on the TS4000 series unit.

Item	Setting in Local Mode <sup>*1</sup>	Setting on Screen Configuration Software
TS4000 series IP address	[LAN Setting] (page 2-11)	[Project View] pane → [Hardware Settings] tab → [MONITOUCH Settings] → [Ethernet] → [Local Port IP Address] → [LAN]
E-mail settings	[E-Mail Setting] (page 2-20)	[Project View] pane → [Hardware Settings] tab → [MONITOUCH Settings] → [Ethernet] → [E-Mail]
Communication parameters	[Comm. Setting] (page 2-25)	[Project View] pane → [Hardware Settings] tab → [Connection Device] → [8 Way Communication] → [PLCx]
Buzzer, backlight	[System Setting] (page 2-34)	[Project View] pane → [Hardware Settings] tab → [MONITOUCH Settings] → [Unit Settings] → [Buzzer]/[Backlight]
User settings	[User Settings] <sup>*2</sup> (page 2-58)	<ul style="list-style-type: none"> <li>Security [Project View] pane → [System Setting] tab → [Security]</li> <li>FTP server [Project View] pane → [Hardware Settings] tab → [MONITOUCH Settings] → [Ethernet] → [FTP Server]</li> </ul>

\*1 Changes in Local mode can be prohibited. For details, refer to page 2-70.

\*2 Only the security settings can be changed from the system menu. For details, refer to Security page 1-6.

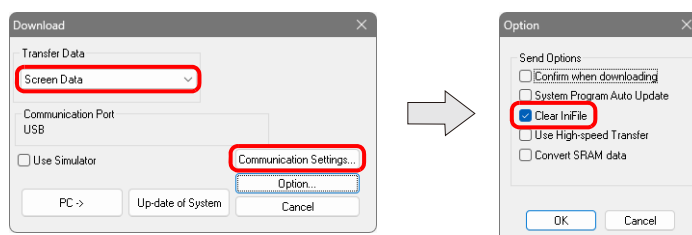
### Settings Changed in Local Mode

- The screen program will not be overwritten.
- The settings changed in Local mode are retained even if the power to the TS4000 series unit is turned off.
- If a setting is changed in Local mode, the Local mode setting takes priority.  
To restore the settings of the screen program, press the [Restore Screen Data Settings] switch on the respective Local mode screen.
- When transferring a screen program from the screen configuration software to the TS4000 series unit, you can select whether to retain or clear the settings changed on the unit (INI file).

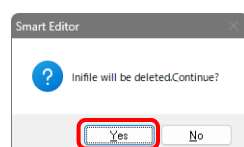
#### How to clear the INI file using the screen configuration software

\* This affects all settings available on the Local mode screen. All settings that are not configured in the screen program will be returned to initial values.

- Connecting a cable  
Connect the TS4000 series unit to a computer using a transfer cable (USB cable or Ethernet cable).
- Starting the screen configuration software  
Start the screen configuration software on the computer.
- Displaying the [Transfer] dialog  
Click [Transfer] → [Download]. The [Transfer] dialog is displayed.
- Selecting data to be transferred  
Select [Screen Data] for [Transfer Data].  
Check the [Clear IniFile] in the [Option] window and click [OK].



- Start downloading to MONITOUCH  
Click [PC →]. Screen program transfer starts.  
When the following dialog is displayed, click [Yes].



\* The language setting of the TS4000 series unit will be set to English if the INI file is deleted.

Change the language setting from "Language Setting" page 2-9 in Local mode as required.

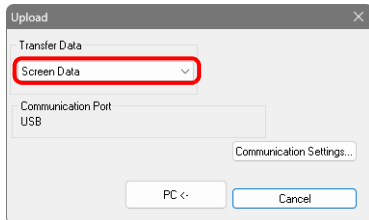
A screen program that is read from MONITOUCH to the screen configuration software does not retain setting changes that were made on MONITOUCH.

(The screen program that was originally transferred to MONITOUCH without any changes is read.)

To read the settings changed on MONITOUCH, the INI file must also be read.

### How to read the INI file using the screen configuration software

1. Connecting a cable  
Connect the TS4000 series unit to a computer using a transfer cable (USB cable or Ethernet cable).
2. Starting the screen configuration software  
Start the screen configuration software on the computer.
3. Displaying the [Transfer] dialog  
Click [Transfer] → [Upload]. The [Transfer] dialog is displayed.
4. Selecting data to be transferred  
Select [Ini File] for [Transfer Data].



5. Start of reading  
Click [PC ←]. Reading of the INI file starts.
6. Saving of INI file  
When the INI file has been transferred, the [Save As] dialog is displayed on the computer. Save the file under a new name. The file extension is "\*.BIN".
  - \* The INI file cannot be edited nor can it overwrite the screen program file.
  - \* To transfer a saved INI file to the TS4000 series unit, click [Transfer] → [Download] in step 3 and click [PC →] in step 5.

### How to save the INI file in the storage device

Refer to "When [Display → Storage] Is Selected:" [page 2-46](#) and save the INI file in the storage device.

When data transfer is executed by selecting [Display → Storage] on the Storage Transfer screen (refer to "Storage Transfer" [page 2-40](#)), settings changed on MONITOUCH are written into the storage device.

When executed by selecting [Display ← Storage], settings changed on MONITOUCH are written by selecting [Configuration File] in [Select Data].

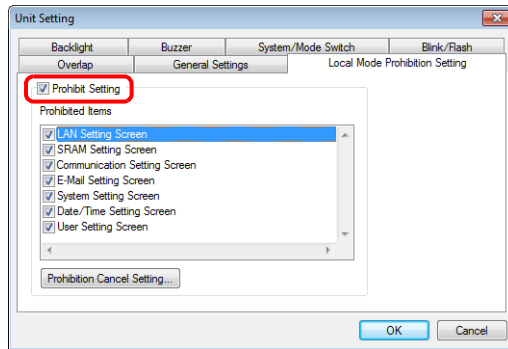
## Prohibition of Setting Change in Local Mode

Some settings that can be configured in Local mode can be prohibited from being changed on the TS4000 series unit.

### Setting on Screen Configuration Software

[Project View] pane → [Hardware Settings] tab → [MONITOUCH Settings] → [Unit Settings] → [Local Mode] → [Local Mode Prohibition Settings]

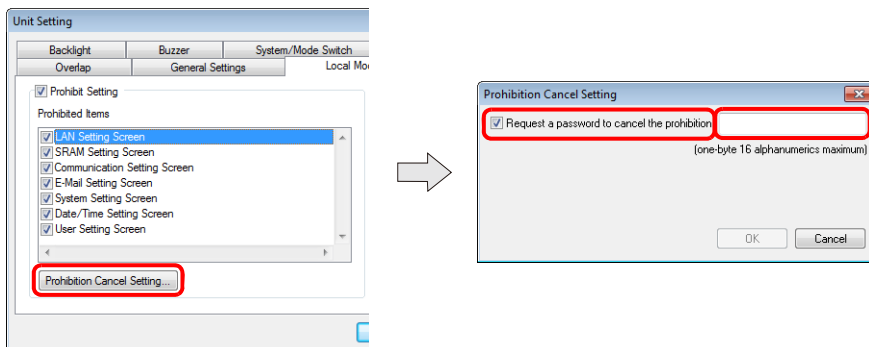
When the [Prohibit Setting] checkbox is selected, you can select items to be prohibited from being changed in Local mode.



To enable cancellation of all prohibition settings at once on the TS4000 series unit, register a password for cancellation.

Click [Prohibition Cancel Setting] and select the [Request a password to cancel the prohibition] checkbox, and register a password (maximum of 16 one-byte alphanumeric characters).

- \* If no password is registered, the prohibition setting cannot be cancelled on the TS4000 series unit even if the [Request a password to cancel the prohibition] checkbox is selected.



## TS4000 Series Local Mode

When the Local-mode prohibition setting has been made on the screen configuration software, the menu icon displayed in Local mode on the TS4000 series unit changes as shown below.

Example: [LAN Setting] menu icon

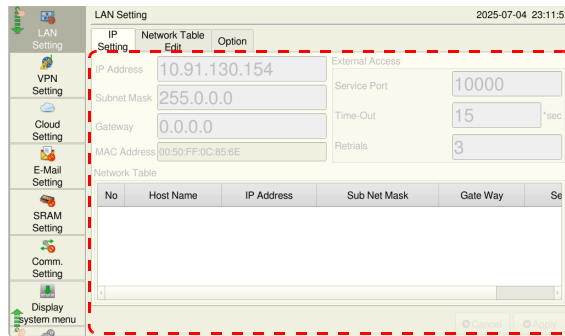
Without prohibition setting



With prohibition setting



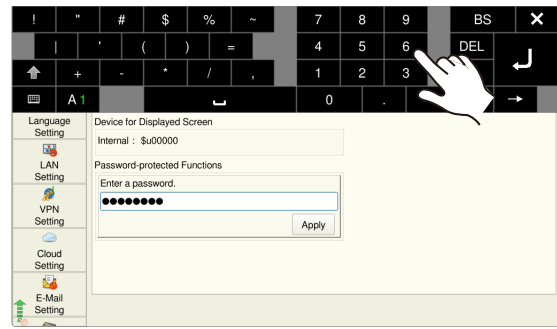
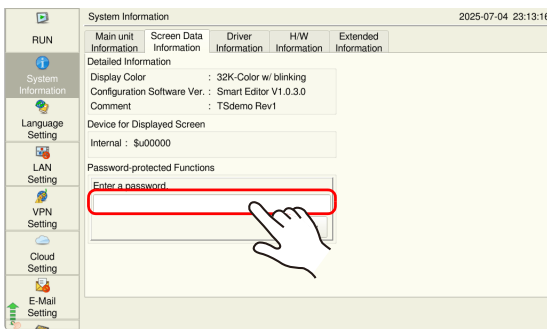
"X" is shown at the bottom right on the menu icon of the prohibited item.



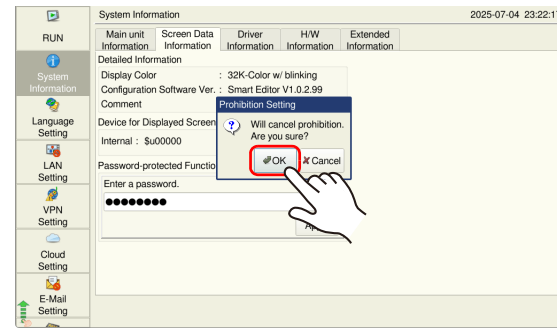
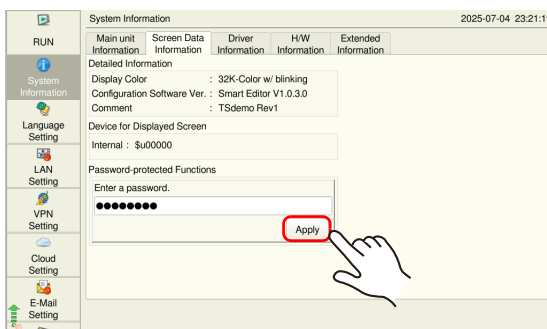
Grayed out and no setting can be changed.

If a password has been registered in the [Prohibition Cancel Setting] window on the screen configuration software, the list of password-protected settings is displayed in the [Screen Data Information] tab window of the System Information screen in Local mode. To cancel prohibition settings, follow the procedure described below.

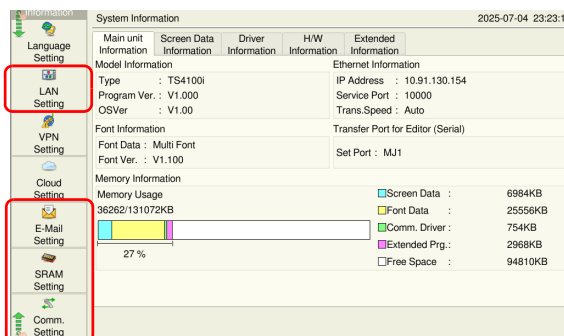
1. Open the [Screen Data Information] tab window on the System Information screen. Press anywhere on the area enclosed in the following figure. Then the system keyboard appears. Enter the password.



2. Press the [Apply] switch. The following confirmation dialog appears. Press the [OK] switch.



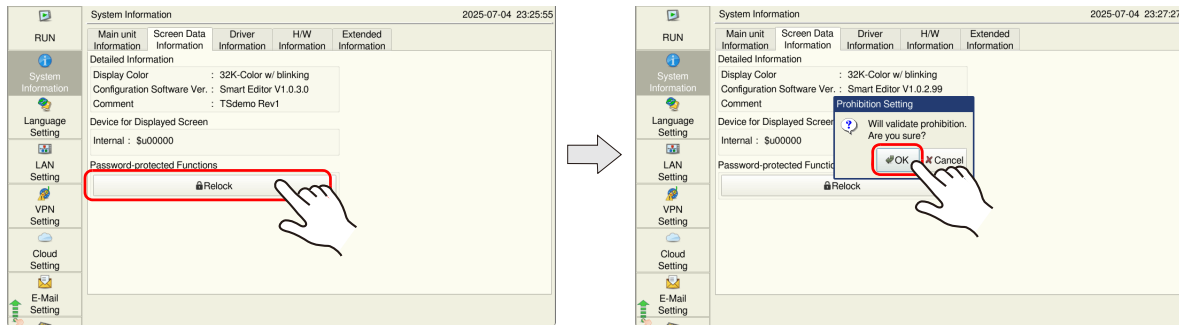
3. All items that were prohibited in Local mode become unprotected.



## 2. Local Mode Screen

- To validate the Local-mode prohibition setting again, select [System Information] → [Screen Data Information] and press [Relock]. The following confirmation dialog appears. Press the [OK] switch.

\* The prohibition setting is also validated again after the power is turned off and back on again or a screen program with Local-mode prohibition settings is transferred.



### Notes

- When a screen program is transferred without selecting the [Prohibit Setting] checkbox in [Local Mode Prohibition Setting] on the screen configuration software, the Local-mode prohibition setting becomes invalid (cancelled).

## **3 Error Handling**

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3.1 Error Messages

3.2 Troubleshooting

## 3.1 Error Messages

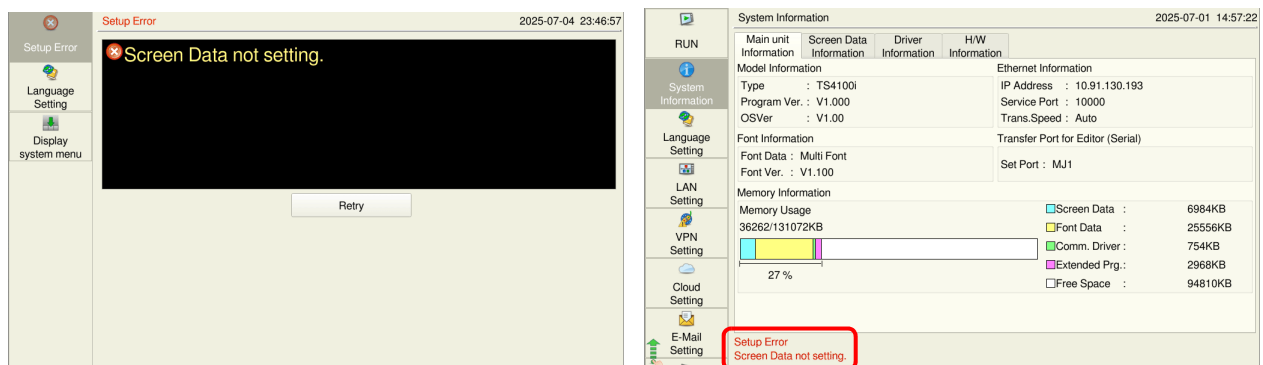
The following types of error messages are displayed on the TS4000 series.

- Setup error (page 3-1)
- Screen program error (page 3-3)
- Communication error (page 3-6)
- Warning (page 3-8)

### 3.1.1 Setup Error

When no screen program is present or no system program has been transferred, the following message is displayed on the TS4000 series unit. Solve the error according to the error message.

When the [Retry] switch is pressed, the operation mode switches to RUN mode.



\* The error is also displayed in Local mode.

## Error Messages

Contents	Solution
Screen Data not setting.	Transfer the screen program.
Transfer system program. (safe mode)	Transfer only the system program (TS4000Series.prg) either from the screen configuration software or a storage device. [Up-date of System] and [Select All] will not be accepted.
Screen No. Error	<ul style="list-style-type: none"> <li>• Set the screen number for display to read area "n+2". The device memory of read area "n+2" can be checked at [System Information] → [Screen Data Information] → [Displaying Screen Device] in Local mode.</li> <li>• If the screen number at startup is fixed, set the [Read/Write Area] → [Initial Screen] on the screen configuration software and transfer the screen program.</li> </ul>
Error found in system information.	Transfer the screen program again.
Incorrect display type	Check the model for editing and transfer the screen program.
Selected PLC is not supported.	Check the PLC model and transfer the screen program.
Data version does not match the MONITOUCH system program version.	Transfer the MONITOUCH system program using the screen configuration software. If the problem persists, check the screen configuration software version and the system program version of the TS4000 series unit, and contact your local sales representative.
The PLC model set in the screen program does not match the I/F driver.	Check the PLC model and transfer the screen program or I/F driver.
The PLCn I/F driver version is inconsistent with the screen data version.	Check the screen configuration software version and the I/F driver version, and contact your local sales representative.
The simulator program version is inconsistent with the screen data version.	
The PLCn I/F driver version is inconsistent with the system program version.	Check the I/F driver version and the system program version of the TS4000 series unit, and contact your local sales representative.
The simulator program version is inconsistent with the system program version.	Check the I/F driver version and the system program version of the TS4000 series unit, and contact your local sales representative.

### 3. Error Handling

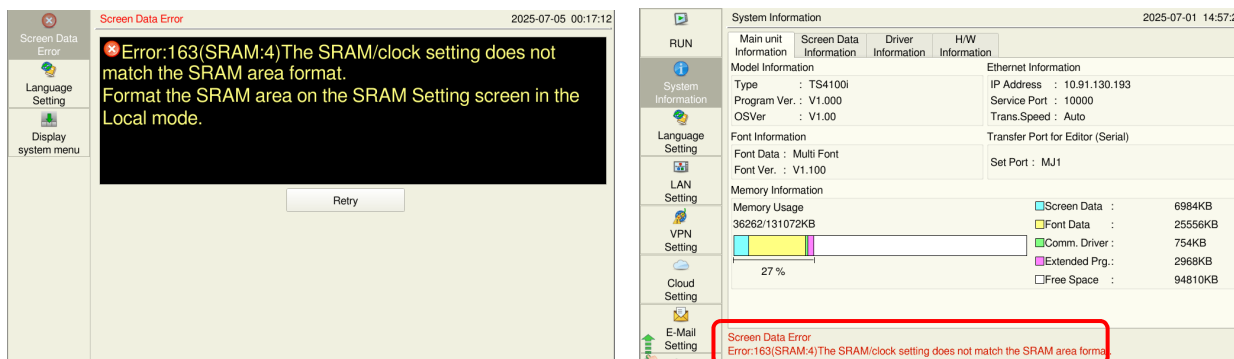
Contents	Solution
The interface language on MONITOUCH does not match the language set in the screen program.	Check the MONITOUCH model and the language used for the created program.
The maximum capacity of the logging server has been exceeded.	The capacity of DRAM specified under [Internal Storage Setting] in the [Logging Server] window has exceeded the maximum available capacity. Reduce the number set for [Number of Data to Save].
Graphic undefined command error	Contact your local sales representative.
Switch function error	
Universal serial: System device memory setting error	Check if access to an area outside the specified device memory is being attempted, such as by macro indirect designation.
Network I/O size setting error	Contact your local sales representative.
Multi-link2 station number error. The value for [Local Port No.] or [Total] is out of the range of 1 to 4.	Set a value of 1 to 4 for [Local Port No.] or [Total] in the multi-link2 settings.
[Multi-link2 Ethernet] port number error. The value of the local port number exceeds the total number (maximum 32).	Set a value of 1 to 32 for [Local Port No.] or [Total] in the multi-link2 (Ethernet) settings.
The Ethernet port number of the I/F driver is not unique.	Set an unique port number for the I/F driver.
The I/F driver version of MONITOUCH does not match the version of the MONITOUCH system program.	Check that the MONITOUCH system program version is compatible with the device connected, and if necessary, update the system program.
Transfer PLCn I/F driver.	Transfer the I/F driver. Or check the device memory of the item.
Transfer simulator program.	
FROM data unregistered	<ul style="list-style-type: none"> <li>The "default.dtm" file has not been transferred although [Use Internal Flash ROM as Back-up Area] is enabled. &lt;Location of setting&gt; [Project View] pane → [Hardware Settings] tab → [MONITOUCH Settings] → [Unit Settings] → [General Settings] → [System]</li> <li>[Hardware Settings] → [PLC Properties] → [Communication Settings] → [Use Port No. Table] is set to [Yes] but there is no port number table. When using the port number table, the capacity of the Local mode extended program becomes 66 kB smaller than when the port number table is not used. Check the setting. If the capacity is the same in either case, contact your local sales representative.</li> </ul>
The function set for the serial port is duplicated.	<p>Error: 166 (Header: x)</p> <p style="margin-left: 40px;">└─ Sub-item number</p> <p>The sub-item number denotes the ports as shown below:  0: COM1  1: COM2  2: COM3</p> <p>Specify a unique function (Simulator, etc.) for each port.</p>
[Use Ladder Tool] is selected in the [Device Connection Setting] dialog; however, the connection mode other than "1:1" is selected for [Connection Mode].	The ladder transfer function only supports "1:1" connections. When you do not execute ladder transfer, deselect the [Use Ladder Transfer] checkbox. When executing ladder transfer, select "1:1" for [Connection Mode] under [Communication Setting].
Unit does not support the ladder communication.	Contact your local sales representative.
The custom program is not registered.	
External touch panel can not be recognized.	Contact your local sales representative.
The maximum capacity of the alarm server has been exceeded.	The capacity of DRAM specified under [Internal Storage Setting] in the alarm server settings has exceeded the maximum available capacity. Reduce the value set for [Number of Monitoring Alarms] or [Number of Data to Save].
The OS does not support the custom program.	Contact your local sales representative.
Communication stopped because the usage time limit expired. Input the password to reset the protection.	Enter the reset password from [Trial Period Setting].
Data in the internal storage (G) is corrupt. Format the storage and then write necessary files.	Press the [Format] switch to execute formatting. Then write necessary files either from the screen configuration software or a storage device.

## 3.1.2 Screen Program Error

When an error is found in the screen program, the following message is displayed on the TS4000 series unit.

For details on error numbers, refer to [page 3-8](#).

When the [Retry] switch is pressed, the operation mode switches to RUN mode.

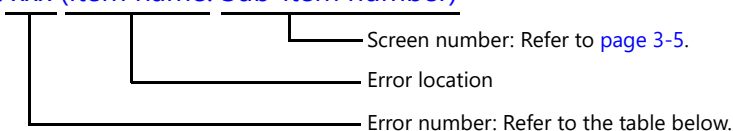


\* The error is also displayed on the Local mode screen.

### Error Numbers

Check the contents of the error (= error number) according to the item name and sub-item number, and remove the error.

**Error: xxx (Item name: Sub-item number)**



Error No.	Contents	Solution
22	The logging/alarm block number specified for a trend or alarm part has not been set.	Set the corresponding block number again in the [Logging Server] or [Alarm Server] settings.
27*	An error was found in the logging server or alarm server.	Contact your local sales representative.
36*	ITEM error	Contact your local sales representative.
38*	Component error	
41*	Recognition flag error	
42*	Function ITEM error	
44*	Group ITEM end error	
46	An unavailable device memory address is set or the available device memory range is exceeded.	Check the device memory setting. For a system with an Ethernet connection, check the settings at [Hardware Settings] → [PLC Properties] → [Target Settings] → [PLC Table].
47	IDs of the items having setting limitations in the screen library are duplicated on a screen.	Check the IDs and keep them unique.
49*	Group ITEM error	Contact your local sales representative.
50*	Link ITEM error	
52	The overlap ID is incorrect and must be a value from "0" to "9".	Check the overlap ID and set correctly.
53	An overlap library number with no part registered is specified in the call-overlap setting.	Specify an overlap library number with a part registered.
61*	Statistic graph % display No. over	Contact your local sales representative.
64*	Data display element No. error	Contact your local sales representative.
65	The scale or graph is not set correctly in the trend part settings.	Correct the settings for [Scale Max. Value] and [Scale Min. Value] or [Graph Max. Value] and [Graph Min. Value] in the [Detail] settings.

### 3. Error Handling

Error No.	Contents	Solution
66*	Internal circle radius is "0".	Contact your local sales representative.
67*	The number of points to display is equal to or smaller than zero.	
69	A pattern or frame larger than the screen size has been specified.	Re-set the pattern or frame.
72	The setting for real time printing of the alarm part has exceeded the upper limit, or the specified alarm block number is not unique.	<ul style="list-style-type: none"> <li>• There are four or more alarm parts with [Use the real-time printing function] selected.</li> <li>• There are two or more alarm parts for which the same [Alarm Block No.] is set with [Use the real-time printing function] selected.</li> </ul> Select the [Use the real-time printing function] setting within the limitations. If the problem persists, check the editor version and the system program version of the TS4000 series unit, and contact your local sales representative.
74	An animation part is placed somewhere other than the base screen (screen library, etc.).	Place the animation item on the base screen.
77*	Expanded graphic ITEM error	Contact your local sales representative.
78*	Expanded function ITEM error	
80*	Macro: Undefined command error	
81	Macro: The numbers of FOR and NEXT commands are not the same. FOR-NEXT commands are nested beyond 8 levels.	Correct the FOR-NEXT commands.
82	Macro: There are two different commands for the same label number.	Macro: Set the label again.
83	Macro: There is no destination label for the jump.	Macro: Change or set the destination label.
84*	Macro: Incorrect use of device memory	Change the macro command.
85*	Macro: Undefined system call	Contact your local sales representative.
90	A screen library that is not registered is used.	Check the screen library number.
91	Bitmap data for a switch or lamp is not registered.	Check the following points: <ul style="list-style-type: none"> <li>• No bitmap name is designated.</li> <li>• The part size is too large.</li> <li>• There is no bitmap file in the [Parts] folder located under [MONITOUCH] → [User].</li> </ul>
94	Multi-language selection string number error	Contact your local sales representative.
100	Universal serial: GD-80 compatible entry mode is set.	Deselect [GD-80 Compatible] of the entry mode.
132	Ethernet: The connection target is not registered or is different.	Configure the [PLC Table] settings at [Hardware Settings] → [PLC Properties] → [Target Settings].
133	Ethernet: IP address No. error	Check the IP address on the network table edit window.
136	IP address setting error: The network table number selected for local port IP address is not registered.	Check the network table number.
138	The remote desktop table is not registered.	Register the remote desktop table with the specified number.
139	The remote desktop table is not set correctly.	Check the remote desktop table settings again. (Check, for example, whether an unregistered remote desktop table number is specified.)
143	The device memory map number is not set in the [Logging Server] window.	Check the device memory map setting, and set correctly.
155	FROM data unregistered	<ul style="list-style-type: none"> <li>• The "default.dtm" file has not been transferred although [Use Internal Flash ROM as Back-up Area] is enabled.                &lt;Location of setting&gt;                [Project View] pane → [Hardware Settings] tab → [MONITOUCH Settings] → [Unit Settings] → [General Settings] → [System]</li> <li>• [Hardware Settings] → [PLC Properties] → [Communication Settings] → [Use Port No. Table] is set to [Yes] but there is no port number table.                When using the port number table, the capacity of the Local mode extended program becomes 66 kB smaller than when the port number table is not used. Check the setting.                If the capacity is the same in either case, contact your local sales representative.</li> </ul>

Error No.	Contents	Solution
156	"Backup area" and "station number table" cannot be used at the same time.	The [Use Internal Flash ROM as Back-up Area] setting is enabled and [Use Port No. Table] is set to [Yes]. It is not possible to use both functions at the same time. Deselect one function or the other, and transfer the screen program.
160	The SRAM area size exceeds the available range.	Check the SRAM settings. <Location of setting> [Project View] pane → [System Settings] tab → [SRAM]
161	The SRAM area is not formatted.	Format the SRAM area on the SRAM Setting screen in Local mode. Check that the battery voltage is not low.
162	Data in the SRAM area does not match the TS4000 series unit system program version.	Check the system program version of the TS4000 series unit, and contact your local sales representative.
163	The SRAM/clock setting does not match the SRAM area format.	Format the SRAM area on the SRAM Setting screen in Local mode.
174	The I/F driver that does not support ladder communication is set.	Check that the I/F driver supports ladder communication.
192*	I/F driver setting error	Contact your local sales representative.
196	Data stored in the storage device is different.	This error may occur when using function for storing data (screen, 3D parts, etc.) in a storage device. Connect a storage device in which data has been stored correctly using the storage manager.
199	Multiple functions are allocated to the USB port.	Multiple functions are assigned to the USB-B port. Use the USB-B port only for one of the following functions: USB simulator, PictBridge printer, or USB ladder communication function.
301	Recipe setting error	Check the recipe settings. The specified value is outside the permissible range, or there is a problem with the record name specification method.
306	Data in the SRAM area is corrupt.	Forcibly format the SRAM area from the SRAM Setting screen in Local mode.
307	A logging block number specified using a numerical data display cannot be used.	Review the logging block number setting.
310	An alarm type is not specified for the alarm server.	Check the alarm type setting of monitored alarms for the relevant alarm block number at [Alarm Server].
311	Error among multiple show/hide conditions	Check the show/hide settings.

\* Error numbers with "\*" do not occur under ordinary circumstances.

If any of these errors are displayed, contact your local sales representative (specified on the back cover).

## Sub-item Number

The sub-item number indicates the number of the screen where the error was detected.

For items that are not assigned screen numbers, the following numbers are indicated.

Item Name	Sub-item Number
Logging server Alarm server	Block No. 0 to 11
Message	Message group No. 0 to 127
Graphic library	Graphic group No. $\times 256 +$ No. in the group
Device memory map	xyy (x = PLC1 to 8, yy = table No.)
I/F driver	1 to 8: PLC1 to 8 9: Simulator

### 3.1.3 Communication Error

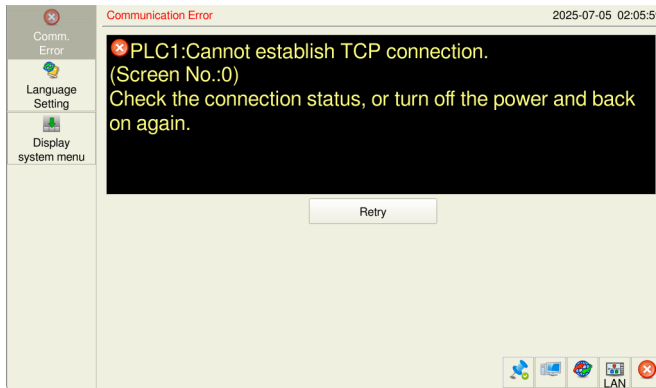
When communication is not established between a TS4000 series unit and a controller, or any abnormality (noise etc.) is detected, the communication error screen is displayed on the TS4000 series unit.

The display of an error differs depending on the option selected for [Comm. Error Handling].

- \* The setting for [Comm. Error Handling] can be checked and changed in Local mode on the TS4000 series unit. For details, refer to "Communication Setting" page 2-25.

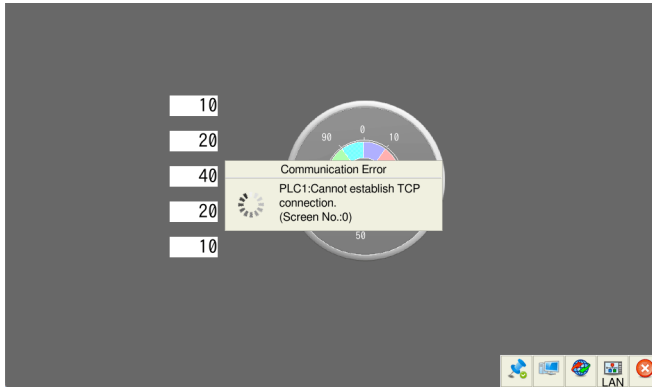
#### When [Comm. Error Handling: Stop] Is Selected:

Communication will be stopped entirely and the communication error screen will be displayed. The [Retry] switch is available for attempting reestablishment of communication.



#### When [Comm. Error handling: Continue] Is Selected:

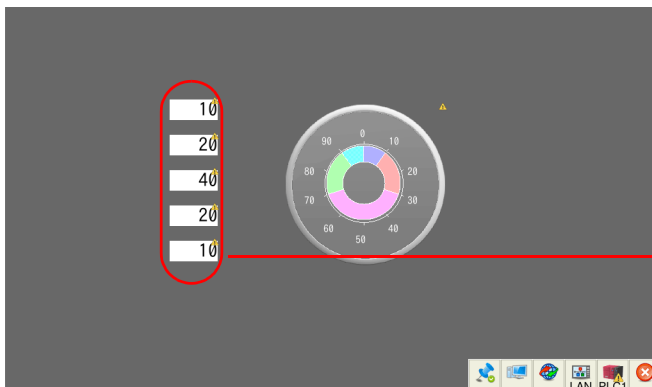
The communication error message will be displayed at the center of the screen. The same communication will continue until restoration, and screen operation is not allowed then. When communication has been returned to a normal state, the message disappears and screen operation is allowed.




#### When [Comm. Error handling: Disconnect] Is Selected:

The status bar appears without displaying any error messages, and indicates the icon for "link not established" for PLC 8WAY connection (page 1-25). When a time-out error is detected, communication is discontinued and the next communication is attempted.

- \* Recovery confirmation can be executed for the device for which communication has been discontinued. For details, refer to the Connection Manual.



The  icon appears at the top right corner of the part that monitors the device memory of a device in which a time-out error was detected.

## Error Messages

Error Messages	Contents	Solution
Time-Out	Although a request to send is given to a controller, no answer is returned within the specified time.	1. Check the settings for [Hardware Settings] → [PLC Properties]. Check the settings for [Comm. Setting] in Local mode on MONITOUCH. Check that the cable is correctly connected.
		2. Data may be disrupted because of noise. Take measures against noise.
Parity	An error occurred in parity check.	1. Check that the cable is correctly connected.
		2. Data may be disrupted because of noise. Take measures against noise.
Framing	Although the stop bit must be "1", it was detected as "0".	1. Check the settings for [Hardware Settings] → [PLC Properties]. Check the settings for [Comm. Setting] in Local mode on MONITOUCH. Check that the cable is correctly connected and there is no poor contact.
		2. Data may be disrupted because of noise. Take measures against noise.
Overrun	After receiving one character, the next character was received before internal processing was completed.	1. Check the settings for [Hardware Settings] → [PLC Properties]. Check the settings for [Comm. Setting] in Local mode on MONITOUCH.
		2. Data may be disrupted because of noise. Take measures against noise.
Check code error	The check code in the controller response was not correct.	1. Check the settings for [Hardware Settings] → [PLC Properties]. Check the settings for [Comm. Setting] in Local mode on MONITOUCH.
		2. Data may be disrupted because of noise. Take measures against noise.
Error code received	An error code was sent by a controller. (NAK)	Examine the controller error code and solve the problem.
Breakage detected	The controller's SD remains at the low level.	Examine the connection between the controller's SD and the TS4000's RD.
Invalid memory (Mitsubishi CPU, or other equipment)	An address outside the permissible range of the connected PLC was specified.	Check the type and range of the specified device memory.
Invalid CPU Model (Mitsubishi ACPU)	There is no CPU that corresponds to the PLC currently supported.	Check whether or not the CPU currently in use can be used with the TS4000 series.
Format	The code of the received data was different from the specified code.	1. Check link unit settings. (After making settings, turn off the power to each controller.) Check the settings for [Hardware Settings] → [PLC Properties]. Check the settings for [Comm. Setting] in Local mode on MONITOUCH.  2. If errors only occur from time to time, noise may be causing data corruption. Take measures against noise.
Compare (Hitachi HIDIC-S10)	Transmitted data and received data were inconsistent.	
NAK	The TS4000 series unit judged that communication is impossible.	
Transaction Error (Allen-Bradley PLC)	Transmitted transaction data and received transaction data were inconsistent.	
Count error (Mitsubishi CPU/Sharp CPU)	The expected data amount was different from the count value.	
Command error (Mitsubishi CPU)	The response code was different from the expected code.	
Invalid Cassette (Mitsubishi ACPU)	There is no memory cassette that corresponds to the cassettes currently supported.	Contact your local sales representative.

Error Messages	Contents	Solution
CPU Type Error (Mitsubishi CPU)	Unsupported CPU type (incorrect password)	Check whether or not the TS4000 series unit supports this CPU.
Unsupported CPU (Siemens S5)	Unsupported CPU type	
Invalid DB (Siemens S5)	The corresponding DB cannot be found in the CPU.	Check if the corresponding DB exists using the ladder tool. If the DB does not exist, create it using the ladder tool.

\* If the above error messages are displayed on the TS4000 series unit without establishing communication between TS4000 and PLC, test the solution "1". If the error occurs suddenly during communication, test the solution "2".

## Ethernet-specific Errors

Error Messages	Description	Solution	\$s518*
Send Error	The UDP socket port cannot be allocated.	Check that the setting on the target station is consistent with the PLC table setting.	201
Failed to create a TCP socket.	The TCP socket cannot be created.	Turn the power off and back on again, or check the communication settings, for example, duplication in port numbers.	203
The number of TCP connections exceeded the limit.	The maximum number of connections (256) has been established, and no more connections are allowed.	Check the communication lines.	204
Cannot establish TCP connection.	Connection cannot be established.	Check the communication lines, or turn the power off and back on again.	205
TCP Communication Error	TCP communication has failed.	Check the communication lines.	207
The connected device has shut down the TCP connection.	The TCP connection is disconnected by the connected device.	Check the connected device and communication lines.	208
Link Down	The Ethernet cable is not connected to the TS4000 series unit.	Connect the Ethernet cable to the TS4000 series unit. Check the link check LED on the hub. If not lit, check the cable wiring and connection status as well as the port settings in the PLC table.	801
MAC address not registered.	The MAC address is not registered.	Repair is necessary.	1202
Undefined Error	An unknown communication error was detected.	Turn the power off and back on again. If the problem persists, a fault is suspected. Contact your local sales representative.	2001

\* The current status of Ethernet communication is stored in system device memory \$s518 (LAN).  
0: Normal

### 3.1.4 Warning

[Unsupported function found Warning: xxxx is not supported.] may be displayed in Local mode.

Select [Tool] → [Error Check] on the screen configuration software, and correct the screen program by checking the details of the error as well as the solution.

## 3.2 Troubleshooting

### 3.2.1 In the Event of an Error

Perform the steps below:

1. If the current error matches a symptom in the following table, correct it by following the instructions provided.
2. If the error does not match the symptoms in the table, contact your local sales representative (specified on the back cover).  
Please provide the sales representative with the detailed information, such as a MONITOUCH model, serial number, symptom of the error and error message displayed on MONITOUCH.

### 3.2.2 Probable Symptoms

Symptoms	Causes	Solutions
MONITOUCH is connected to controllers; however, communication fails. "Communication Error: Time-Out" appears on the screen.	<ol style="list-style-type: none"> <li>1. Cables are not connected correctly or any cable is disconnected.</li> <li>2. Parameter settings in the controller are not correct or disagree with the TS4000-series settings.</li> <li>3. If the error occurs suddenly during normal communication, data may be disrupted because of noise.</li> <li>4. MONITOUCH is faulty.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check the cable connection.</li> <li>2. Recheck the parameter settings in the controller.</li> <li>3. Check if appropriate measures are taken against noise. Example: <ul style="list-style-type: none"> <li>• Check if communication cables are bundled together with power cables.</li> <li>• Try to attach a ferrite core to the communication cable.</li> <li>• Try to attach a noise filter to the power supply, etc.</li> </ul> </li> <li>4. Return MONITOUCH to your local sales representative.</li> </ol>
"Communication Error: Error Code received" appears on the screen.	<p>The error code denotes a controller error (NAK).</p> <ol style="list-style-type: none"> <li>1. When the error code only appears on a certain screen, a device memory address that does not exist on the controller may be set on the TS4000 series unit.</li> <li>2. When the error code appears at power-on, the device memory address that does not exist in the controller may be specified for an area commonly used by all screens, such as a control area, logging server, alarm server and initial macro specified on the screen configuration software.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check if any address outside the permissible range of any controller device memory is specified on the screen.</li> <li>2. Check if any address outside the permissible range of the controller device memory is specified for an area commonly used by all screens, such as a control area, logging server, alarm server and initial macro specified on the screen configuration software.</li> </ol>
Communications have been successful. However, "Communication Error: Parity" or "Communication Error: Framing" suddenly occurs.	Noise may cause the error.	<p>Check if appropriate measures are taken against noise.</p> <p>Example:</p> <ul style="list-style-type: none"> <li>• Check if communication cables are bundled together with power cables.</li> <li>• Try to attach a ferrite core to the communication cable.</li> <li>• Try to attach a noise filter to the power supply, etc.</li> </ul>

### 3. Error Handling

Symptoms	Causes	Solutions
"Communication Error: Simulator: Time-Out" appears on the screen.	Simulator communications between TS4000 and PC is not successful.	<ol style="list-style-type: none"> <li>For communication with a PLC Select [Not use] on the Simulator Setting screen in Local mode (<a href="#">page 2-33</a>). Or deselect the [Use Simulator] checkbox on the [Transfer] window of the screen configuration software, and transfer the screen program again.</li> <li>For communication with simulator Select the [Use Simulator] checkbox on the Simulator Setting screen in Local mode (<a href="#">page 2-33</a>). Or select [Transfer] → [Simulate] on the screen configuration software to start the simulator.</li> </ol>
"Insert Storage in TS4000" is displayed on the screen.	No storage device is inserted in the TS4000 series unit although a setting is made to automatically upload a screen program from the storage device when the power to the TS4000 series unit is turned on.	<ol style="list-style-type: none"> <li>When enabling auto-upload Check that the storage device is correctly inserted. Check that data files to be uploaded automatically are stored in the storage device. * For details on auto-uploading using a storage device, refer to the Reference Manual 2.</li> <li>When disabling auto-upload Turn the power to the TS4000 series unit off and set the DIP switch 1 (on the back of the unit) to the off position.</li> </ol>
The screen becomes dark or black.	<ol style="list-style-type: none"> <li>Touching the screen restores it to the previous illuminated state. ↓ The backlight is operating automatically as specified.</li> <li>Touching the screen does not restore it. ↓ The backlight may be at the end of its life. Or MONITOUCH may be faulty.</li> <li>The power is not correctly supplied to the TS4000 series unit.</li> </ol>	<ol style="list-style-type: none"> <li>Change the time to turn off the backlight. The backlight can be controlled using the screen configuration software or on the TS4000 series unit (<a href="#">page 2-35</a>).</li> <li>Return MONITOUCH to your local sales representative.</li> <li>Check that the correct voltage and current are supplied.</li> </ol>
Switches do not work.	<ol style="list-style-type: none"> <li>Switches do not work in RUN mode. A beep sounds. ↓ The switch interlock is enabled. Switch settings are incorrect.</li> <li>Switch activation position is wrong. On the touch switch test screen in Local mode (<a href="#">page 2-53</a>), a position different from the pressed position is activated. ↓ The switch activation position may be misaligned.</li> <li>Switches do not work even in Local mode. No part of the touch switch test screen in Local mode (<a href="#">page 2-53</a>) is activated when pressed. ↓ MONITOUCH switches may be faulty.</li> </ol>	<ol style="list-style-type: none"> <li>Check the settings of switch functions, etc. using the screen configuration software.</li> <li>Perform a touch switch adjustment (<a href="#">page 2-54</a>).</li> <li>Return MONITOUCH to your local sales representative.</li> </ol>

Symptoms	Causes	Solutions
A storage device is not recognized.	<ol style="list-style-type: none"> <li>The format type of the storage device is different.</li> <li>An error code is stored in \$s497 or \$s1035.</li> <li>The storage device is faulty.</li> </ol>	<ol style="list-style-type: none"> <li>The format type of the storage device that is supported by the TS4000 series is FAT, FAT32, and exFAT. Check the format type of the storage device using a computer. If it is different, format the storage device again to either format type.</li> <li>Check the value stored in system device memory \$s497 or \$s1035. (Assigning these addresses to a numerical data display part enables monitoring.) A value other than "0" indicates an error. For details on error codes, refer to Reference Manual 1.</li> <li>Check whether or not the storage device can be accessed from a computer. If not, use a different storage device.</li> </ol>
The screen program cannot be transferred.	There may be some errors in the Ethernet or USB settings.	<p>Transfer via Ethernet Check that the IP address set on the screen configuration software is the same as the one set on MONITOUCH. Also check if any error relating to Ethernet connection occurs on MONITOUCH.</p> <p>Transfer via USB Is the USB driver recognized? Is the driver installed successfully?</p> <p>If the problem persists, contact your local sales representative.</p>
The RUN mode cannot be switched to Local mode even by pressing the [Local] switch on the system menu.	The changeover time is specified in the screen program.	Hold down the [Local] switch on the system menu for the specified changeover time (max. 30 seconds).
The status bar cannot be displayed in RUN mode.	[Status Bar Prohibited] is selected.	Disable the [Status Bar Prohibited] setting on the screen configuration software. <Location of setting> [Project View] pane → [Hardware Settings] tab → [MONITOUCH Settings] → [Unit Settings] → [System/Mode Switch]
The message "Battery changeover required" is displayed in Local mode.	<ol style="list-style-type: none"> <li>The time to replace the battery is approaching.</li> <li>No battery is set.</li> </ol>	<ol style="list-style-type: none"> <li>Replace the battery with a new one by referring to the Hardware Specifications manual.</li> <li>Data in the SRAM area or built-in clock data cannot be retained unless power is supplied. Refer to the Hardware Specifications manual and set a battery.</li> </ol>



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