Support Functions
for Pharmaceutical Industry

Change Specification Sheet

3rd Edition 8th August 2024

■For Receipt □For Estimation □For Reference

Date of Issue:

OMRON CORPORATION
SENSOR DIV. PRODUCT BUSINESS DIVISION HQ.

Prepared by	Checked by	Authorized by

CHANGE SPECIFICATION SHEET

Name:

Model:

Item:

■Please read through this document and understand the contents before making the decision of order.

■Please return one copy of this specification sheet signifying your acceptance by stamping below.

Receipt Stamp (For receipt purpose only)
If you do not return this specification with receipt stamp here, this specification is for reference purpose only.

Submitted Stamp

Distribution

	Copy
Customer	
(Sales) ( )	

Revision Record

Mark	Date	Contents	Responsible

Terms and Conditions Agreement

Thank you for using the products of Omron Corporation ("*Omron*"). The Terms and Conditions hereunder are applied to Omron products regardless of where they are purchased. The ordering or use of Omron products implies your agreement to the Terms and Conditions described below, unless otherwise is specifically agreed.

1. Definition

The definitions used in these Terms and Conditions are as follows:

(1) *Omron products*: *Omron* branded Factory Automation (FA) system equipment, general-purpose control devices, sensors, and electronic/mechanism components

(2) *Catalogues*: *Omron* general catalogue "BEST", electronic/mechanism components general catalogue and other catalogues, specifications, instructions and manuals of *Omron products*, including electronically provided information available on the *Omron* electronic components information website, etc.

(3) *Usage conditions*: Usage conditions, rating, performance, operating environment, handling instructions, cautions, prohibited use, etc. of *Omron products* described in specifications, documentations or manuals.

(4) *Customer application*: Application of *Omron products* by customers which include embedding and/or using *Omron products* in their parts/components, electronic substrates, devices, equipment or systems manufactured by customers.

(5) *Fitness*: (a)Fitness, (b)performance, (c) non-infringement of third-party intellectual property, (d) compliance with laws and regulations and (e)conformity to various standards.

2. Caution on Descriptions Using *Catalogues*

Attention is required to the following points for information obtained from *Catalogues.*

(1) Rated values and performance values are the product of tests performed for separate single conditions, including but not limited to temperature and humidity. *Omron* does not warrant rated values and performance values for multiple combined conditions.

(2) Reference data are provided for reference only. *Omron* does NOT warrant that *Omron products* work properly at all times in the range of reference data.

(3) Application examples are provided for reference only. *Omron* does NOT warrant the *Fitness* of *Omron products* under such applications.

(4) *Omron* may discontinue the production of *Omron products* or change the specifications of them for the purpose of improving such products or other reasons entirely at its own discretion.

3. Precautions

Please be aware of and accept the following when you introduce or use *Omron products*:

(1) Please use *Omron products* in compliance with *usage conditions* including rating and performance limits.

(2) Please confirm the *fitness* of *Omron products* in your application and use your own judgment to determine the appropriateness of using them in such application. *Omron* shall not warrant the *fitness* of *Omron products* in *customer applications*.

(3) Please confirm that *Omron products* are properly wired and installed for their intended use in your overall system.

(4) When using *Omron products*, please make sure to (i) maintain a margin of safety between the published rated and performance values, and the application requirements, (ii) design to minimize risks to *customer application* in case of failure of *Omron products*, such as introducing redundancy, (iii) introduce system-wide safety measures to notify risks to users, and (iv) conduct regular maintenance on *Omron products* and *customer application*.

(5) *Omron products* are designed and manufactured as general-purpose products for use in general industrial applications. They are not intended to be used in the following critical applications. If you are using *Omron products*

in the following applications, *Omron* shall not provide any warranty for such *Omron products*, unless otherwise specifically agreed or unless the specific applications are intended by Omron.

(a) Applications with stringent safety requirements, including but not limited to nuclear power control equipment, combustion equipment, aerospace equipment, railway equipment, elevator/lift equipment, amusement park equipment, medical equipment, safety devices and other applications that could cause danger/harm to people's body and life.

(b) Applications that require high reliability, including but not limited to supply systems for gas, water and electricity, etc., 24 hour continuous operating systems, financial settlement systems and other applications that handle rights and property.

(c) Applications under severe condition or in severe environment, including but not limited to outdoor equipment, equipment exposed to chemical contamination, equipment exposed to electromagnetic interference and equipment exposed to vibration and shocks

(d) Applications under conditions and environment not described in specifications

(6) In addition to the applications listed from (a) to (d) above, *Omron products* (see definition) are not intended for use in vehicles designed human transport (including two wheel vehicles). Please do NOT use *Omron products* for vehicles designed human transport. Please contact the *Omron* sales staff for information on our automotive line of products.

4. Warranty Terms and Conditions

The terms and conditions for warranty of *Omron products* are as follows:

(1) Warranty period: *Omron* warrants that products shall be free of material defects and or workmanship for a period of one year after the date of purchase (Excepting in the case where there is additional description in *Catalogues*).

(2) Coverage: *Omron*, at its own discretion, will provide one of the following two services for malfunctioning *Omron products*:

(a) Free repair of the malfunctioning *Omron products* at an *Omron* maintenance service location.
（No repair support is available for electronic components）

(b) Free replacement of the malfunctioning *Omron products* with the same number of replacement/alternative products.

(3) Exceptions: *Omron* will not cover *Omron products* under its warranty if the cause of the malfunction falls under any of the following.

(a) Usage in a manner other than the original intended use for the *Omron products.*

(b) Usage outside of the usage *conditions*.

(c) Usage of the product against the conditions described in "3.Precautions".

(d) Modification or repair made to the *Omron product* by other than *Omron* personnel.

(e) Software program embedded by other than *Omron* or usage of such software.

(f) Cause which could not have been foreseen with the level of science and technology at the time of shipping from *Omron*.

(g) Causes originating from other than *Omron* or *Omron products* (including causes such as, but not limited to, natural disasters).

5. Limitation of Liability

The warranty set out in these Terms and Conditions is the whole and sole liability for *Omron products*. There are no other warranties, expressed or implied. *Omron* and the distributors of *Omron products* are not liable for any damages which may arise from or be related to *Omron products*.

6. Export Controls

Customers of *Omron products* shall comply with all applicable laws and regulations of Japan and/or other relevant countries with regard to security export control, when exporting *Omron products* and/or technical documents or providing such products and/or documents to a non-resident. *Omron* may not provide customers with *Omron products* and/or technical documents should they fail to comply with such laws and regulations.

7. Right of Ownership and Resale of Modified Software

OMRON CORPORATION has the right of ownership and of resale of modified software.

8. Price and Delivery Method

The price and delivery method are decided with the Sales Department.

[Table of Contents]

[Revision History]

Date	Contents	Page	Department
15th Dec 2023	First Edition	All	Sensor Div. Group 3
28th May 2024	2nd Edition Audit Trail function expansion: ・Add batch number to Audit Trail. ・Add Audit Trail restriction function for communication commands. ・Add usage restriction release function for Set Unit Data /Set Unit Figure. ・Make Fieldbus commands compatible with Audit Trail. Communication Module Function Expansion: ・Add GATE delay function to Fieldbus (EtherNet/IP, PROFINET). ・Add user area expansion function to Fieldbus (EtherNet/IP, PROFINET). ・Add setting retention function for PROFINET after software version upgrades. Addition of communication commands: ・Add non-procedural commands " Set/Get/Clear batch number Command". ・Add non-procedural command "Clear logging image". ・Add Fieldbus (EtherNet/IP, PROFINET) command "Command to execute non-procedural command". ・Add Fieldbus (EtherNet/IP, PROFINET) command "Clear logging image ". Other: ・Add function to display login dialog when operating UI where access rights are lost. ・Add the following function to flow edit and unit setting UI: ・Displays login dialog when operating with lost	4.1.4 4.1.8 4.1.12 4.1.21 4.1.24 4.2.6 4.2.7 ~ 4.2.12 5.1 5.2 6.2.6 ~ 6.2.11 8.1.3 8.1.4 8.1.8 8.1.9 8.2.1 8.2.3 9.4 9.5 9.8 9.9.1 9.13 9.14 10.1.3 10.6 10.7 10.8 11.1 ~ 11.3 11.22 12 Appendix D.	Sensor Div. Group 3

	access rights. ・Automatically close the screen when access rights are lost. ・Add NTP synchronization error. ・ Add window part "Login user display window". ・Add external DLL function "Macro command to get login username".		
8th August 2024	3rd Edition Audit Trail function expansion: ・Add “Audit Trail free space warning” to error setting. ・Add “Audit Trail insufficient space” to error setting. ・Changed to keep the current login status when cancel is pressed in the login dialog when starting the security settings screen. Addition of communication commands: ・Add non-procedural commands "Delete user group". ・ Add non-procedural command "Initialize scene variables". ・ Add non-procedural command "Initialize system variables". ・ Add Fieldbus (EtherNet/IP, PROFINET) command "Initialize scene variables". ・ Add Fieldbus (EtherNet/IP, PROFINET) command "Initialize system variables". Other: ・Changed the initial value of “Registered image” in template “0.All” of configuration copy to OFF. ・Changed the FH Data To Txt to available in “No standard support” mode.	4.1.9 4.2.3 4.2.5 4.2.9 4.2.10 4.2.11 4.2.15 4.2.16 9.5 9.9 9.15 9.16 11.7 11.22 11.24 11.25 12.1 12.3 12.4 Appendix B. Appendix D.	Sensor Div. Group 3

1. Introduction

This document is a change specification sheet of "Support functions for Pharmaceutical industry customized software".

In addition, this document describes only remodeling points. Please refer to the manual of standard version with regard to the contents of the non-modified part, because it is equivalent to standard version.

2. Functional Overview

This is a software with supporting functions to satisfy 21 CFR (Part 11) issued by FDA in manufacturing equipment for pharmaceuticals and food and beverage. By operating this software in the "Part11 support mode", the following support functions can be realized.

Part11 support functions

- Record, Display, Output to file, and Delete “Audit Trail”
- Enhanced Account Management

Other functions

- NTP Synchronization
- Validation support with NG Analyzer and enhanced Image logging functions
- Compare Scene Data Differences
- Export all FH parameter and setting into plain text files

Only using the support function described in this document can not satisfy Part 11 of 21 CFR in manufacturing equipment. For support functions, please read carefully the contents of this document, and understand functional specifications before using. Also, because communication ports and external device ports can be used freely, the FH controller is not a closed system. Please check the latest regulation on 21 CFR, and design the system of manufacturing equipment including FH controller by yourself.

3. Device Configuration

Describe the device configuration in which this software runs.

Controller　：FH-2051, FH-5051, FH-5551, FH-L551 *

Camera　：The model supported by the standard version (version 6.51)
(8 cameras max)

Remote control PC　：Only 1 unit for each line

Other equipment　：General purpose monitor, mouse, keyboard etc.

*The “Logging Image Memory Capacity Expansion” is only available on FH-5551.

4. Modified Item Information

Base version : FH Ver.6.51

Customized version : FH19JPK011O2

4.1. Part11 support functions

4.1.1. Main Window Part [FZ-PanDA]

Item : Main display

Executable file : FZ-PanDA_AT.exe

- The internal structure was changed in order to realize Audit Trail recording processing.
- A new item "Part 11" is added to the menu bar.

4.1.2. Window Menu [Login / Logout]

Item : Login / Logout menu

- All account can login to the FH controller.
- The logged in account can log out.
- It is the same function as the user account button in the window part “information window”.

4.1.3. Window Menu [Audit Trail Viewer]

Item : Audit Trail Viewer menu

- The Audit Trail recorded in the FH controller can be displayed on the monitor.
- Only the Audit Trail that meets the conditions can be displayed by setting filters.

4.1.4. Window Menu [Detailed Compliance Setting]

Item : Detailed compliance setting menu

- The Audit Trail file output format can be set.
- The calculation method for checksum file added to Audit Trail output file can be set.
- Whether to input a general comment and entry comments in Audit Trail can be set.

- Batch number for the Audit Trail can be set. The allowable characters for batch number are lowercase letters [a-z], uppercase letters [A-Z], numbers [0-9], and single-byte spaces. The minimum number of characters is 0, and the maximum is 40.
- The presence of the Audit Trail for each communication command can be set.
- The disable functions in the initial setting can be changed to enable.
- Enable/Disable USB/SD drive can be set.
- This menu can be operated only by accounts belonging to user group 0.

4.1.5. Window Menu [MAC Address]

Item : Display MAC address menu

- Displays the MAC address of the controller on which the software is running.
- MAC address information is recorded in the Audit Trail at the time of saving and loading the setting file such as scene data.

4.1.6. Window Menu [Change Password]

Item : Change password menu

- The logged in account can change own password string.

4.1.7. Window Menu [Audit Trail Export]

Item : Audit Trail Export menu

・The Audit Trail recorded in the FH controller can be displayed on the screen.
・By setting filters, only the Audit Trail that meets the conditions can be displayed and output.
・The Audit Trail deletion can be executed when the Audit Trail file is output.

4.1.8. Window Menu [Security Setting]

Item : Security setting menu

- A list of registered accounts can be displayed.
- Parameters related to accounts and security can be set.
- A new account can be added, and the registered account can be changed user group,

password, and the locked account can be canceled lock status.

- The behavior, when automatic logout occurs and access rights are lost in flow edit and unit setting UI, can be set.
- Security setting data can be saved and read as file data.
- The compliance mode can be changed.

4.1.9. Tool "System Settings"

Name : System Settings
Executable file : FZ-PanDA_AT.exe

・”Audit Trail free space warning” has been added to the error setting. ”Audit Trail free space warning” occurs when the free space in the Audit Trail is less than 1 MB after the Audit Trail is written.
・”Audit Trail insufficient space” has been added to the error setting. ”Audit Trail insufficient space” occurs when Audit Trail write fails due to insufficient free space in the Audit Trail.

4.1.10. Tool "Custom dialog"

Name : Custom dialog tool
Custom dialog
Executable file : CustomDialog_AT.exe

・To enable Audit Trail record processing, the internal structure has been changed.

4.1.11. Tool "Configuration copy"

Name : Configuration copy tool
Executable file : FZ-PanDA_AT.exe

・In order to restore the Audit Trail record, we have changed it so that the Audit Trail can be included in the sensor controller project data saved by the configuration copy tool.
・It has been changed so that the Audit Trail record can be restored by reading the sensor controller project data including the Audit Trail.
・In order to confirm that the sensor controller project data has not been tampered with, it has been changed to add checksum information when saving.

・The System setting/Scene group/Security setting/Audit Trail log/checksum file saved in the sensor controller project data are encrypted.

4.1.12. Non-procedural Command

Item : Non-procedural Command

・ The internal structure was changed in order to realize Authentication function and Audit Trail recording processing.

4.1.13. Non-procedural Command [Get/Set/Clear batch number]

Item : Get/Set/Clear batch number command

・ Sets the specified string as batch number. The allowable characters for batch number are lowercase letters [a-z], uppercase letters [A-Z], numbers [0-9], and single-byte spaces. The minimum number of characters is 0, and the maximum is 40.
・ Gets the current batch number.
・ Clears Batch batch number.

4.1.14. Non-procedural Command [Audit Trail File Output]

Item : Audit Trail file output command

・ The Audit Trail recorded in the FH controller can be saved to the specified file path in the specified file format.
・ File deletion can be executed at the same time as file output by the specification.

4.1.15. Non-procedural Command [Security Parameter Change]

Item : command related to security parameters

・ Internal processing has been changed by adding policies of account password.
・ External specifications such as the number of command parameters are not changed.

4.1.16. Non-procedural Command "Save / Load Encrypted Scene Data"

Name: : Save / Load Encrypted Scene Data

・When specifying a scene using arguments, save or load encrypted scene data specified by arguments.

4.1.17. Non-procedural Command "Save / Load Encrypted System + Scene Group 0 Data"

Name: : Save / Load Encrypted System + Scene Group 0 Data

・When specifying a scene using arguments, save or load encrypted system + scene group 0 data specified by arguments.

4.1.18. Non-procedural Command "Save / Load Encrypted Scene Group Data"

Name: : Save / Load Encrypted Scene Group Data

・When specifying a scene using arguments, save or load encrypted scene group data specified by arguments.

4.1.19. Non-procedural Command "Save / Load Encrypted System Data"

Name: : Save / Load Encrypted System Data

・When specifying a scene using arguments, save or load encrypted system data specified by arguments.

4.1.20. Non-procedural Command "Save/Load project data for Configuration copy "

Name: : Save/Load project data for Configuration copy

・Saves to or reads from the sensor controller project data specified by the argument.
・The system settings/scene group/security settings/Audit Trail/checksum files saved in the sensor controller project data are encrypted.

4.1.21. Non-procedural Command Macro [User Account Operation]

・As an external DLL function that can be called by the communication command macro function "SetUserSubroutine", a process that enables user account operation without stopping measurement is added.

Related Module: : UserAccount.dll

4.1.22. Fieldbus Command

Item : Fieldbus Command

- The internal structure was changed in order to realize Authentication function and Audit Trail recording processing.
- The recording process of Audit Trail only operates in EtherNet/IP and PROFINET

4.1.23. Other [Setting Data File Encryption]

- The security setting data saved in the nonvolatile memory of the FH controller is encrypted.
- The setting data file saved on the external device from the FH controller is encrypted.

4.1.24. Other [Startup Unlock Screen]

- This screen is displayed when UG0 account in locked state exists at FH controller startup.
- By logging in with the recovery account or UG0 account, the locked account is able to be unlocked.

4.1.25. Other [The behavior of the screen when access rights are lost upon automatic logout]

・When automatic logout occurs and access rights are lost on a screen where Audit Trail remains after performing an operation, the login dialog will be displayed. If a user with access rights logs in, they can continue the operation. If login is canceled, the operation will be canceled, and the current screen will be closed.

・In flow edit and unit setting UI, can configure either to display the login dialog or to automatically close the screen in the security settings.

4.1.26. Other [Screen Keyboard Switching]

・You can change the screen keyboard used with FH controller from the standard Windows keyboard to FH controller software's own keyboard function.

Executable file : OSK2.exe
OSK2Form.exe

Related Module : Win32API.dll

4.1.27. Other [Restrictions on explorer operations]

- The Part11 support mode restricts file operations using Windows Explorer on the FH controller.

4.1.28. Other [Restrictions on control panel operations]

- The Part11 support mode restricts Windows control panel operations on the FH controller.
- Date and time settings from the Windows taskbar are also restricted.

4.1.29. Other [Save confirmation dialog on remote operation tool]

- In the remote operation tool, when you execute Menu / File / Exit, the Save confirmation dialog will not be displayed.

4.2. Other functions

4.2.1. Window Manu [NTP Synchronization]

Name: : NTP Synchronization Manu

- This function synchronizes the date and time with an NTP server by enabling the NTP client on the FH controller.

4.2.2. Tool [NG Analyzer]

Name: : NG Analyzer

- Add an image classification button to the main screen of the NG Analyzer. Pressing the image classification button opens the image classification window. The image classification window has defect label setting and labeling tabs. On the defect label setting tab, create defect labels for classifying NG images by defect type. In the labeling tab, the judgment label that distinguishes OK images and NG images and the defect label created in the defect label setting tab are attached to the logging image.
- You can display the measurement results for each defect label on a radar chart and check whether the parameter adjustment for that defect label has been completed. You can open the parameter adjustment window for each defect label from the radar chart.
- You can select the Expression result of Expression 0 to 31 of the Calculation unit as the measurement parameter.

4.2.3. Tool [Configuration copy]

Name: : Configuration copy

- The initial value of “Registered image” in template “0. All” is changed to OFF.

4.2.4. Tool [Setting comparer]

Name: : Setting comparer

- This function allows you to check for settings differences between encrypted scene

data saved in the Part11 support mode.

- This function allows you to detect if there are changes in the unit macro processing units.
- You can export the detected difference data to a file in CSV format.

4.2.5. Tool [FH Data to Text]

Name : FH Data To Txt

- This function exports all FH parameters and settings into plain text files.
- This function can be used even when the compliance mode is “No standard support” mode.

4.2.6. Tool [Logging image transfer]

Name : Logging image transfer

- This function transfers logging images to the outside at once is added.

4.2.7. Window part [Login user display window]

Name : FZ_PanDA.UserWindow

Executable file : FZ-PanDA_AT.exe

- This function displays the user name and user group of the currently logged-in user.

4.2.8. Non-procedural command [Clear logging image]

Name : Clear logging image command

- This function clears logging images stored in the main memory.

4.2.9. Non-procedural command [Delete user group]

Name : Delete user group command

- This function deletes all accounts in the specified user group.

4.2.10. Non-procedural command [Initialize scene variables]

Name : This function initializes scene variables command

- This function initializes all scene variables for the current scene.

4.2.11. Non-procedural command [Initialize system variables]

Name : This function initializes system variables command

- This function initializes all system variables.

4.2.12. Fieldbus [GATE delay]

Name : EtherNet/IP

: PROFINET

- This function delays the output of the GATE signal.
- Available only in EtherNet/IP and PROFINET.

4.2.13. Fieldbus command [Clear logging image]

Name : Clear logging image command

- This function clears logging images stored in the main memory.
- Available only in EtherNet/IP and PROFINET.

4.2.14. Fieldbus command [Command to execute non-procedural command]

Name : Command to execute non-procedural command

- This function executes the non-procedural command entered in the user area (IN).
- The response of the executed non-procedural command is stored in response data and the user area (OUT).
- Available only in EtherNet/IP and PROFINET.

4.2.15. Fieldbus command [Initialize scene variables]

Name : Initialize scene variables command

- This function initializes all scene variables for the current scene.
- Available only in EtherNet/IP and PROFINET.

4.2.16. Fieldbus command [Initialize system variables]

Name : Initialize system variables command

- This function initializes all system variables.
- Available only in EtherNet/IP and PROFINET.

4.2.17. Fieldbus [User Area Expansion]

Name : EtherNet/IP

: PROFINET

- This function sets the size of the user area. The maximum size for both input and output are 256 bytes.
- Available only in EtherNet/IP and PROFINET.

4.2.18. PROFINET [Settings retention after software version upgrades]

Name : PROFINET

- This function maintains the PROFINET settings through the firmware upgrading.

4.2.19. Other [Logging image memory capacity expansion]

- Expand the amount of memory available for image logging to 19.2GB.
- This function is only for FH-5551.

5. Limitations and Precautions of This Software

Describe the limitation and precautions on the Part11 support mode.

5.1. Audit Trail Function

- The operation interface of electronic records recorded in Audit Trail is only USB mouse, USB keyboard, touch panel. The operation of electronic records from the communication interface such as Ethernet port, RS232C port, parallel cable, etc. are not recorded in Audit Trail.
- The scope of Audit Trail is only change of setting data by screen operation of the standard monitor and by screen operation of the remote operation tool. The Change to the setting data from communication commands and the Sysmac Studio tool and the .NET control tool are not recorded.
- Never turn off the power during Audit Trail data processing. It is not able to guarantee the correctness of data after restart.
- If writing Audit Trail is failed, an error message will be displayed.
- Depending on the kind of processing unit, it may take a long time to open the processing unit editing screen.
- The time taken for Audit Trail file output processing and Audit Trail deletion processing increases in proportion to the amount of data to be handled.
- The amount of data that can be stored in the FH controller itself as Audit Trail is up to 20 Mbytes on each line. When the data volume is exceeded, no record is added to Audit Trail. As the data remaining amount decreases, it will be notified in the dialog, so please execute the external file output and delete Audit Trail.
- Parameter changes not included in the recording target are not recorded in Audit Trail.
- If you change the data using the following functions that can cancel usage restrictions, it will not be recorded in Audit Trail.

  Tool: Communication command macro

  Tool: Scene control macro tool

  Tool: TDM Editor

  Tool: Setting comparer

  Processing item: unit macro*1

  Processing item: Unit calculation macro*1

Processing item: Set Unit Data*1,2

Processing item: Set Unit Figure*1,2

MDI window: Data grid

MDI window: login account display

MDI window: Display setting screen

MDI window: Text display

MDI window: macro trigger

MDI window: message box display

MDI window: numeric input

MDI window: Data setting button

MDI window: Simple data grid

*1 Changes in data during measurement are not recorded in Audit Trail. When limited function is set to OFF while added to the flow, cannot open the unit setting UI. However, measurements will be executed according to the settings.

*2 Changes in data on the unit setting UI are recorded in Audit Trail.

- Please use language mode in single language setting. In the case of Audit Trail that contains multiple languages, the PDF file may not be output correctly.
- When outputting a PDF file with the PC simulator, if an error message of insufficient font files is displayed, please install the font file displayed on the screen on the PC before using it.

5.2. Other Function

- Language mode is available in all 11 languages.
- Only "standard" and "multi line random trigger" are supported for operation modes. "Non-stop adjustment" and "double speed multi input" cannot be used.
- At the initial startup when "Multi Line Random Trigger" is set, restart of the FH controller is executed. For the PC simulator, please execute restart processing manually.
- The maximum number of accounts guaranteed to operate is 100 accounts.
- If the internal data of the FH controller is damaged and it cannot be read normally, it starts up with the setting data cleared.
- Be sure to use the same version as the customized software for the remote operation tool.
- The remote operation tool with different compliance modes cannot be connected.
- The following menu functions cannot be used.
  - Transfer data
  - Nonstop data transfer
  - Operation log
  - TDM editor
  - Setting comparer
  - Scene group saving destination setting
  - Setting upload and download tools
  - Layout upload and download tools
  - Image file save
  - Communication command macro
  - Flow viewer
  - Calibration support tool
  - Update standard position tool
  - Conversion scene group data tool
  - Scene control macro tool
  - Keyboard layout selection tool
  - Device information storage tool
- The following processing items cannot be used.
  - Unit macro
  - Unit calculation macro

Set unit data

Set unit figure

- The communication protocol to guarantee operation is as follows.

  Serial Ethernet: Normal (UDP)

  Serial Ethernet: Normal (TCP)

  Serial Ethernet: Normal (TCP client)

  Serial Ethernet: PLC link (SYSMAC) (UDP)

  Serial Ethernet: PLC link (SYSMAC) (TCP)

  Serial Ethernet: PLC link (MELSEC) (UDP)

  Serial Ethernet: PLC link (MELSEC) (TCP)

  Serial RS-232C: Normal

  Serial RS-232C: PLC link (SYSMAC)

  Serial RS-232C: PLC link (MELSEC)

  Fieldbus: EtherCAT

  Fieldbus: EtherNet/IP

  Fieldbus: PROFINET

- In the case of using the standard software or the customization software different from this software, on the FH controller installed this software or the PC using the simulator of this software, switch the compliance mode to "No standard support" mode in advance. There is no compatibility of the setting data.
- It is not compatible with lower software versions. In the case of using by downgrading, switch the compliance mode to "No standard support" mode in advance.
- Non-procedural command, the internal structure was changed in order to realize the Audit Trail recording process. The operation may differ from that of standard software, such as a delay in response time. There is no compatibility.
- Fieldbus(EtherNet/IP、PROFINET) command, the internal structure was changed in order to realize the Audit Trail recording process. The operation may differ from that of standard software, such as a delay in response time. There is no compatibility.
- Modified items [Restrictions on explorer operations], [Restrictions on control panel operations] are intended to limit file and OS access methods to operations on the FH software. These items do not guarantee the prevention of operations due to unauthorized access, etc.
- When using the Remote Operation Tool (ROT), the displayed language of the time

zone selections depends on the OS environment of the PC running ROT.

- The image classification window cannot be opened with a folder containing 3001 or more images selected.
- To use Setting Comparer, you need to enable the function in the Detailed compliance settings. Even if you change the scene settings with this tool, the changes will not be recorded in the Audit Trail log.
- When using the FH Data To Text Tool, following restrictions are applied.
  - This tool cannot be used with the remote operation from a PC.
  - This function does not change the "Electronic records" in the FH Part11 support mode. Therefore, the operation of this tool is not recorded in Audit Trail.
  - For scene data, only unit data with the attribute of "Set/Get" in the external reference tables of the processing items can be saved. It is not possible to detect changes in model data from the exported text file.
  - This function cannot be used when the FH controller is measuring. Check that measurement is not in progress before starting this tool.
  - Both the Detailed compliance settings and the Security setting are required to completely disable this function.
- Do not use the Logging image memory capacity expansion function other than FH-5551. If you use it other than FH-5551, the software will fail to start.

  Although the remaining physical memory capacity may increase while the controller is in use, the physical memory capacity that can be used for setting data does not change. Determine whether the remaining physical memory capacity is insufficient or not by checking whether a memory warning is displayed.

6. Request Item List

6.1. Part11 support functions

With regard to 21 CFR (Part 11) that pharmaceutical equipment and food and beverage manufacturing equipment must satisfy, it aims to support the start-up and operation of manufacturing equipment by Audit Trail function and security function including account management.

Please refer to Appendix A, "Supported Part 11 terms" for terms supported by this customized software.

No.	Request item	Background	Corresponding function
1	Record, display, output and delete Audit Trail	Correspondence to the 21 CFR (Part 11)	Audit Trail function
2	Enhance account management rules	Correspondence to the 21 CFR (Part 11)	Security function

6.2. Other functions

6.2.1. NTP Synchronization

The purpose is to easily synchronize the time of all devices in a machine through the NTP function.

No.	Requested item	Background of demand
1	FH acts as NTP client and synchronizes time with NTP server.	Accuracy of time information in Audit trail logs is important. Time synchronization must be possible only by the FH system settings, without using communication commands.
2	Time zone can be set in the FH system setting.	Since NTP is set in Coordinated Universal Time (UTC), the time zone must be set in advance for the time displayed and output by FH to be local time.
3	NTP synchronization interval can be set in the FH system setting.	To support operations in which time synchronization is performed daily to maintain small time deviations between devices.

6.2.2. NG Analyzer

Using the external tool "NG Analyzer", you can classify logging images into OK images and NG images, and create defect type labels to classify NG images by defect type. It is also possible to check measurement results and adjust measurement parameters for each defect type label.

No.	Requested item	Background of demand
1	It is necessary to adjust parameters for each defect type using an external tool "NG Analyzer" and re-measure OK images and NG images all at once.	OK images and NG images for each defect type are divided into folders and remeasured for each folder, so it is not possible to check the results of OK images and NG images at once, and it takes time to adjust parameters. .
2	It should be possible to display the radar chart and check the results for each defect type at once.	If there are many defect types, it may become unclear which defect type has not been adjusted yet.
3	It should be possible to select calculation processing items from Expression 0 to Expression 31 as measurement parameters.	Macro calculation results may be set in Expression 0 to 31 of calculation processing items and treated as measurement parameters.

6.2.3. Setting comparer

Encrypted scene data created and saved in the Part11 support mode can be handled by the Setting Comparer.

No.	Requested item	Background of demand
1	Enable the encrypted scene data created in the Part11 support mode to be compared with the Setting Comparer.	The integrity of setting data is ensured by enabling confirmation of changes in scene data including measurement settings.
2	Enable Setting Comparer to detect changes in unit macros.	To manage changes even in scene data that uses a lot of macros.
3	Differences in scene data detected by Setting Comparer can be export to a file	To prepare for an audit by outputting a report on changes to setting data.

6.2.4. FH Data to Text

The purpose is to monitor changes in the FH controller settings with an external system. For that purpose, output the FH setting data in plain text.

No.	Requested item	Background of demand
1	Enable to output FH setting data in plane text remotely by external command.	To enable plain text comparison of FH setting data and detection of changes made to the FH during equipment operation. The customer does this remotely rather than through FH's UI operation.
2	Enable to output FH setting data in plane text by UI operation.	There may be customer requests to be able to accept data output by UI operation.

6.2.5. Logging Image transfer

Transfer Images logged to the FH controller to external storage or FTP server at once.

No.	Requested item	Background of demand
1	Transfer Images logged to the FH controller to external storage or FTP server at once.	In order to use the logging images offline, it is necessary to transfer them all at once.

6.2.6. FZ_PanDA.UserWindow

Displays the username and user group of the currently logged-in user.

No.	Requested item	Background of demand
1	It should be possible to display the username and user group of the currently logged-in user on the screen.	To confirm the username and user group of the currently logged-in user without any screen operation.

6.2.7. Clear logging image command

Clear logging images with non-procedural and Fieldbus (EtherNet/IP, PROFINET) commands.

No.	Requested item	Background of demand
1	It should be possible to clear logging image via communication from external devices.	After changing the product type, it can be confusing if the logging images from before the switch remains.

6.2.8. GATE ON delay of Fieldbus

Turn on the GATE signal after a delay from the data output of the Fieldbus (EtherNet/IP, PROFINET).

No.	Requested item	Background of demand
1	It should be possible to delay the truning on of the GATE signal.	To synchronize the OR signal with the GATE signal.

6.2.9. Command to execute non-procedural command

Execute the non-procedural commands stored in the user area (IN) via Fieldbus (EtherNet/IP, PROFINET).

No.	Requested item	Background of demand
1	It should be possible to execute user operation commands, setting save/load commands, etc., via Fieldbus	Since there are no commands defined in Fieldbus that take a string as an argument, using non-procedural communication. It should be possible to control it

	(EtherNet/IP, PROFINET).	exclusively through Fieldbus.

6.2.10. User Area Expansion

Expand the Fieldbus (EtherNet/IP, PROFINET) user area to a maximum of 256 bytes for both input and output.

No.	Requested item	Background of demand
1	It should be possible to execute the command to execute non-procedural commands even when it takes long strings as arguments.	The user area is used for the command to execute non-procedural commands, but the size of the user area is 32 bytes, so it cannot accommodate long usernames and passwords. It should be possible to expand the user area to a maximum of 256 bytes to allow for longer usernames and passwords.

6.2.11. Maintaining PROFINET settings through the firmware upgrading

Maintain PROFINET settings through the firmware upgrading.

No.	Requested item	Background of demand
1	It should be possible to maintain PROFINET settings through the firmware upgrading.	When the software version is upgraded, PROFINET settings (assigned names, etc.) are discarded and must be reconfigured.

6.2.12. Logging Image memory capacity expansion

Expands the memory capacity for logging images to 19.2 GB.

No.	Requested item	Background of demand
1	Expands the memory capacity for logging images to 19.2 GB.	By using logging images saved in memory, you can adjust flow settings more efficiently. However, if the number of cameras or the number of pixel size is large, the capacity will not be enough. Therefore, the memory capacity needs to be expanded from 256MB to 19.2GB.

7. Software Installation

7.1. Installation Notes

Please set up compliance mode (former name: Part11 mode) to no standard support mode (former name: invalid) in the case of the FH controller with sample software of customized number FH17EU001 or FH19JPK011, FHV719JPK002 installed, before this software is installed. It may not work properly after installation.

7.2. Installation Method

(1) Unzip the installer zip file of this software on the USB memory or SD root folder.
(2) Insert the above USB memory or SD into the FH controller and turn on the power of the FH controller.
(3) The installation screen starts. Follow the instructions on the screen.
(4) After installation, select "Compliance" tab in "Tool --> Security setting" in the menu bar and change to "Part 11 support mode". After changing the setting, restart processing is executed automatically.
    * At this time, all the setting data inside the FH controller will be initialized.

7.3. Notes on Switching Compliance Mode

- There are two modes in compliance mode. This customized software is based on the assumption that used in the "Part11 support mode".
- When switching compliance mode, all data in the FH controller will be deleted. If necessary, please save the backup in advance.
- When the compliance mode is switched to "Part 11 support mode", the FH controller automatically restarts. Because the restart process is executed about 5 times, so please wait until the language setting menu is displayed, do not turn off the power.
- The PC simulator will not automatically restart. Since a message urging reboot is displayed, repeat PC simulator startup until the language setting menu is displayed.
- There is no compatibility of setting data between different compliance modes. For example, it is not possible to load the scene data created with standard software to customized software, or load system settings created with customized software to standard software.
- The remote operation tool with different compliance modes cannot be connected. When the compliance mode is switched, use the remote operation tool that is

dedicated to each mode.

7.4. Initial Setting after Installation

Describe the first time setting recommended in Part 11 support mode.

No	Overview	Detailed operation
1	Date and Time setting	· Select Tool --> System Setting. · From the tree menu, select "Date-time setting". · Change the setting and press "Apply" button. · Save setting and restart.
2	Initial account password change	· Select Tool --> Security Setting. · Login with an initial account “Administrator” (password: Administrator). · Select Administrator in the account list and press the "Change password" button. · Enter the new password and press the "OK" button. · Press the "Close" button.
3	Password policies change	· Select Tool --> Security Setting. · Login as an initial account “Administrator”. · Press "Password advanced settings" button. · Change the password policy and press the "OK" button. · Press the "Close" button.
4	A line designer account addition	· Select Tool --> Security Setting. · Login as an initial account “Administrator”. · Press the "Add user" button. · Enter the account name and password, select UG 0 and press the "OK" button. · Press the "Close" button.
5	An operator account addition	· Select Tool --> Security Setting. · Login with a line designer account. · Press the "Add user" button.

No	Overview	Detailed operation
		・ Enter the account name and password, select UG 1 to 7, and press the "OK" button. ・ Press the "Close" button.
6	Audit Trail setting	・ Select Part11 --> detailed compliance setting. ・ Login with a line designer account. ・ Select output file format (PDF, CSV).
7	Security parameter setting	・ Select Tool --> Security Setting. ・ Login with a line designer account. ・ Enable all check boxes for use of layout 0 to 8. ・ Enable all check boxes for command restrictions. ・ Press the "Close" button.

8. Part11 support Functional Specification

8.1. Audit Trail Function

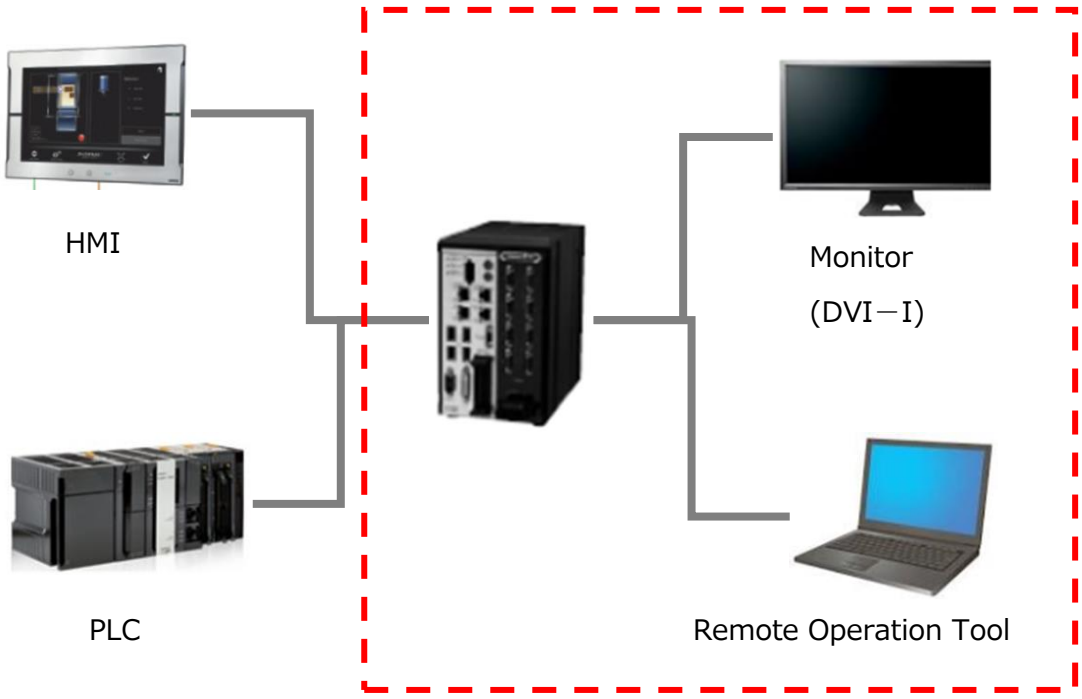
This chapter describes the definition of data to be recorded as Audit Trail, the system configuration to be recorded, and the recording specification.

8.1.1. Definition of Electric Record

In this customized software, "setting data that the result data from FH controller changes" is defined as electronic records. With Audit Trail function, changes of electronic records are recorded in the FH controller.

8.1.2. System Configuration

The system configuration in which change of electronic records is recorded is "user operation from standard monitor" and "user operation from the remote operation tool". Changes of electronic records from other interfaces are not recorded as Audit Trail.
The figure below shows a schematic diagram of the support range of Audit Trial.



8.1.3. Recording Specification

Define the recorded data according to the following policies.

- To be able to identify changed electronic records.
- The date and time information when the electronic record was changed can be identified.
- The operator who changed the electronic record can be identified.
- Before and after the change of the electronic record can be identified.

Recorded data consists of five fields.

Field	Item	Content
1	Batch No.	batch number
2	Date	System date and time of the FH controller during recording. [*] is appended to the end of the field, when the operating is from the remote control tool.
3	User	Operated logged-in account name In the non-login state, this field records [NoUser].
4	Scene Group No (title)	Scene group number and name at the time of recording
5	Scene No (title)	Scene number and name at the time of recording
6	Message	Changes in electronic records Refer to Appendix B "Audit Trail Recorded Data Specification" for details.
7	Comment	Entry comment when processing unit setting/system setting is changed * Entry comment can be entered only when "Input entry comment" in the detailed compliance settings is ON.

8.1.4. Communication Commands Recording Restrictions

In non-procedural and Fieldbus communication commands, Audit Trail can be individually set whether to record. Setting it to OFF will record the Audit Trail, while setting it to ON will not. Fieldbus commands are applicable only to EtherNet/IP and PROFINET. Appendix C provides detailed parameters for Audit Trail restrictions on communication commands.

8.1.5. File output specification (PDF file format)

Item	Value
Reading authority	Valid
Print authority	Valid (high precision printing)
Copy authority	Valid
Edit permission	Invalid
File open password	No setting
Change permission password	Private
Encryption level	128bit RC4
Page setting	A4 (Landscape)

When outputting as a PDF file, if "Input general comment" in Detailed compliance settings is ON, a dialog for general comment input will be displayed. The entered general comment will be written at the top of the output PDF file.

8.1.6. File output specification (CSV file format)

Item	Value
Field separator	Comma
Record separator	CR+LF

When outputting as a CSV file, a checksum file is generated in the same directory as the file output destination unless “Add checksum file” in Detailed compliance settings is set to “None”. The checksum method can be selected from MD5/SHA1/SHA256/SHA384/SHA512.

8.1.7. Delete specification

Deletes Audit Trail saved in the FH controller. Deletion processing can be executed only after successful file output.

8.1.8. Auto save function

When the FH controller configuration has changed, it is automatically saved the current settings in the non-volatile memory in the FH controller.

If the settings are changed for operations that do not record Audit Trail, need to manually

save them. Auto save is not performed when changing settings with the following tools in Limit function of Detailed compliance setting.

・Macro function

・User Dialog function

・Customized MDI window function

・TDM Editor function

・Setting comparer function

・Set Unit Data/Set Unit Figure function

The parameter of the auto-save function is saved as system data.

Parameter	Content
Auto save setting	0：OFF (Default) 1：ON

8.1.9. Usage Constraint Cancellation Function

It is a function that can be changed so that it can be used depending on user judgment for some use prohibited functions. The constraint resetting configuration parameters are saved as system data.

Changes to electronic records due to functions that have released usage restrictions are not recorded in Audit Trail.

Parameter	Content	Detail
Macro function	0：OFF (Default) 1：ON	When set to ON, the following functions can be used. ・ Communication Command Macro ・ Scene Control Macro Tool ・ Unit Macro ・ Unit Calculation Macro
User Dialog function	0：OFF (Default) 1：ON	When set to ON, the following functions can be used. ・ Custom Dialog Tool ・ Custom Dialog Note that changes to the electronic record made by this function are saved in Audit Trail.
Customized MDI window function	0：OFF (Default) 1：ON	When set to ON, the following functions can be used.

		・ DataGrid ・ DispLoginUser ・ DispSetupBtn ・ McrTrigger ・ MsgBox ・ NumBox ・ SetDataBtn ・ SimpleDataGrid
TDM Editer function	0 : OFF (Default) 1 : ON	When set to ON, the following functions can be used. ・ TDM Editer
Setting comparer function	0 : OFF (Default) 1 : ON	When set to ON, the following functions can be used. Setting comparer
Set Unit Data/Set Unit Figure function*	0 : OFF (Default) 1 : ON	When set to ON, the following functions can be used. ・ Set Unit Data ・ Set Unit Figure

* Data changes made in unit setting UI will be recorded in Audit Trail.

8.1.10. Disable USB/SD drive Function

This is a function that does not recognize the USB/SD inserted in the FH controller as an external drive. To reflect the settings, save the main unit and restart.

Parameter	Content
Disable USB/SD drive	0 : OFF (Default) 1 : ON

8.2. Security Function

In this chapter, describe the security function parameters, data specifications and operation specifications.

8.2.1. Parameter List

It lists parameters related to the security function.

Item	**Content**	**Detail**
User common data	Parameters common to all users	· Extended password setting · Logout time setting on no operation · In flow edit and unit setting UI, behavior upon automatic logout
User group common data	Parameters common to each user group	· Layout usage restriction setting · Operation authority setting
Account individual data	Parameters defined for each user account	· account name · Affiliated user group · Password string · Password registration date and time · Usage history of password string · Locked state · Continuous login failure count

8.2.2. Data Specification

<User common data>

Item	**Content**	**Detail**
Password minimum length check	0 : OFF (Default) 1 to 255 : ON	Set the rule of password string length that can be used. A password with a character string

Item	Content	Detail
		length shorter than the setting value cannot be used. The password string is checked, when registering account, login, changing password. The initial value when switching to ON setting is 1.
Mixed password character type check	0 : OFF (Default) 1 : ON	Set rules for the character type used for the password. Of the three character types of letters, numbers and symbols, the password using only one type cannot be used. Letters: A to Z, a to z Numbers: 0 to 9 Sign: !#$%&~?@=/*-+_. The password string is checked, when registering account, login, changing password.
Password validity period check	0 : OFF (Default) 1～999 : ON	Set rules for the period during which the password can be used. If the difference between the current date and the registration date is over the set value, it will be the password that passed the expiration date. The date is checked, when login. The initial value when switching to the ON setting is 30.
First time login check	0 : OFF (Default) 1 : ON	Force password change at first login. Check at login.
Number of times to disable past passwords	0 : OFF (Default) 1～60 : ON	Set the number of past password strings to be prohibited. It checks when changing the password. The initial value when switching to the ON setting is 12.
Continuous login failure count	0 : OFF (Default) 1～99 : ON	Set the number of login failures to lock the account. The account is locked when the number of consecutive login failures becomes equal to the set value. The initial value when switching to the ON setting is 5.
No operation logout time	1 to 999 (Default : 10)	If there is no screen operation for more than the set value, it automatically logs out. The

Item	Content	Detail
		setting unit is minutes.
Operation at logout on Edit flow or Unit setting	0 : Display login dialog when changing settings (Default) 1 : Automatic closing of settings UI	The behavior upon automatic logout is as follows. 0: Displays the login dialog when settings are changed. 1: Automatically closes the screen.

<User group common data>

Item	Content	Detail
Layout restriction	0 : OFF (Default) 1 : ON	For each user group, set the available layout functions. It is checked when each function is used.
Operation restriction	0 : OFF (Default) 1 : ON	For each user group, set the available operation functions. It is checked when each function is used.
Command restriction	0 : OFF (Default) 1 : ON	For each user group, set the available Non-Procedure commands. It is checked when each function is used.

<Account individual data>

Item	Content	Detail
User name	Maximum 20 characters	A string indicating the user account name. It can be set only when registering an account.
User group	0 to 8	The user group number to which an account belongs. It can be changed by UG0 account only.
Password string	Up to 255 characters	Current password string. It can be changed own password at any time. The UG0 account can change the password of another account.
Password registration date	Date information	This is the date and time information that set the current password. It is automatically updated when password is changed. It cannot be checked from

Item	Content	Detail
		outside.
First login information	0 : Not logged in 1 : Logged in	This is the current password and indicates whether an account has already logged in. It is automatically updated when login is successful. When password is changed by another account, it is updated to the not logged in state. When the first time login check of user common data, it is updated to the not logged in state. It cannot be checked from outside.
Locked state	0 : Normal 1 : Locked	It is information indicating whether the account is locked. It automatically updates when login fails consecutively. Locked state is change to the normal state by unlocking operation. When the number of consecutive login failures of account individual data exceeds the set value after changing user common data, it is updated to lock status. It can be check on the security setting screen.
Continuous login failure count	0 to 99	It is the number of consecutive unsuccessful login attempts. It is added when login fails. It will be updated to 0 on successful login. It cannot be checked from outside.
Password history	Maximum value: Number of continuous login failure count times of user common data	It is a password string used in the past. It will be updated automatically when password is changed. When changing user common data, data exceeding the maximum value is deleted. It cannot be checked from outside.

8.2.3. Communication Command Macro

<User Account Operation macro>

Function	Description
_UserLogin	Executes the login process. "_UserLogin", <username>, <password> (, <acquisition target>) -Specify the acquisition target as an integer (0: Local 1: Remote). It can be omitted, and if omitted, it will be treated as local. Ex : setusersubroutine "lol0","UserAccount.dll","_UserLogin" call "lol0","Administrator","Administrator"
_UserLogout	Executes the logout process. "_UserLogout" (, <acquisition target>) -Specify the acquisition target as an integer (0: Local 1: Remote). It can be omitted, and if omitted, it will be treated as local. Ex : setusersubroutine "lol1","UserAccount.dll","_UserLogout" call "lol1" If there is no logged-in user, it ends normally without taking any action.
_GetUserLoginInfo	Gets the information of the current logged-in user. "_GetUserLoginInfo", <variable name> (, <acquisition target>) -Set the variable name as a character string. This variable stores the current login username. -Specify the acquisition target as an integer (0: Local 1: Remote). It can be omitted, and if omitted, it will be treated as local. Ex : setusersubroutine "lol2","UserAccount.dll","_GetUserLoginInfo" call "lol2","USERN$" ＊The format for "USERN$" is <username>,<position group>
_GetUserLoginInfo2	Gets the information of the current logged-in user. "_GetUserLoginInfo", <variable name> (, <acquisition target>) -Set the variable name as a character string. This variable stores the current login username. -Specify the acquisition target as an integer (0: Local 1: Remote). It can be omitted, and if omitted, it will be treated as local. Ex : setusersubroutine "lol2","UserAccount.dll","_GetUserLoginInfo" call "lol3","USERN$" ＊The format for "USERN$" is <username>
_SetUserAccount	Add a user account. "_SetUserAccount", <username (UG0)>, <password (UG0)>, <username>, <group ID>, <password> Ex : setusersubroutine "lol3","UserAccount.dll","_SetUserAccount" call "lol4","Administrator","Administrator","abc",1,"123"

_DeleteUserAccount	Delete the user account. "_DeleteUserAccount", <username (UG0)>, <password (UG0)> Ex : setusersubroutine "lol4","UserAccount.dll","_DeleteUserAccount" call "lol5","Administrator","Administrator","abc" If the user account to be deleted does not exist, it ends normally without taking any action.

8.3. Screen Keyboard Switching

This section describes the operation specifications of the FH controller's own On Screen Keyboard and how to switch keyboards. For the UI screen specifications, please refer to Section 9.11 "Screen Keyboard Setting Screen.".

8.3.1. Operation Specifications

The primary differences of the FH controller's own On Screen Keyboard from the standard Windows On Screen Keyboard are as follows.

- It is displayed when the USB keyboard is not connected.
- When the On Screen Keyboard is displayed, it will not be displayed in the Task Bar.

8.3.2. How to Switch Keyboards

To enable switching to the On Screen Keyboard, the following system data settings are changed.

Identifier 0	Identifier 1	Description
PanDA	oskDisabled	When 0: Use standard Windows On Screen Keyboard. When un-set, or other than 0: Use FH controller software On Screen Keyboard.

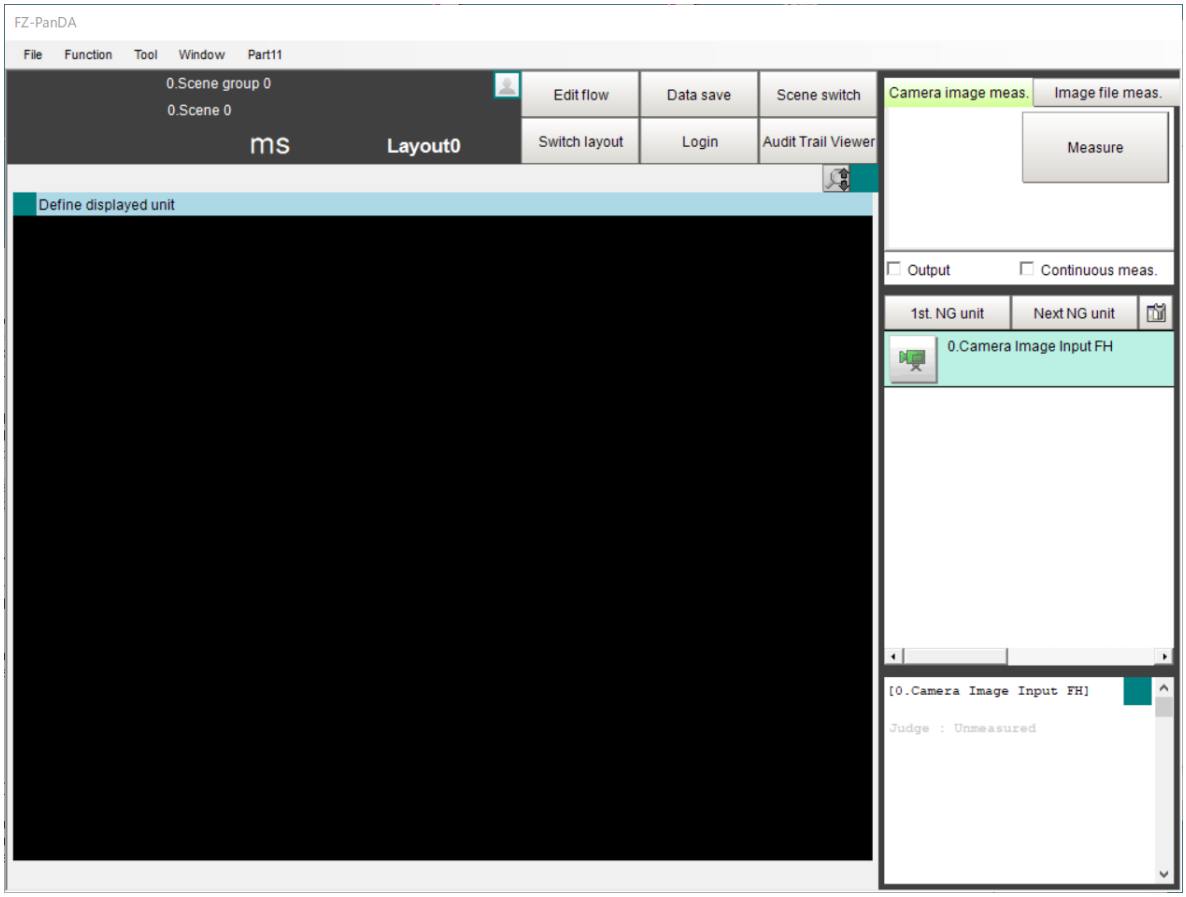
9. Part11 support Screen Specification

In this chapter, describe screen specifications that is added or modified with this customized software. Other screen specifications are the same as standard software.

9.1. Main Window Screen

It is the screen which becomes the base of user operation of customized software.
It is displayed at software startup.
Changes from the standard software are two of the following.

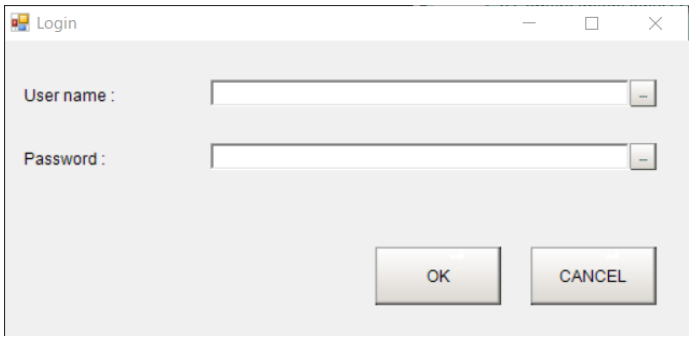
- Inactivate display disable function of menu bar
- Add “Part11” menu to menu bar



9.2. Login Screen

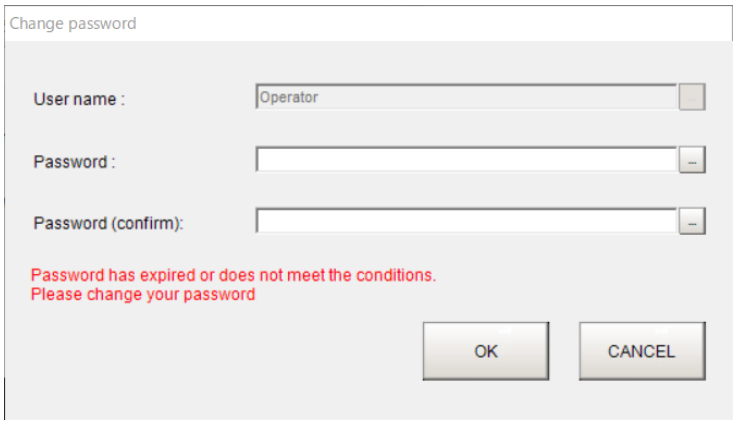
This is the screen for logging in with a registered account.

It is displayed when select “login” of the Part11 item in the menu bar, without logging in any account.



- In the user name, enter the registered account name string.
- In the password, enter the password string of the account entering in the user name.
- Press the [OK] button, login processing is executed.
- If the login fails, an error message will be displayed.
- If the login is successful and the password is valid, the screen is closed.
- If the login is successful and the password is invalid, the password change screen will be displayed.

<Change password screen>

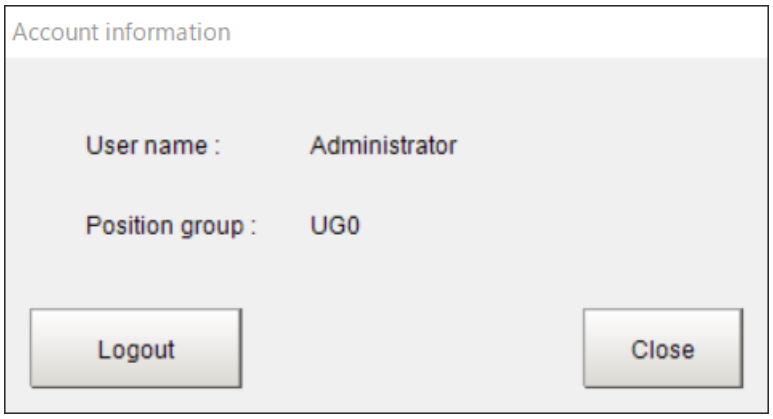


- In the password, enter a new password string.
- In the password (confirmation), enter the same character string as the password.
- Press the [OK] button, password change processing is executed.

9.3. Logout Screen

This is the screen for logging out with the logged in account.

When one of the accounts is logged in, it will be displayed when “logout” of the Part11 item on the menu bar is selected.

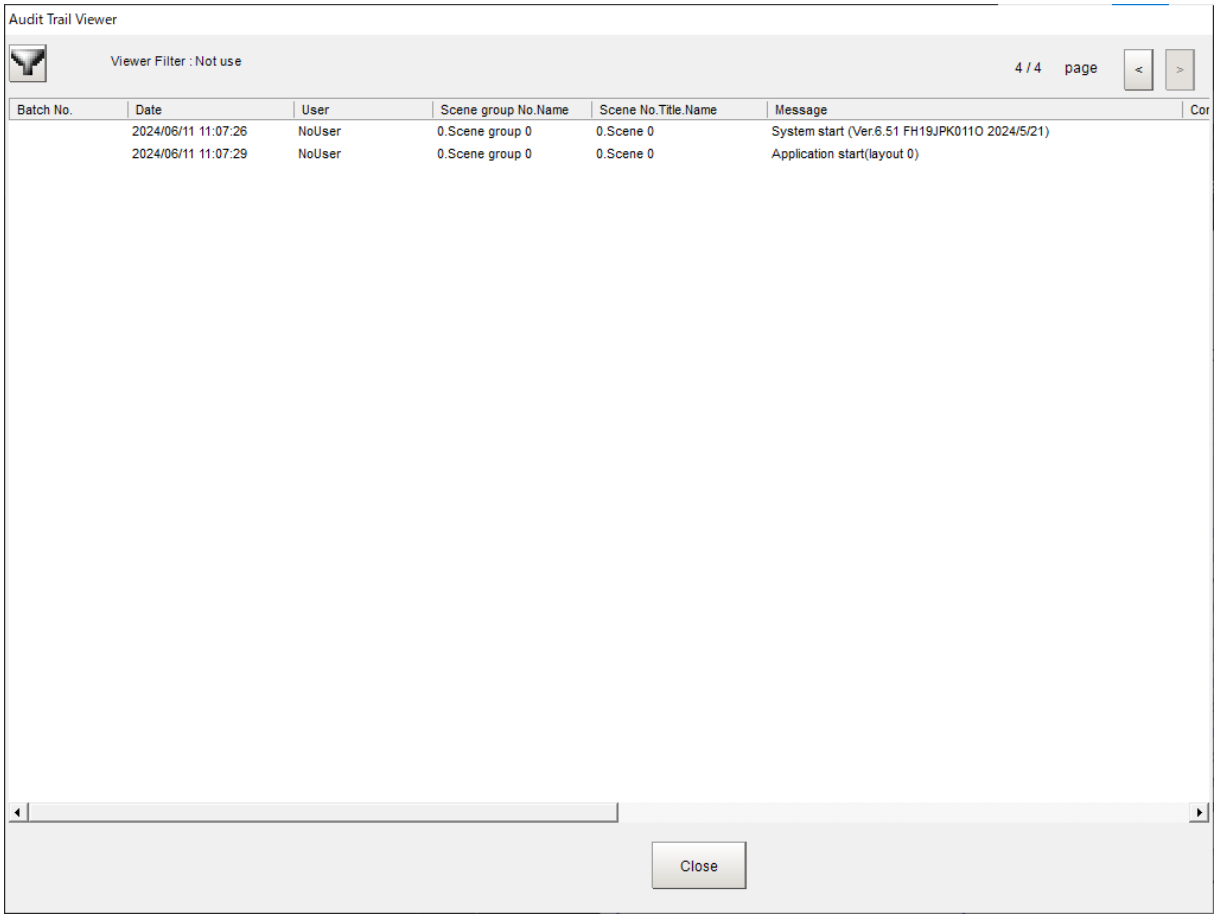


・ Press the [Logout] button, the logout process is executed.

9.4. Audit Trail Viewer Screen

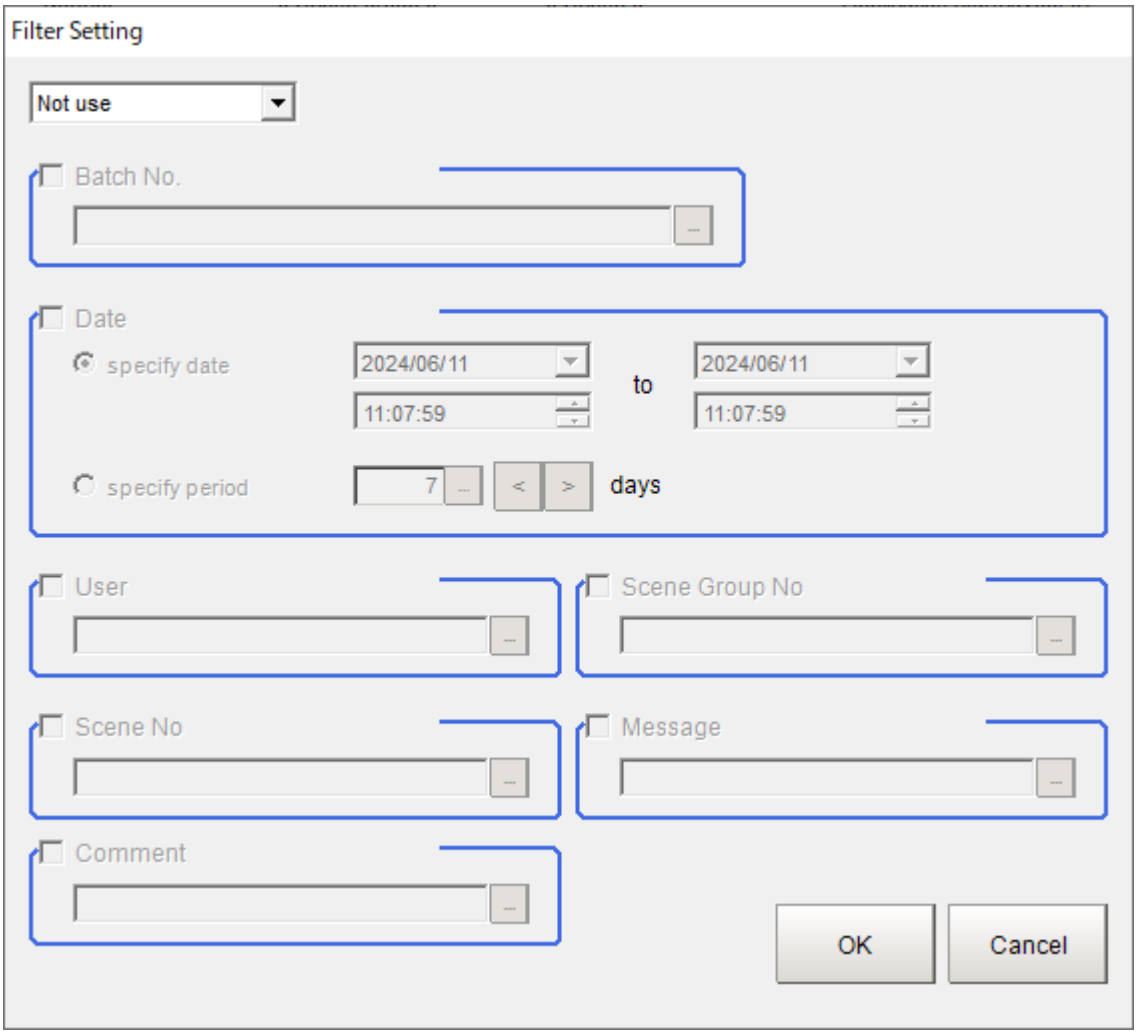
This is the screen for displaying Audit Trail saved in the FH controller.

It is displayed when “Audit Trail Viewer” of Part11 item of the menu bar is selected.



- When the screen is displayed, the last page is displayed.
- Switch the page by button operation in the upper right.
- Only audit trails extracted by the Audit Trail Export filter setting are displayed.
- By operating the button on the upper left, you can set a filter to further narrow down the Audit Trail to be displayed.
- The maximum number of display for each field is 260 characters.

<Filter Setting>

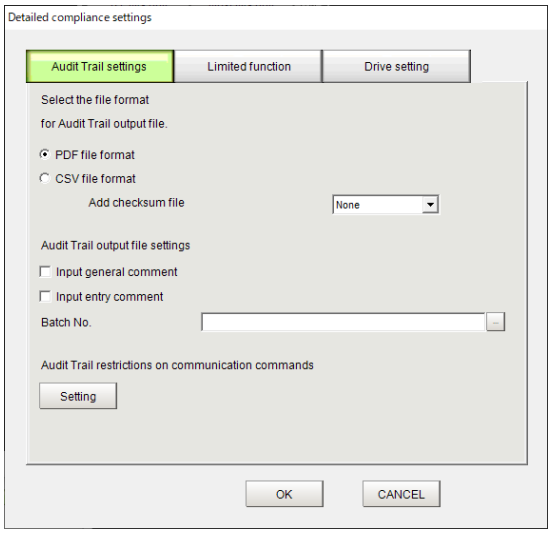


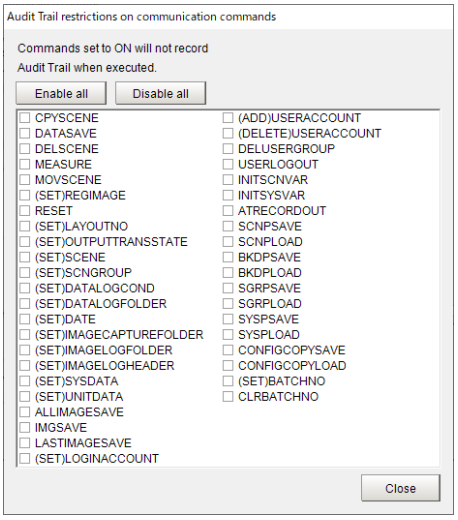
- The filter to use can be select with the control on the top left of the screen. If “Not use”, no filter is set. Five patterns of filters from “Filter0” to “Filter4” can be set.
- Filter conditions can be set with Batch No./Date/User/Scene group No/Scene No/Message/Comment.
- After setting the filter and pressing the OK button, only the Audit Trail corresponding to the filter setting will be displayed on the Audit Trail Viewer screen.

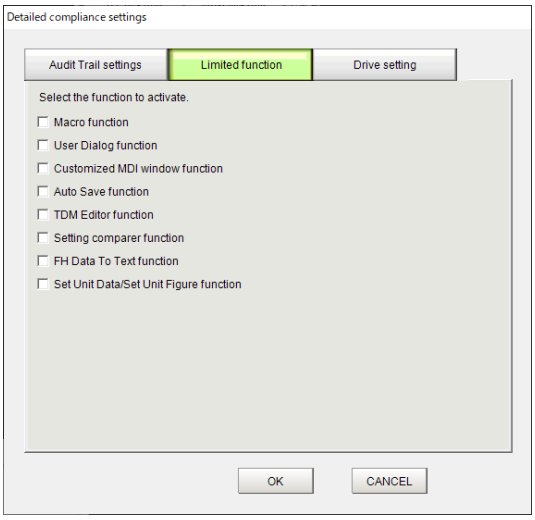
9.5. Detailed compliance settings Screen

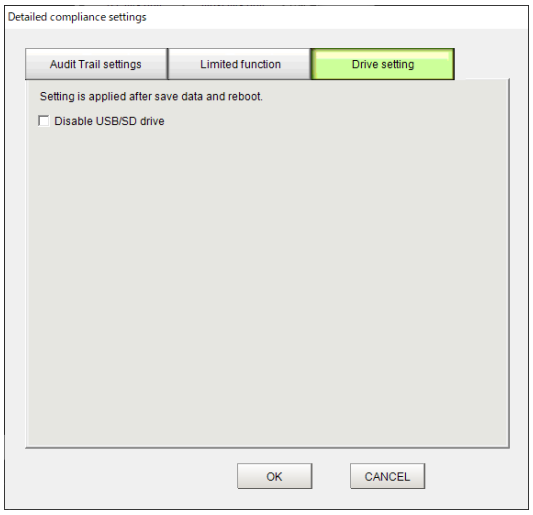
This is a screen for setting parameters related to Audit Trail.

It is displayed when “Detailed compliance settings” of Part11 item of the menu bar is selected.









- Only UG0 account can operate this screen. When selecting a menu, the login dialog will be displayed.
- Switch the displayed menu by tab operation at the top.
- Press the [OK] button, the setting change processing is executed and the screen is closed.

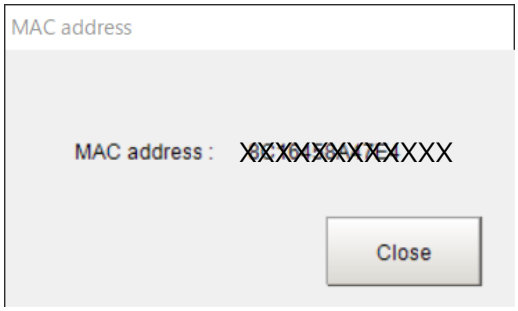
9.6. MAC Address Display Screen

This is the screen for displaying the MAC address of the machine on which this customized

software is running.

It is displayed when “MAC address” of Part11 item of the menu bar is selected.

The displayed MAC address character string is recorded in the Audit Trail for saving and loading the setting data file.

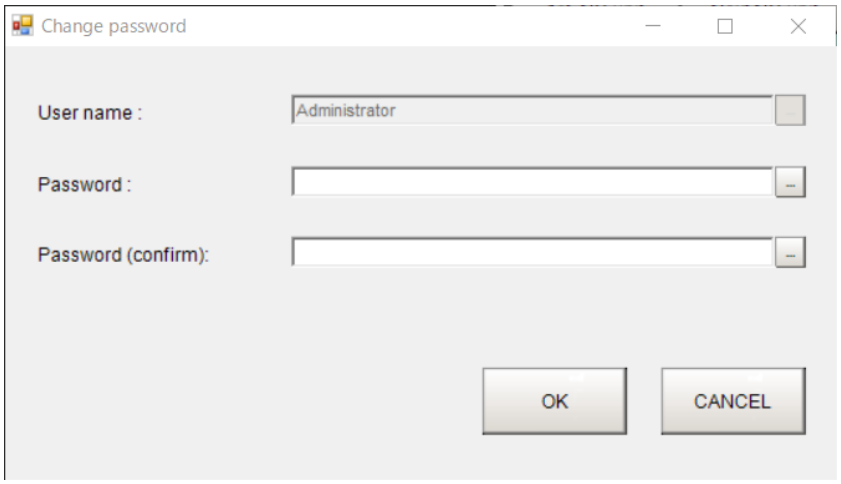


- Click the [Close] button to close the screen.

9.7. Password Change Screen

This is the screen for changing the password of the login account.

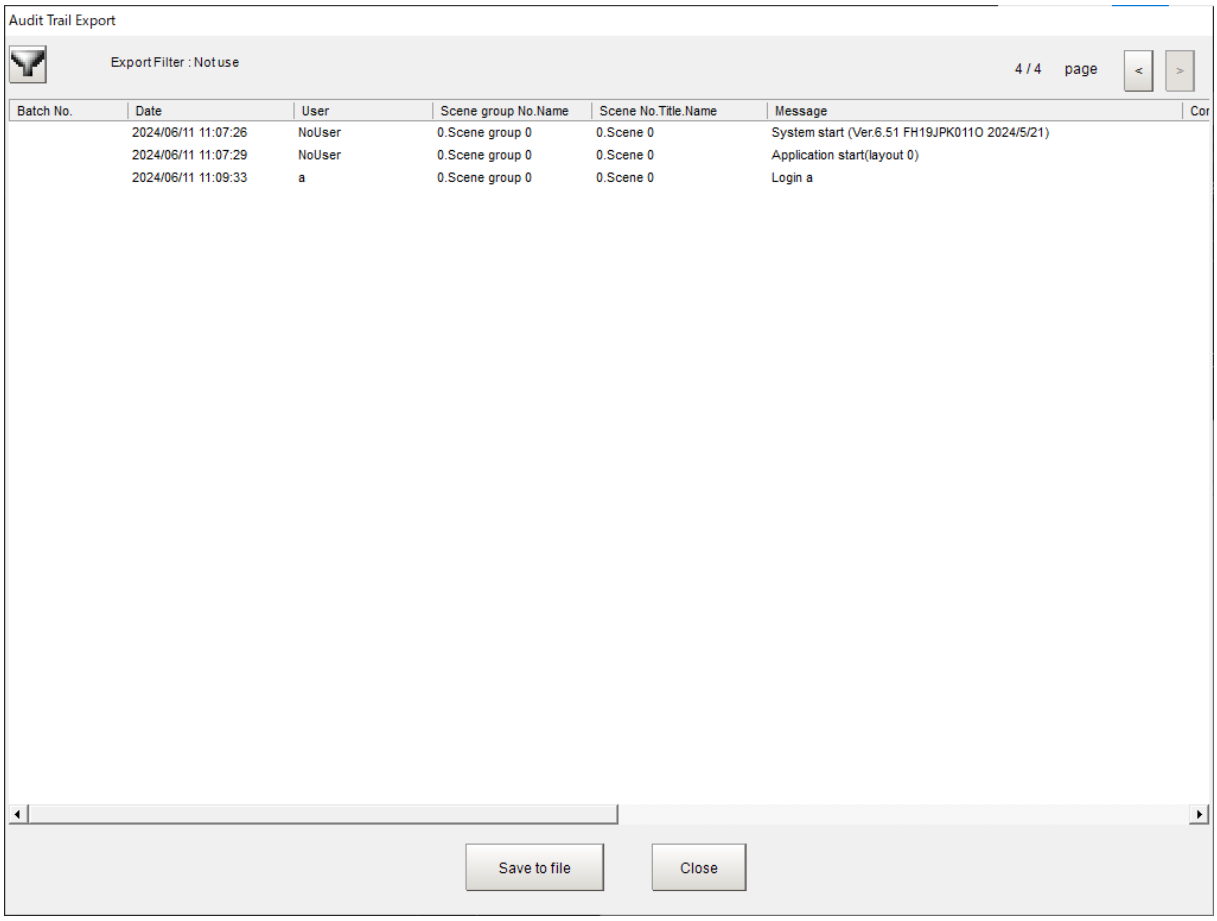
It is displayed when “Change password” of Part11 item of menu bar is selected.



- In the password, enter a new password string.
- In the password (confirmation), enter the same character string as the password.
- Press the [OK] button, password change processing is executed.

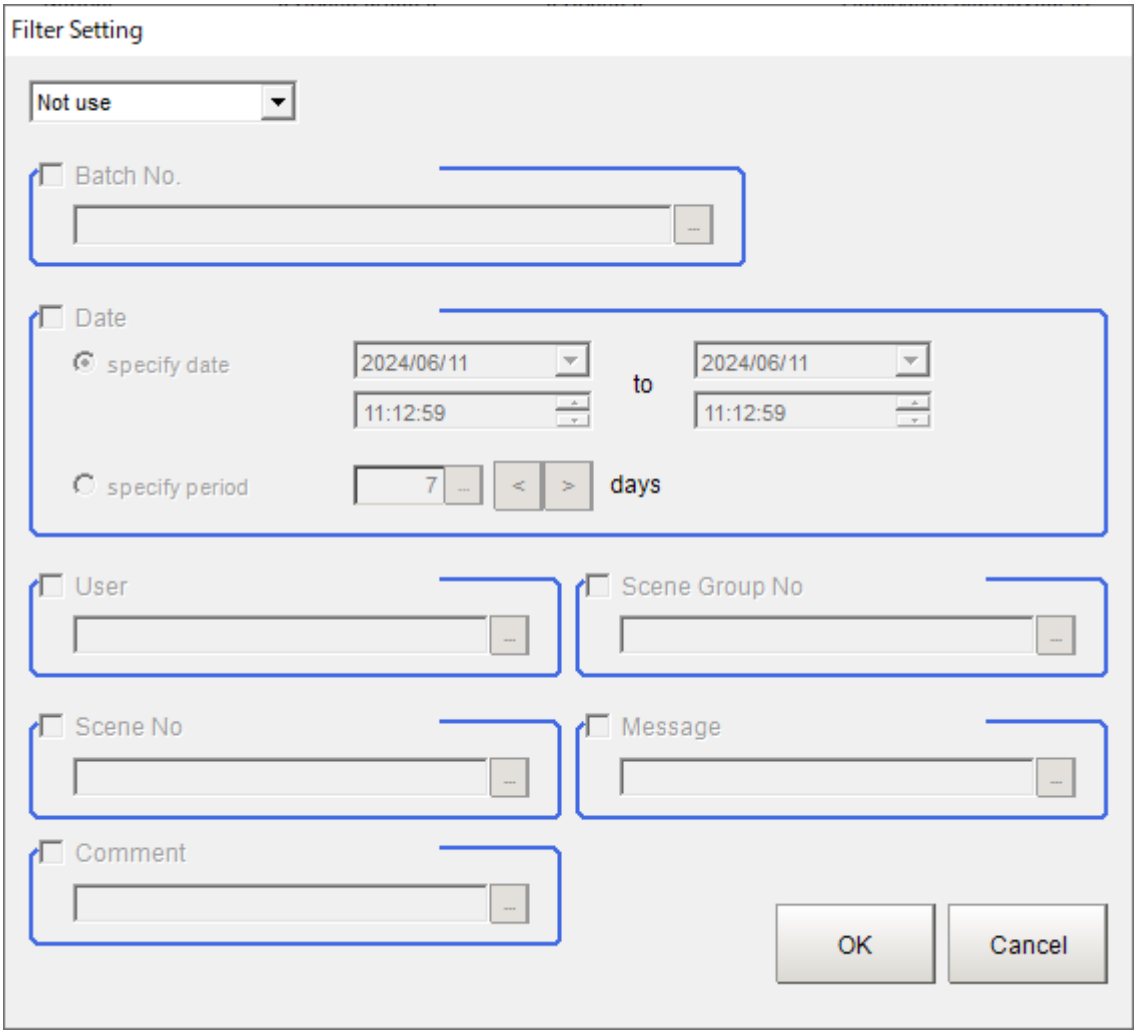
9.8. Audit Trail Export Screen

This screen is for outputting the Audit Trail saved in the FH Controller to a file. This is displayed when you select “Audit Trail Export” from the Part 11 item on the menu bar.



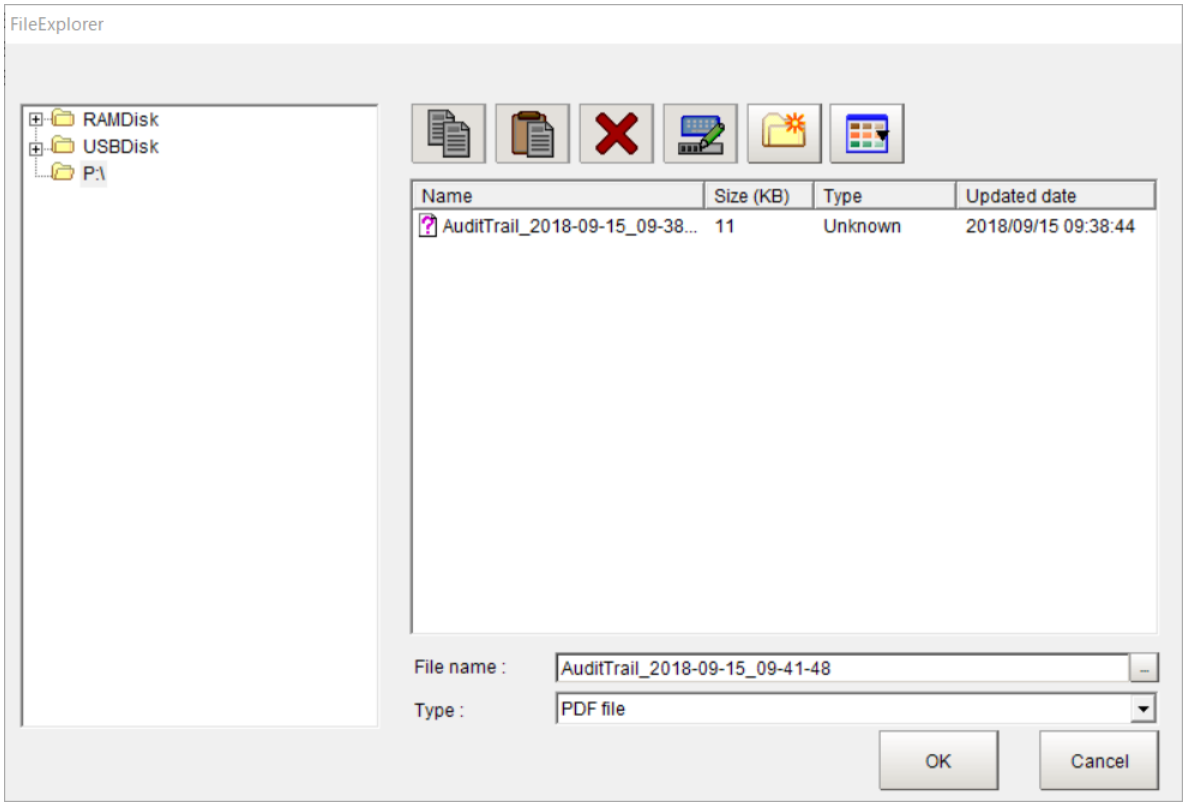
- When the screen is opened, the last page is displayed.
- Switch the page by button operation in the upper right.
- By operating the button on the upper left, you can set a filter to narrow down the Audit Trail to be displayed and output to a file.
- Click the [Save to file] button, the file explorer is displayed.
- The maximum number of display for each field is 260 characters. Even if it is not displayed, it is written in the output file.

<Filter Setting>



- The filter to use can be select with the control on the top left of the screen. If “Not use”, no filter is set. 5 types of filters from “Filter0” to “Filter4” can be set.
- Filter can be set by Batch No./Date/User/Scene group No/Scene No/Message/Comment.
- After setting the filter, if you press the “OK” button, only the Audit Trail corresponding to the filter setting will be displayed on the Audit Trail Viewer screen.
- After setting the filter, if you press the “Save to file” button, only the Audit Trail corresponding to the filter setting will be output to the file.

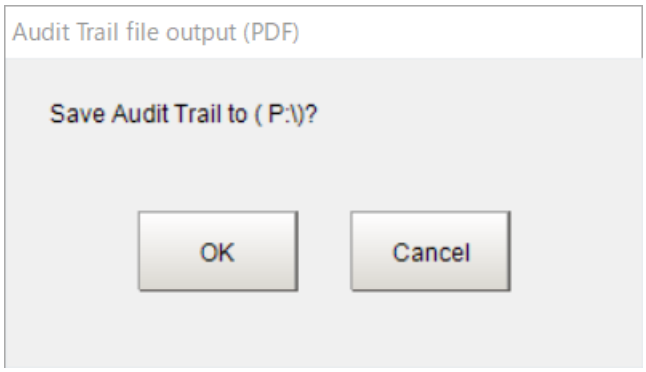
<File explorer>



・ Set the folder and file name to output the file .

・ Press the [OK] button, the file output confirmation dialog will be displayed.

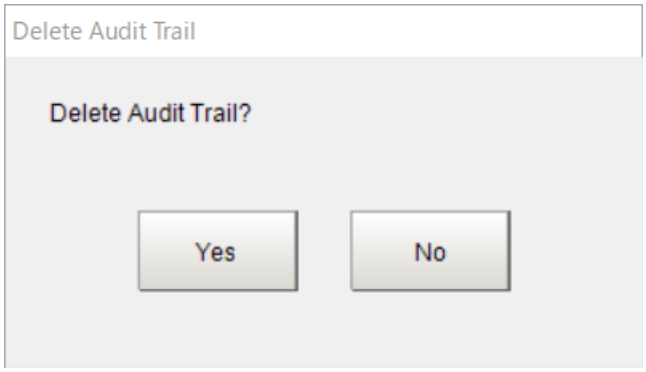
<File output confirmation dialog>



・ Press the [OK] button, the file save process is executed.

・ After successfully saving the file, a delete confirmation dialog will be displayed.

<Deletion confirmation dialog>

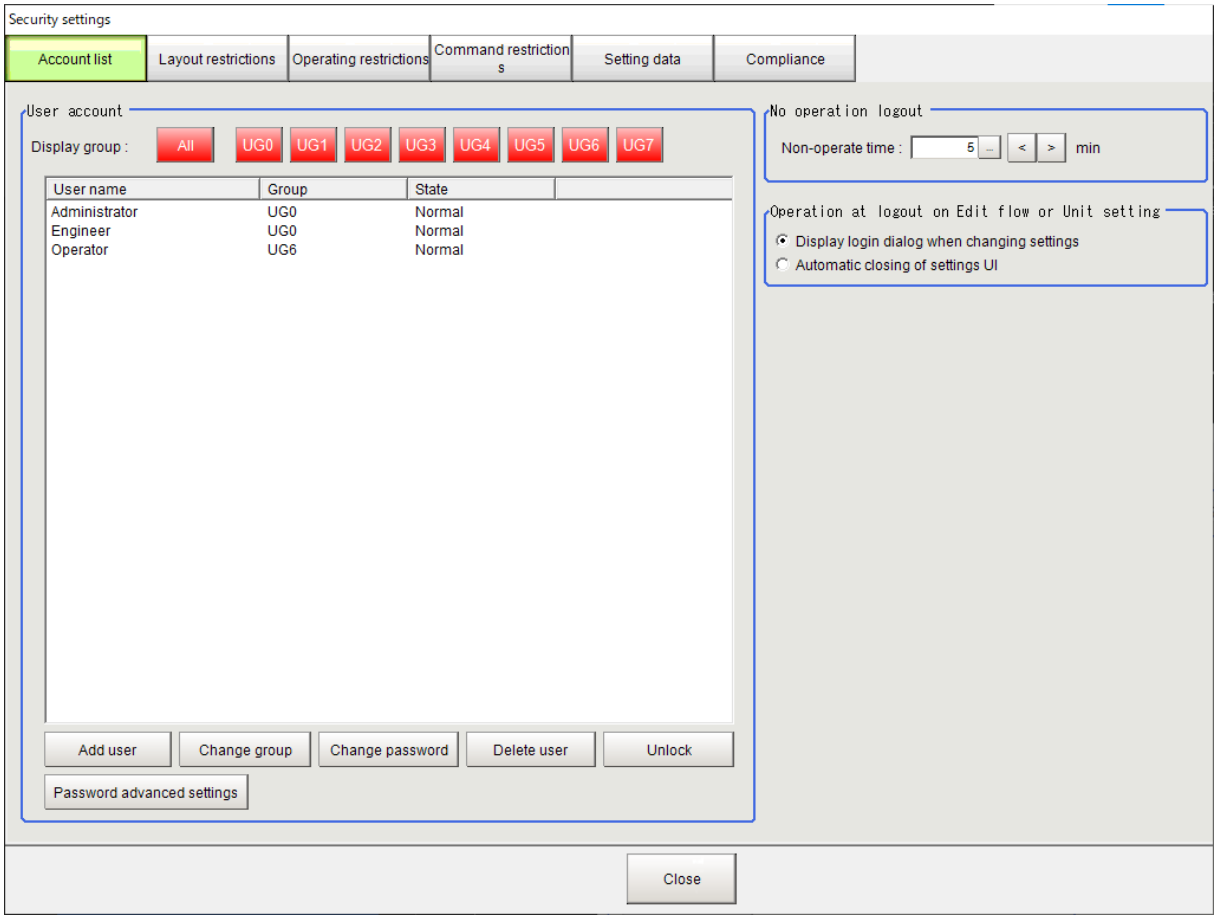


- Press the [Yes] button, the deletion process is executed and the screen is closed.
- Press the [No] button, the screen is closed without doing anything.

9.9. Security Setting Screen

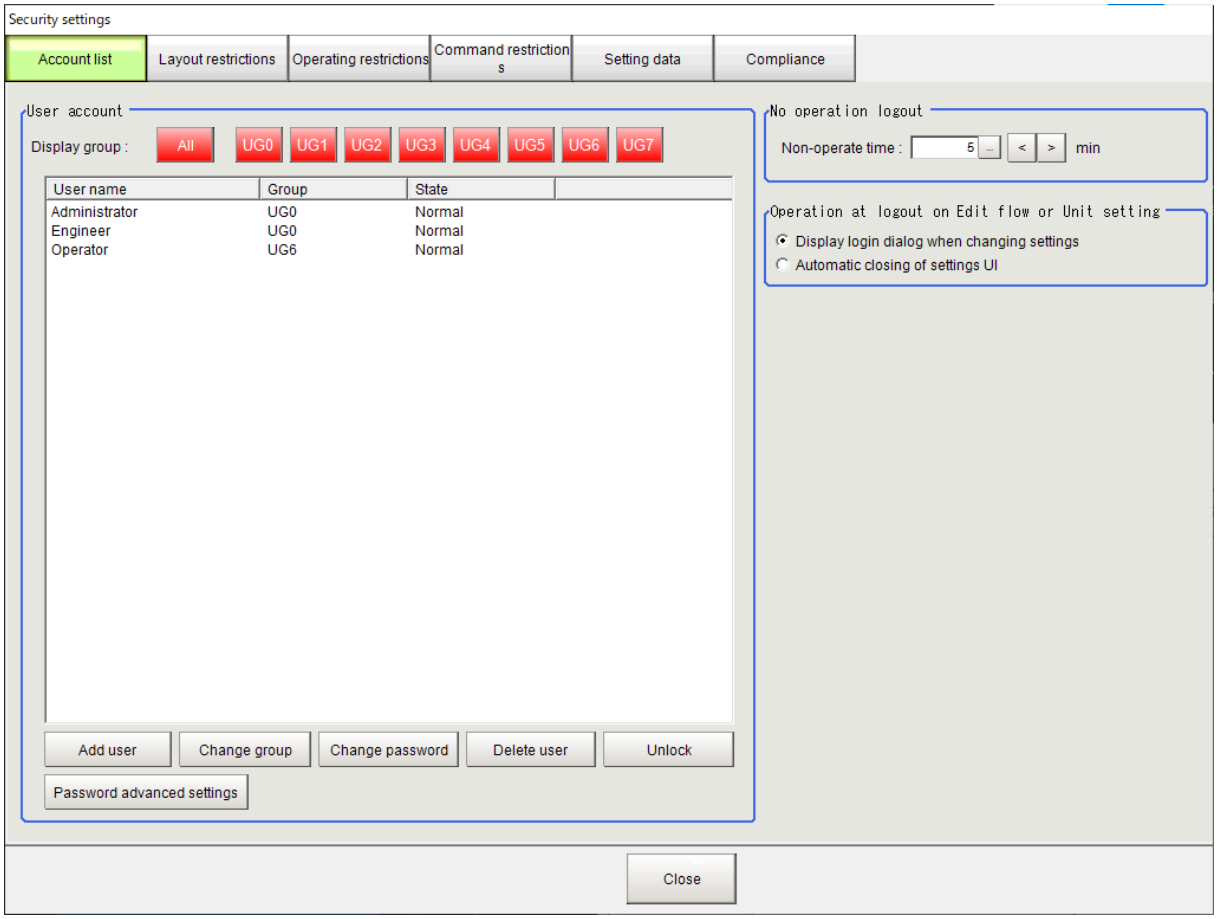
This is a screen for changing parameters related to security settings and account management.

It is displayed when “Security setting” of the tool item of the menu bar is selected.



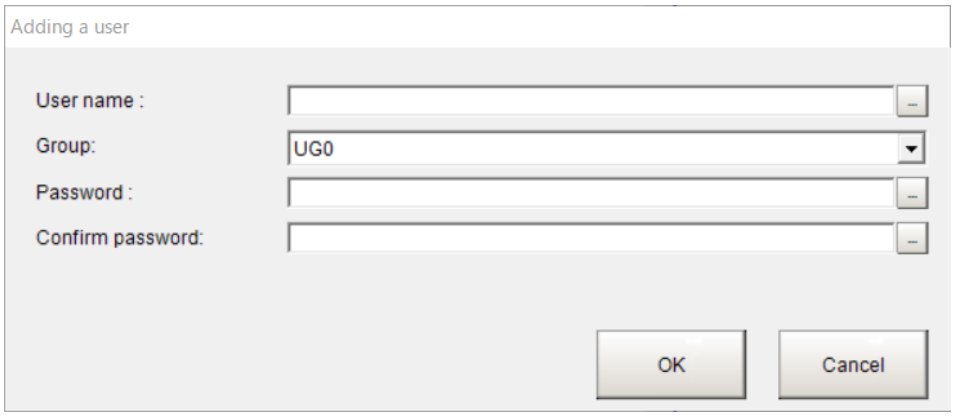
- Only UG0 account can operate this screen. When selecting a menu, the login dialog will be displayed.
- Switch the displayed menu by tab operation at the top.
- Press the [Close] button to close the screen.
- If the login dialog is canceled, the security settings screen is closed. At this time, the login status is retained.

9.9.1. Account List Tab



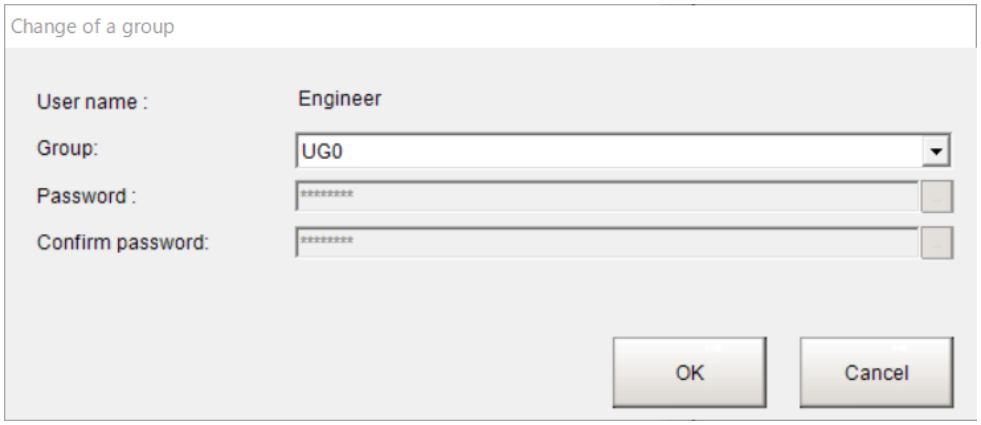
- All registered accounts is displayed in the list.
- By pressing the display group button, select the user group to display in the list.
- Set the no-operation logout time.
- Set the behavior when logging out on flow edit and unit setting UI
- Press the [Add User] button, the setting dialog will be displayed.
- Press the [Change Group] button to display the setting dialog.
- Press the [Change Password] button, the setting dialog will be displayed.
- Press the [Delete User] button, the setting dialog will be displayed.
- Press the [Unlock] button to display the setting dialog.
- Press [Password advanced settings] button, the setting dialog will be displayed.

<Add user dialog>



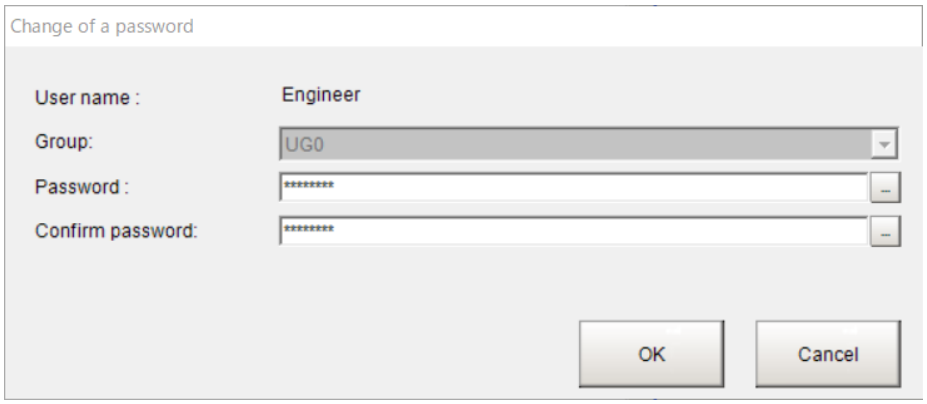
- In the user name, enter the account name character string to be registered.
- In the password, enter the password string.
- In confirmation password, enter the same character string as the password.
- Press the [OK] button, the account addition process is executed.

<User goup change dialog>



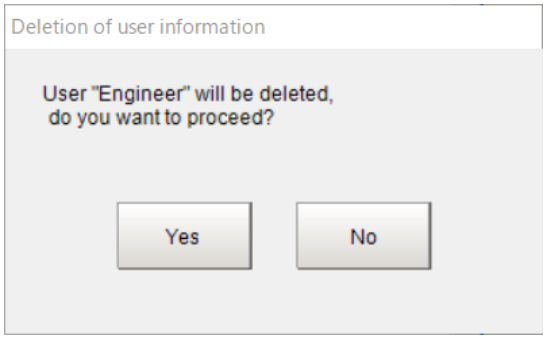
- Change the group to the selected number.
- Press the [OK] button, the account change processing is executed.

<Change password dialog>



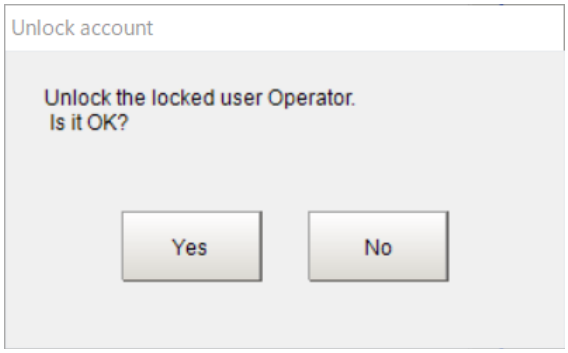
- In the password, enter the password string.
- In confirmation input, enter the same character string as the password.
- Press the [OK] button, the account change processing is executed.

<Delete user dialog>



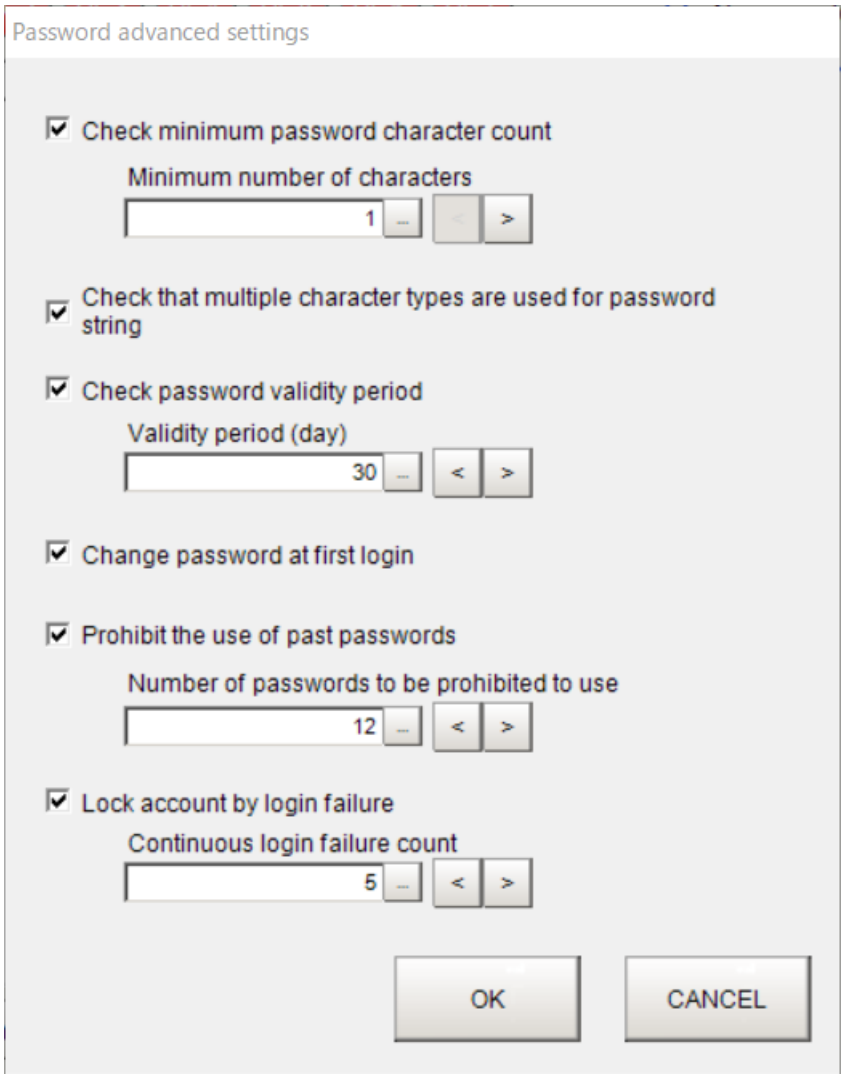
- Press [Yes] button, account deletion processing will be executed.

<Unlock dialog>



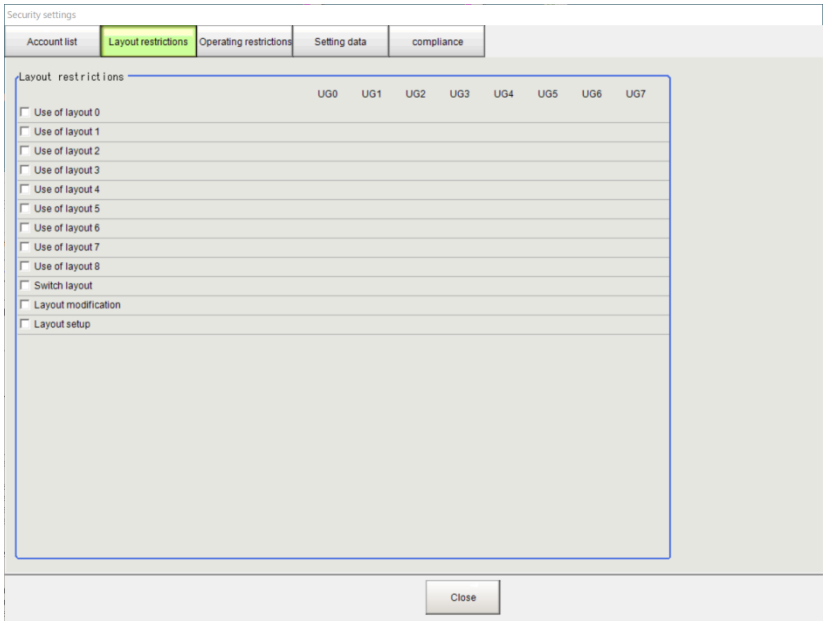
- Press the [Yes] button, the unlock process will be executed.

<Password advanced setting dialog>



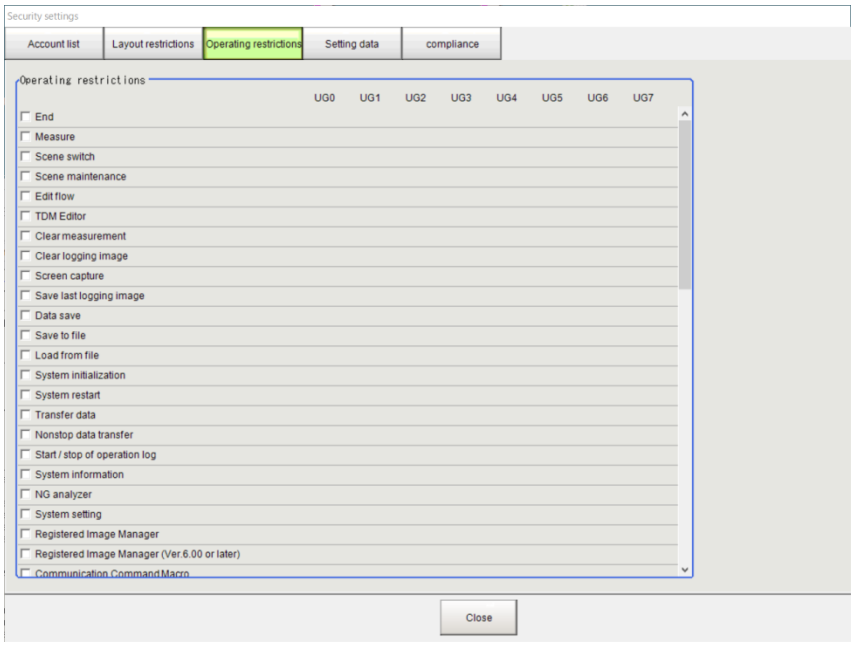
- By operating the check box, select whether to enable or disable parameter setting.
- By operating the numerical value box, set the value when the parameter is valid.
- Press the [OK] button, the parameter change processing is executed.

9.9.2. Layout Restriction Tab



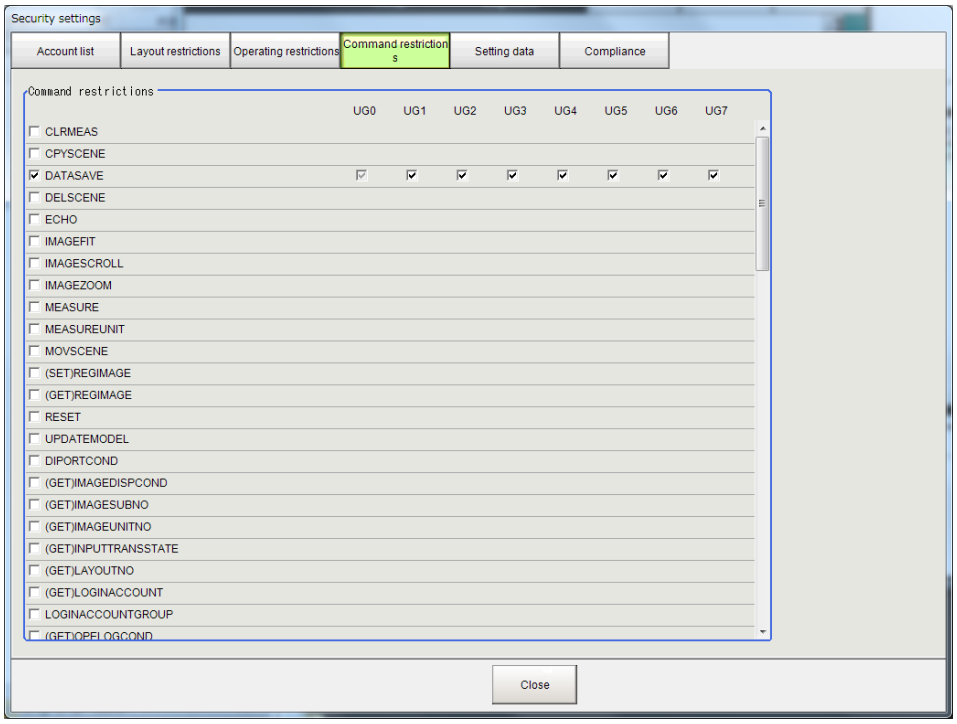
・ Layout function restrictions for each function can be set for each user group.

9.9.3. Operation Restriction Tab



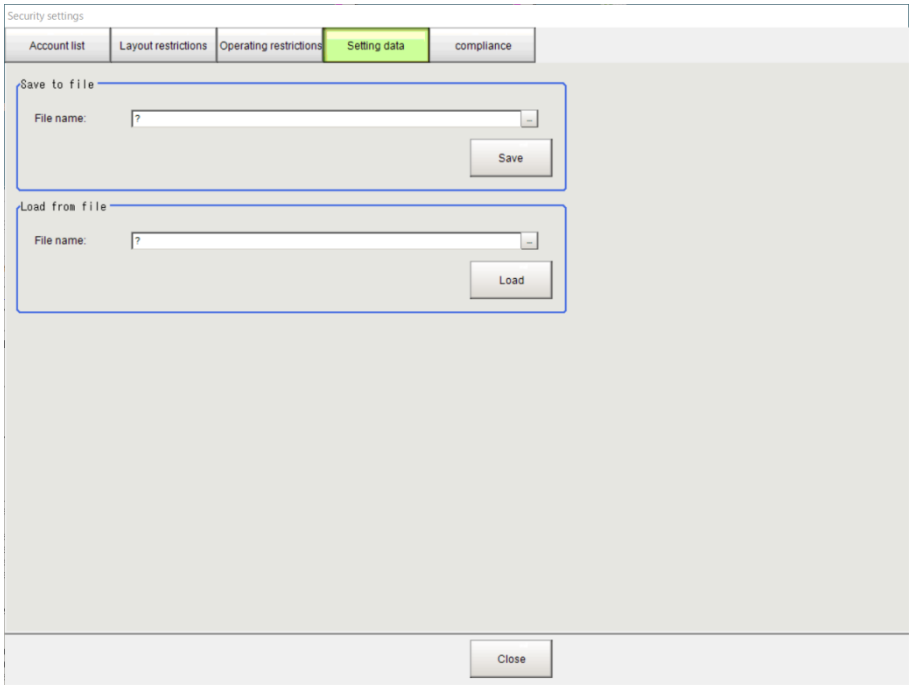
・ Operation function restrictions for each function can be set for each user group.

9.9.4. Command Restriction Tab



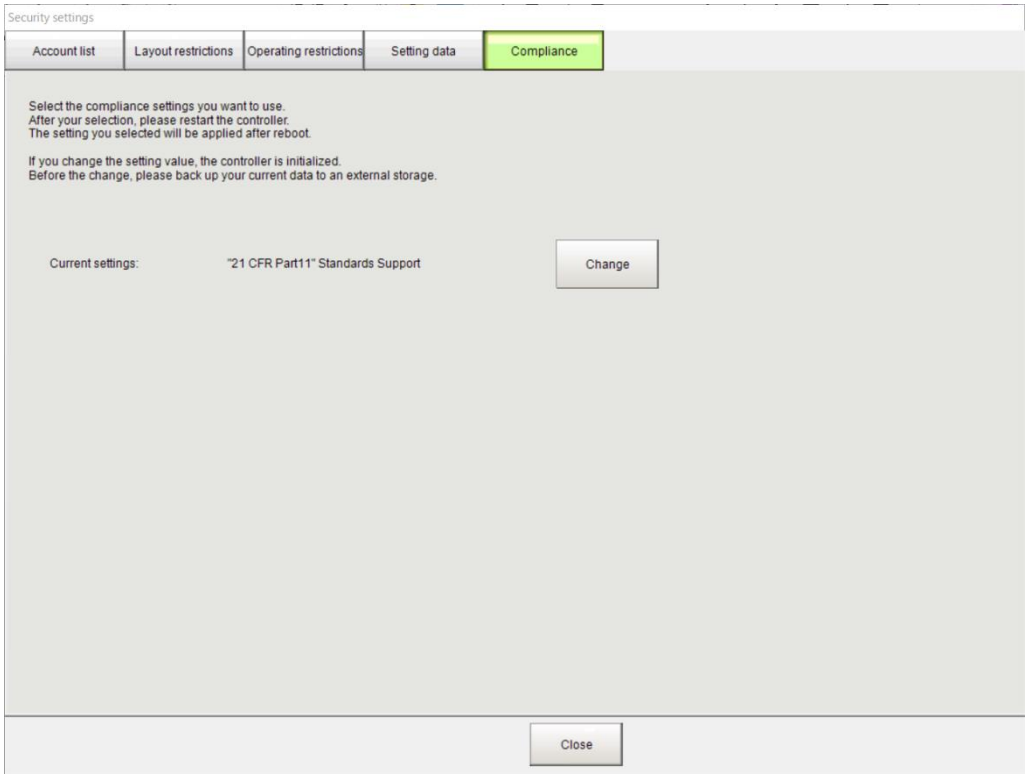
・ Command function restrictions for each function can be set for each user group.

9.9.5. Setting Data Tab



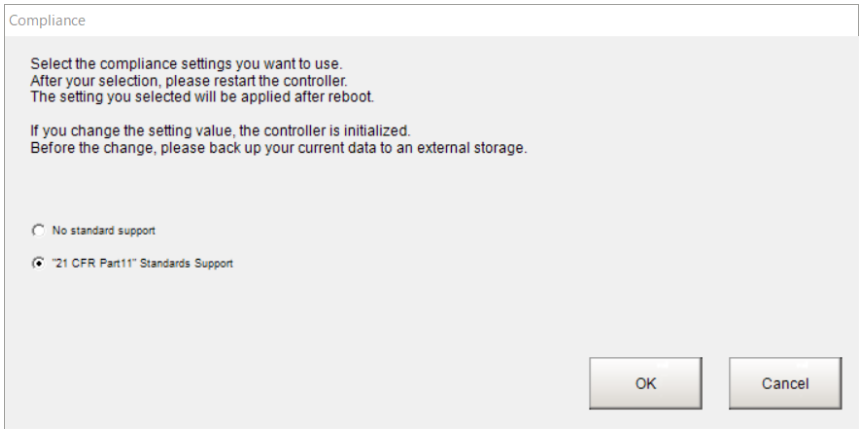
- Save the current security setting data in a file.
- Load the security setting data saved in the file.

9.9.6. Compliance Tab



・ Press the [change] button, a confirmation dialog will be displayed and switch compliance mode.

<Confirmation dialog>



・ Press the [OK] button, the compliance mode is set and restart processing is automatically executed.

9.10. Startup Unlock Screen

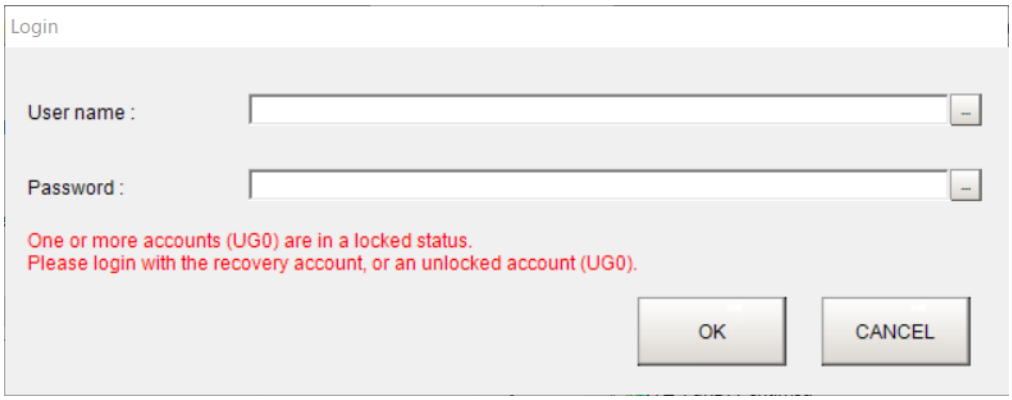
This is the screen for unlocking the UG0 account becomes locked state.

When the UG0 account in the locked state exists at the FH controller startup, the login dialog is displayed. This dialog can be logged in with a recovery account or a UG0 account that is not locked.

A recovery account is a special account that is used only on the unlock screen at startup. The user name is “RecoveryAccount”, and the initial password is “W@2#hSiuLQeU3”.

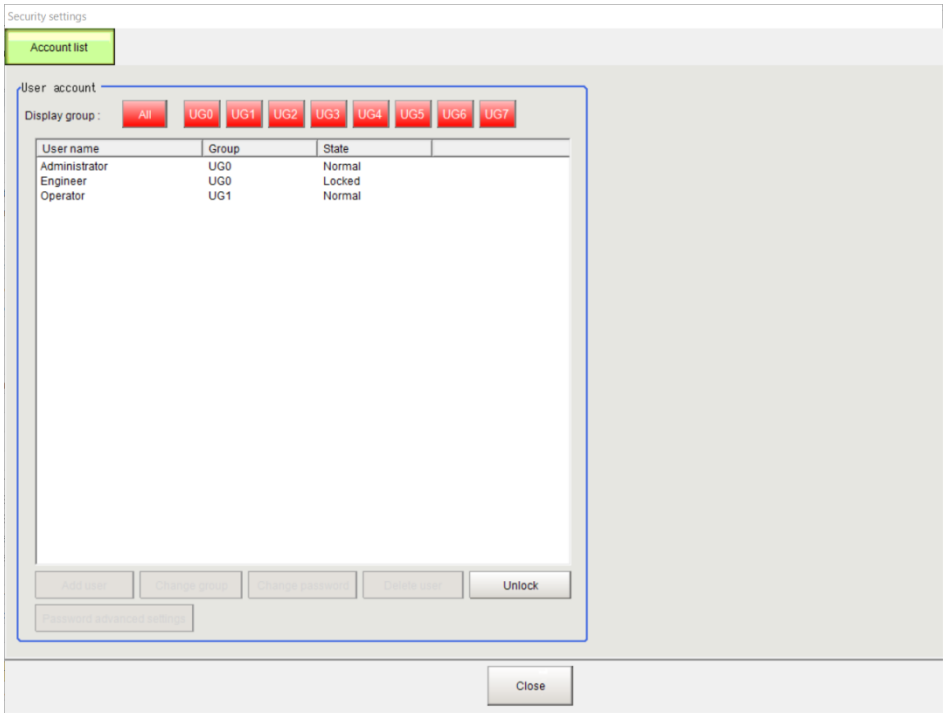
User name	Password	Remarks
RecoveryAccount (Not changeable)	Up to 255 characters 【W@2#hSiuLQeU3】	Not depend on extended password setting.

<Login dialog>



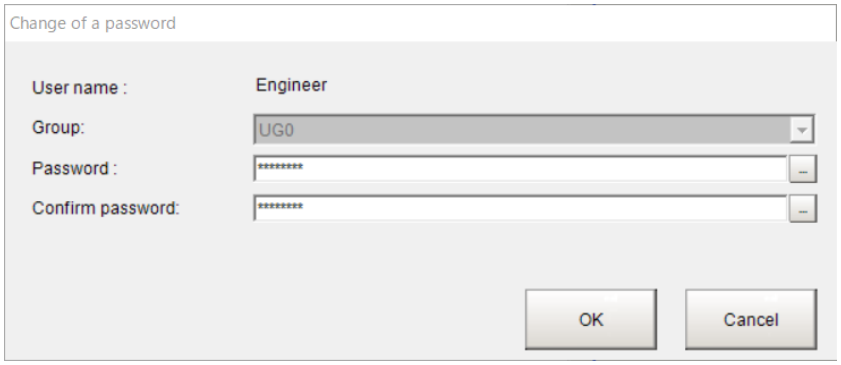
- In the user name, enter the account name string.
- In the password, enter the password string.
- If the login is successful after pressing the [OK] button, the startup unlock screen is displayed.
- If the login is failure after pressing the [OK] button, the error message is shown.

<Startup unlock screen>



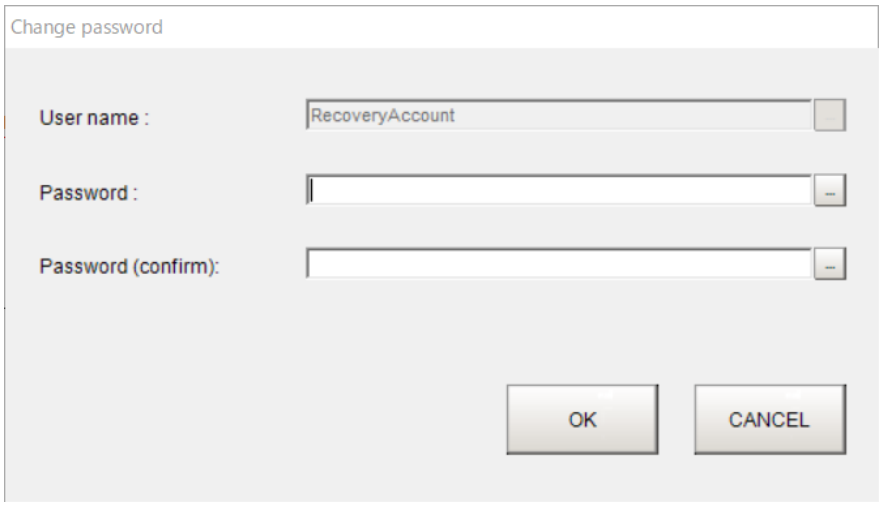
- Press the [Unlock] button with the locked account selected, the password change dialog will be displayed.
- Press the [Close] button with the recovery account is logged in, the password change dialog for the recovery account will be displayed.
- Press the [Close] button with the UG0 account is logged in, the normal startup process is executed and the main screen will be displayed.

<Password change dialog>



- In the password, enter a new password string.
- In the password (confirmation), enter the same character string as the password.
- Press the [OK] button, password change processing is executed.

<Password change dialog for Recovery Account>

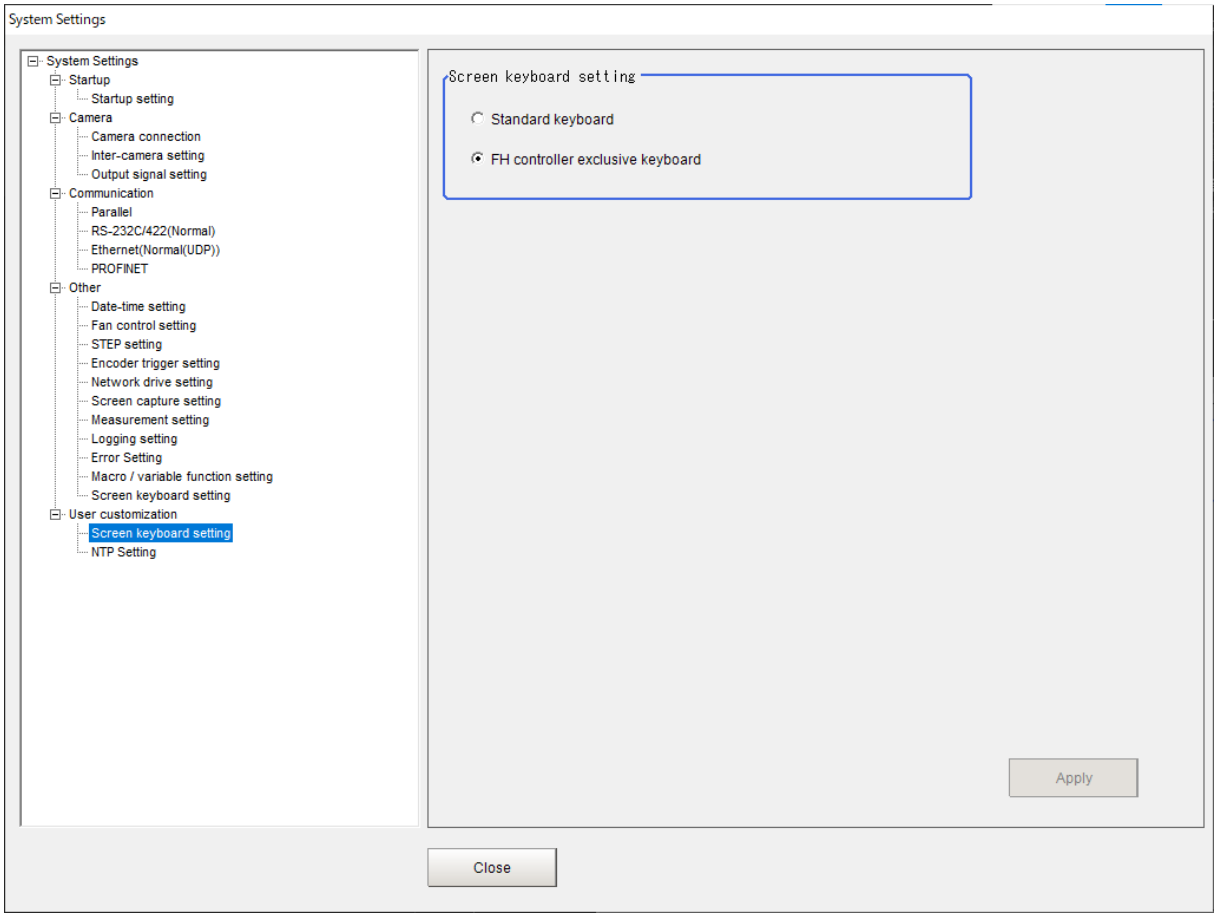


- In the password, enter a new password string.
- In the password (confirmation), enter the same character string as the password.
- Press the [OK] button, password change processing is executed.

9.11. Screen Keyboard Setting Screen.

9.11.1. Screen Keyboard Setting Screen

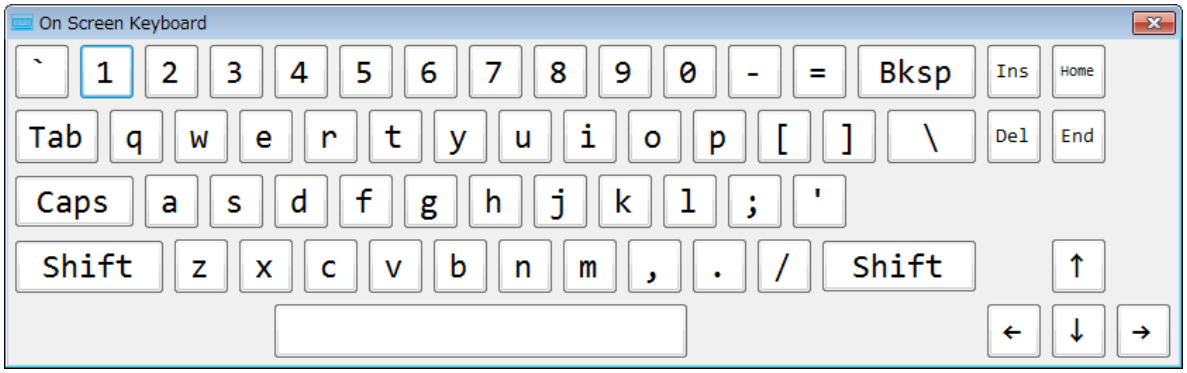
This is a screen for selecting a screen keyboard. It is displayed when “Screen keyboard setting” – “System Setting” of the tool item menu is selected.



If you make a change to the setting, make sure to click “Apply” button to save the setting. After saving to the Sensor Controller, it will be available with restarting Sensor Controller.

9.11.2. FH Controller On Screen Keyboard

This is the software keyboard displayed when using the software keyboard switching function to select the FH controller's own On Screen Keyboard.

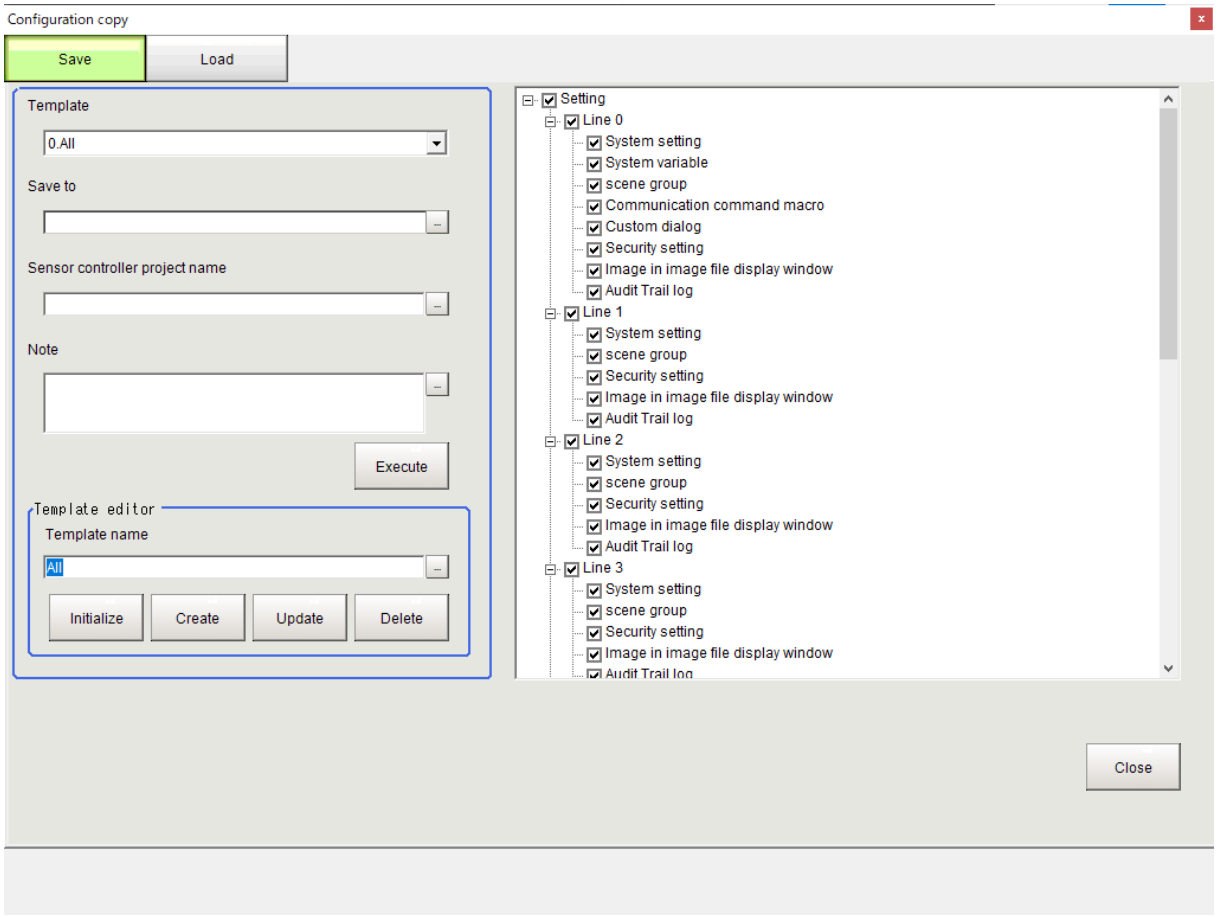


The FH controller's own On Screen Keyboard differs from the standard Windows On Screen Keyboard in that it does not include special function keys (ESC, Ctrl, Alt, Function keys, etc)

9.12. Configuration copy Screen

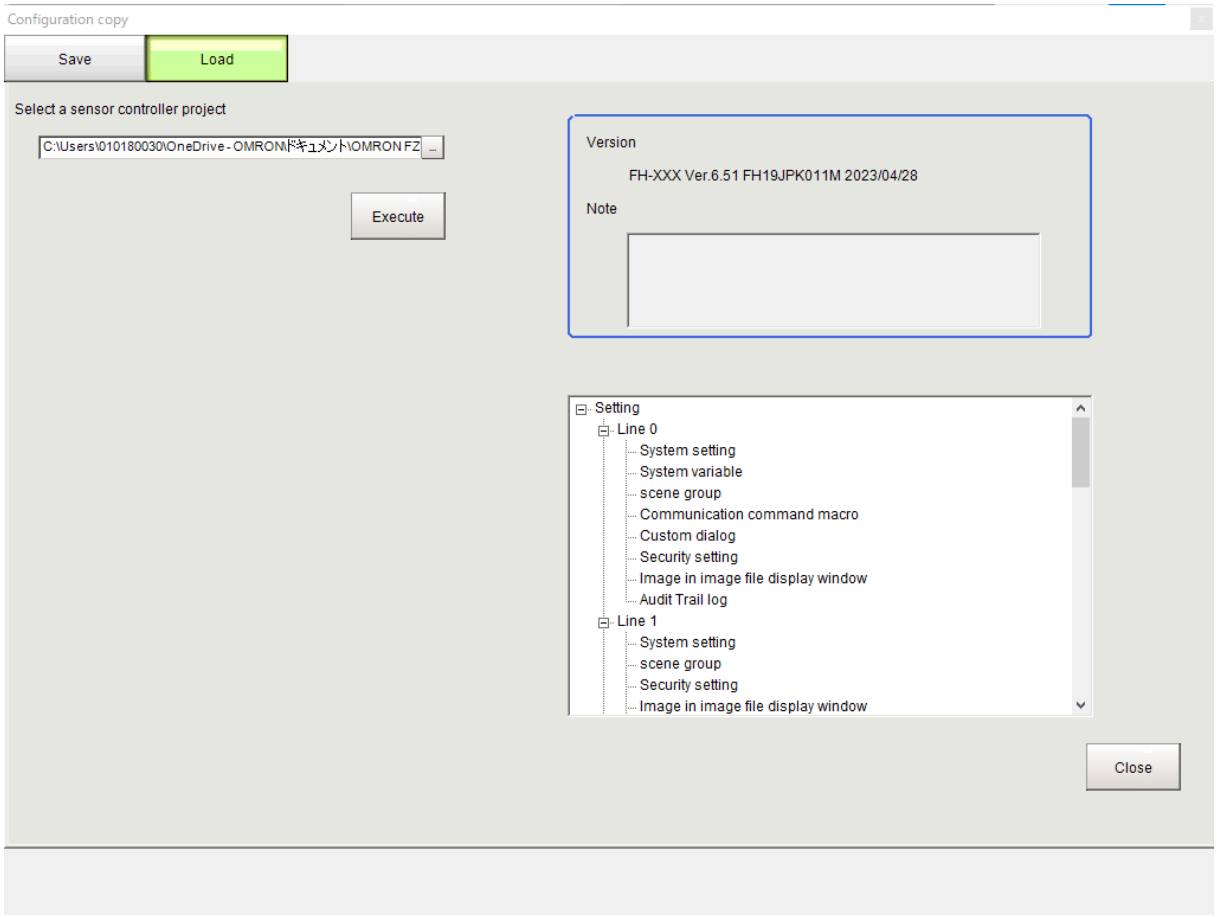
This is the screen for saving/reading sensor controller project data for the Configuration copy function. It is displayed when " Configuration copy" is selected from the Tool item on the menu bar.

9.12.1. Save tab

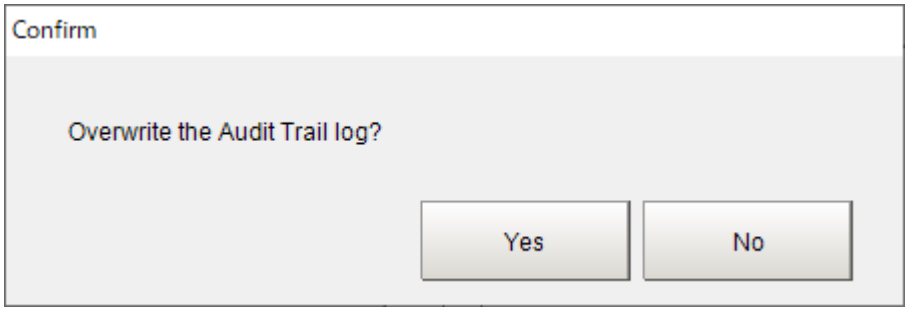


- Display the screen to select the data to be saved in the sensor controller project data.
- "Communication Command Macro" is displayed only when "Macro function" of Limited function in Detailed compliance settings is ON.
- "Custom Dialog" is displayed only when "User Dialog Function" of Limited function in Detailed compliance settings is ON.

9.12.2. Load tab



・ Display the screen to read the sensor controller project data.

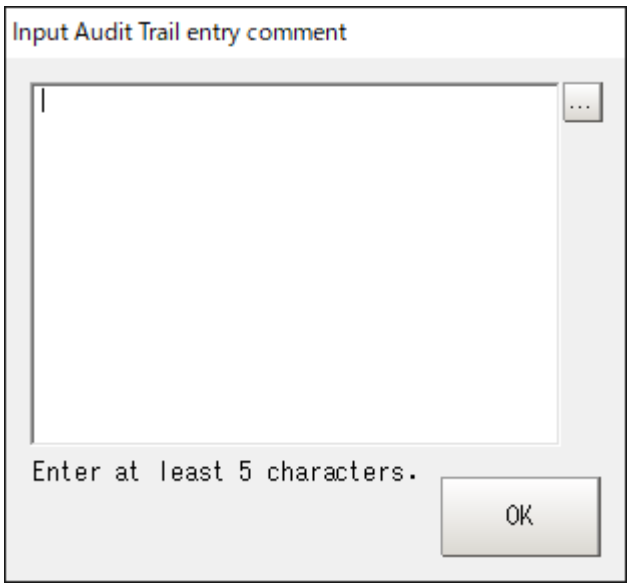


・ When reading the sensor controller project data including Audit Trail, the dialog to confirm whether to overwrite the Audit Trail is displayed.

・ If you press the “Yes” button, the Audit Trail will be overwritten.

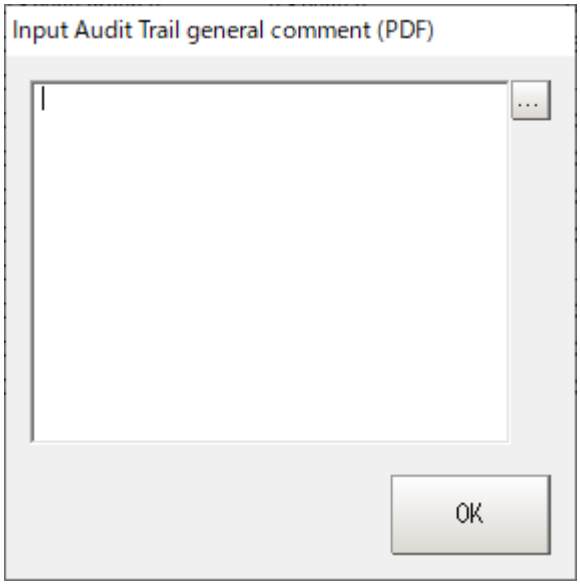
・ If you press the “No” button, the Audit Trail will not be overwritten.

9.13. Input Audit Trail entry comment Screen



- Displayed when closing the processing unit setting screen or system setting screen with the “OK” button.
- This screen is displayed only when “Input entry comment” of Limited function in Detailed compliance settings is ON.
- If the entry comment is 5 characters or more, pressing the “OK” button closes the Input Audit Trail entry comment screen.

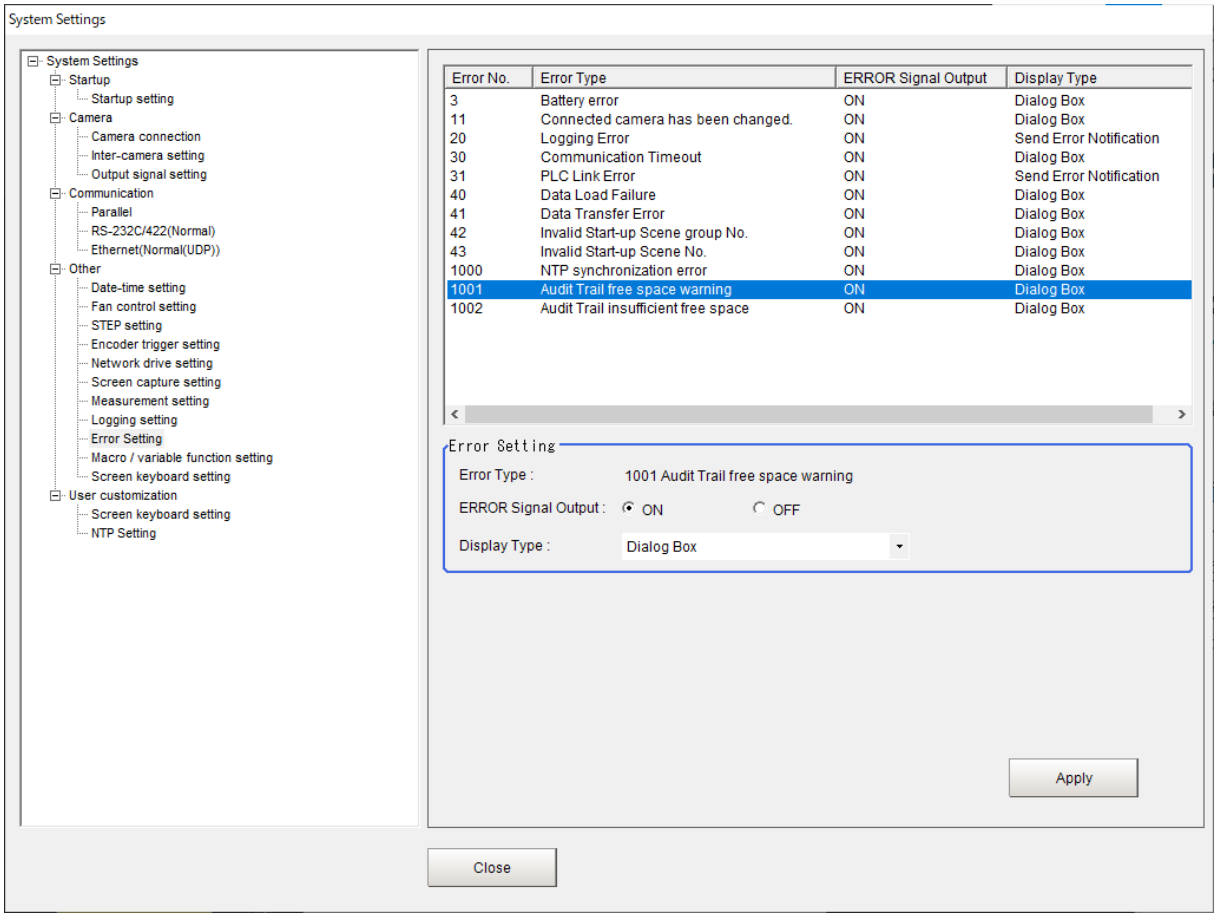
9.14. Input Audit Trail general comment Screen



- It is displayed when you press the “Save to file” button in Audit Trail Export and press the “OK” button in the file save dialog.
- It is displayed only when “PDF file format” is ON and “Input general comment “ is ON in the Audit Trail settings of Detailed compliance settings.
- Press the “OK” button to close the Input Audit Trail entry comment screen.

9.15. Audit Trail free space warning

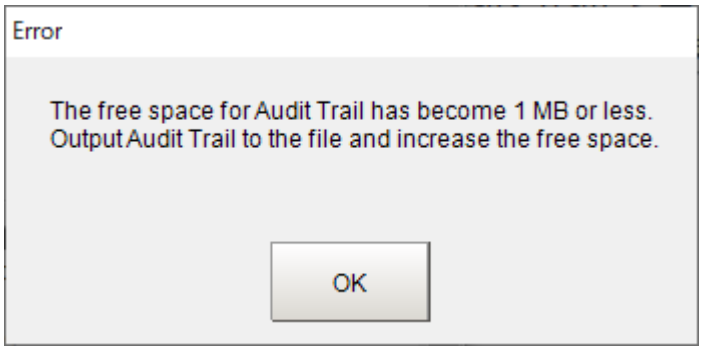
This screen allows you to set the behavior when the free space in Audit Trail is less than 1MB after writing Audit Trail. This screen appears when you select [Tool] → [System Settings] → [Error Setting] from the menu bar.



Item	Content
ERROR Signal Output	Sets whether error outputs.
Display Type	Sets how the screen is displayed when an error occurs.

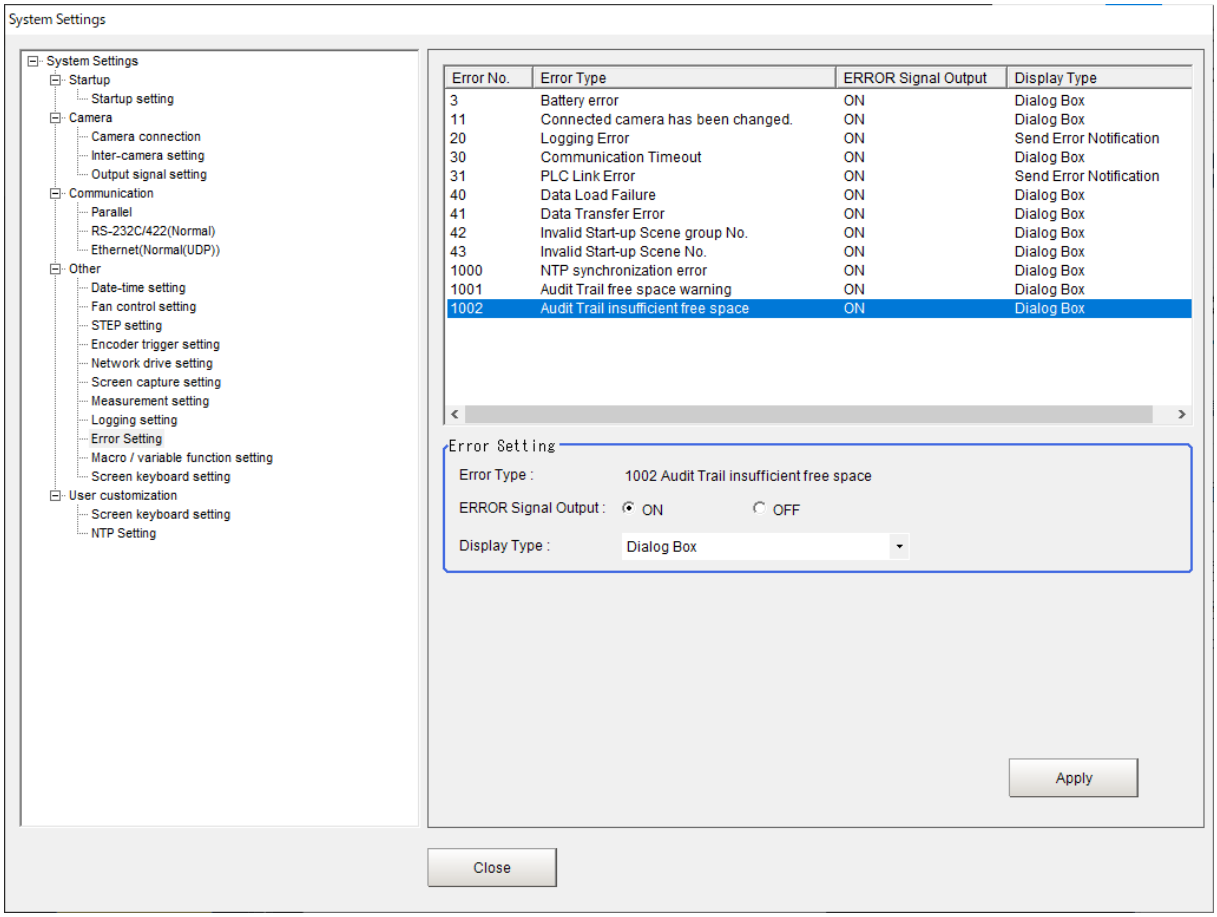
When the display type is set to [Dialog Box] or [Dialog Box (Clear ERROR Signal)], the following screen will be displayed when the free space in Audit Trail becomes less than 1

MB.



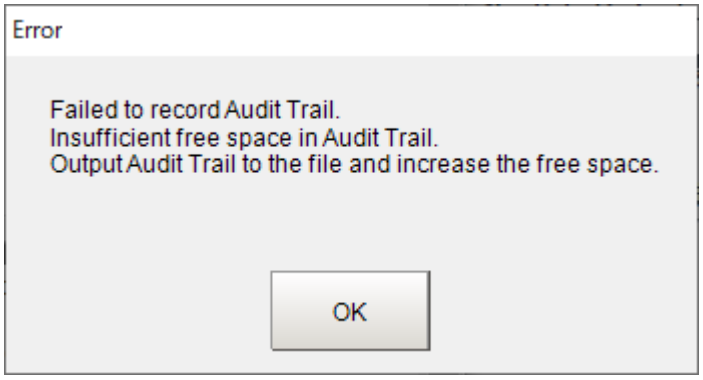
9.16. Audit Trail insufficient space

This screen is used to configure the behavior when Audit Trail write fails due to insufficient free space in Audit Trail. This screen appears when you select [Tool] → [System Settings] → [Error Setting] from the menu bar.



Item	Content
ERROR Signal Output	Sets whether error outputs.
Display Type	Sets how the screen is displayed when an error occurs.

When the display type is set to [Dialog Box] or [Dialog Box (Clear ERROR Signal)], the following screen is displayed when Audit Trail writing fails due to insufficient free space in Audit Trail.

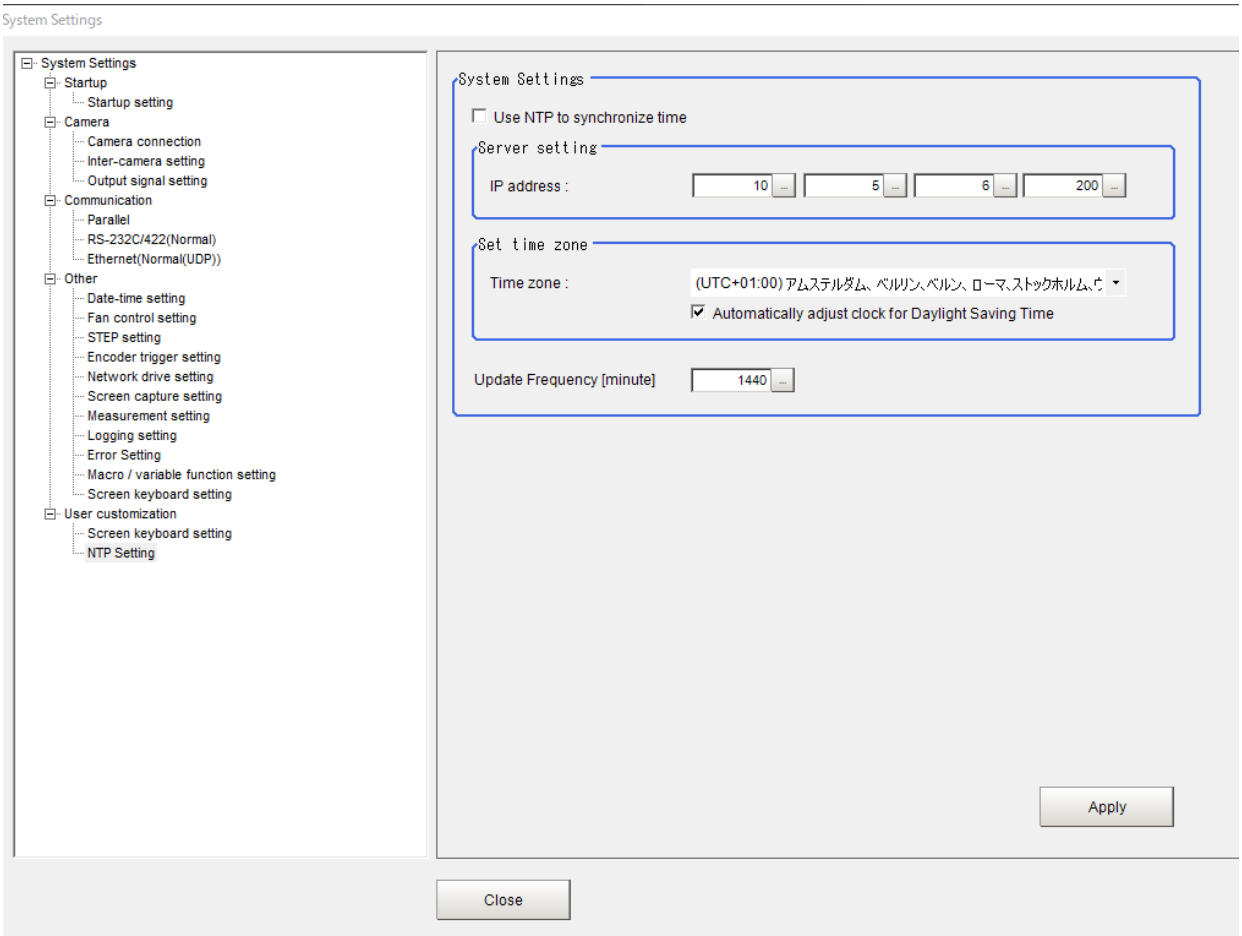


10. Other Function Specification

10.1 NTP Synchronization

10.1.1. NTP Setting

This window is used to configure the NTP function. It is displayed when you select [Tool] → [System Settings] → [NTP Setting] from the menu bar.



Setting item	Description
Use NTP to synchronize time	Specify whether NTP time synchronization is enabled.
IP address	Specify the IP address of the NTP server to be synchronized.
Time zone	Specify the time zone. Default: Tokyo Standard time (UTC+09:00) Osaka, Sapporo, Tokyo.
Automatically adjust clock for Daylight Saving Time.	Specify whether to adjust daylight saving time automatically. It is displayed only if the selected time zone has daylight savings time.
Update frequency [minute]	Set the interval for time synchronization by NTP in minutes. 60 to 10080 [minutes] (default: 1440)

If those NTP settings are changed, the FH controller must be restarted after “Data save” is executed. After restarting, time synchronization will start. The time zone is reflected after the Apply button is clicked.

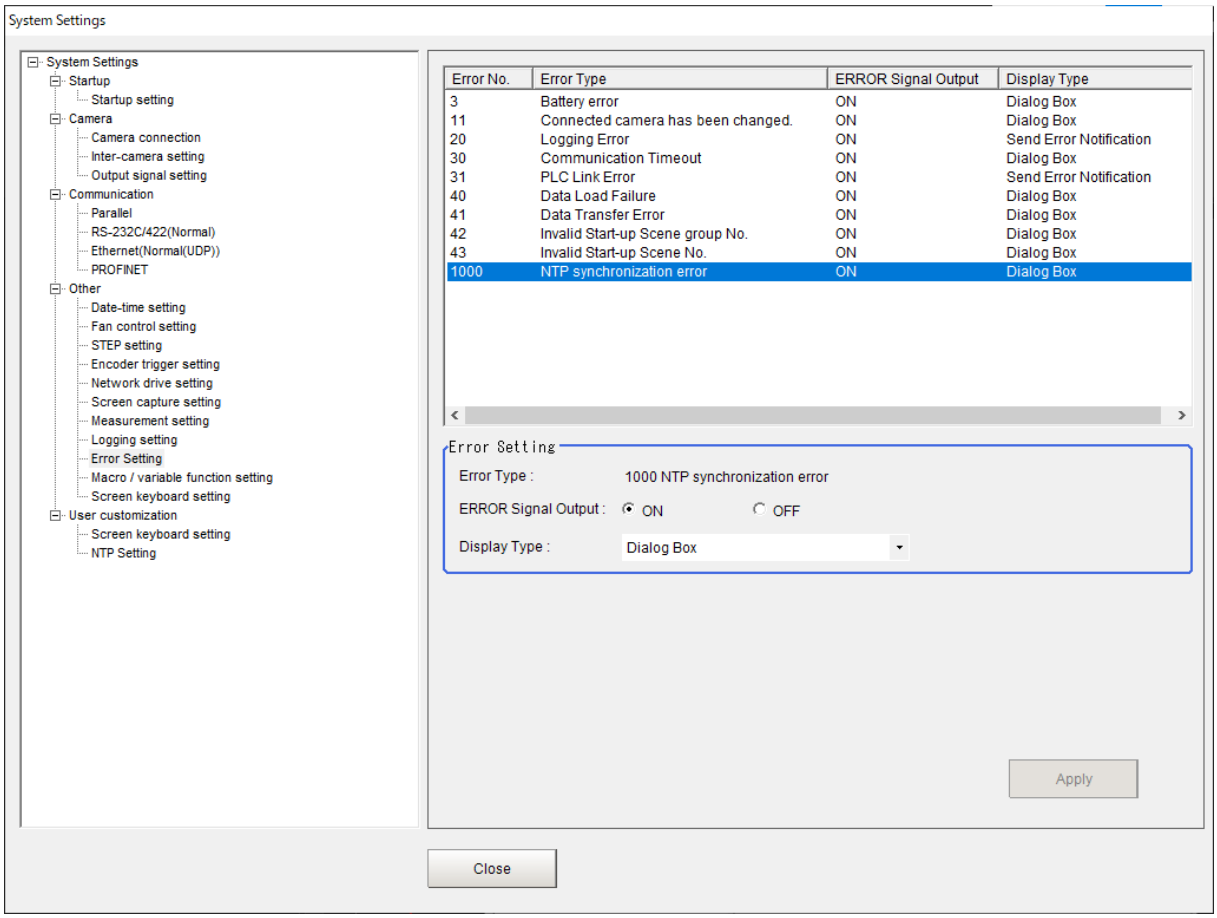
10.1.2. NTP Processing

After setting up NTP synchronization, the date/time setting synchronization process is performed at the time of FH controller startup before it becomes ready for measurement.

However, if the FH controller cannot communicate with the NTP server at startup (e.g., the NTP server cannot be confirmed or is not properly connected to the network), the date/time settings will not be synchronized. In this case, it waits for about 1 minute until the date/time settings are synchronized, and if the date/time settings are not properly synchronized during this time, the FH Controller will start without synchronizing the date/time settings. After the controller starts up, synchronous processing is executed at each update frequency.

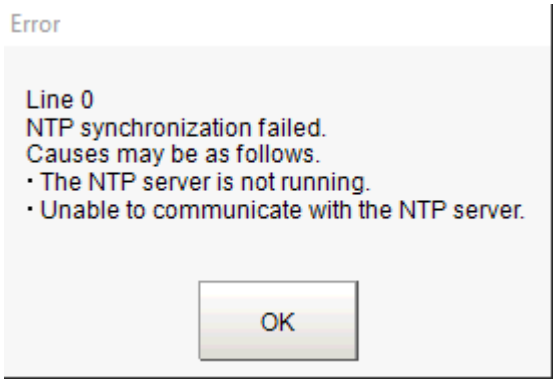
10.1.3. NTP synchronization error

This is the screen for setting the behavior when NTP synchronization fails. It appears when selecting [Tool] → [System Settings] → [Error Settings] from the menu bar.



Setting item	Description
ERROR Signal Output	Specify whether error output is enabled or not.
Display Type	Specify how error are displayed on the screen when this occur.

If the screen display type is set to [Dialog Box] or [Dialog Box (Clear ERROR Signal)], the following screen will be displayed when an NTP synchronization error occurs:



10.2 NG Analyzer

The functional specifications are as follows. Functions not listed below are the same as

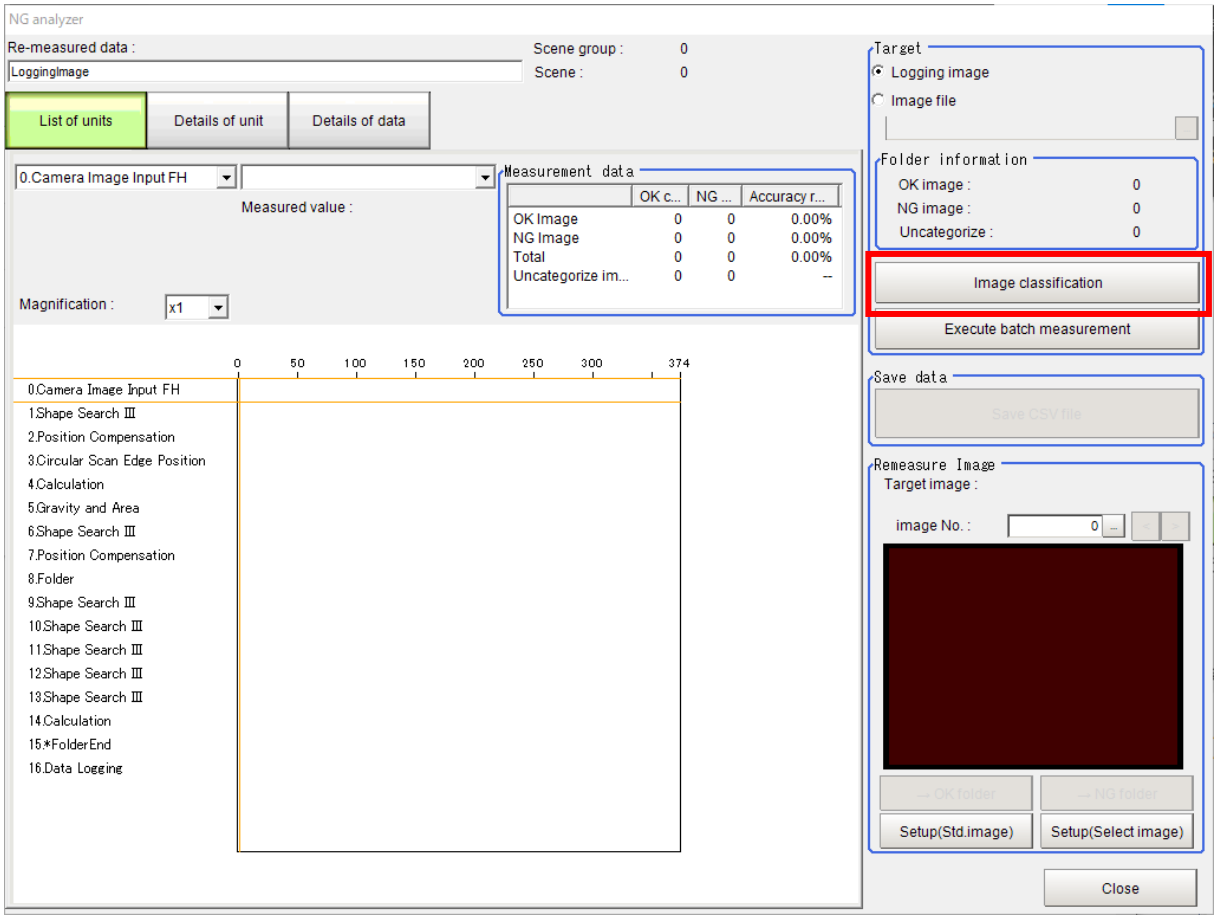
the standard functions of the tool “NG Analyzer”

10.2.1 Image classification

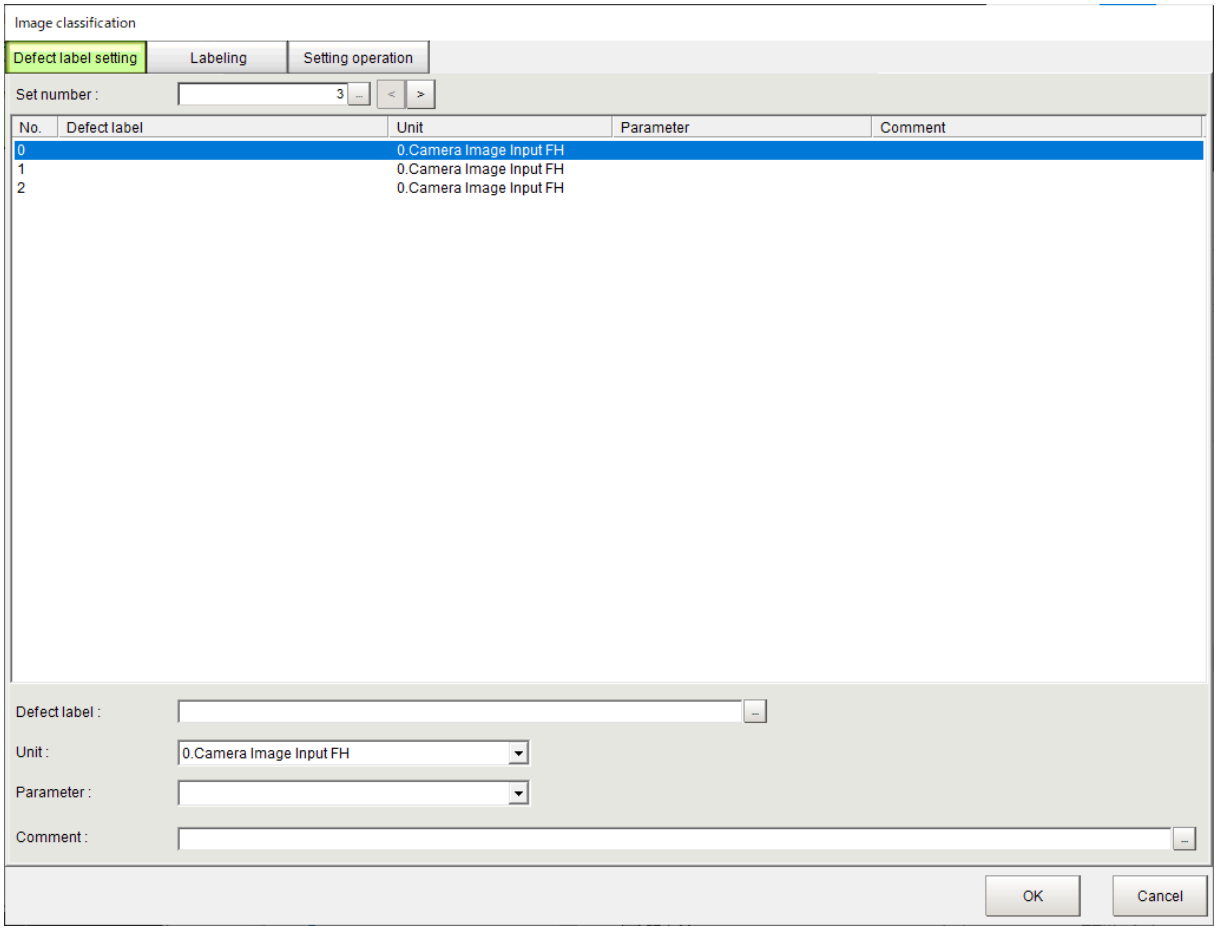
10.2.1.1 Image classification window

Window display

When you start the NG analyzer, the following screen will be displayed.



When you press the image classification button, the image classification window is displayed. The image classification window is a modeless window that is always displayed in front of the main screen of the NG Analyzer.



Dialog

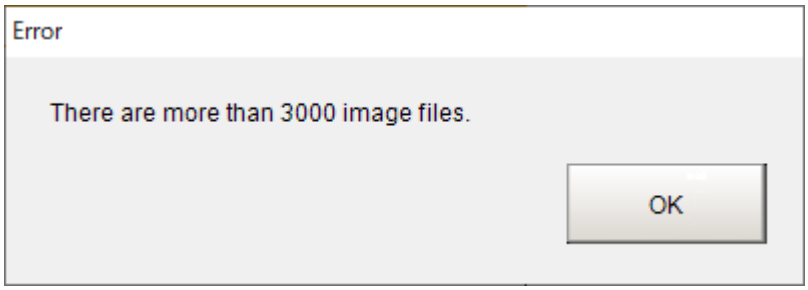
・Image read error dialog

If the image does not exist in the image reference path when the image classification button is pressed, the following dialog will be displayed. The image classification window will not launch.

No.	Name	Contents
1	OK button	Close the dialog.

・Exceeded number of read images error dialog

If there are 3001 or more images in the image reference path when the image classification button is pressed, the following dialog will be displayed. The image classification window will not launch.



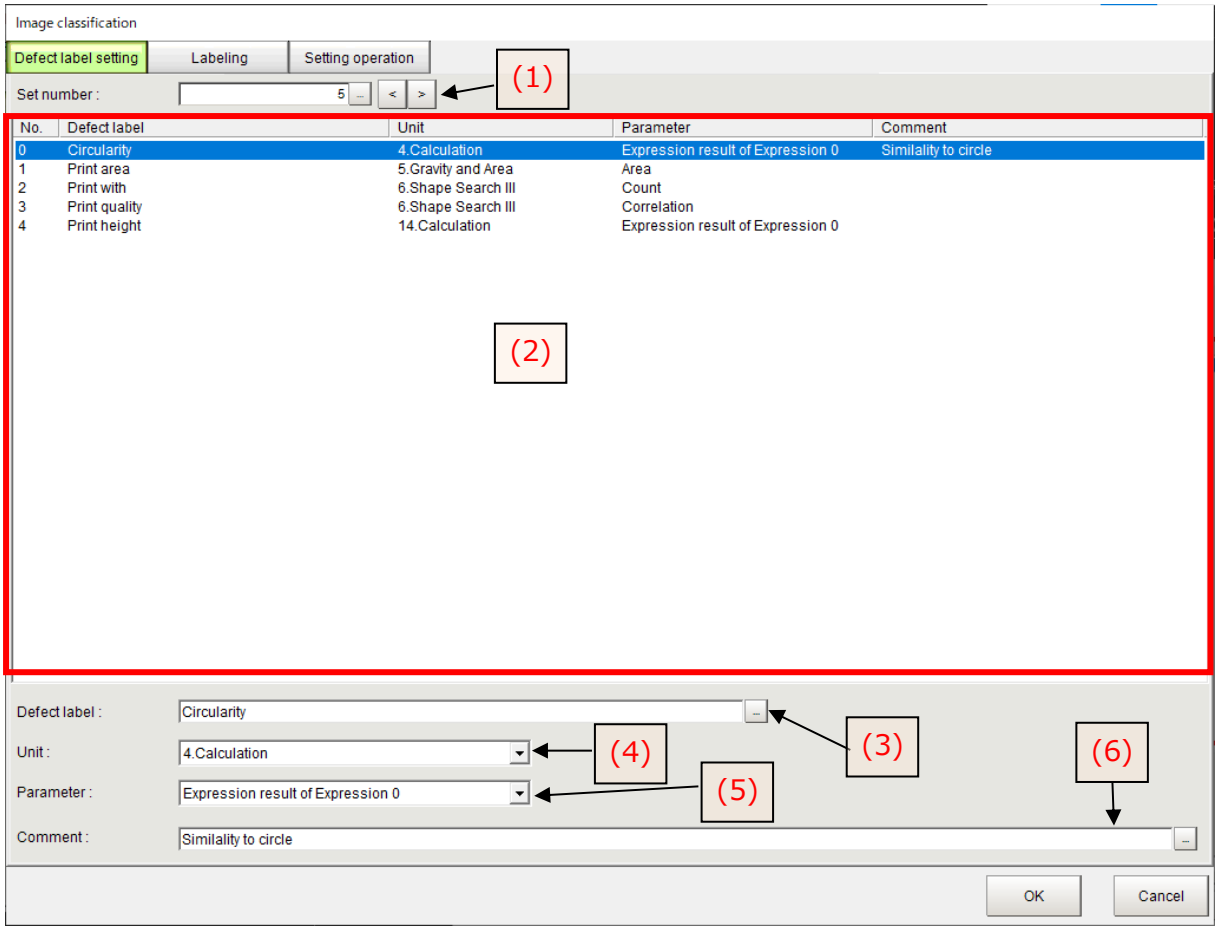
No.	Name	Contents
1	OK button	Close the dialog.

10.2.1.2 Defect label setting tab

On the defect label setting tab, set the defect label that indicates the defect to be detected in the scene.

Defect label setting

Set the measurement parameter used to judge the inspection in the scene as the defect label.



<Settings of defect label setting tab>

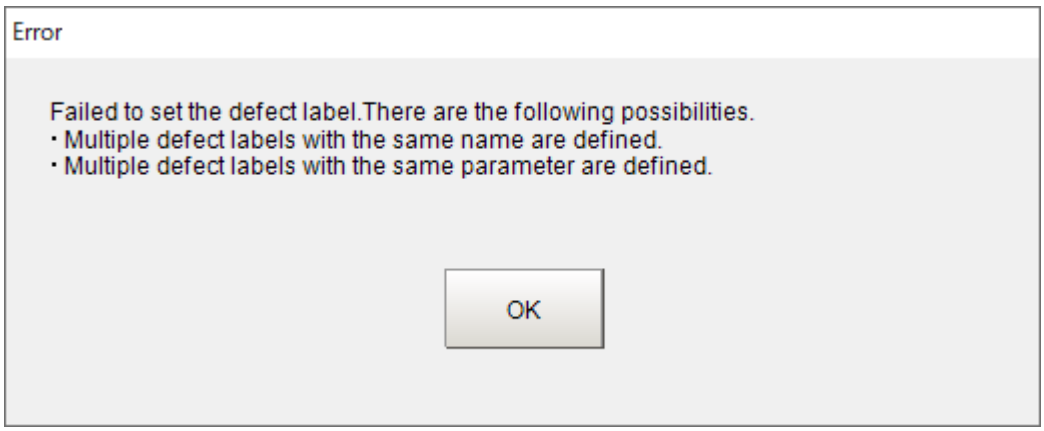
No.	Name	Contents
1	Set number	[Settings] Set the number of defect labels to be created. [Setting range] 3 to 20 [Initial value: 3]
2	Defect label list	Displays a list of defect labels that have been set.
3	Defect label	[Settings] Sets the name of the defect label. [Setting range] 1 to 32 characters
4	Unit	[Settings] Configure a unit with parameter added to the flow. [Setting range] Units that can be selected with the standard NG Analyzer + Calculation unit
5	Parameter	[Settings] Set the parameter used for defect judgment from the unit selected in the unit(No.4).

		[Setting range] Measurement parameters that can be selected with the standard NG Analyzer+ " Expression result of Expression 0 to 31 " of Calculation unit
6	Comment	[Settings] Set a comment. If the unit(No.4) is "Calculation" and the measurement parameter is " Expression result of Expression XX", " Expressions comment XX" is set in the comment. [Setting range] 0 to 1024 characters

Dialog

・Defect label, parameter duplication error dialog

If you have defined the same defect label name as another defect label in the defect label setting tab and refer to the same parameter as another defect label, the following dialog will be displayed.



No.	Name	Contents
1	OK button	The currently selected defect label and parameter are initialized. Close the dialog.

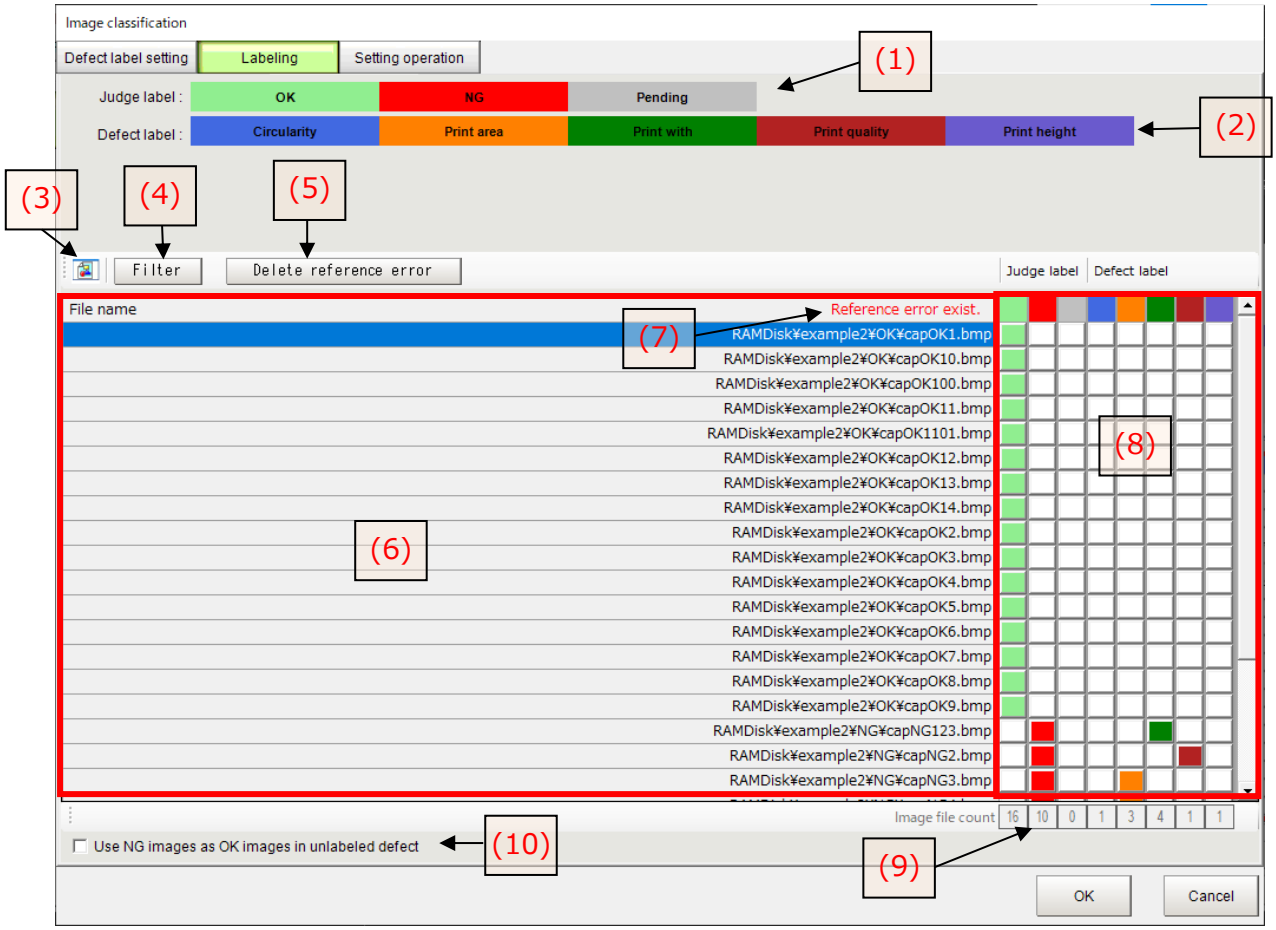
10.2.1.3 Labeling tab

In the labeling tab, the judge label and the defect label set in defect label setting tab is attached to the read images.

Labeling

All labels are assigned a color, and the configurable label colors are displayed at the top of

the labeling grid to the right of the file list. Select the image file you want to label from the file list, and while checking the image in the image preview, you can set the label ON/OFF by pressing the labeling grid on the line where the file name is written.



<Settings on the Labeling tab >

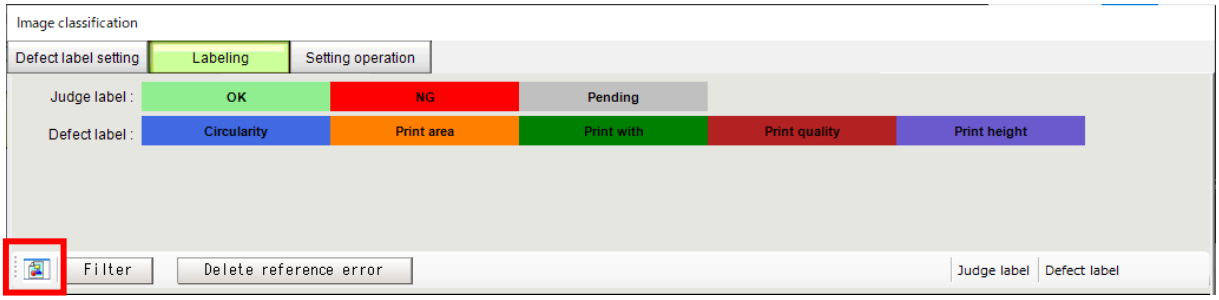
No.	Name	Contents
1	Judge label	It is a label prepared in advance with the tool. Classify image judgment.
2	Defect label	This is the label set in the defect label setting tab. Classify the types of NG images. Defect labels are available in 20 different colors, and the colors are automatically linked to the defect labels set on the defect label setting tab.
3	Image preview button	Display the image preview.
4	Filter button	Display the filter window.
5	Delete reference error button	Delete the reference error image.
6	File list	A list of images included in the logging or folder selected as images to be re-measured on the main screen of the NG

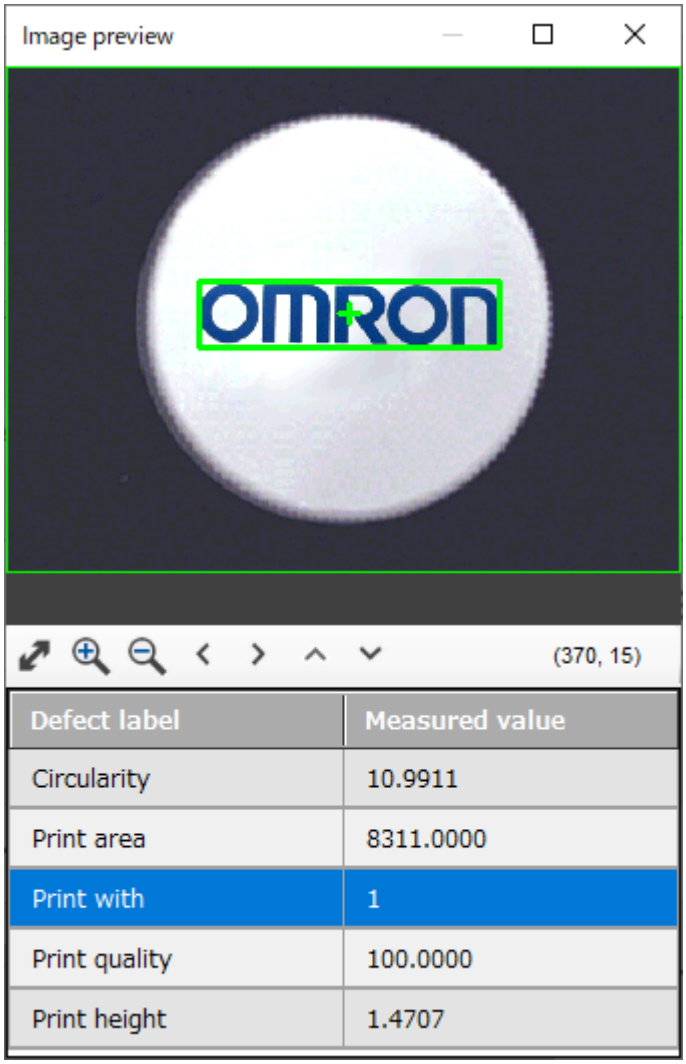
		Analyzer is displayed. By pressing “File name”, you can switch the display of the file list in ascending order or descending order. By selecting files while pressing the Shift key or Ctrl key, you can select multiple files in the same way as the Windows standard function. If the image displayed in the file list does not exist on the reference path, a reference error mark “!” will be displayed at the end of the file path.
7	Warning display	If there is a reference error image in the file list, “Reference error exist.” Is displayed.
8	Labeling grid	[Settings] Adds a judge label and defect label to the image selected in the file list. Multiple judge labels cannot be assigned to a single image. If you assign another judge label to an image that has been given a judge label, it will be overwritten. Defect labels can only be attached to images that have been given a judge label of NG, and all defect labels can be attached to one image. If multiple images are selected in the file list, all selected images will be labeled. [Setting range] ON,OFF [Initial value: OFF]
9	Image file count	Displays the number of images with each label.
10	Use NG images as OK images in unlabeled defect	[Settings] This is used when you have an NG image with only one defect, even though there are multiple defect types, and you want to treat that image as an OK image for another defect type. If set to ON, NG images that do not have the defect label will be treated as OK images when acquiring measurement results for a specific defect label during batch remeasurement. [Setting range] ON,OFF [Initial value: OFF]

Image preview

By pressing the image preview button above the file list, you can display a preview of the image selected in the file list. If you change the selected image in the file list, the image preview will follow and update the display. The image preview is a modeless window that is always on top of the image classification window.

At the bottom of the image preview, the set defect label and the measured value of the parameter associated with each defect label are displayed. By selecting a defect label or parameter measured value, the measurement graphic of the unit with that parameter is displayed on the image.

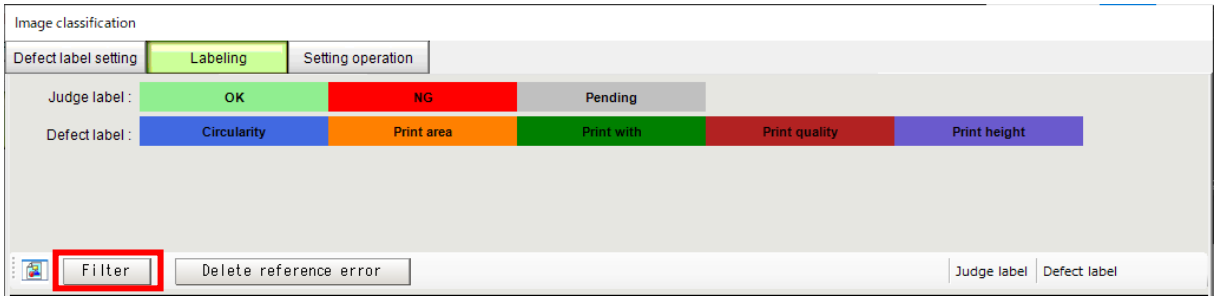


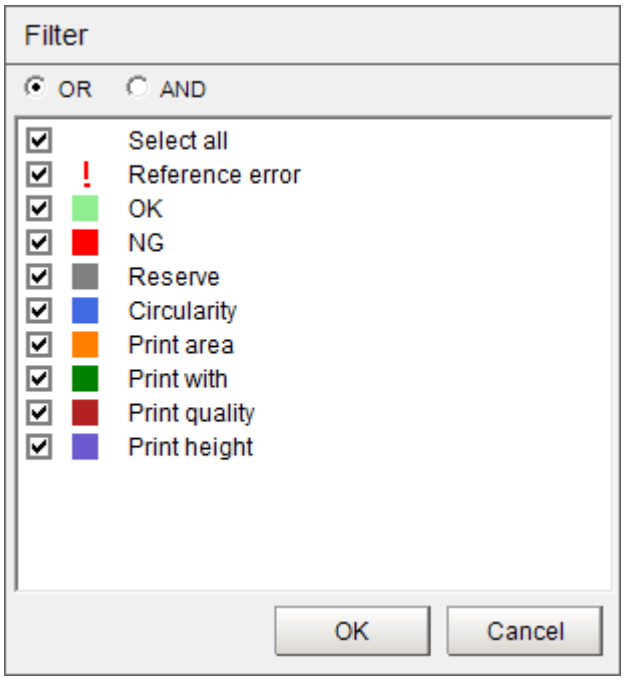


Filter window

By pressing the filter button above the file list, you can open the setting screen for

narrowing down the images displayed in the file list. By setting a filter, you can narrow down the images displayed in the file list. Filter window is modal windows.





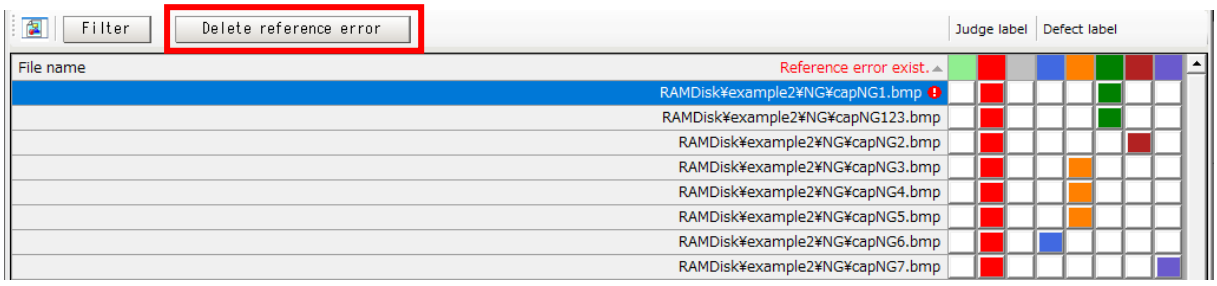
<Filter settings >

No.	Name	Contents
1	OR	[Settings] When ON, displays images that meet at least one of the selected filters. Only one of OR and AND is ON. [Setting range] ON,OFF [Initial value: ON]
2	AND	[Settings] When ON, images that match all of the selected filters are displayed. Only one of OR and AND is ON. [Setting range] ON,OFF [Initial value: OFF]

3	Select all	[Settings] When ON, all filters are turned on. [Setting range] ON,OFF [Initial value: ON]
4	Reference error	[Settings] When ON, reference error images are displayed in the file list. [Setting range] ON,OFF [Initial value: ON]
5	OK	[Settings] When ON, images with the judge label “OK” are displayed in the file list. [Setting range] ON,OFF [Initial value: ON]
6	NG	[Settings] When ON, images with the judge label “NG” are displayed in the file list. [Setting range] ON,OFF [Initial value: ON]
7	Reserve	[Settings] When ON, images with the judge label “Reserve” are displayed in the file list. [Setting range] ON,OFF [Initial value: ON]
8	Defect label 0 to 19	[Settings] When ON, images with defect label 0 to 19 are displayed in the file list. [Setting range] ON,OFF [Initial value: ON]

Delete reference error

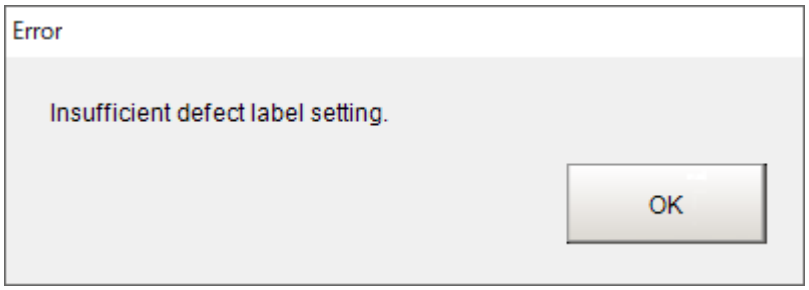
If you do not need the image with the reference error, you can delete it by pressing the delete reference error button.



Dialog

・Defect label, parameter undefined error dialog

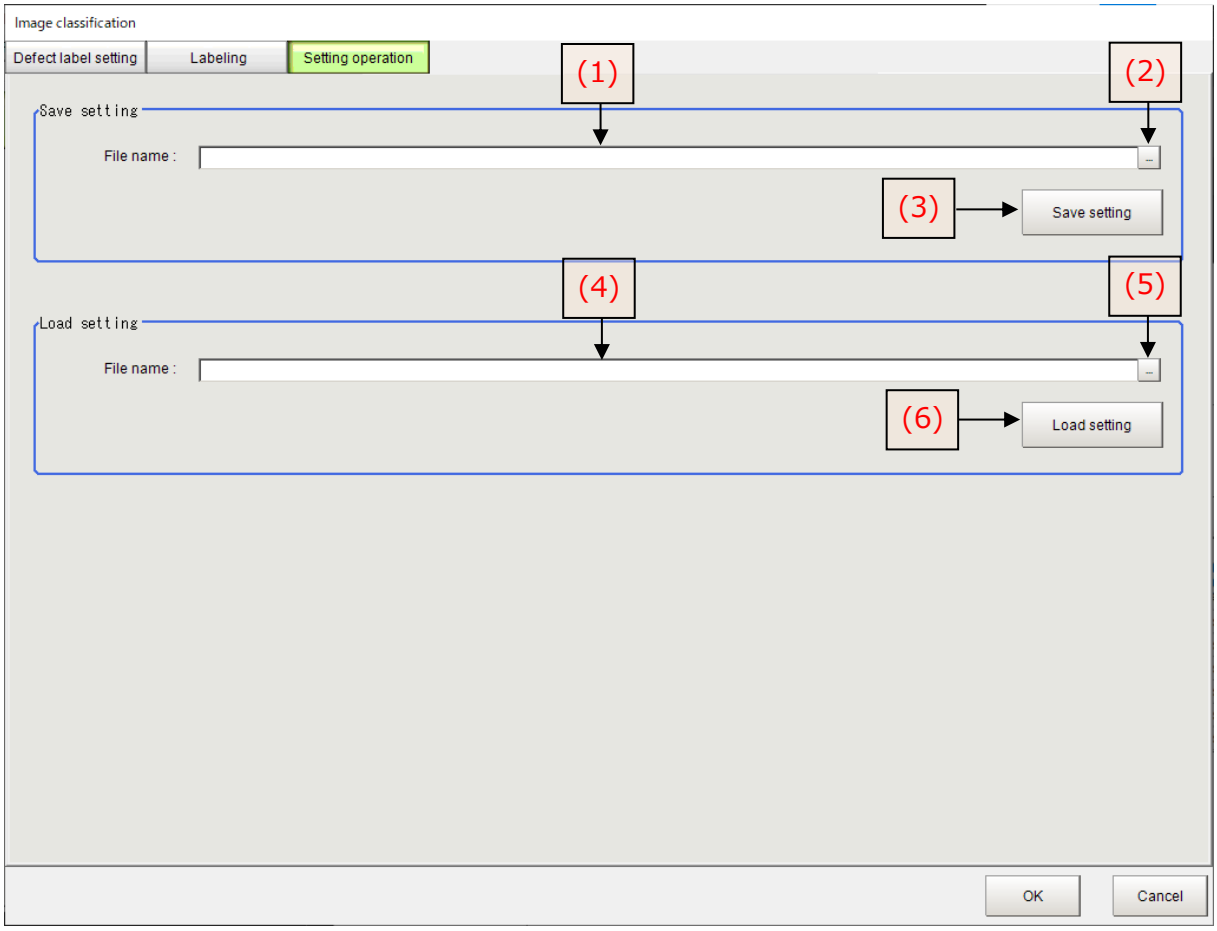
If you move to the labeling tab without setting the defect label and parameter, the following dialog will be displayed.



No.	Name	Contents
1	OK button	Close the dialog.

10.2.1.4 Save/Load setting tab

In the Save/Load setting tab, the settings of the defect label setting tab and labeling tab are saved/load.



<Settings of save/load setting tab>

No.	Name	Contents
1	Save file name	A character string cannot be entered directly. The file name (absolute path) set with the save file explorer call button is displayed.
2	Explorer call button for saved files	Calls Explorer to set the destination path and file name for the saved file. The file extension is csv.
3	Save setting	Saves the current setting data with the file name displayed in save file name.
4	Load file name	A character string cannot be entered directly. The file name (absolute path) set with the Explorer call button for load file is displayed.
5	Explorer call button for load file	Calls Explorer to set the load destination path and file name of the load file. The file extension is csv.
6	Load setting	Loads the file displayed in load file name as setting data.

Save setting

Settings for image classification are output to a csv file in the following format by save setting.

SceneGroupTitle	[SceneGroup]				
SceneTitle	[Scene]				
LabelSetting					
SetNum	[Set Number]				
Label0	[Defect label]	[Unit]	[Parameter]	[Comment]	
. . .					
Label19	[Defect label]	[Unit]	[Parameter]	[Comment]	
Labeling					
Image0	[File name]	[Judge label]	[Defect label 0]	. . .	[Defect label 19]
. . .					
ImageXXXX	[File name]	[Judge label]	[Defect label 0]	. . .	[Defect label 19]

Load setting

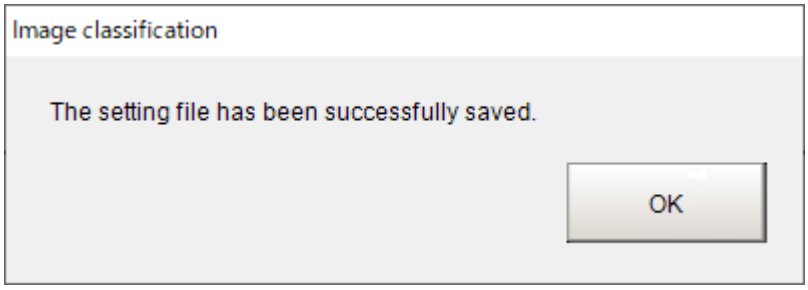
You can reflect the past setting data by loading the csv saved by saving settings. If the image file described in the load csv does not exist in the logging or folder selected as the image to be re-measured, a reference error mark "!" will be displayed at the end of the file

name. If there is an image file not listed in the loaded csv in the logging or folder selected as the image to be re-measured, it will be read as an image without a label.

Dialog

・Setting save success dialog

If the settings are saved successfully, the following dialog will be displayed.



No.	Name	Contents
1	OK button	Close the dialog.

・Save file name not set error dialog

If saving is executed without setting a save file name, the following dialog will be displayed.

No.	Name	Contents
1	OK button	Close the dialog.

・Defect label, parameter undefined error dialog

The following dialog will be displayed if saving is performed without setting the defect label and parameter.

No.	Name	Contents
1	OK button	Close the dialog.

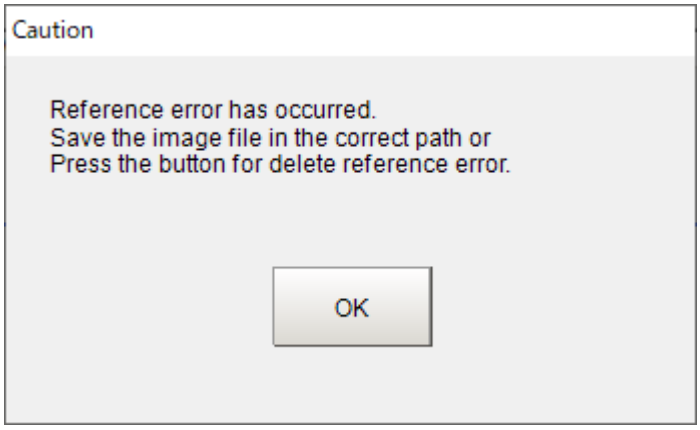
・Setting loading success dialog

If the settings are loaded successfully, the following dialog will be displayed.

No.	Name	Contents
1	OK button	Close the dialog.

・Reference error dialog

If you fail to read the image file described in the loaded csv, the following dialog will be displayed.

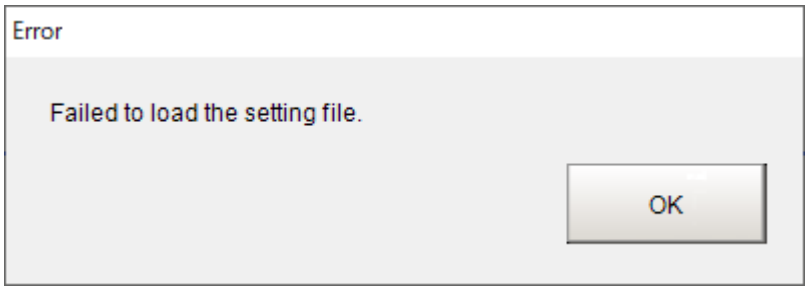


No.	Name	Contents

1	OK button	Close the dialog.

・Unit number mismatch error dialog

If the processing unit number and processing unit described in the loaded csv do not match the flow, the following dialog will be displayed.

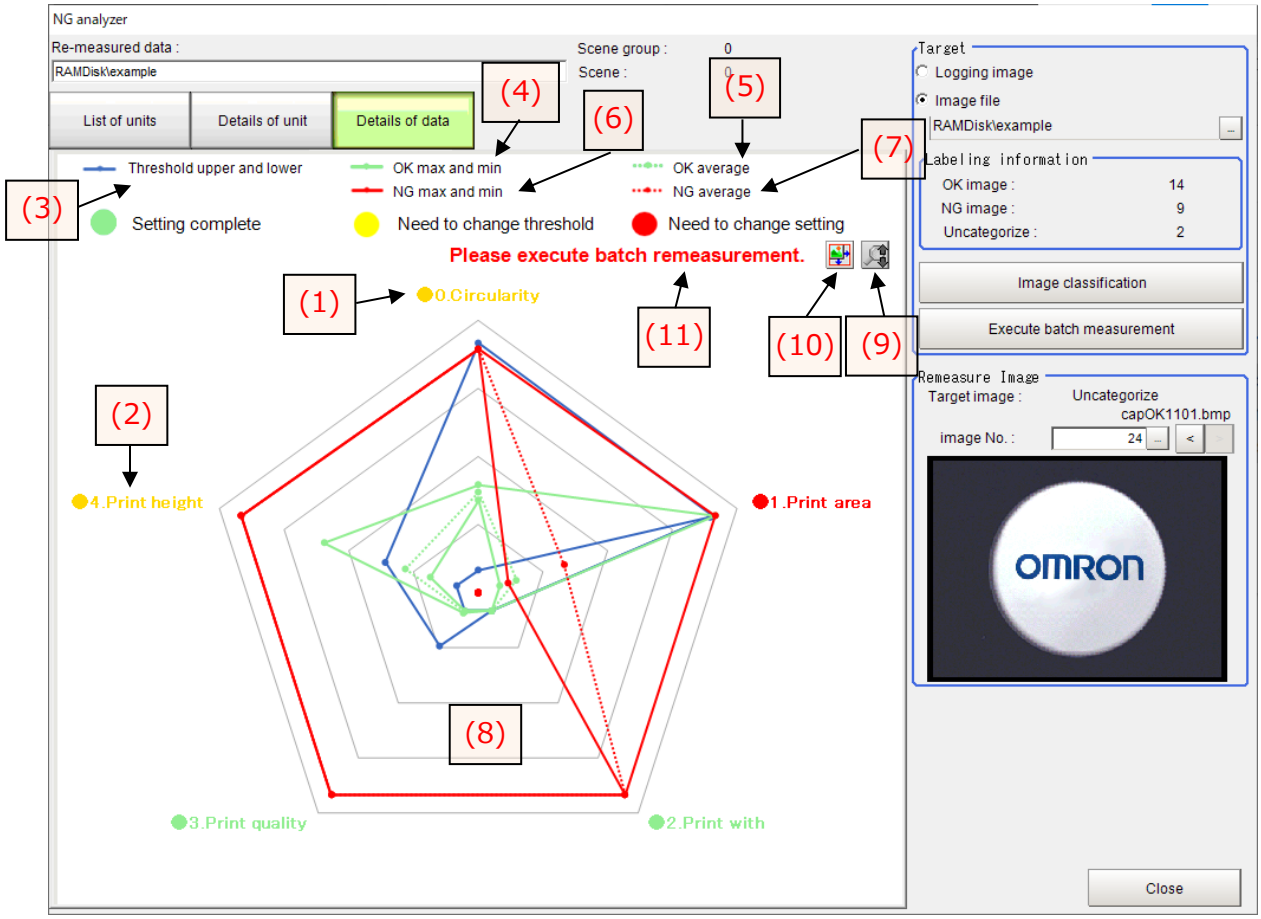


No.	Name	Contents
1	OK button	Close the dialog.

10.2.2 Rader chart display

10.2.2.1 Rader chart

After pressing the execute batch remeasurement button, the radar chart will be displayed on the details of data tab. The radar chart displays a graph for each defect label set in image classification. If labeling is not performed, the radar chart will not be displayed.



<Display contents of the radar chart>

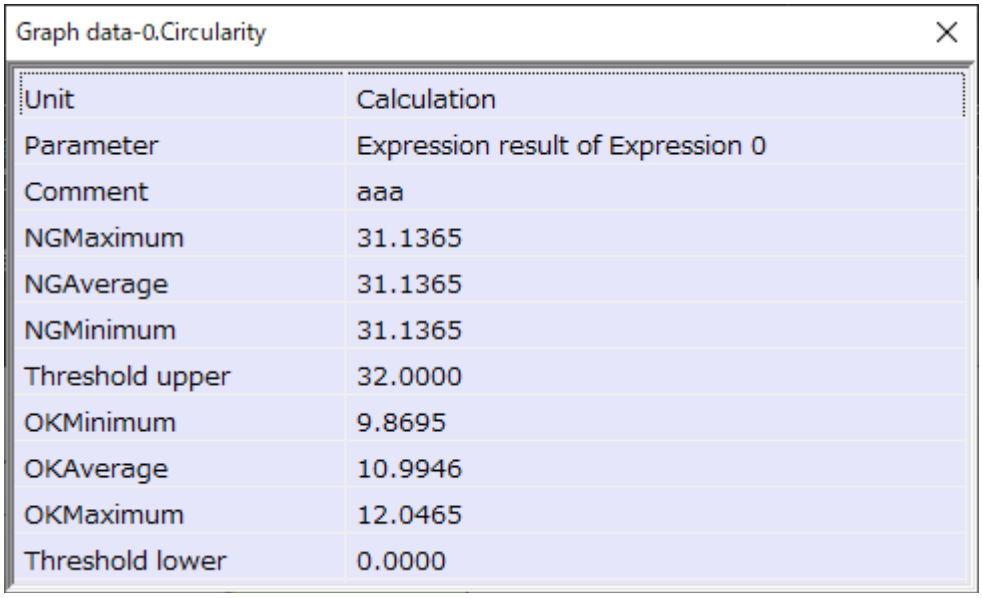
No.	名称	内容
1	Setting adjustment status	The setting adjustment status of the defect label is displayed in the following three patterns. 1. Green circle (Setting completed): The parameter for the OK image and the NG image are separated, and the threshold is set between the parameter for the OK image and the NG image. Judgment condition = Correct judgment of all OK/NG images in parameter. 2. Yellow circle (Need to change threshold): The parameter for the OK image and the NG image are separated, but the threshold is not set between the parameter for the OK image and the NG image. By adjusting the threshold value, the status becomes a green circle (Setting completed). Judgment condition= All OK images and NG images in the parameter are judged incorrectly and there is no NG image

		value between the OK minimum value and the OK maximum value in the parameter. 3. Red circle (Need to change setting): The parameter of the OK and NG images are not separated.It is necessary to adjust parameters other than the threshold. Judgment condition = There is an NG image value between the OK minimum value and the OK maximum value in the parameter.
2	Defect label	The defect label set in image classification is displayed.The setting adjustment status is displayed in 3 patterns in the same way as setting adjustment status(No.1). Right click to open the graph data window. Left click to open the defect label parameter adjustment window.
3	Threshold upper and lower graph	Display the threshold (upper limit, lower limit) in the parameter of the defect label in a graph.
4	OK max and min graph	Display the OK max and OK min in the parameter of the defect label in a graph.
5	OK average graph	Display the OK average in the parameter of the defect label in a graph.
6	NG max and min graph	Display the NG max and NG min in the parameter of the defect label in a graph.
7	NG average graph	Display the NG average in the parameter of the defect label in a graph.
8	Radar chart	Threshold upper lower graph, OK maximum value graph, OK minimum value graph, OK average value graph, NG maximum value graph, NG minimum value graph, NG average value graph are displayed for each defect label. The graph is scaled and displayed based on defect label 0 so that the magnitude of the measurement value of each defect label and the magnitude relationship between OK and NG are the same on the graph. You can change the display position by dragging while the magnification is being changed.
9	Scale button	After pressing the scale button, you can scale the radar chart by scrolling the mouse wheel.
10	Magnification change release button	Returns the display magnification of the radar chart to the initial state.
11	Warning display	When the setting of the processing unit in the flow is changed in

		the defect label parameter adjustment window, “Please execute batch remeasurement.” Is displayed in red. After execution of batch remeasurement, it will be hidden.

10.2.2.2 Graph data window

By right clicking the defect label on the radar chart, the graph data of the selected defect label can be displayed. The graph data window is a modeless window and is always displayed in front of the main screen of the NG Analyzer.



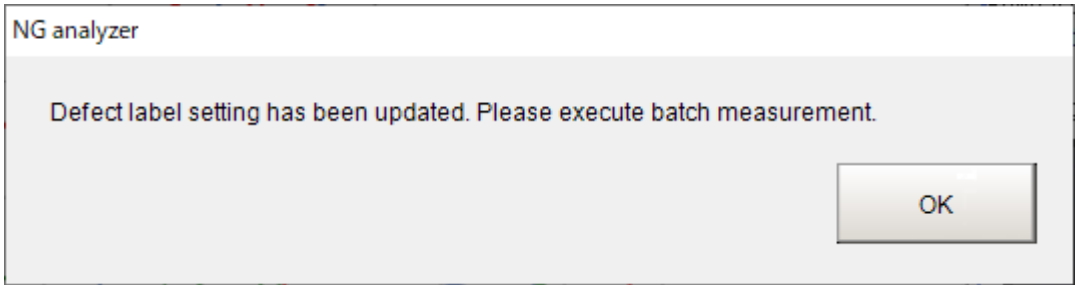
<Display contents of graph data>

No.	Name	Contents
1	Title bar	Graph data – N.defect label is displayed. N:label number
2	Defect label setting	Displays the unit, parameter, and comment.
3	Graph data	Displays the maximum value of OK images, average value of OK images, minimum value of OK images, maximum value of NG images, average value of NG images, minimum value of NG images, and thresholds (upper and lower limits).

10.2.2.3 Dialog

・Defect label setting change notification dialog

If you left click or right click the defect label on the radar chart without execution of batch remeasurement after changing the defect label setting in the image classification window, the following dialog will be displayed.



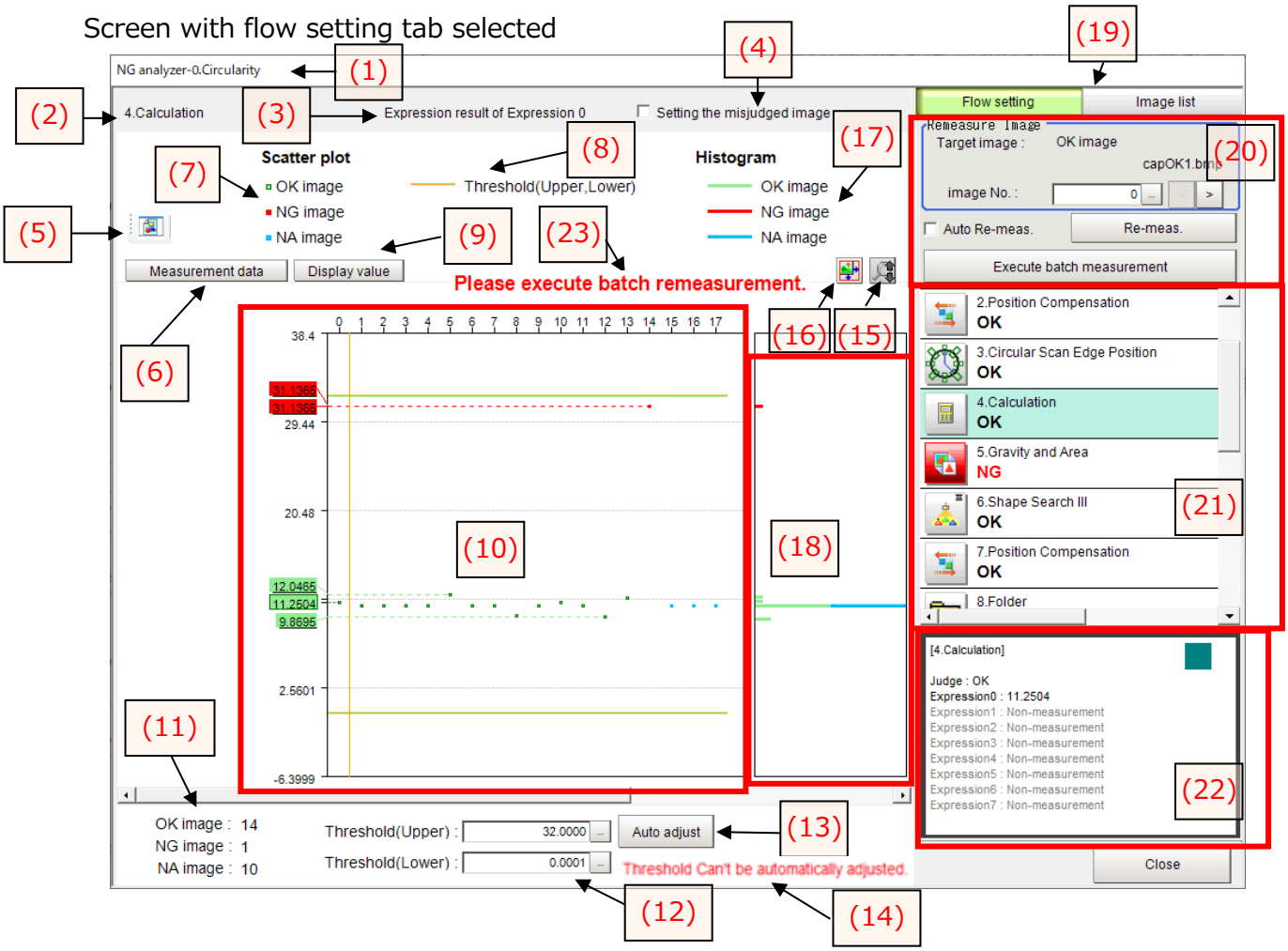
No.	Name	Contents
1	OK button	Close the dialog.

10.2.3 Defect label parameter adjustment

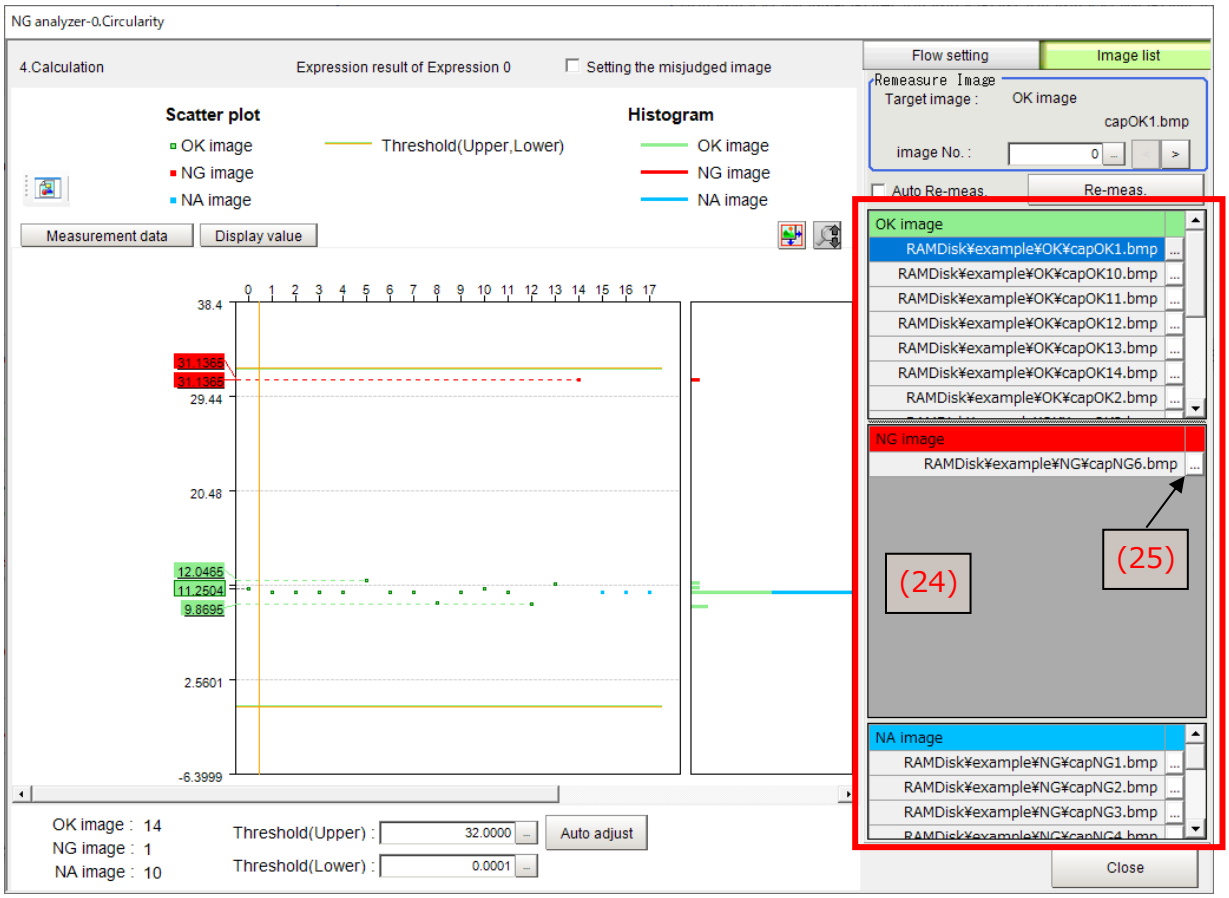
10.2.3.1 Defect label parameter adjustment window

Multiple defect Label Parameter adjustment windows can be opened at the same time. Flow settings are common in all defect label parameter adjustment window. The defect label parameter adjustment window is a modeless window that is always displayed in front of the main screen of the NG Analyzer.

Screen with flow setting tab selected



Screen with the image list tab selected



<Display contents of defect label parameter adjustment>

No.	Name	Contents
1	Title bar	Graph data – N.defect label is displayed. N:label number
2	Unit	Displays the unit of the defect label set in image classification.
3	Parameter	Displays the parameter of the defect label set in image classification.
4	Setting the misjudged image	[Settings] When OFF, all images are subject to adjustment. When ON, only images that were misjudged during the previous batch remeasurement are subject to adjustment. If you turn on “Setting the misjudged image”, the following will change. ・Image list Only images that were misjudged during the previous batch remeasurement are displayed. ・Image No.

		Images that were misjudged during the previous batch remeasurement will be renumbered. ・Scatter plot Only images that were misjudged during the previous batch remeasurement are displayed. ・Histogram Only images that were misjudged during the previous batch remeasurement are displayed. ・Number of OK and NG and NA images Displays the number of OK and NG images misjudged during the previous batch re-measurement. The number of NA images is 0. ・Operation after pressing execute batch remeasurement button Scatter plots, histograms, and radar charts on the main screen for other defect labels are not updated. [Setting range] ON,OFF [Initial value: OFF]
5	Image preview	Displays the image preview.
6	Measurement data	Displays the measurement data window.
7	Image on scatterplot	Displays graphics representing OK, NG, and NA images on a scatterplot.
8	Threshold on scatterplot	Displays graphics representing the threshold (upper and lower limits) on the scatterplot.
9	Display value	Displays the display value window.
10	Scatter plot	Displays scatter plots of parameter for OK, NG, and NA images. The horizontal axis is the image number, and the vertical axis is the measured value. Thresholds (upper and lower limits) are displayed as lines parallel to the horizontal axis. When the setting of the processing unit in the flow is changed in the defect label parameter adjustment window, the graphics of OK image, NG image, NA image, threshold (upper limit, lower limit) are all grayed out. After executing batch remeasurement, it returns to the original color. Shift key + mouse wheel scrolls horizontally.
11	Number of images	Displays the number of OK, NG, and NA images.
12	Threshold (upper and lower limits)	Displays the thresholds (upper and lower limits) of parameter. The threshold (upper and lower limits) can be changed from the

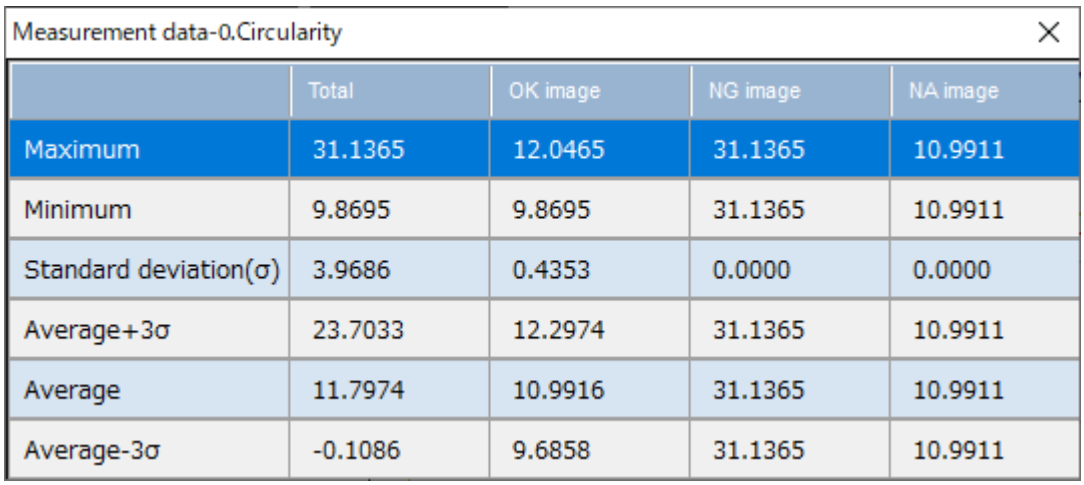
		value setting control, and the changed value is reflected in the threshold (upper and lower limits) of the parameter of the unit.
13	Auto adjust button	It becomes active when the threshold can be automatically adjusted from measured values of each image. If the threshold cannot be adjusted automatically, it becomes inactive and “Cannot adjust threshold automatically” is displayed in red below the button. Whether or not the threshold can be set automatically is determined from the “setting adjustment status” on the radar chart. Green circles and yellow circles indicate that automatic adjustment is possible. The threshold calculation method when automatic adjustment is executed is as follows. ・Threshold (lower limit) If there is an NG image with a value smaller than the minimum value of the OK image, calculate as follows, otherwise set the minimum value of the OK image. (minimum value of OK image + maximum value of NG image smaller than minimum value of OK image)/2 Round up to the nearest decimal point. ・Threshold (upper limit) If there is an NG image with a value greater than the maximum value of the OK image, calculate as follows, otherwise set the maximum value of the OK image. (maximum value of OK image + minimum value of NG image greater than maximum value of OK image)/2 Truncate after the decimal point.
14	Warning display	If the threshold cannot be adjusted automatically, the message “Threshold can’t be automatically adjusted.” Is displayed. If the threshold can be automatically adjusted, it will be hidden.
15	Scale button	After pressing the scale button, you can scale the vertical axis of the scatter chart by scrolling the mouse wheel. The vertical axis of the histogram is also scaled accordingly. You can scale the horizontal axis of the scatterplot with Shift key + mouse wheel scroll.
16	Magnification change release button	Returns the display magnification of the scatter chart to the initial state.
17	Image on histogram	Displays graphics representing OK, NG, and NA images on the histogram.

18	Histogram	Displays histograms of OK, NG, and NA images. The horizontal axis is the number of images, and the vertical axis is the measured value. When the setting of the processing unit in the flow is changed in the defect label parameter adjustment window, the OK image, NG image, and NA image graphics are all grayed out. After executing batch remeasurement, it returns to the original color.
19	Tab selection	You can select flow setting tab and image list tab.
20	Image remeasurement control	・Target image Displays whether the currently selected image is an OK image or an NG image. ・Image name label Displays the name of the currently selected image. ・Image No. Displays the number of the currently selected image. This number works with the number on the scatterplot. ・Auto Re-meas. Set whether to automatically measure again when the image number is updated. ・Re-meas. Execute remeasurement of the currently selected image. ・Execution batch remeasurement Remeasure all images. After batch remeasurement is completed, the scatter plot and histogram of all defect label parameter adjustment windows, and the radar chart of the main screen are updated.
21	FlowWindow	Displays the flow of the current scene.
22	TextWindow	Displays detailed results for the unit selected in the flow.
23	Warning display	When the setting of the processing unit in the flow is changed in the defect label parameter adjustment window, “Please execute batch remeasurement.” Is displayed in red. After executing batch remeasurement, it will be hidden.
24	Image list	Displays a list of OK images, NG images, and NA images. Images with the judge label “OK” are OK images, images with the currently selected defect label are NG images, images without the currently selected defect label, images with the judge label “Reserve”, Images without labels are classified as NA images. If “Use NG images as OK images in unlabeled

		defect" in the labeling tab of the image classification window is ON, images do not have the currently selected defect label will be classified as an OK image. .
25	Image classification	Displays the image classification window.

10.2.3.2 Measurement data window

Displays the statistical information of the measurement parameters at the time of the last batch remeasurement. Remeasurement results the measurement data window is a modeless window and is always displayed in front of the defect label parameter adjustment window.



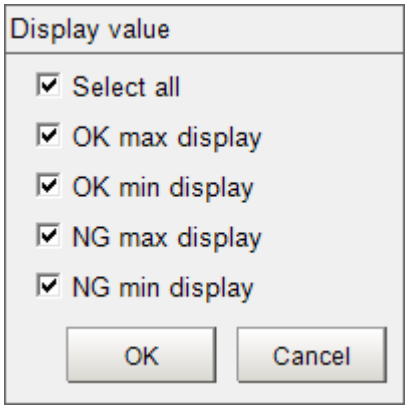
<Display contents of Measurement data window>

No.	Name	Contents
1	Title bar	Graph data – N.defect label is displayed. N:label number
2	Maximum	Displays the maximum values of all images, OK images, NG images, and NA images.
3	Minimum	Displays the minimum values of all images, OK images, NG images, and NA images.
4	Standard deviation(σ)	Displays the standard deviation of all images, OK images, NG images, and NA images.
5	Average+3 σ	The following values are displayed for all images, OK images, NG images, and NA images. Average+3*standard deviation
6	Average	Displays the average of all images, OK images, NG images, and NA images.
7	Average-3 σ	The following values are displayed for all images, OK images,

		NG images, and NA images. Average-3*standard deviation

10.2.3.3 Display value window

Set whether to show or hide the maximum and minimum values of OK and NG images on the scatter plot. The value display window is a modal window.



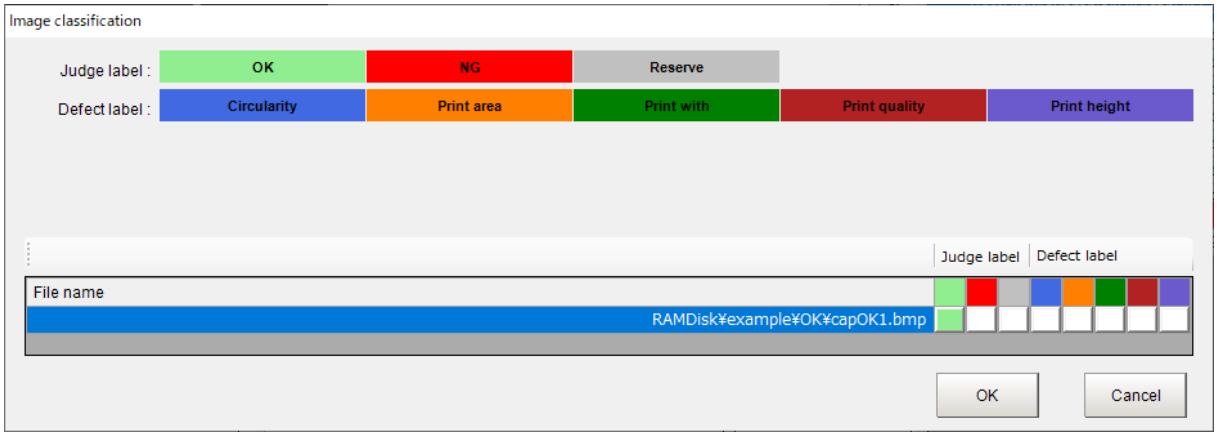
<Display contents of Measurement data window>

No.	Name	Contents
1	Select all	[Settings] When ON, OK max display, OK min display, NG max display, NG min display, are all turned ON.When changing from ON to OFF, OK max display, OK min display, NG max display, NG min display are all turned OFF. [Setting range] ON,OFF [Initial value: ON]
2	OK max display	[Settings] When ON, the OK image maximum value is displayed on the scatter plot. [Setting range] ON,OFF [Initial value: ON]
3	OK min display	[Settings] When ON, the OK image minimum value is displayed on the scatter plot. [Setting range] ON,OFF [Initial value: ON]
4	NG max display	[Settings] When ON, the NG image maximum value is displayed on the scatter plot.

		[Setting range] ON,OFF [Initial value: ON]
5	NG min display	[Settings] When ON, the NG image minimum value is displayed on the scatter plot. [Setting range] ON,OFF [Initial value: ON]

10.2.3.4 Image classification window

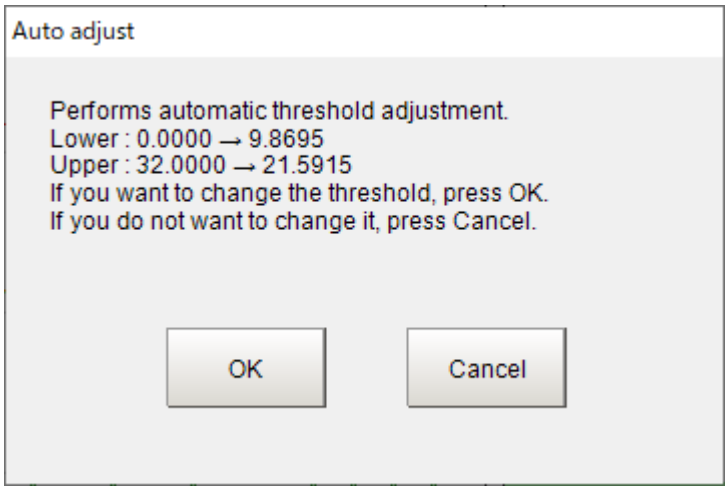
Displays the image classification window for the selected image. Of the functions in the labeling tab of the image classification window, you can only label the selected image. The image classification window is a modeless window and is always displayed in front of the defect label parameter adjustment window.



10.2.3.5 Dialog

・Auto adjust reflection confirmation dialog

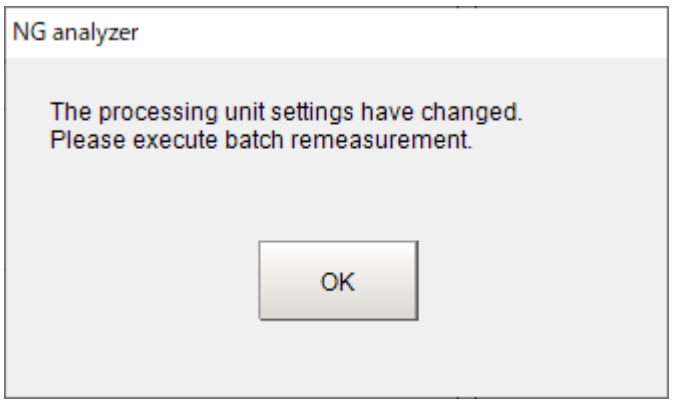
The following dialog is displayed when auto adjust is executed.



No.	Name	Contents
1	OK button	Reflects the value after auto adjust. Close the dialog.
2	NG button	Retains the value before automatic setting. Close the dialog.

・Processing unit setting change notification dialog

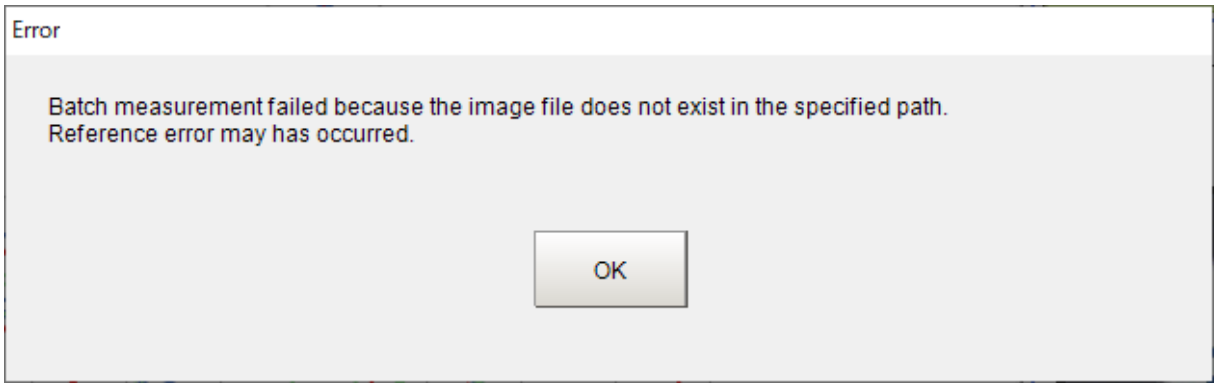
If you change the settings of the processing unit, the following dialog will be displayed.



No.	Name	Contents
1	OK button	Close the dialog.

・Batch remeasurement error dialog

If executing batch remeasurement while there is an image reference error, the following dialog will be displayed. The same applies to the main screen of the NG Analyzer.

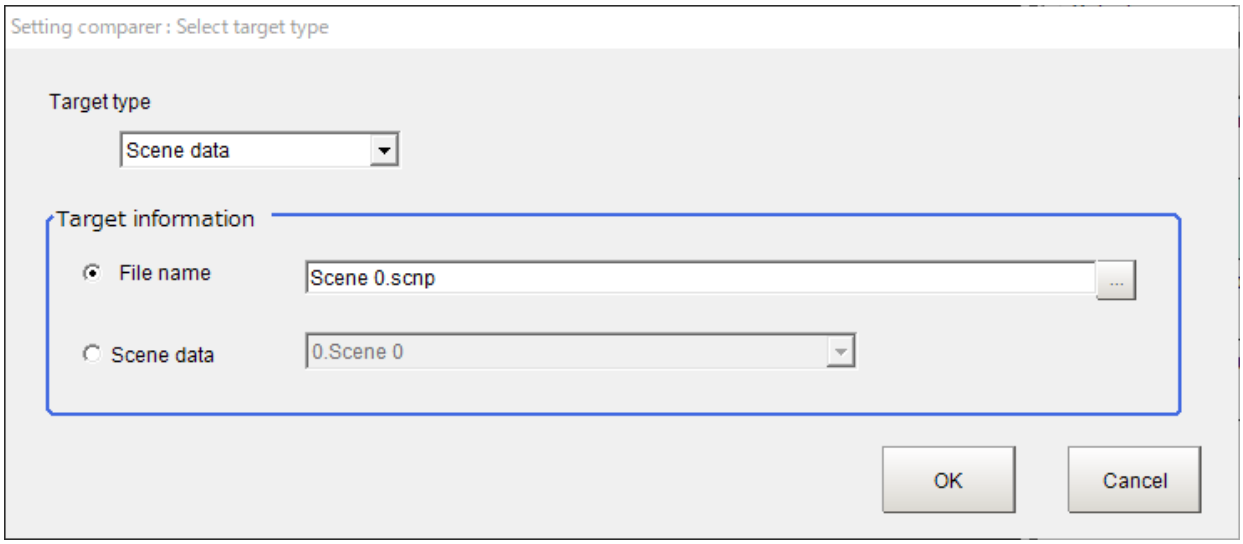


No.	Name	Contents
1	OK button	Close the dialog.

10.3 Setting comparer

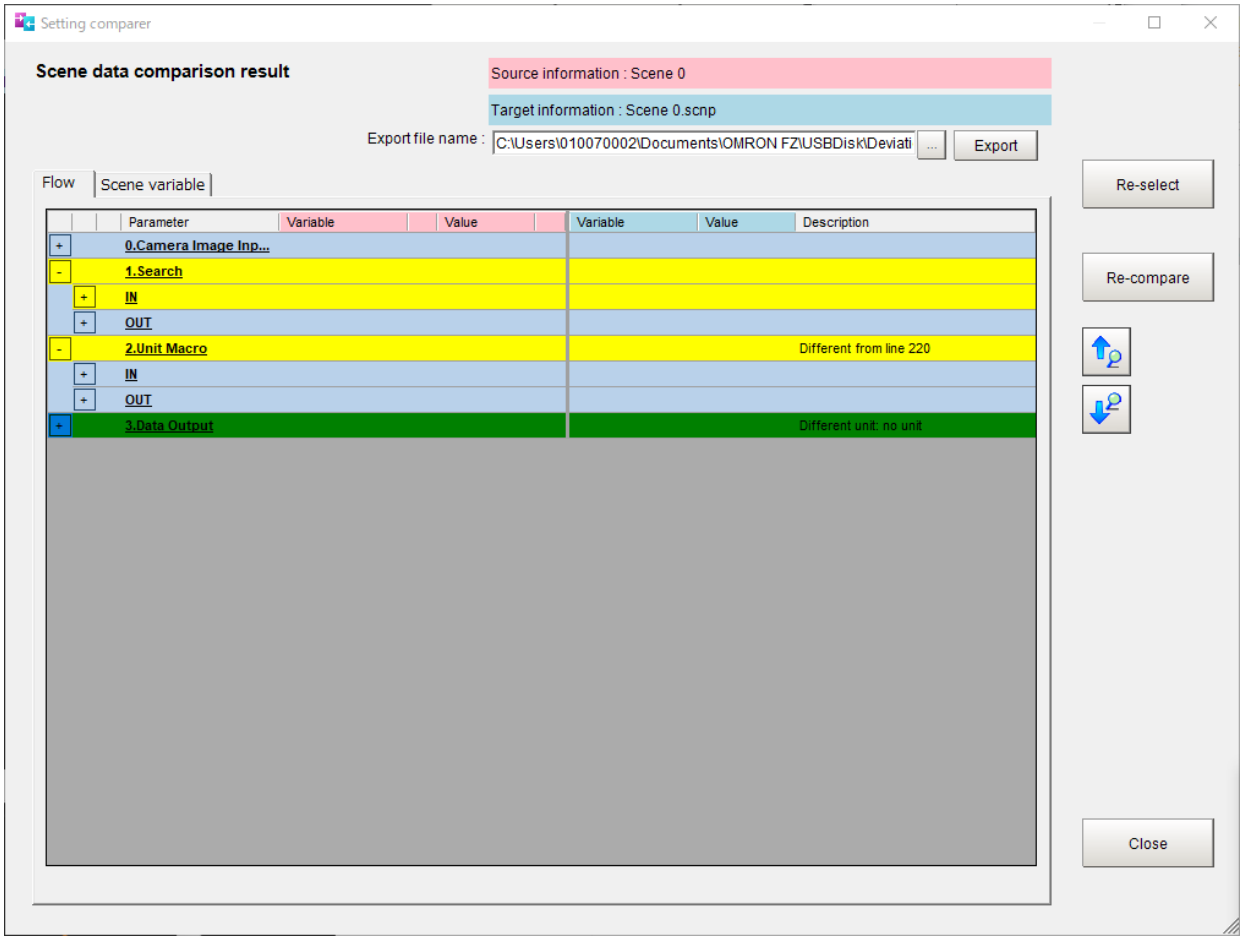
10.3.1 Compare Scene Data Differences

This window is used to select a target data to compare. It is displayed when you select [Tool] → [Setting Comparer] from the menu bar.



Setting item	Description
File name	Select the target file name. Selectable file types: System setting (encrypted) file extension: .inip, System variables file extension; .csv, Scene data (encrypted) file extension: .scnp

Click OK. A comparison will be done with the selected data. The Scene data comparison results will be displayed on the main screen of Setting Comparer.



How the scene data comparison results are displayed on the Setting Comparer screen:

Processing units with different processing items between the comparison source and target scenes are highlighted in green.

Unit Macro Processing Units with differences in macro code are highlighted in yellow. Also, the difference start line is described in the description column.

10.3.2 Diff file export

Specify the save destination folder and file name in “Export file name” and click “Export”. Then, the setting value difference is output to the file.

The CSV file format is as follows:

#Processing unit number, Processing unit title

#IN/OUT

#Parameter type

#Data title, assigned source variable, source data, assigned target variable, target data,

description

Only units and data with differences are output.

Output example of CSV File:

- There is a difference in the parameter “Candidate level “, of the unit “1. Search”
- There is a difference in the macro code of the unit “2. Unit macro”.
- A unit corresponding to unit “3. Normal Data” does not exist in the comparison target scene.

#Parameter,Variable1,Value1,Variable2,Value2,Description
#1,Search
#IN
#Measurement
“Candidate Point Level “,””,”65”,””,”70”,”0 to 100”
#3,Data Output,,,,Different unit: no unit

10.4 FH Data to Text

10.4.1 Output data format

This section describes the format and file name of various output FH setting data.

Scene Data

File name

[Prefix]_L[Line number]_ScGr[Scene Group number]_Sc[Scene number]_[Scene title].txt

Example:

Prefix: ”2023-06-26”、
Line number: 0,
Scene Group number: 0
Scene number : 1
Scene title: ”InspectionA”
➔ File name:”2023-06-26_L0_ScGr0_Sc1_InspectionA.txt”

Format

The output file format is the same as that output by the “Setting Values Download / Upload Tool”.

Unit Macro

File name

[Prefix]_L[Line number]_ScGr[Scene Group number]_Sc[Scene number]_Un[Unit number]_UnitMacro.mcr

Example:

Prefix: ”2023-06-26”、

Line number: 0,

Scene Group number: 0

Scene number : 1

Unit number: 3

➔ File name:”2023-06-26_L0_ScGr0_Sc1_Un3_UnitMacro.mcr”

Format

The output file format is the same as the file obtained by executing “Export” on the Unit Macro setting window.

Unit Calculation Macro

File name

[Prefix]_L[Line number]_ScGr[Scene Group number]_Sc[Scene number]_Un[Unit number]_UnitCalcMacro.mcr

Example:

Prefix: ”2023-06-26”、

Line number: 0,

Scene Group number: 0

Scene number : 1

Unit number: 4

➔ File name:”2023-06-26_L0_ScGr0_Sc1_Un4_UnitCalcMacro.mcr”

Format

The output file format is the same as the file obtained by executing “Export” on the Unit Calculation Macro setting window.

Scene Control Macro

File name

[Prefix]_L[Line number]_ScGr[Scene Group number]_Sc[Scene number]_SceneControlMacro.mcr

Example:

Prefix: ”2023-06-26”、

Line number: 0,

Scene Group number: 0

Scene number : 1

➔ File name:”2023-06-26_L0_ScGr0_Sc1_SceneControlMacro.mcr”

Format

The output format is the same as that displayed in the program input area of the scene control macro tool.

Communication Command Macro

File name

[Prefix]_L[Line number]_CommCommandMacro.mcr

Example:

Prefix: ”2023-06-26”、

Line number: 0,

➔ File name:”2023-06-26_L0_CommCommandMacro.mcr”

Format

The output file format is almost the same as the file obtained by executing “Export" on the setting screen of the communication command macro tool. It differs in case of upper/lower case and presence/absence of indentation.

Layout

File name

[Prefix]_L[Line number]_FZ-Layout.csv

Example:

Prefix: ”2023-06-26”、

Line number: 0,

➔ File name:”2023-06-26_L0_FZ-Layout.csv”

Format

The output file format is the same as that output by the “Layout download and upload Tool”.

System Setting

File name

[Prefix]_L[Line number]_ FZSysSet.ini

Example:

Prefix: ”2023-06-26”、

Line number: 0,

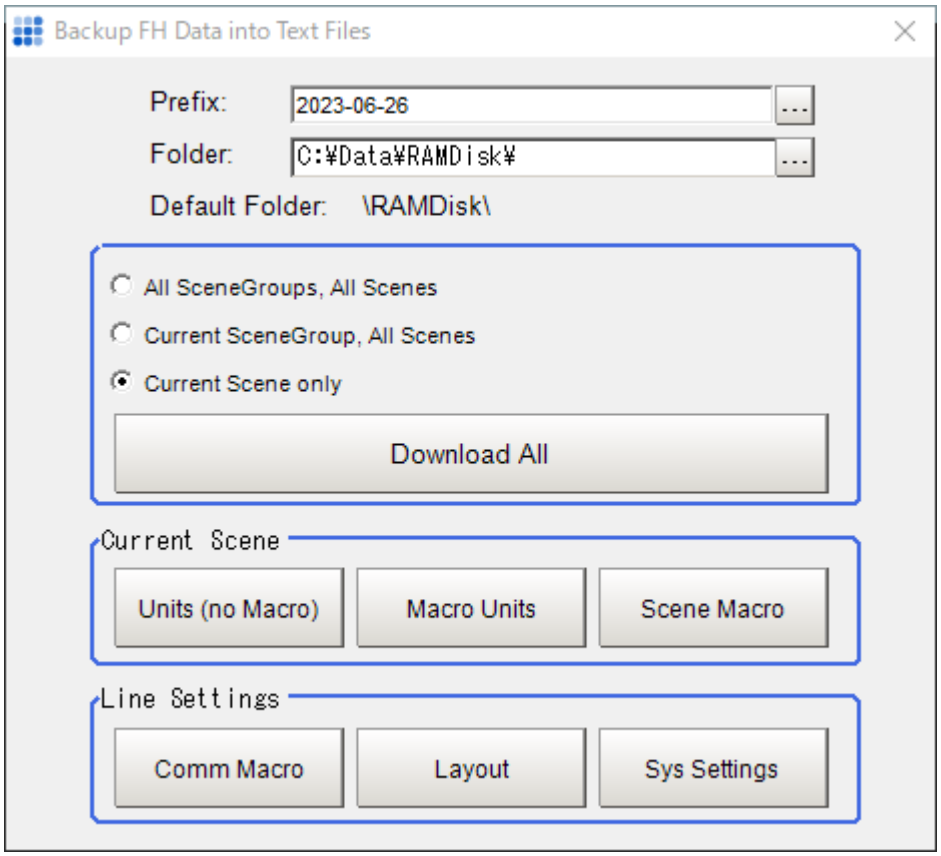
➔ File name:”2023-06-26_L0_ FZSysSet.ini”

Format

The output file format is the same as that output by the “Save to File” from the function menu.

10.4.2 Tool window

This window is used to export the FH settings. It is displayed when you select [Tool] → [FH Data To Text] from the menu bar.



Setting item	Description
Prefix	Specify a prefix to append to the exported file name.
Folder	Specify the folder name as an absolute path
Download All	Exports all setting data including scene, unit macro communication macro, scene macro, layout and system settings. For scene data, it is possible to specify the range of scene data to be exported. - All scene groups, all scenes. - Current scene group, all scenes. - Current scene.
Unit (no Macro)	Exports the current scene data in text format. No macro code is saved.
Macro Units	Exports the macro code of all Unit Macro and Unit Calculation Macro included in the current scene in text format.
Scene Macro	Exports the scene control macro code of the current scene in text format.
Comm Macro	Exports the communication command macro code in text format.

Layout	Exports the layout settings in text format.
Sys. Settings	Exports the system settings in text format.

When you press each button, the export process will be executed and some messages indicating the progress will be sent via the non-procedural protocol.

10.4.3 Security Setting

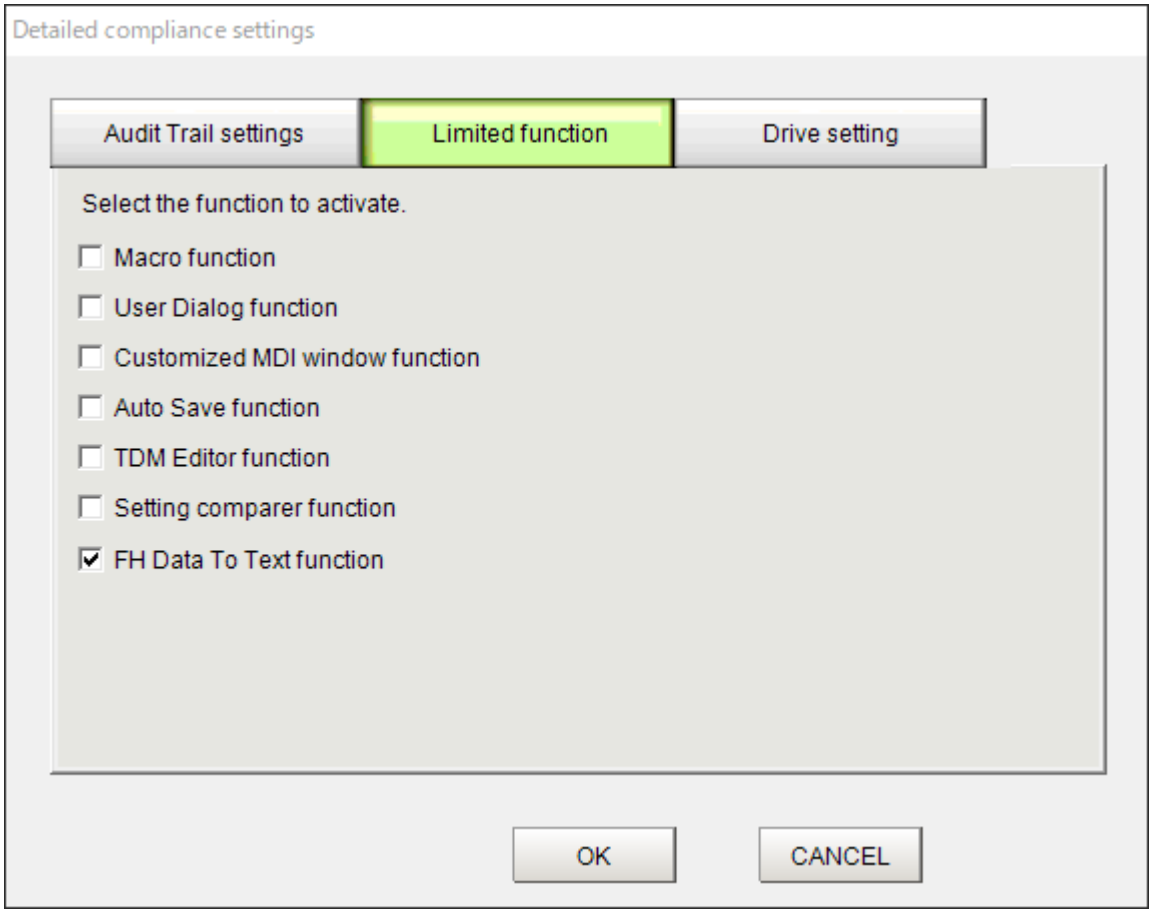
Security settings can restrict the command “EXPORTSETTINGTXT”.

10.4.4 Detailed Compliance Setting

This function enable / disable can be set on the Detailed compliance setting screen. This function is disabled by default.

<CAUTION>

Disabling the FH Data To Text function in the Detailed compliance settings does not disable the command execution. If you want to disable the command function as well, set the command restrictions on the security setting.



10.5 Logging Image transfer

10.5.1 Distinguished name of logging image

When referencing logging image with the NG Analyzer, the file path of logging image is displayed as follows.

//./LoggingImage/YYYY-MM-DD-XX-XX-XX-XXXX.ifz

Date Measurement ID

Example://./LoggingImage/2022-07-27-12-23-45-4150.ifz

10.5.2 Logging Image transfer

Logging image can be saved to the outside from Tool “Logging image transfer”.

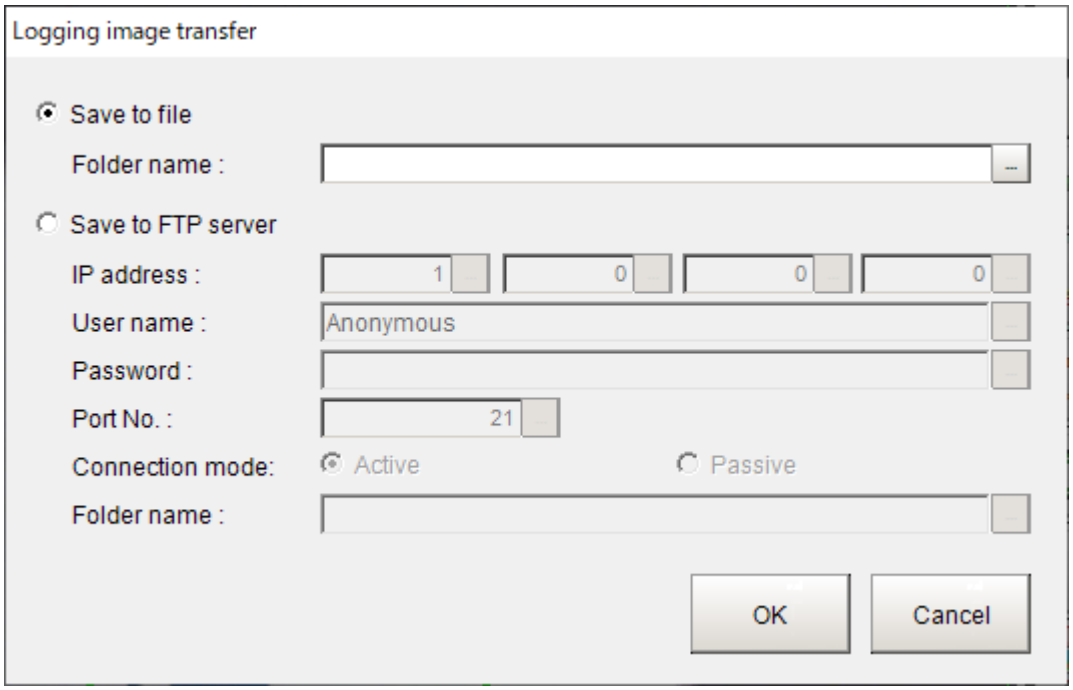
The transfer destination is the external storage, NAS, and FTP server connected to the controller.

The image file name will be as follows.

YYYY-MM-DD-XX-XX-XX-XXXX.ifz

Date Measurement ID

Example:2022-07-27-12-23-45-4150.ifz



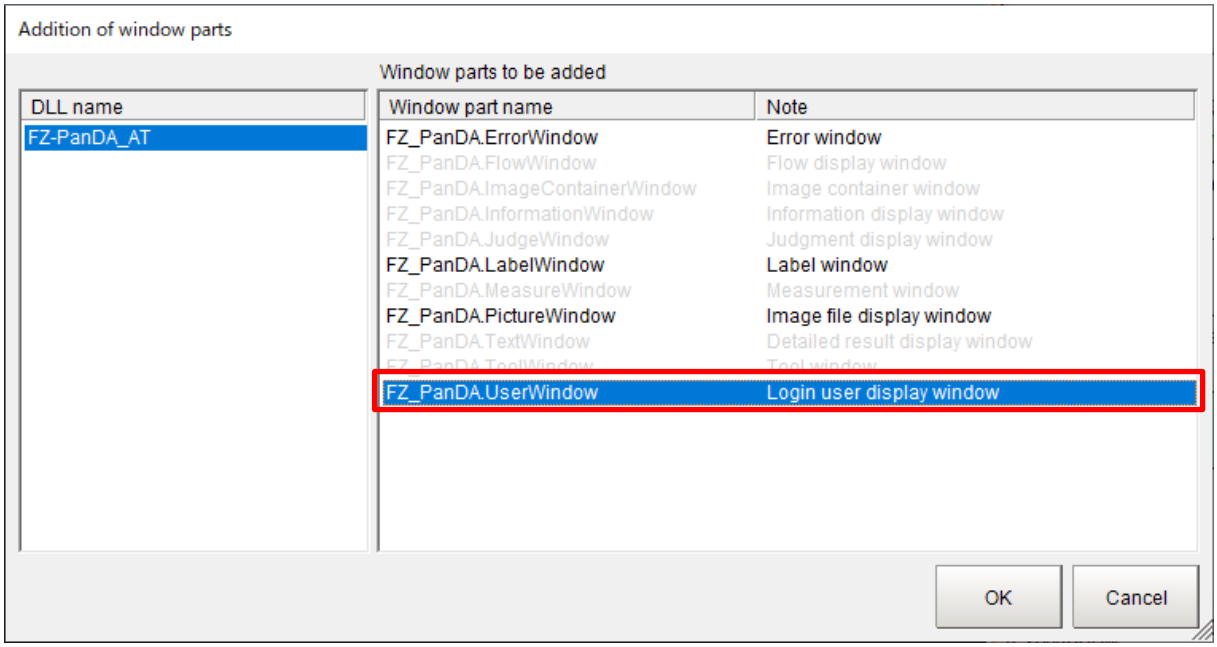
No.	Name	Content
1	Save to file	【Settings】

		When ON, the main body logging image is transferred to the path set in the folder name. 【Setting range】 ON,OFF [Initial value: ON]
2	Folder name	Set the folder path to transfer logging image.
3	Save to FTP server	【Settings】 When ON, logging image is transferred to the FTP server. 【Setting range】 ON,OFF [Initial value: OFF]
4	IP address	【Settings】 Set the IP address of the connection destination FTP server. 【Setting range】 1.0.0.0 to 223.255.255.255 [Initial value: 1.0.0.0]
5	User name	【Settings】 Set the user name when connecting to the FTP server. 【Setting range】 0 to 127 characters [Initial value: Anonymous]
6	Password	【Settings】 Set the password for connecting to the FTP server. 【Setting range】 0 to 127 characters [Initial value: (nothing)]
7	Port No	【Settings】 Set the port number of the connection destination FTP server. 【Setting range】 0 to 65535 [Initial value: 21]
8	Connection mode	【Settings】 Set the FTP connection method. 【Setting range】 Active,Passive [Initial value: Active]
9	Folder name	【Settings】 Set the save destination directory of the FTP server. 【Setting range】 0 to 254 [Initial value: (nothing)]

10.6 FZ_PanDA.UserWindow

10.6.1 Addition of window parts

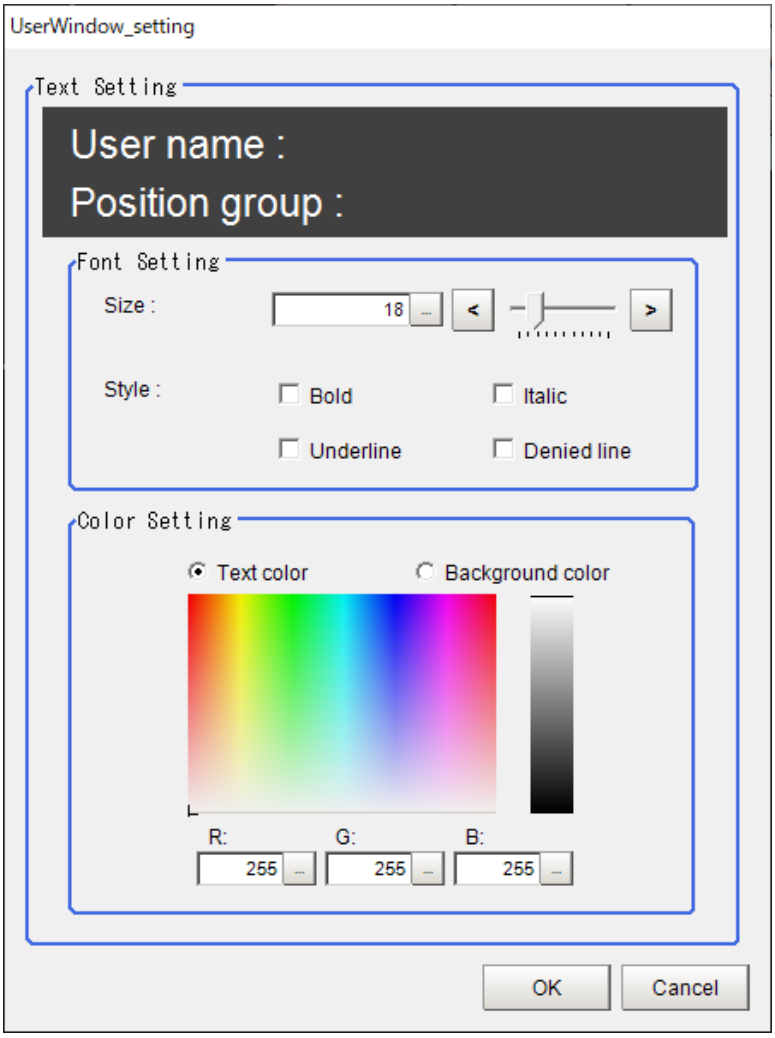
In layout editing, select [Addition of window parts], then choose [FZ_PanDA] → [FZ_PanDA.UserWindow].



Only one of this part can be placed per layout.

10.6.2 Settings screen

The settings screen for this window part is as follows.



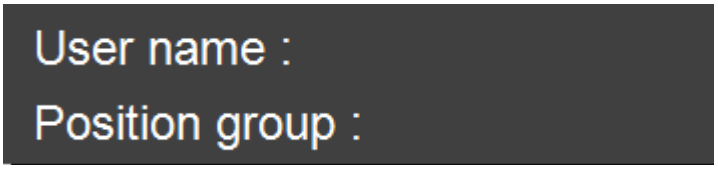
No.	Name	Description
1	Size	[Setting] Specify the font size. [Setting range] 1 to 100 [default: 18]
2	Bold	[Setting] Make the text bold. [Setting range] ON,OFF [default: OFF]
3	Italic	[Setting] Make the text Italic. [Setting range] ON,OFF [default: OFF]
4	Underline	[Setting] Underline the text.

		[Setting range] ON,OFF [default: OFF]
5	Denied line	[Setting] Strike through the text. [Setting range] ON,OFF [default: OFF]
6	Text color-R	[Setting] Specify the R value for the text color. [Setting range] 0 to 255 [default: 255]
7	Text color-G	[Setting] Specify the G value for the text color. [Setting range] 0 to 255 [default: 255]
8	Text color-B	[Setting] Specify the B value for the text color. [Setting range] 0 to 255 [default: 255]
9	Background color-R	[Setting] Specify the R value for the background color. [Setting range] 0 to 255 [default: 255]
10	Background color-G	[Setting] Specify the G value for the background color. [Setting range] 0 to 255 [default: 255]
11	Background color-B	[Setting] Specify the B value for the background color. [Setting range] 0 to 255 [default: 255]

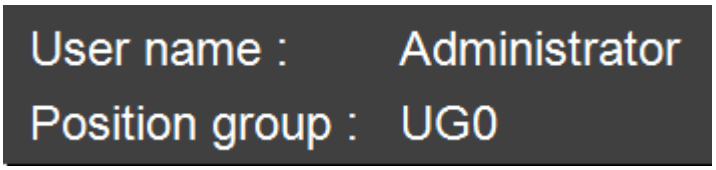
10.6.3 Main screen

The display on the main screen of this window part is as follows.

<When logged out>



<When logged in>



When logged in, display the following.

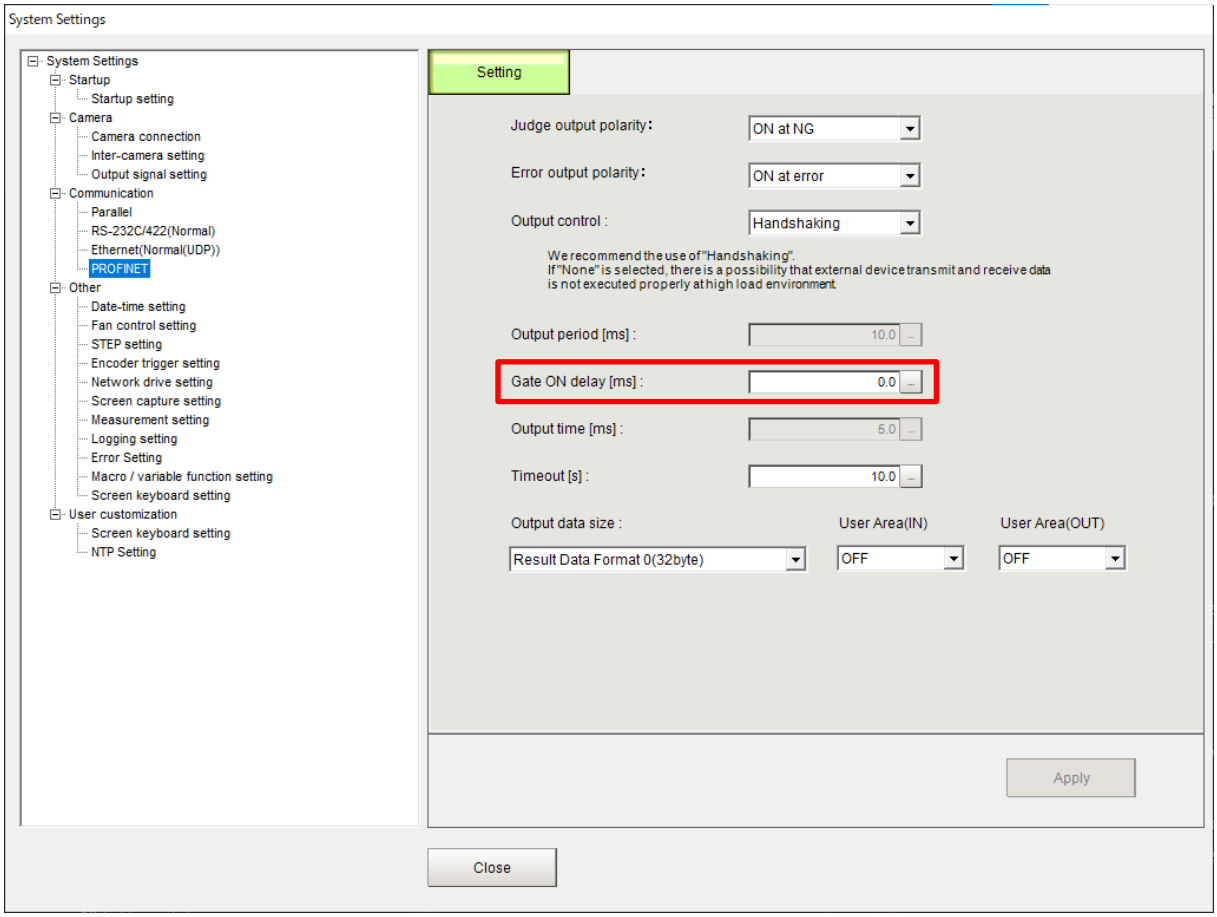
・User name

・Position group

10.7 GATE ON delay of Fieldbus

10.7.1 Setting screen

Select [Tool] → [System Settings] → [Startup setting] → [Communication] → [Fieldbus], then set it to EtherNet/IP or PROFINET. Afterward, select [Tool] → [System Settings] → [EtherNet/IP] or [PROFINET].



No.	Name	Description
1	Gate ON delay [ms]*1,2	[Setting] Set the time from the result output to the ON state of the GATE signal. [Setting range] 0 to 1000 [default: 0]

*1 Set Gate ON delay + Output time to be less than Output period.

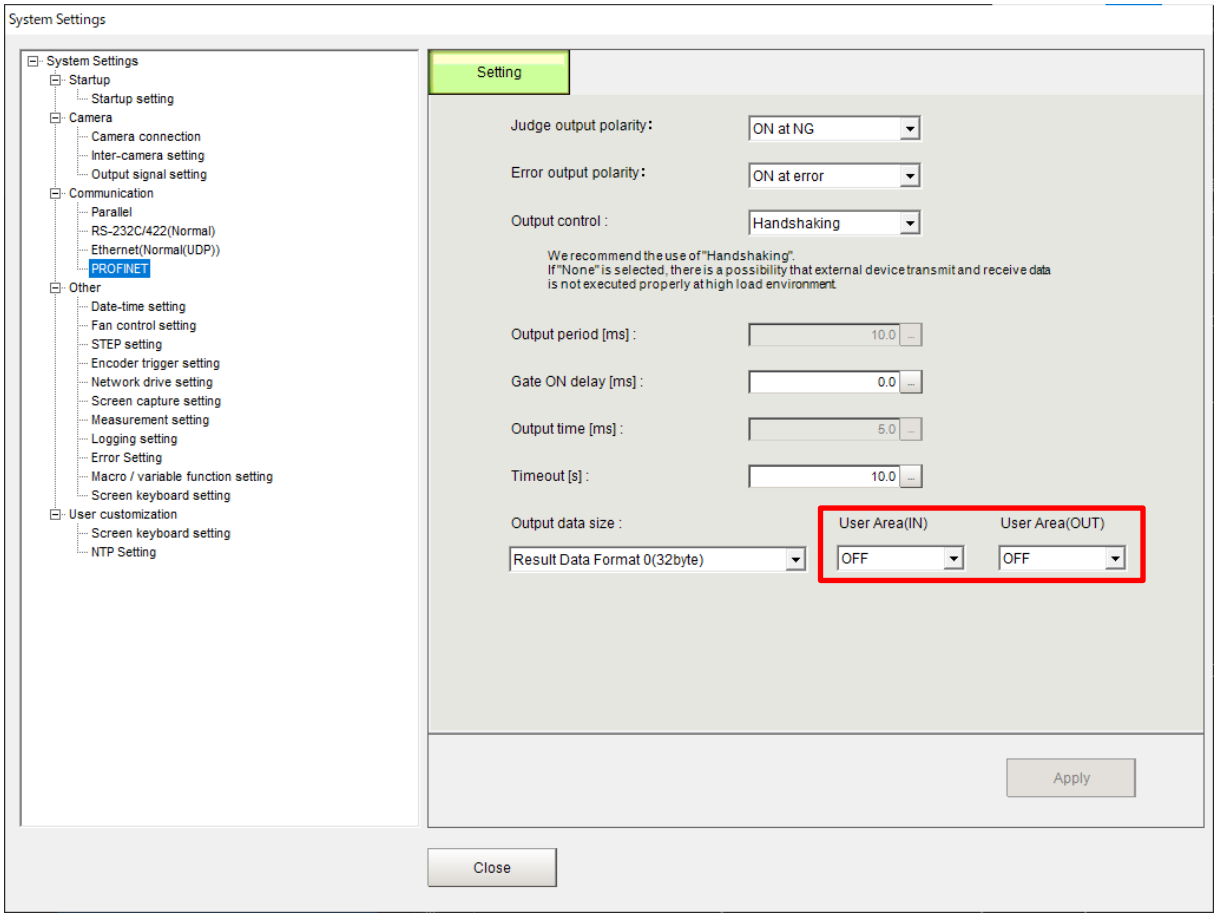
*2 This is only effective when Output control is None.

10.7.2 Delay Operation

The GATE signal is ON with a delay set by Gate ON delay.

10.8 User Area Expansion

Select [Tool] → [System Settings] → [Startup setting] → [Communication] → [Fieldbus], then set it to EtherNet/IP or PROFINET. Afterward, select [Tool] → [System Settings] → [EtherNet/IP] or [PROFINET].



No.	Name	Description
1	User Area(IN)	[Setting] Set the size of User Area(IN). [Setting range] OFF, 32bytte, 64byte, 128byte, 256byte [default: OFF]
2	User Area(OUT)	[Setting] Set the size of User Area(OUT). [Setting range] OFF, 32bytte, 64byte, 128byte, 256byte [default: OFF]

10.9 Logging Image memory capacity expansion

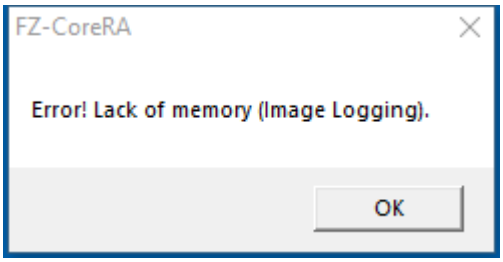
10.9.1 Expand the amount of Logging Image memory

Expand the amount of memory available for image logging to 19.2GB.

From	To
256MB	19.2GB

10.9.2 Error dialog

If you install and start this software other than FH-5551, the software will fail to start and the following dialog will be displayed.



No.	Name	Content
1	OK button	Close the dialog.

11. Non-procedural Command Specification

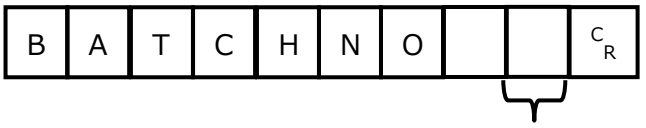
Describe the non-procedural command added or changed by this customized software.

Other communication commands are the same as standard software.

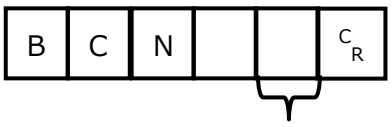
11.1. Set batch number

Set batch number.

<Command format>

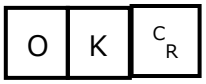


Or

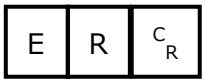


<Response format>

When processing is performed normally



When processing is not performed normally



<Parameters explanation>

Batch number	Set batch number (max. 40digits) The following characters can be used. ・Lowercase letters [a-z] ・Uppercase letters [A-Z] ・Numbers [0-9] ・Half-width spaces

-Do not turn off power of the Sensor Controller until return the response.

<Restrictions>

In the following cases, this command does not process normally and ER is returned.

・ Parameter is out of range

（Example）
When you set batch number the following case:
- batch number:ABC123

<Command>

B	A	T	C	H	N	O		ABC123	C_R

<Response>

O	K	C_R

11.2. Get batch number

Get batch number.

<Command format>

B	A	T	C	H	N	O	C_R

Or

B	C	N	C_R

<Response format>

When processing is performed normally

O	K	C_R

When processing is not performed normally

E	R	C_R

-Do not turn off power of the Sensor Controller until return the response.

<Restrictions>
Nothing

（Example）
When you get batch number the following case:
- batch number:ABC123

<Command>

B	A	T	C	H	N	O	C_R

<Response>

ABC123	C_R

O	K	C_R

11.3. Clear batch number

Clear batch number.

<Command format>

C	L	R	B	A	T	C	H	N	O	C_R

Or

C	B	N	C_R

<Response format>

When processing is performed normally

O	K	C_R

When processing is not performed normally

E	R	C_R

-Do not turn off power of the Sensor Controller until return the response.

<Restrictions>
Nothing

（Example）
When you clear batch number the following case:

<Command>

C	L	R	B	A	T	C	H	N	O	C_R

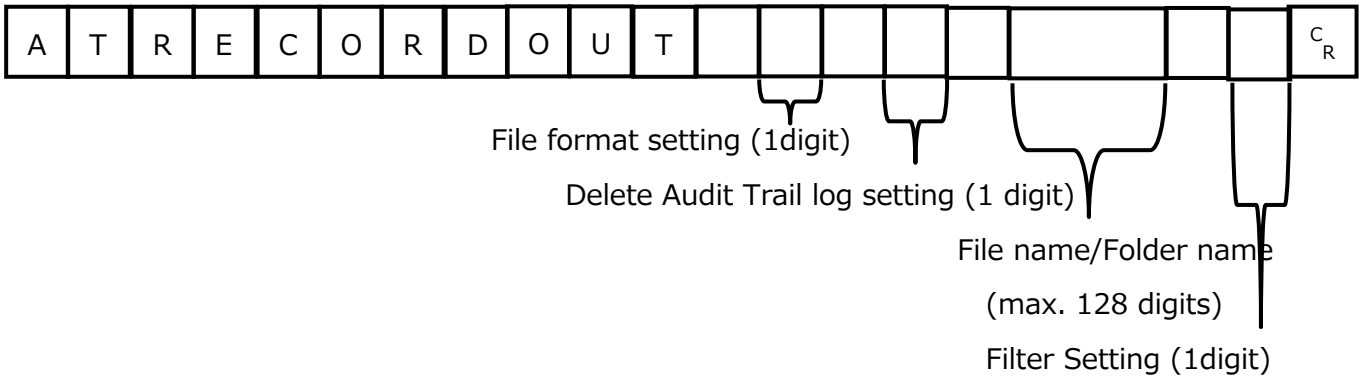
<Response>

O	K	C_R

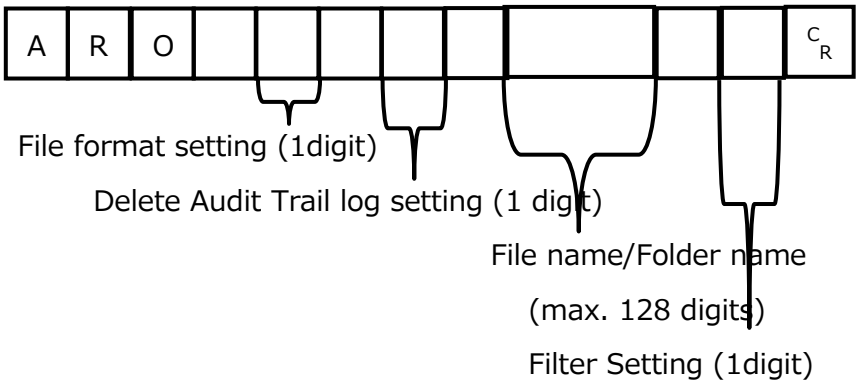
11.4. Audit Trail Log Output

Audit Trail log can be output to PDF file or CSV file. It is saved in the specified file path in the specified file format.

<Command format>



Or

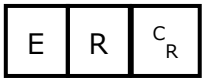


<Response format>

When processing is performed normally

O	K	C_R

When processing is not performed normally



<Parameters explanation>

File format	0 : PDF file format 1 : CSV file format 2 : Depends on the output file format setting menu.
Delete Audit Trail Log	0 : Delete 1 : Do not delete
File name /Folder name	The name of the file containing Audit Trail log you wish to save. Specify the folder name as an absolute path (max. 128 digits). When the extension is PDF or CSV, the log is saved with the specified file name. When the extension is anything other than PDF or CSV, the log is saved with ".pdf" or ".csv" appended to the file name. If there is no extension (only the folder name is given), the log is saved to a file named Time stamp.pdf" or "Time stamp.csv".
Filter setting	-1 : Depends on the output file format setting menu. 0 : Not use 1 : Filter0 2 : Filter1 4 : Filter2 8 : Filter3 16 : Filter4

-Do not specify a save destination other than RAMDisk or External memory, i.e. C:¥ProgramFiles¥FZ

The saved Scene data area may be reduced and the Sensor Controller will not perform correctly.

-Do not turn off power of the Sensor Controller until return the response.

<Restrictions>

In the following cases, this command does not process normally and ER is returned.

- Parameter is out of range
- If the specified save destination does not exist
- When the memory of the specified save destination is insufficient

(Example)

When you save the following case:

-File name: ATLog.pdf
-Drive name: E:¥
-Folder name of the external memory: RCD001
-And after outputting the log, delete Audit Trail log.
-No filter

<Command>

A	R	O		0		0		E:¥RCD001¥ATLog.pdf		0	$^{C}_{R}$

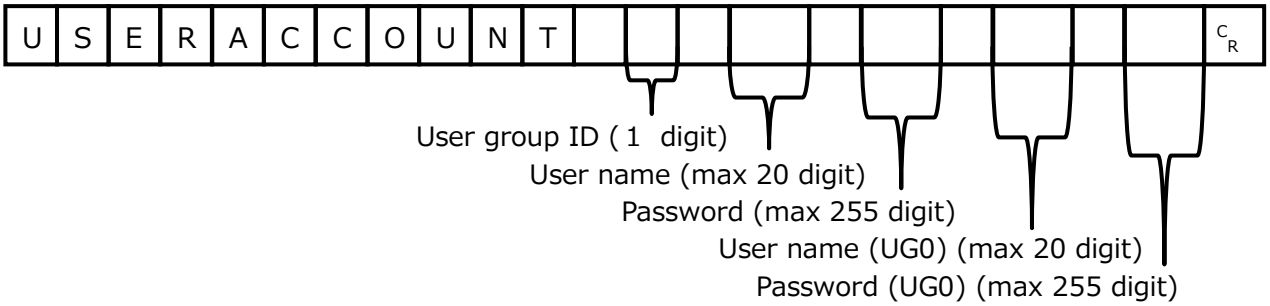
<Response>

O	K	$^{C}_{R}$

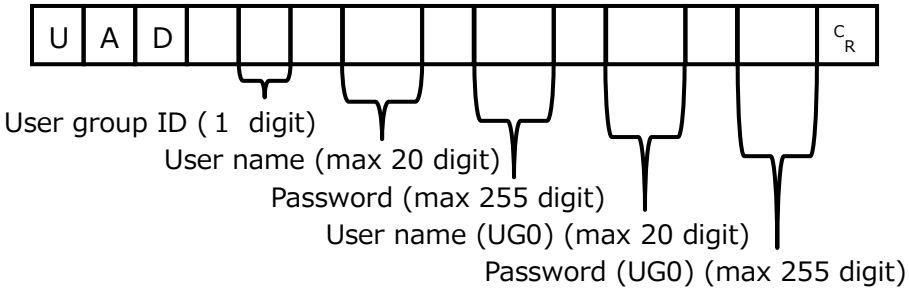
11.5. Add a User Account to the Specified User Group

Add a user account to the specified belonging user group.
If the target user account has already been registered, the setting will be overwritten.

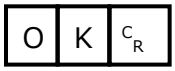
<Command format>



Or



<Response format>
When processing is performed normally



When processing is not performed normally

<Parameters explanation>

User group ID	Specify the user group ID of the user group to which the user account is added (0 to 7).
User name	Specify the user name of the user to be added (2 to 20 characters).
Password	Specify the password of the user to be added (1 to 255 characters).
User name (UG0)	Specify the user name of the user who belongs to the user group 0 (2 to 20 characters).
Password (UG0)	Specify the password of the user who belongs to the user group 0 (1 to 255 characters).

Only the following characters can be used for user name and password.
Lowercase letters: [a to z], capital letters: [A to Z], numbers: [0 to 9], signs: !#$%&~?@=/*-+_.

<Restrictions>

In the following cases, this command does not process normally and ER is returned.

- Parameter is out of range
- The password of the additional account is stuck in the password policy
- When the password of UG0 is invalid
- When an account other than UG0 is set for the UG0 user name and password
- The password of UG0 does not satisfy the password policy
- When the account of UG0 is locked
- When the additional user name is “RecoveryAccount”

(Example)

When adding a user account with user name " new " and password " abc " with UG0 user " old ", UG0 password " efg "

<Command>

U	A	D		0		n	e	w		a	**b**	c		o	l	d		e	f	g	C_R

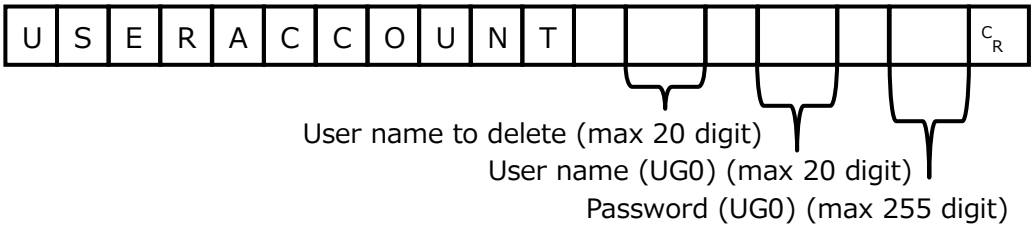
<Response>

O	K	C_R

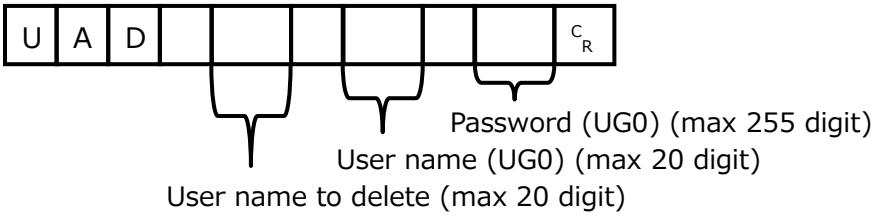
11.6. Delete the User Account

Delete the specified user account.

<Command format>

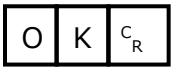


Or

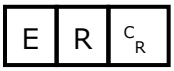


<Response format>

When processing is performed normally



When processing is not performed normally



<Parameters explanation>

User name to delete	Specify the user name of the user to be deleted (2 to 20 characters).
User name (UG0)	Specify the user name of the user who belongs to the user group 0 (2 to 20 characters).
Password (UG0)	Specify the password of the user who belongs to the user group 0 (1 to 255 characters).

Only the following characters can be used for user name and password.
Lowercase letters: [a to z], capital letters: [A to Z], numbers: [0 to 9], signs: !#$%&~?@=/*-+_.

<Restrictions>

In the following cases, this command does not process normally and ER is returned.

- Parameter is out of range
- There is no account to delete
- When the password of UG0 is invalid
- When an account other than UG0 is set for the UG0 user name and password
- The password of UG0 does not satisfy the password policy
- When the account of UG0 is locked

(Example)

When deleting the user account of user name " new " with UG0 user " old ", UG0 password " efg "

<Command>

U	A	D		n	e	w		o	l	d		e	f	g	C_R

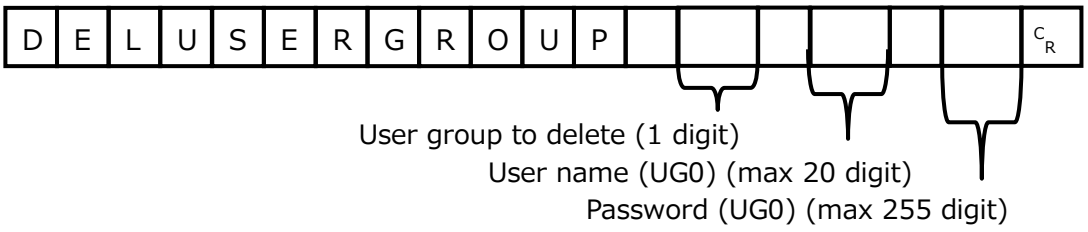
<Response>

O	K	C_R

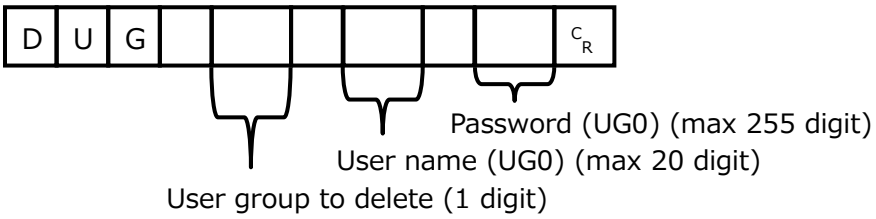
11.7. Delete User Group

Deletes all accounts in the specified user group. If UG0 is specified as the deletion target, user accounts other than the user specified in the parameter are deleted.

<Command format>

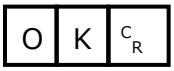


Or

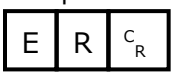


<Response format>

When processing is performed normally



When processing is not performed normally



<Parameters explanation>

User group to delete	Specify the user group to be deleted (1 digit).
User name (UG0)	Specify the user name of the user who belongs to the user group 0 (2 to 20 characters).
Password (UG0)	Specify the password of the user who belongs to the user group 0 (1 to 255 characters).

Only the following characters can be used for user name and password.
Lowercase letters: [a to z], capital letters: [A to Z], numbers: [0 to 9], signs: !#$%&~?@=/*-+_.

<Restrictions>

In the following cases, this command does not process normally and ER is returned.

- Parameter is out of range
- When the password of UG0 is invalid
- When an account other than UG0 is set for the UG0 user name and password
- The password of UG0 does not satisfy the password policy
- When the account of UG0 is locked

(Example)

When deleting the user group “1” with UG0 user " old ", UG0 password " efg "

<Command>

D	U	G		1		o	l	d		e	f	g	$^{C}_{R}$

<Response>

O	K	$^{C}_{R}$

11.8. Get the Current Login User Name

Get the user name of the currently logged in account.
If any accounts are not logged in, ER will be returned.

<Command format>

L	O	G	I	N	A	C	C	O	U	N	T			C_R

Acquisition target (1 digit)

Or

L	A	I			C_R

Acquisition target (1 digit)

<Response format>
When processing is performed normally

User Name	C_R

O	K	C_R

When processing is not performed normally

E	R	C_R

<Parameters explanation>

Acquisition target	0: Local 1: Remote
User name	The user name of the currently logged in account will be response.

<Restrictions>
In the following cases, this command does not process normally and ER is returned.

- Parameter is out of range
- Any accounts are not logged in.

(Example) When getting the currently logged in (local) user name (abc)

<Command>

L	A	I		0	C_R

<Response>

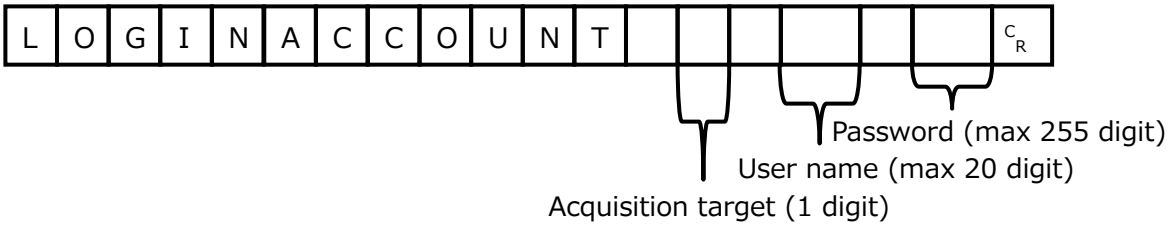
a	b	c	C_R

O	K	C_R

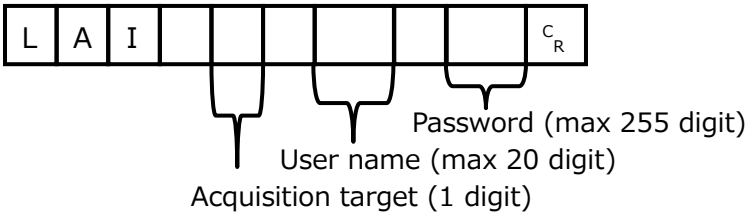
11.9. Switch Login Account

Switch the currently logged in account.

<Command format>

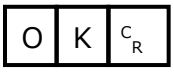


Or



<Response format>

When processing is performed normally



When processing is not performed normally

<Parameters explanation>

Acquisition target	0: Local 1: Remote
User name	Specify the user name of the user to switch (2 to 20 characters).
Password	Specify the password of the user to switch (1 to 255 characters).

Only the following characters can be used for user name and password.
Lowercase letters: [a to z], capital letters: [A to Z], numbers: [0 to 9], signs: !#$%&~?@=/*-+_.

<Restrictions>

In the following cases, this command does not process normally and ER is returned.

- Parameter is out of range
- There is no account to switch
- When the password of the account to be switched is invalid
- The password of the account to be switched is stuck in the password policy
- When the account to be switched is locked
- When the account name to be switched is “RecoveryAccount”

(Example) When switching to a user with user ID " abc " and password " efg " (local)

<Command>

L	A	I		0		a	b	c		e	f	g	C_R

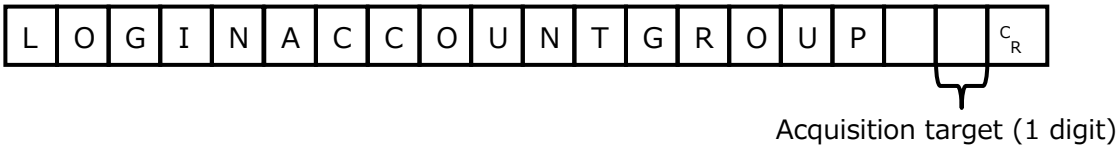
< Response>

O	K	C_R

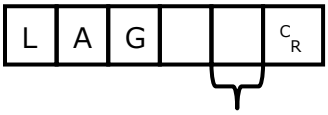
11.10. Get the User Group ID of the Currently Login account

Get the user group ID of the currently logged in account.
If any accounts are not logged in, ER will be returned.

<Command format>

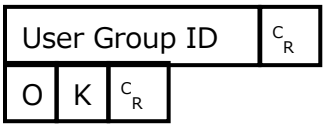


Or

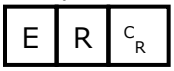


<Response format>

When processing is performed normally



When processing is not performed normally



<Parameters explanation>

Acquisition target	0: Local 1: Remote
User group ID	The user group ID of the currently logged in account will be response.

<Restrictions>

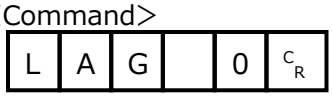
In the following cases, this command does not process normally and ER is returned.

- Parameter is out of range
- Any accounts are not logged in.

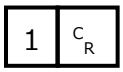
(Example)

When getting the currently logged in (local) user group ID (1)

<Command>



< Response>

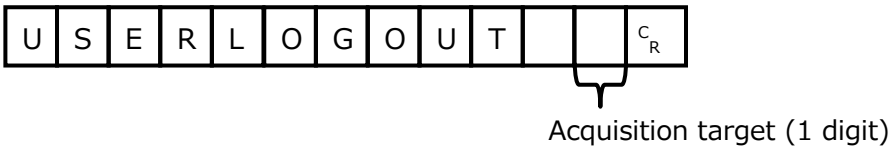


O	K	C_R

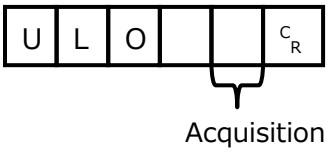
11.11. Logout the Login Account

Log out the currently logged in account.

<Command format>

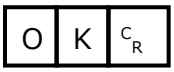


Or



<Response format>

When processing is performed normally



When processing is not performed normally

<Parameters explanation>

Acquisition target	0: Local 1: Remote

<Restrictions>

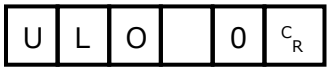
In the following cases, this command does not process normally and ER is returned.

・ Parameter is out of range

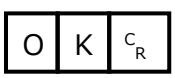
(Example)

When logging out the currently logged-in user account (local)

<Command>



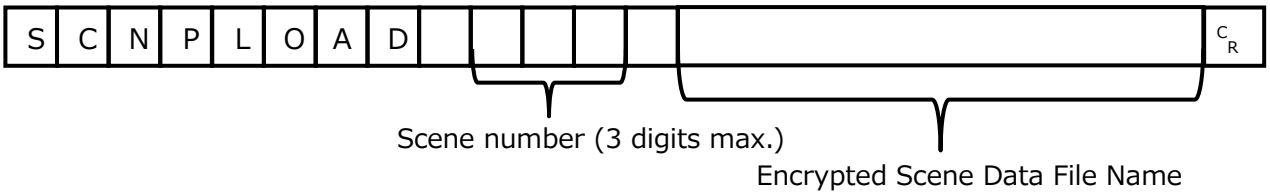
<Response>



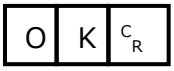
11.12. Load Encrypted Scene Data

Loads the selected Encrypted Scene Data.

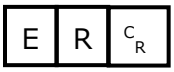
<Command Format>



<Response Format>
When processing is performed normally



When processing is not performed normally



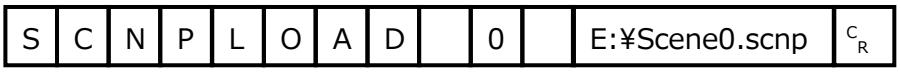
<Parameters Explanation>

Scene No.	Specify the Scene No. to be loaded (0 to 127).
Encrypted Scene Data File Name	The name of the file containing the Scene data you wish to load. Specify the folder name as an absolute path. The file name must include the "SCNP" extension. Only files with the "SCNP" extension can be loaded.

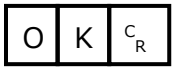
<Important>
Do not turn off power of the Sensor Controller before a response is returned.

(Example)
When loading "Scene0.scnp" to the controller as Scene 0 from external memory (E Drive).

<Command>



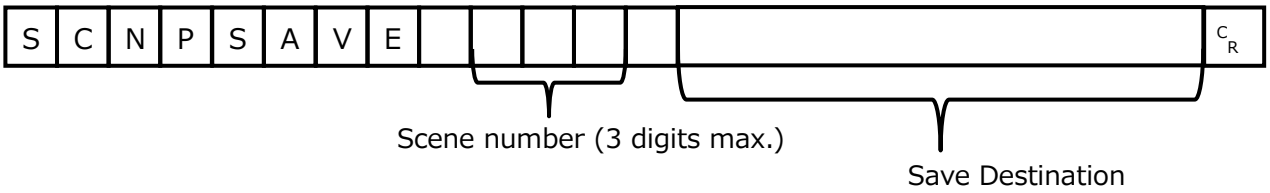
<Response>



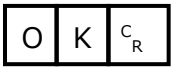
11.13. Save Encrypted Scene Data

Saves the selected scene as Encrypted Scene Data.

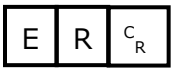
<Command Format>



<Response Format>
When processing is performed normally



When processing is not performed normally



<Parameters Explanation>

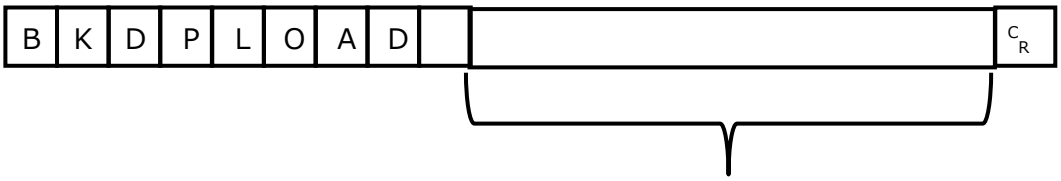
Scene No.	Specify the Scene number to save (0 to 127)
Save Destination	The name of the file containing the Scene data you wish to save. Specify the file name as an absolute path. The file name must include the "SCNP" extension.

<Important>
If the specified file name already exists, this existing file will be overwritten
Do not turn off power of the Sensor Controller before a response is returned.

11.14. Load Encrypted System + SceneGroup 0 Data

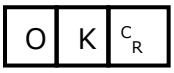
Loads the selected Encrypted System + Scene Group 0 Data.

<Command Format>

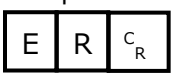


Encrypted System + Scene Group 0 Data File Name

<Response Format>
When processing is performed normally



When processing is not performed normally



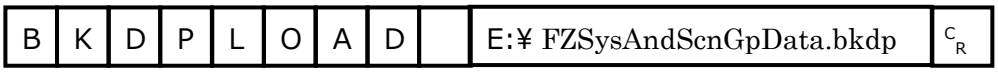
<Parameters Explanation>

Encrypted System + Scene Group 0 Data File Name	The name of the file containing the System + Scene Group 0 data you wish to load. Specify the folder name as an absolute path. The file name must include the "BKDP" extension. Only files with the "BKDP" extension can be loaded.

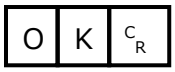
<Important>
Do not turn off power of the Sensor Controller before a response is returned.

(Example)
When loading " FZSysAndScnGpData.bkdp " to the controller from external memory (E Drive).

<Command>



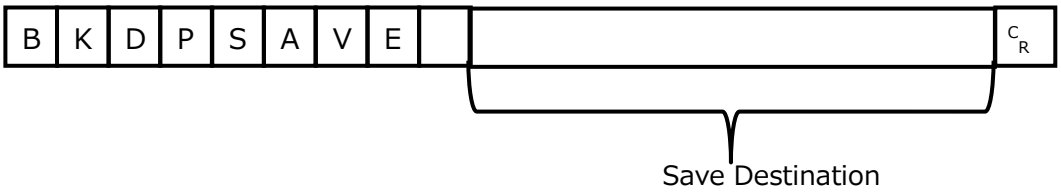
<Response>



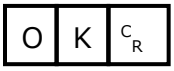
11.15. Save Encrypted System + Scene Group 0 Data

Saves the Encrypted System + Scene Group 0 Data.

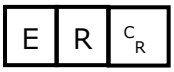
<Command Format>



<Response Format>
When processing is performed normally



When processing is not performed normally



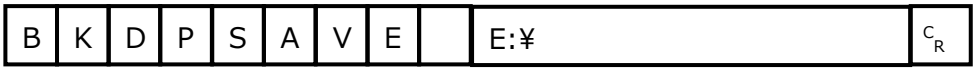
<Parameters Explanation>

Save Destination	The name of the file containing the System + Scene Group 0 data you wish to save. Specify the file name as an absolute path. The file name must include the "BKDP" extension.

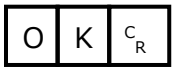
<Important>
If the specified file name already exists, this existing file will be overwritten
Do not turn off power of the Sensor Controller before a response is returned.

(Example)
When saving " FZSysAndScnGpData.bkdp " to external memory (E Drive).

<Command>



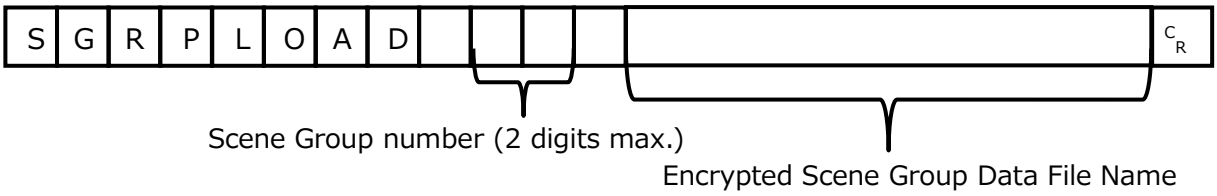
<Response>



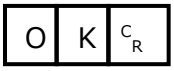
11.16. Load Encrypted Scene Group Data

Loads the selected Encrypted Scene Group Data.

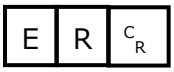
<Command Format>



<Response Format>
When processing is performed normally



When processing is not performed normally



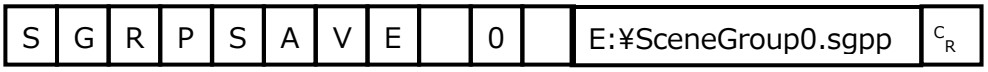
<Parameters Explanation>

Scene Group No.	Specify the Scene No. to be loaded (0 to 31).
Encrypted Scene Group Data File Name	The name of the file containing the Scene Group data you wish to load. Specify the folder name as an absolute path. The file name must include the "SGPP" extension. Only files with the "SGPP" extension can be loaded.

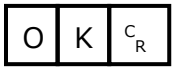
<Important>
Do not turn off power of the Sensor Controller before a response is returned.

(Example)
When loading " SceneGroup0.sgpp" to the controller as Scene Group 0 from external memory (E Drive).

<Command>



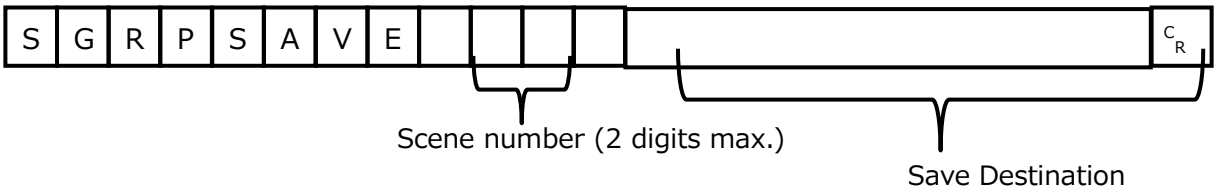
<Response>



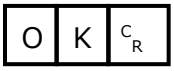
11.17. Save Encrypted Scene Group Data

Saves the selected scene as Encrypted Scene Group Data.

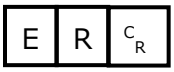
<Command Format>



<Response Format>
When processing is performed normally



When processing is not performed normally



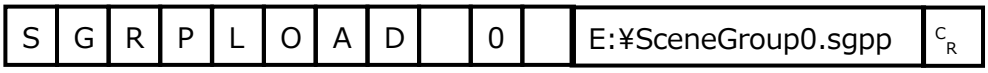
<Parameters Explanation>

Scene Group No.	Specify the Scene number to save (0 to 31)
Save Destination	The name of the file containing the Scene Group data you wish to save. Specify the file name as an absolute path. The file name must include the "SGPP" extension.

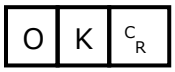
<Important>
If the specified file name already exists, this existing file will be overwritten
Do not turn off power of the Sensor Controller before a response is returned.

(Example)
When saving " SceneGroup0.sgpp " to external memory (E Drive).

<Command>



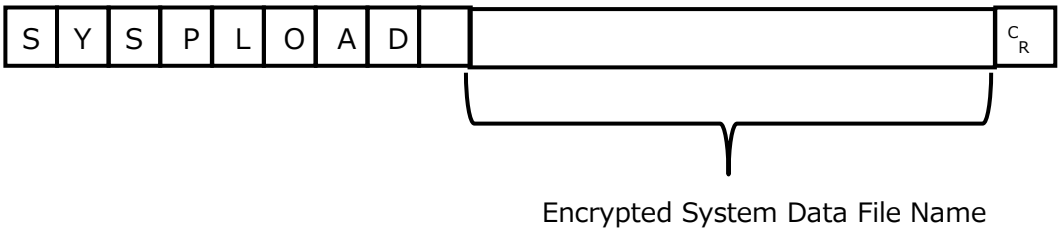
<Response>



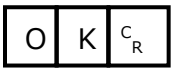
11.18. Load Encrypted System Data

Loads the selected Encrypted System Data.

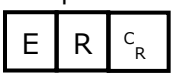
<Command Format>



<Response Format>
When processing is performed normally



When processing is not performed normally



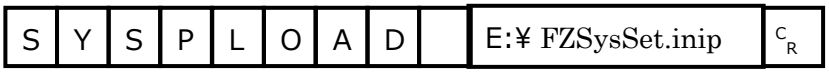
<Parameters Explanation>

Encrypted System Data File Name	The name of the file containing the System data you wish to load. Specify the folder name as an absolute path. The file name must include the "INIP" extension. Only files with the "INIP" extension can be loaded.

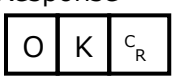
<Important>
Do not turn off power of the Sensor Controller before a response is returned.

(Example)
When loading " FZSysSet.inip " to the controller from external memory (E Drive).

<Command>
<Command>



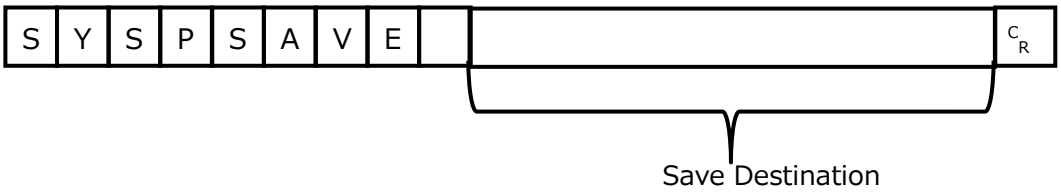
<Response>



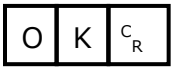
11.19. Save Encrypted System Data

Saves the Encrypted System Data.

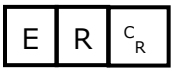
<Command Format>



<Response Format>
When processing is performed normally



When processing is not performed normally



<Parameters Explanation>

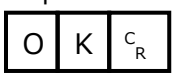
Save Destination	The name of the file containing the System data you wish to save. Specify the file name as an absolute path. The file name must include the "INIP" extension.

<Important>
If the specified file name already exists, this existing file will be overwritten
Do not turn off power of the Sensor Controller before a response is returned.

(Example)
When saving "FZSysSet.inip " to external memory (E Drive).

<Command>

<Response>

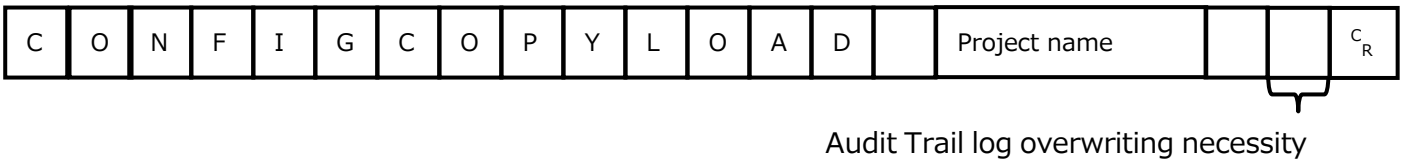


11.20. Load the project data of the Configuration copy function

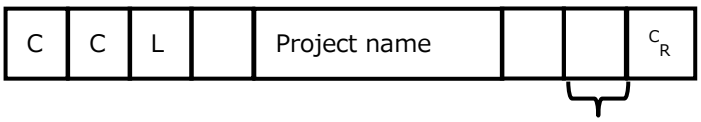
Load the sensor controller project data for the Configuration copy function.

Controller will automatically restart after loading.

<Command Format>

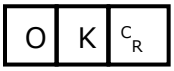


Or

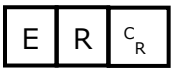


<Response Format>

When processing is performed normally



When processing is not performed normally



<Parameters Explanation>

Project name	Absolute path of the sensor controller project name (up to 247 characters). Example : M:¥Data¥ProjectName
Audit Trail log overwriting necessity	0: Overwrite 1: Not overwrite

<Important>

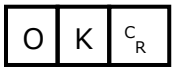
Do not turn off power of the Sensor Controller before a response is returned.

(Example)

When loading the sensor controller project “ProjectName” saved in the “Data” folder of the M drive without overwriting the Audit Trail.

<Command>

<Response>

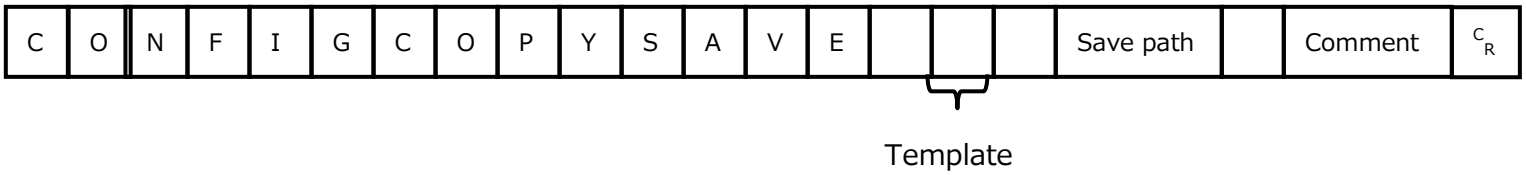


11.21. Save the project data of the Configuration copy function

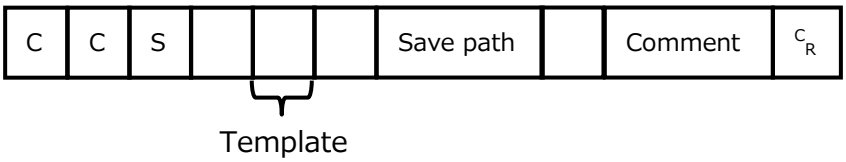
Save the sensor controller project data for the environment copy function.

System setting/Scene group/Security setting/Audit Trail log/Checksum file saved in the sensor controller project data are encrypted.

<Command Format>

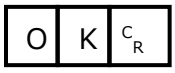


Or

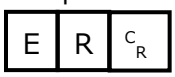


<Response Format>

When processing is performed normally



When processing is not performed normally



<Parameters Explanation>

Template	Template No.
Save path	Absolute path of the sensor controller project name (up to 247 characters). Example : M:¥Data¥ProjectName
Comment	Description (up to 200 characters) Example: 20191025-backup

<Important>

Do not turn off power of the Sensor Controller before a response is returned.

(Example)

When saving the data of line 0 (template: 3) in the "Data" folder of the M drive with the sensor controller project name "ProjectName".

<Command>

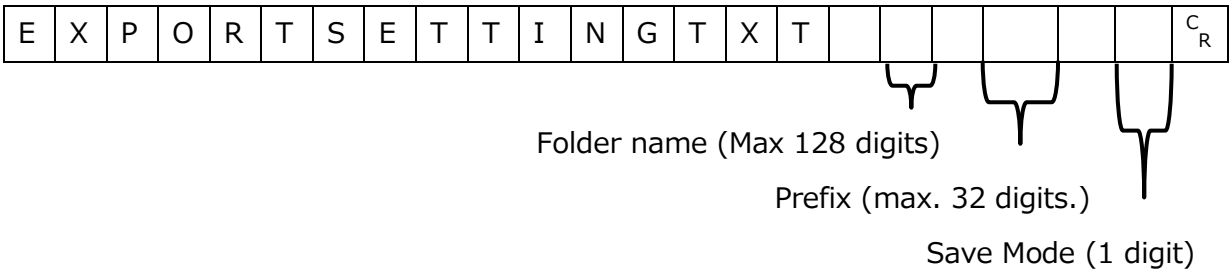
<Response>

O	K	C_R

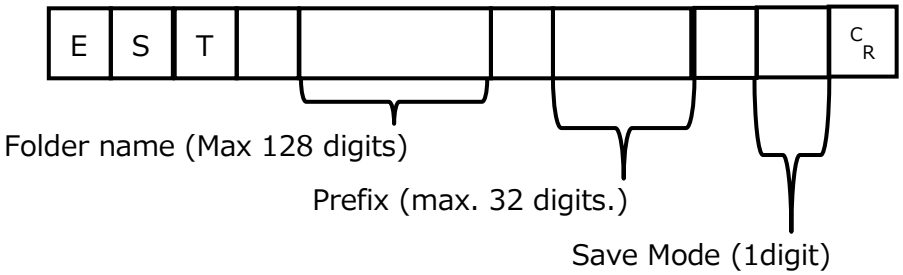
11.22. Exports setting data in plane text

Exports FH setting data in text format. The specified prefix is added to the beginning of the file name and exported to the specified file path.

<Command format>



Or,



<Response format>

Some messages are sent indicating the progress of the export process.

-Format

s	c	s		o	k		5	0	C_R

The first word is an abbreviation that indicates what is saved.

First word (abbreviation)	Original meaning
sp	Save params
scs	Save current scene
sl	Save layout
sss	Save system setting

scsg	Save current scene group
sasg	Save all scene group

The second word indicates the command processing state.

The third word indicates the progress of downloading as a percentage.

-Example

"sp init" -- Save params init set.
"sp rec" -- Save params received.
"sp er" -- Error while downloading files.

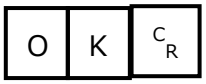
"scs ok 50" -- Save Current Scene OK, 50%.
"sl ok 70" -- Save Layout OK, 70%.
"sss er 90" -- Save Sys.Settings ER, 90%.

"scsg ok 1" -- Current SceneGroup Started
"scsg ok 100" -- Current SceneGroup Finished
"scsg er 100" -- Current SceneGroup Errors (but we finished)

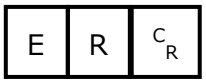
"sasg ok 1" -- All SceneGroups Started
"sasg ok 100" -- All SceneGroups Finished
"sasg er 100" -- All SceneGroups Errors (but we finished)

After sending the above responses, return an OK/NG response.

When all processing is performed normally



When processing is not performed normally



<Parameters explanation>

Folder name	Specify the folder name as an absolute path (max. 128 digits). If nothing is specified, the default destination is <RAMDISK>.
Prefix	Specify a prefix to append to the exported file name. If nothing is specified, defaults to the current date in YYYY-MM-DD format.
Save mode	0: Current scene. 1: Current scene group, all scenes. 2: All scene groups, all scenes.
Visibility (Optional)	0: Export processing is executed without showing the tool window. 1: Show the tool window as user interface.

-Do not specify a save destination other than RAMDisk or External memory, i.e. C:¥ProgramFiles¥FZ

The saved Scene data area may be reduced, and the Sensor Controller will not perform correctly.

<Restrictions>

In the following cases, this command does not process normally, and ER is returned.

- Parameter is out of range
- If the specified save destination does not exist.
- Parameter “Visibility” is set to 1 while using the Remote operation tool.
- Parameter “Visibility” is set to 1 in “No standard support” mode.

（Example）

When FH exports the files the following case:

-Folder name:　E:¥Data
-Prefix:　TEST
-Save mode: 1
-Visibility: 0

<Command>

E	S	T		E:¥Data		TEST		1		0	$^{C}_{R}$

<Response>

O	K	$^{C}_{R}$

11.23. Clear logging image

Clear logging image.

<Command format>

C	L	R	I	M	G	C_R

Or

C	L	I	C_R

<Response format>

When processing is performed normally

O	K	C_R

When processing is not performed normally

E	R	C_R

<Restrictions>
Nothing

（Example）
When you clear logging image the following case:

<Command>

C	L	R	I	M	G	C_R

<Response>

O	K	C_R

11.24. Initialize scene variables

Initialize all scene variables for the current scene.

<Command format>

I	N	I	T	S	C	N	V	A	R	C_R

Or

I	C	V	C_R

<Response format>

When processing is performed normally

O	K	C_R

When processing is not performed normally

E	R	C_R

<Restrictions>
Nothing

（Example）
When you initialize scene variables the following case:

<Command>

I	C	V	C_R

<Response>

O	K	C_R

11.25. Initialize system variables

Initialize all system variables.

<Command format>

I	N	I	T	S	Y	S	V	A	R	C_R

Or

I	Y	V	C_R

<Response format>

When processing is performed normally

O	K	C_R

When processing is not performed normally

E	R	C_R

<Restrictions>
Nothing

（Example）
When you initialize system variables the following case:

<Command>

I	Y	V	C_R

<Response>

O	K	C_R

12. Fieldbus Command Specification

Describe Fieldbus commands that have been added or modified in this customized software. For other Fieldbus commands, they remain identical to the standard software. The listed Fieldbus commands are only available for EtherNet/IP and PROFINET.

12.1. Execute non-procedural command

Execute non-procedural command entered in the user area (IN). The response of non-procedural command will be stored in response data and the user area (OUT).

<Command format>

The following is the command format when setting User Area(IN) to 32 bytes.

Command (PLC → Sensor Controller)

First word in Command Area	Command Code	Bit				Content
		15-12	11-8	7-4	3-0	
+2	E000	1110	0000	0000	0000	Command Code
+3	0010	0000	0000	0001	0000	
…	…	…	…	…	…	Command Parameter
+10	-	-	-	-	-	Non-procedural command
…	…	…	…	…	…	
+25	-	-	-	-	-	

<Response format>

The following is the response format when setting Output data size to Result Data Format 0 (32 bytes) and User Area(OUT) to 32 bytes.

Response (Sensor Controller → PLC)

First word in Response Area	Command Code	Bit				Content
		15-12	11-8	7-4	3-0	
+2	E000	1110	0000	0000	0000	Command Code
+3	0010	0000	0000	0001	0000	
+4	-	0000	0000	0000	0000	Response Code Fieldbus Command execution result OK : 0 (0000 0000)
+5	-	0000	0000	0000	0000	

						NG : Not 0（0000 0000）
+6	-	0000	0000	0000	0000	Response Data Non-procedural Command execution result OK : 0（0000 0000） ER : Not 0（0000 0000）
+7	-	0000	0000	0000	0000	
…	…	…	…	…	…	Output data
+24	-	-	-	-	-	The response of non-procedural command
…	…	…	…	…	…	
+39	-	-	-	-	-	

- Do not turn off power of the Sensor Controller before a response is returned.

<Restrictions>
The following are the non-procedural commands that can be executed.

・ATRECORDOUT
・(SET)DATE
・(SET)BATCHNO
・(GET)BATCHNO
・CLRBATCHNO
・(SET)LOGINACCOUNT
・(SET)USERACCOUNT
・(DELETE)USERACCOUNT
・DELUSERGROUP
・USERLOGOUT
・SCNPSAVE
・SCNPLOAD
・BKDPSAVE
・BKDPLOAD
・SGRPSAVE
・SGRPLOAD
・SYSPSAVE
・SYSPLOAD
・CONFIGCOPYSAVE
・CONFIGCOPYLOAD

・EXPORTSETTINGTXT

・ALLIMAGESAVE

・IMGSAVE

・LASTIMAGESAVE

・(SET)UNITDATA

Need to adhere to the constraints of the non-procedural commands to be executed.

(Example)
If logging in locally as Administrator:

<Command>

The following is the command when setting User Area(IN) to 64 bytes.

First word in Command Area	Hexadecimal notation	Bit				Description
		15-12	11-8	7-4	3-0	
+2	E000	1110	0000	0000	0000	Command Code
+3	0010	0000	0000	0001	0000	
…	…	…	…	…	…	Command Parameter
+10	-	-	-	-	-	LOGINACCOUNT 0 Administrator Administrator
…	…	…	…	…	…	
+41	-	-	-	-	-	

<Response >

First word in Response Area	Hexadecimal notation	Bit				Description
		15-12	11-8	7-4	3-0	
+2	E000	1110	0000	0000	0000	Command Code
+3	0010	0000	0000	0001	0000	
+4	-	0000	0000	0000	0000	Response Code
+5	-	0000	0000	0000	0000	Fieldbus Command execution result OK : 0 (0000 0000) NG : Not 0 (0000 0000)
+6	-	0000	0000	0000	0000	Response Data
+7	-	0000	0000	0000	0000	Non-procedural Command

						execution result OK : 0 (0000 0000) ER : Not 0 (0000 0000)

(Example)
If getting batch number (ABC123):

<Command>

The following is the command when setting User Area(IN) to 32 bytes.

First word in Command Area	Hexadecimal notation	Bit				Description
		15-12	11-8	7-4	3-0	
+2	E000	1110	0000	0000	0000	Command Code
+3	0010	0000	0000	0001	0000	
…	…	…	…	…	…	Command Parameter
+10	-	-	-	-	-	BATCHNO
…	…	…	…	…	…	
+25	-	-	-	-	-	

<Response >

The following is the response when setting Output data size to Result Data Format 0 (32 bytes) and User Area(OUT) to 32 bytes.

First word in Response Area	Hexadecimal notation	Bit				Description
		15-12	11-8	7-4	3-0	
+2	E000	1110	0000	0000	0000	Command Code
+3	0010	0000	0000	0001	0000	
+4	-	0000	0000	0000	0000	Response Code Fieldbus Command execution result OK : 0 (0000 0000) NG : Not 0 (0000 0000)
+5	-	0000	0000	0000	0000	
+6	-	0000	0000	0000	0000	Response Data Non-procedural Command execution result OK : 0 (0000 0000) ER : Not 0 (0000 0000)
+7	-	0000	0000	0000	0000	

…	…	…	…	…	…	Output data
+24	-	-	-	-	-	ABC123
…	…	…	…	…	…	
+39	-	-	-	-	-	

12.2. Clear logging image

Clear logging image.

<Command format>

Command (PLC → Sensor Controller)

First word in Command Area	Hexadecimal notation	Bit				Description
		15-12	11-8	7-4	3-0	
+2	20F0	0010	0000	1111	0000	Command Code
+3	0010	0000	0000	0001	0000	

<Response format>

Response (Sensor Controller → PLC)

First word in Response Area	Hexadecimal notation	Bit				Description
		15-12	11-8	7-4	3-0	
+2	20F0	0010	0000	1111	0000	Command Code
+3	0010	0000	0000	0001	0000	
+4	-	0000	0000	0000	0000	Response Code
+5	-	0000	0000	0000	0000	Fieldbus Command execution result OK : 0 (0000 0000) NG : Not 0 (0000 0000)

- Do not turn off power of the Sensor Controller before a response is returned.

<Restrictions>

Nothing

(Example)

If clearing logging image:

<Command>

First word in Command Area	Hexadecimal notation	Bit			
		15-12	11-8	7-4	3-0
+2	20F0	0010	0000	1111	0000
+3	0010	0000	0000	0001	0000

<Response>

First word in Response Area	Hexadecimal notation	Bit			
		15-12	11-8	7-4	3-0
+2	20F0	0010	0000	1111	0000
+3	0010	0000	0000	0001	0000
+4	-	0000	0000	0000	0000
+5	-	0000	0000	0000	0000

12.3. Initialize scene variables

Initialize all scene variables for the current scene.

<Command format>

Command (PLC → Sensor Controller)

First word in Command Area	Hexadecimal notation	Bit				Description
		15-12	11-8	7-4	3-0	
+2	2050	0010	0000	0101	0000	Command Code
+3	0010	0000	0000	0001	0000	

<Response format>

Response (Sensor Controller → PLC)

First word in Response Area	Hexadecimal notation	Bit				Description
		15-12	11-8	7-4	3-0	
+2	2050	0010	0000	0101	0000	Command Code
+3	0010	0000	0000	0001	0000	
+4	-	0000	0000	0000	0000	Response Code Fieldbus Command execution result OK : 0 (0000 0000) NG : Not 0 (0000 0000)
+5	-	0000	0000	0000	0000	

<Restrictions>

Nothing

(Example)

If Initializing scene variables:

<Command>

First word in Command Area	Hexadecimal notation	Bit			
		15-12	11-8	7-4	3-0
+2	2050	0010	0000	0101	0000
+3	0010	0000	0000	0001	0000

<Response>

First word in Response Area	Hexadecimal notation	Bit			
		15-12	11-8	7-4	3-0
+2	2050	0010	0000	0101	0000
+3	0010	0000	0000	0001	0000
+4	-	0000	0000	0000	0000
+5	-	0000	0000	0000	0000

12.4. Initialize system variables

Initialize all system variables.

<Command format>

Command (PLC → Sensor Controller)

First word in Command Area	Hexadecimal notation	Bit				Description
		15-12	11-8	7-4	3-0	
+2	2060	0010	0000	0110	0000	Command Code
+3	0010	0000	0000	0001	0000	

<Response format>

Response (Sensor Controller → PLC)

First word in Response Area	Hexadecimal notation	Bit				Description
		15-12	11-8	7-4	3-0	
+2	2060	0010	0000	0110	0000	Command Code
+3	0010	0000	0000	0001	0000	
+4	-	0000	0000	0000	0000	Response Code
+5	-	0000	0000	0000	0000	Fieldbus Command execution result OK : 0 (0000 0000) NG : Not 0 (0000 0000)

<Restrictions>

Nothing

(Example)

If Initializing system variables:

<Command>

First word in Command Area	Hexadecimal notation	Bit			
		15-12	11-8	7-4	3-0
+2	2060	0010	0000	0110	0000
+3	0010	0000	0000	0001	0000

<Response>

First word in Response Area	Hexadecimal notation	Bit			
		15-12	11-8	7-4	3-0
+2	2060	0010	0000	0110	0000
+3	0010	0000	0000	0001	0000
+4	-	0000	0000	0000	0000
+5	-	0000	0000	0000	0000

Appendix A. Supported Part 11 terms

This customized software has functions to support the realization of the following six items.

Item number	Original text	FH function
11.10-a	Validation of systems to ensure accuracy, reliability, consistent intended performance, and the ability to discern invalid or altered records.	Audit Trail function
11.10-b	The ability to generate accurate and complete copies of records in both human readable and electronic form suitable for inspection, review, and copying by the agency. Persons should contact the agency if there are any questions regarding the ability of the agency to perform such review and copying of the electronic records.	Audit Trail function
11.10-d	Limiting system access to authorized individuals.	Security function
11.10-e	Use of secure, computer-generated, time-stamped audit trails to independently record the date and time of operator entries and actions that create, modify, or delete electronic records. Record changes shall not obscure previously recorded information. Such audit trail documentation shall be retained for a period at least as long as that required for the subject electronic records and shall be available for agency review and copying.	Audit Trail function * Please manage the audit trail documentation by your operation.
11.300-a	Maintaining the uniqueness of each combined identification code and password, such that no two individuals have the same combination of identification code and password.	Security function
11.300-b	Ensuring that identification code and password issuances are periodically checked, recalled, or revised (e.g., to cover such events as password aging).	Security function

Appendix B. Audit Trail Recorded Data Specification

In this chapter, the timing and recorded contents (Message field) of Audit Trail are described.

Operation screen / menu	Recording timing	Message
Start process	At system startup	System start
	At software activated	Application start(layout {0}) *0: Layout number at startup
File --> End	At pressed [Yes] button	Save
Function --> Measure	At selected menu	Measure
Function --> Switch scene	At pressed [OK] button	Switch scene {0} --> {1} *0: Scene number before switching *1: Scene number after switching
	At pressed [OK] button on scene group switching screen	Save Switch scene group {0} --> {1} *0: Scene group number before switching *1: Scene group number after switching
Function --> Scene maintenance	At pressed [OK] button on scene group switching screen	Change scene group name {0} --> {1} *0: Scene group name before change *1: Scene group name after change
	At pressed [Paste] button on scene group editing screen	Copy scene group {0} --> {1} * 0: Copy source scene group number * 1: Copy destination scene group number
	At pressed [Clear] button on scene group switching screen	Clear scene group {0} *0: Scene group number to be cleared
	At pressed [OK] button on scene editing screen	Change scene information(scene name) {0} --> {1} *0: Setting value (FROM) *1: Setting value (TO)
	At pressed [OK] button on scene editing screen	Change scene information(scene editor) {0} --> {1} *0: Setting value (FROM) *1: Setting value (TO)
	At pressed [OK] button on scene editing screen	Change scene information(scene comment) {0} --> {1} *0: Setting value (FROM) *1: Setting value (TO)
	At pressed [Paste] button on scene maintenance screen	Copy scene {0} --> {1} * 0: Copy source scene number * 1: Copy destination scene number
	At pressed [Clear] button on scene maintenance screen	Clear scene {0} *0: Scene number to be cleared
Function --> Edit flow	At pressed [Append] button	Add unit {0}.{1} *0: Unit number to be added *1: Additional unit name
	At pressed [Insert] button	Add unit {0}.{1} *0: Unit number to be added *1: Additional unit name

Operation screen / menu	Recording timing	Message
	At pressed [Move up] button	Move unit {0} {1} --> {2} *0: Mobile unit name *1: Unit number before movement *2: Unit number after movement
	At pressed [Move down] button	Move unit {0} {1} --> {2} *0: Mobile unit name *1: Unit number before movement *2: Unit number after movement
	At pressed [Delete] button	Delete unit {0}.{1} *0: Deletion unit number *1: Delete unit name
	At pressed [Paste] button	Copy unit {0} {1} --> {2} *0: Target unit name *1: Copy source unit number *2: Copy destination unit number
	At pressed [OK] button on rename screen	Change unit title {0}.{1} {2} --> {3} *0: Target unit number *1: Target unit name *2: Title before change *3: Title after change
	At pressed [Measure ON/OFF] button	Change measure enable {0}.{1} {2} --> {3} *0: Target unit number *1: Target unit name *2: Setting value (FROM) *3: Setting value (TO)
	At pressed [New Folder] button	Add unit {0}.{1} *0: Unit number to be added *1: Additional unit name
	At pressed [OK] button on save file screen	Save setting file {0}. {1}({2}) *0: Unit number to be saved *1: Folder name + file name *2: File embedding information [File name Timestamp creation chassis MAC address user name]

Operation screen / menu	Recording timing	Message
	At pressed [OK] button on load file screen	Load setting file {0}. {1}({2}) *0: Unit number to be read *1: Folder name + file name *2: File embedding information [File name Timestamp creation chassis MAC address user name]
	At pressed [OK] button on the editing screen of processing unit	Change unit parameter {0}.{1} ({2}) {3} --> {4} *0: Target unit number *1: Target unit name *2: Target parameter *3: Setting value (FROM) *4: Setting value (TO) The number of parameters changed will be recorded. The parameters recorded by "Setting upload and download tools" are the recording target.
		Change unit parameter(figure data) {0}.{1} ({2}) {3} --> {4} *0: Target unit number *1: Target unit name *2: Target parameter *3: Setting value (FROM) *4: Setting value (TO) The number of parameters changed will be recorded.
	When copying units from other scenes	Copy scene(reference other scene) {0}.{1}.{2} --> {3} *0: Copy source scene number *1: Copy source unit number *2: Copy source target unit name *3: Copy destination unit number
Function --> Switch layout	At pressed [OK] button	Switch layout {0} --> {1} *0: Layout number before switching *1: Layout number after switching
Function --> Save last logging image	At pressed [OK] button	Save last image {0} *0: File path + file name
Function --> Data save	At selected menu	Save

Operation screen / menu	Recording timing	Message
Function --> Save to file	At pressed [OK] button selecting scene data	Save setting file {0}. {1}({2}) *0: Scene number to be saved *1: Folder name + file name *2: File embedding information [File name Timestamp creation chassis MAC address user name]
	At pressed [OK] button selecting scene group data	Save setting file {0}. {1}({2}) *0: Scene group number to save *1: Folder name + file name *2: File embedding information [File name Timestamp creation chassis MAC address user name]
	At pressed [OK] button selecting system data	Save setting file {0}({1}) *0: Folder name + file name *1: File embedding information [File name Timestamp creating chassis MAC address user name]
	At pressed [OK] button selecting system and scene group 0 data	Save setting file {0}({1}) *0: Folder name + file name *1: File embedding information [File name Timestamp creating chassis MAC address user name]
	At pressed [OK] button selecting logging image tab	Save file {0} *0: Folder name + file name
	At pressed [OK] button selecting copy files tab	Copy file {0} --> {1} *0: Copy source folder name + file name *1: Copy destination folder name + file name
		Delete file {0} *0: Folder name to be deleted + file name
Function --> Load from file	At pressed [OK] button	Load setting file {0}({1}) *0: Folder name + file name *1: File embedding information [File name Timestamp creating chassis MAC address user name]
Function --> System initialization	At selected menu	Initialize system
Function --> System restart	At selected menu	Restart system

Operation screen / menu	Recording timing	Message
Tool --> System settings	At pressed [Close] button	Change system data ({0}) {1} --> {2} *0: Parameter name *1: Setting value (FROM) *2: Setting value (TO) The number of parameters changed will be recorded.
Tool --> Security settings	At changed check boxes on layout restrictions	Change security data ({0}) {1} --> {2} *0: Parameter name *1: Setting value Effective group name (FROM) *2: Setting value Effective group name (TO)
	At changed check boxes on operation restrictions	Change security data ({0}) {1} --> {2} *0: Parameter name *1: Setting value Effective group name (FROM) *2: Setting value Effective group name (TO)
	At changed the value of non-operation logout time	Change security data ({0}) {1} --> {2} *0: Parameter name *1: Setting value (FROM) *2: Setting value (TO)
	At pressed [OK] button on password advanced setting screen	Change security data ({0}) {1} --> {2} *0: Parameter name *1: Setting value (FROM) *2: Setting value (TO) The number of parameters changed will be recorded.
	At pressed [OK] button on adding user screen	Add user account {0} {1} *0: User name *1: SaveSceneGroup
	At pressed [OK] button on changing user group screen	Change user group {0} {1} --> {2} *0: User name *1: Setting value (FROM) *2: Setting value (TO)
	At pressed [OK] button on changing password screen	Change user password {0} *0: User name
	At pressed [OK] button on deleting user screen	Delete use account {0} *0: User name
	At pressed [OK] button on unlocking user screen	Unlock user account {0} *0: User name

Operation screen / menu	Recording timing	Message
	At pressed [OK] button on saving file screen	Save security setting file {0}({1}) *0: Folder name + file name *1: File embedding information [File name Timestamp creating chassis MAC address user name]
	At pressed [OK] button on loading file screen	Load security setting file {0}({1}) *0: Folder name + file name *1: File embedding information [File name Timestamp creating chassis MAC address user name]
Tool --> User data tool	At pressed [Close] button	Change user data {0}. {1} --> {2} *0: Data number *1: Setting value (FROM) *2: Setting value (TO) The number of parameters changed will be recorded.
	At pressed [Close] button	Change user data comment {0}. {1} --> {2} *0: Data number *1: Setting value (FROM) *2: Setting value (TO) The number of parameters changed will be recorded.
Tool --> Registered image manager	At pressed [Close] button	Change registered image parameter(Registration destination) {0} --> {1} *0: Setting value (FROM) *1: Setting value (TO)
	At pressed [Close] button	Change registered image parameter(Folder) {0} --> {1} *0: Setting value (FROM) *1: Setting value (TO)
	At pressed [Close] button	Save registered image(latest)
Tool --> Quick access setting tool	At pressed [Close] button	Quick access setting tool(Add) {0} --> {1} *0: Ident name (Added) *1: Absolute path, Display name (Added)
	At pressed [Close] button	Quick access setting tool(Change) {0} --> {1} *0: Ident name (Changed) *1: Absolute path, Display name (Changed)
	At pressed [Close] button	Quick access setting tool(Delete) {0}({1}) *0: Ident name (Deleted) *1: Absolute path, Display name (Deleted)

Operation screen / menu	Recording timing	Message
Tool > Custom dialog tool	At pressed [Close] button	Change unit parameter {0}.{1} ({2}) {3} --> {4} *0: Unit No. *1: Unit Name *2: Parameter *3: Setting value (FROM) *4: Setting value (TO) ※ The number of parameters changed will be recorded. ※ Parameters included in the “Settings download and upload tools” are recorded.
	At pressed [Close] button ※ Except for “Normal Dialog”	Change unit parameter(figure data) {0}.{1} ({2}) {3} --> {4} *0: Unit No. *1: Unit Name *2: Parameter *3: Setting value (FROM) *4: Setting value (TO) ※ The number of parameters changed will be recorded.
Tool > Custom dialog screen	At pressed [Close] button ※ Only for “Normal Dialog”	Change unit parameter {0}.{1} ({2}) {3} --> {4} *0: Unit No. *1: Unit Name *2: Parameter *3: Setting value (FROM) *4: Setting value (TO) ※ The number of parameters changed will be recorded. ※ Parameters included in the “Settings download and upload tools” are recorded.
	At pressed [Close] button ※ Except for “Normal Dialog”	Change unit parameter(figure data) {0}.{1} ({2}) {3} --> {4} *0: Unit No. *1: Unit Name *2: Parameter *3: Setting value (FROM) *4: Setting value (TO) ※ The number of parameters changed will be recorded.
Tool --> Configuration	At startup process	Save

Operation screen / menu	Recording timing	Message
copy	At pressed [OK] button on saving project screen	Save controller project file {0} ({1}) *0: Folder name + project folder name *1: File embedding information [File name Timestamp creating chassis MAC address user name]
	At pressed [OK] button on loading project screen	Load controller project file {0} ({1}) *0: Folder name + project folder name *1: File embedding information [File name Timestamp creating chassis MAC address user name]
	At initialize template file	Initialize template file
	At adding template	Create template file {0} {1} *0: Template name *1: Target item
	At update template	Update template file {0} {1} --> {2} *0: Template name *1: Target item (FROM) *2: Target item (TO)
	At delete template	Delete template file {0} *0: Template name
Tool --> Line maintenance	At startup process	Save
	At copy setting	Line maintenance(copy) {0}({1} --> {2}) *0: Copy target parameter *1: Copy source line number *2: Copy destination line number
	At clear setting	Line maintenance(clear) {0}({1}) *0: Line number to be cleared *1: Clear data
	At pressed [Close] button	Restart system
Part11 --> Login	At login	Login {0} *0: Login user name
Part11 --> Logout	At logout	Logout {0} *0: Logout user name
Part11 --> Audit Trail Viewer	At output Audit Trail to the file	Output Audit Trail file {0} *0: Folder name + file name
	At delete Audit Trail	Delete Audit Trail

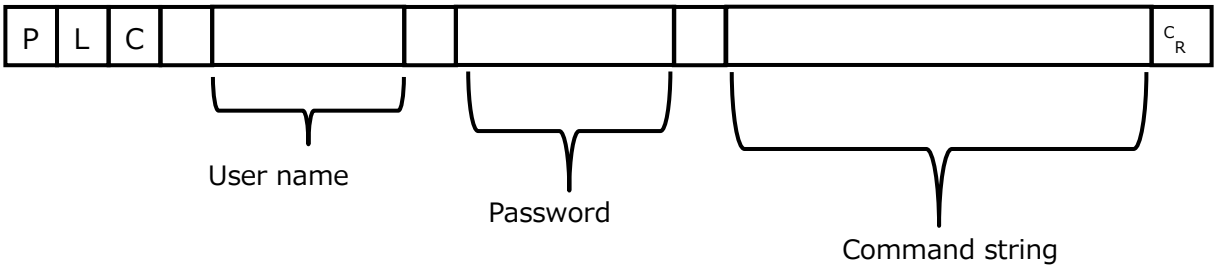
Operation screen / menu	Recording timing	Message
Part11 --> Detailed compliance settings	At pressed [OK] button	Change system data ({0}) {1} --> {2} *0: Parameter name *1: Setting value (FROM) *2: Setting value (TO) The number of parameters changed will be recorded.
Part11 --> Change password	At pressed [OK] button	Change user password {0} *0: User name
FlowWindow	At pressed [OK] button on the editing screen of processing unit	Change unit parameter {0}.{1} ({2}) {3} --> {4} *0: Target unit number *1: Target unit name *2: Target parameter *3: Setting value (FROM) *4: Setting value (TO) The number of parameters changed will be recorded. The parameters recorded by "Setting upload and download tools" are the recording target.
		Change unit parameter(figure data) {0}.{1} ({2}) {3} --> {4} *0: Target unit number *1: Target unit name *2: Target parameter *3: Setting value (FROM) *4: Setting value (TO) The number of parameters changed will be recorded.
InformationWindow	At login	Login {0} *0: Login user name
	At logout	Logout {0} *0: Logout user name
MeasureWindow	At pressed [Measure] button on camera image meas. tab	Measure camera
	At pressed [Measure] button on camera image meas. tab (start continuous meas.)	Start continuous measure
	At pressed [Measure] button on camera image meas. tab (end continuous meas.)	End continuous measure
	At select image file on image file meas. tab	Measure {0} *0: Measurement file name

Operation screen / menu	Recording timing	Message
	At pressed [Re meas.] button on image file meas. tab	Measure {0} *0: Measurement file name
	At pressed [>>] button on image file meas. tab	Measure {0} *0: Measurement file name
	At pressed [<<] button on image file meas. tab	Measure {0} *0: Measurement file name
	At switched a check box of output	Change output state {0} --> {1} *0: Setting value (FROM) *1: Setting value (TO)
	At moved image files on the judgment result monitor	Move image file {0} --> {1} *0: folder name before moving + file name *1: Folder name after moving + file name
Communication command	At executed user group delete command	Delete user group {0} {1} *0:User name *1:User group
	At executed initialize scene variables command	Initialize scene variables
	At executed initialize system variables command	Initialize system variables
(Common)	At created new folder	Create folder {0} *0 : Full path
	At renamed directory name	Rename folder/file {0} --> {1} *0 : Full path before change *1 : Full path after change
	At copied the directory	Copy folder/file {0} --> {1} *0 : Full path of copy source *1 : Full path of copy destination
	At deleted the directory	Delete folder/file {0} *0 : Full path to be deleted

Appendix C. Authenticated Non-procedure Command Specification

This section explains the input format used for Authenticated Non-procedure Command and recorded contents (Message field) of Audit Trail are described.

<Command format>



<Response format>

When processing is performed normally

O	K	CR

When processing is not performed normally

E	R	CR

<Parameters explanation>

User name	Specify the user name of the user to authenticate command.
Password	Specify the Password of the user to authenticate command.
Command string	Specify the command string.

Command	Command restrictions	Message
BRUNCHSTART	_	_
CLRMEAS	CLRMEAS	_
CPYSCENE	CPYSCENE	Copy scene {0} --> {1} *0: Copy source scene number *1: Copy destination scene number
DATASAVE	DATASAVE	Save
DELSCENE	DELSCENE	Clear scene {0} *0: Scene number to be cleared
ECHO	ECHO	_
IMAGEFIT	IMAGEFIT	_
IMAGESCROLL	IMAGESCROLL	_
IMAGEZOOM	IMAGEZOOM	_
MEASURE	MEASURE	Measure
MEASURE /C		Start continuous measure
MEASURE /E		End continuous measure
MEASUREUNIT	MEASUREUNIT	_
MOVSCENE	MOVSCENE	Copy scene group {0} --> {1} Clear scene {0} *0: Move source scene number *1: Move destination scene number
REGIMAGE	(SET)REGIMAGE	Save registered image({0}) {1} {2} *0: Source to register *1: Registered image file name/Registered image number *2: Logging image number/ File name
	(GET)REGIMAGE	_
RESET	RESET	Restart system
TIMER	_	_
UPDATEMODEL	UPDATEMODEL	_
USERACCOUNT	_	Add user account {0} {1} *0: User name *1: User group
	_	Delete use account {0} *0: User name
DIPORTCOND	DIPORTCOND	_
IMAGEDISPCOND	(GET)IMAGEDISPCOND	_
IMAGESUBNO	(GET)IMAGESUBNO	_
IMAGEUNITNO	(GET)IMAGEUNITNO	_
INPUTTRANSSTATE	(GET)INPUTTRANSSTATE	_
LAYOUTNO	(GET)LAYOUTNO	_
LOGINACCOUNT	(GET)LOGINACCOUNT	_
LOGINACCOUNTGROUP	LOGINACCOUNTGROUP	_
OPELOGCOND	(GET)OPELOGCOND	_
OUTPUTTRANSSTATE	(GET)OUTPUTTRANSSTATE	_
PARAALLCOND	(GET)PARAALLCOND	_
PARAPORTCOND	(GET)PARAPORTCOND	_

Command	Command restrictions	Message
SCENE	(GET)SCENE	_
SCNGROUP	(GET)SCNGROUP	_
DIPORTCOND	DIPORTCOND	_
IMAGEDISPCOND	(SET)IMAGEDISPCOND	_
IMAGESUBNO	(SET)IMAGESUBNO	_
IMAGEUNITNO	(SET)IMAGEUNITNO	_
INPUTTRANSSTATE	(SET)INPUTTRANSSTATE	_
LAYOUTNO	(SET)LAYOUTNO	Switch layout {0} --> {1} *0: Layout number before switching *1: Layout number after switching
LOGINACCOUNT	_	Login ({0}) {1} *0: Acquisition target *1: Login user name
OPELOGCOND	(SET)OPELOGCOND	_
OUTPUTTRANSSTATE	(SET)OUTPUTTRANSSTATE	Change output state {0} --> {1} *0: Setting value (FROM) *1: Setting value (TO)
PARAALLCOND	(SET)PARAALLCOND	_
PARAPORTCOND	(SET)PARAPORTCOND	_
SCENE	(SET)SCENE	Switch scene {0} --> {1} *0: Scene number before switching *1: Scene number after switching
SCNGROUP	(SET)SCNGROUP	Save Switch scene group {0} --> {1} *0: Scene group name before change *1: Scene group name after change
DATALOGCOND	(GET)DATALOGCOND	_
DATALOGFOLDER	(GET)DATALOGFOLDER	_
DATE	(GET)DATE	_
DIOFFSET	(GET)DIOFFSET	_
IMAGECAPTUREFOLDER	(GET)IMAGECAPTUREFOLDER	_
IMAGELOGFOLDER	(GET)IMAGELOGFOLDER	_
IMAGELOGHEADER	(GET)IMAGELOGHEADER	_
SYSDATA	(GET)SYSDATA	_
UNITDATA	(GET)UNITDATA	_
SCNDATA	(GET)SCNDATA	_
VERGET	VERGET	_
DATALOGCOND	(SET)DATALOGCOND	Change system data ({0}) {1} --> {2} *0: Parameter name *1: Setting value (FROM) *2: Setting value (TO)
DATALOGFOLDER	(SET)DATALOGFOLDER	Change system data ({0}) {1} --> {2} *0: Parameter name *1: Setting value (FROM) *2: Setting value (TO)
DATE	(SET)DATE	Change system data (Date-time setting)
DIOFFSET	(SET)DIOFFSET	_

Command	Command restrictions	Message
IMAGECAPTUREFOLDER	(SET)IMAGECAPTUREFOLDER	Change system data ({0}) {1} --> {2} *0: Parameter name *1: Setting value (FROM) *2: Setting value (TO)
IMAGELOGFOLDER	(SET)IMAGELOGFOLDER	Change system data ({0}) {1} --> {2} *0: Parameter name *1: Setting value (FROM) *2: Setting value (TO)
IMAGELOGHEADER	(SET)IMAGELOGHEADER	Change system data ({0}) {1} --> {2} *0: Parameter name *1: Setting value (FROM) *2: Setting value (TO)
SYSDATA	(SET)SYSDATA	Change system data ({0}) {1} --> {2} *0: Parameter name *1: Setting value (FROM) *2: Setting value (TO)
UNITDATA	(SET)UNITDATA	Change unit parameter {0}.{1} ({2}) {3} --> {4} *1: Target unit name *2: Target parameter *3: Setting value (FROM) *4: Setting value (TO) The parameters recorded by "Setting upload and download tools" are the recording target.
SCNDATA	(SET)SCNDATA	_
BKDLOAD	BKDLOAD	_
SCNLOAD	SCNLOAD	_
SGRLOAD	SGRLOAD	_
SYSLOAD	SYSLOAD	_
ALLIMAGESAVE	ALLIMAGESAVE	Save file {0} *0: Folder name + file name
BKDSAVE	BKDSAVE	_
IMAGECAPTURE	IMAGECAPTURE	_
IMGSAVE	IMGSAVE	Save file {0} *0: Folder name + file name
LASTIMAGESAVE	LASTIMAGESAVE	Save last image {0} *0: File path + file name
SCNSAVE	SCNSAVE	_
SGRSAVE	SGRSAVE	_
SYSSAVE	SYSSAVE	_
USERLOGOUT	USERLOGOUT	Logout ({0}) {1}, {2} *0: Acquisition target *1: Logout user name *2: User group
ATRECORDOUT	ATRECORDOUT	Output Audit Trail file {0} *0: Folder name + file name

Command	Command restrictions	Message
SCNPSAVE	SCNPSAVE	Save setting file {0}({1}) *0: Folder name + file name *1: File embedding information [File name Timestamp creating chassis MAC address user name]
SCNPLOAD	SCNPLOAD	Load setting file {0}({1}) *0: Folder name + file name *1: File embedding information [File name Timestamp creating chassis MAC address user name]
BKDPSAVE	BKDPSAVE	Save setting file {0}. {1}({2}) *0: Scene number to be saved *1: Folder name + file name *2: File embedding information [File name Timestamp creation chassis MAC address user name]
BKDPLOAD	BKDPLOAD	Load setting file {0}({1}) *0: Folder name + file name *1: File embedding information [File name Timestamp creating chassis MAC address user name]
SGRPSAVE	SGRPSAVE	Save setting file {0}. {1}({2}) *0: Scene group number to save *1: Folder name + file name *2: File embedding information [File name Timestamp creation chassis MAC address user name]
SGRPLOAD	SGRPLOAD	Load setting file {0}({1}) *0: Folder name + file name *1: File embedding information [File name Timestamp creating chassis MAC address user name]
SYSPSAVE	SYSPSAVE	Save setting file {0}({1}) *0: Folder name + file name *1: File embedding information [File name Timestamp creating chassis MAC address user name]
SYSPLOAD	SYSPLOAD	Load setting file {0}({1}) *0: Folder name + file name *1: File embedding information [File name Timestamp creating chassis MAC address user name]

Appendix D. Audit Trail restrictions on communication commands Parameter Specification

This section explains the parameter specifications for Audit Trail restrictions on communication commands.

Parameter	Content	Command	
		Non-procedure	Fieldbus
CPYSCENE	0 : OFF (Default) 1 : ON	CPYSCENE	0010 7010
DATASAVE	0 : OFF (Default) 1 : ON	DATASAVE	0010 3010
DELSCENE	0 : OFF (Default) 1 : ON	DELSCENE	0010 7020
MEASURE	0 : OFF (Default) 1 : ON	MEASURE MEASURE /c MEASURE /e	0010 1010 0010 1020 0010 1030
MOVSCENE	0 : OFF (Default) 1 : ON	MOVSCENE	0010 7030
(SET)REGIMAGE	0 : OFF (Default) 1 : ON	(SET)REGIMAGE	-
RESET	0 : OFF (Default) 1 : ON	RESET	0010 F010
(SET)LAYOUTNO	0 : OFF (Default) 1 : ON	(SET)LAYOUTNO	0030 4000
(SET)OUTPUTTRANSSTATE	0 : OFF (Default) 1 : ON	(SET)OUTPUTTRANSSTATE	0030 7020
(SET)SCENE	0 : OFF (Default) 1 : ON	(SET)SCENE	0030 1000
(SET)SCNGROUP	0 : OFF (Default) 1 : ON	(SET)SCNGROUP	0030 2000
(SET)DATALOGCOND	0 : OFF (Default) 1 : ON	(SET)DATALOGCOND	0050 4050

(SET)DATALOGFOLDER	0 : OFF (Default) 1 : ON	(SET)DATALOGFOLDER	-
(SET)DATE	0 : OFF (Default) 1 : ON	(SET)DATE	-
(SET)IMAGECAPTUREFOLDER	0 : OFF (Default) 1 : ON	(SET)IMAGECAPTUREFOLDER	-
(SET)IMAGELOGFOLDER	0 : OFF (Default) 1 : ON	(SET)IMAGELOGFOLDER	-
(SET)IMAGELOGHEADER	0 : OFF (Default) 1 : ON	(SET)IMAGELOGHEADER	-
(SET)SYSDATA	0 : OFF (Default) 1 : ON	(SET)SYSDATA	-
(SET)UNITDATA	0 : OFF (Default) 1 : ON	(SET)UNITDATA	0050 1000
ALLIMAGESAVE	0 : OFF (Default) 1 : ON	ALLIMAGESAVE	-
IMGSAVE	0 : OFF (Default) 1 : ON	IMGSAVE	-
LASTIMAGESAVE	0 : OFF (Default) 1 : ON	LASTIMAGESAVE	-
(SET)LOGINACCOUNT	0 : OFF (Default) 1 : ON	(SET)LOGINACCOUNT	-
(ADD)USERACCOUNT	0 : OFF (Default) 1 : ON	(ADD)USERACCOUNT	-
(DELETE)USERACCOUNT	0 : OFF (Default) 1 : ON	(DELETE)USERACCOUNT	-
DELUSERGROUP	0 : OFF (Default) 1 : ON	DELUSERGROUP	-
USERLOGOUT	0 : OFF (Default) 1 : ON	USERLOGOUT	-
INITSCNVAR	0 : OFF (Default) 1 : ON	INITSCNVAR	0010 2050
INITSYSVAR	0 : OFF (Default)	INITSYSVAR	0010 2060

	1 : ON		
ATRECORDOUT	0 : OFF (Default) 1 : ON	ATRECORDOUT	-
SCNPSAVE	0 : OFF (Default) 1 : ON	SCNPSAVE	-
SCNPLOAD	0 : OFF (Default) 1 : ON	SCNPLOAD	-
BKDPSAVE	0 : OFF (Default) 1 : ON	BKDPSAVE	-
BKDPLOAD	0 : OFF (Default) 1 : ON	BKDPLOAD	-
SGRPSAVE	0 : OFF (Default) 1 : ON	SGRPSAVE	-
SGRPLOAD	0 : OFF (Default) 1 : ON	SGRPLOAD	-
SYSPSAVE	0 : OFF (Default) 1 : ON	SYSPSAVE	-
SYSPLOAD	0 : OFF (Default) 1 : ON	SYSPLOAD	-
CONFIGCOPYSAVE	0 : OFF (Default) 1 : ON	CONFIGCOPYSAVE	-
CONFIGCOPYLOAD	0 : OFF (Default) 1 : ON	CONFIGCOPYLOAD	-
(SET)BATCHNO	0 : OFF (Default) 1 : ON	(SET)BATCHNO	-
CLRBATCHNO	0 : OFF (Default) 1 : ON	CLRBATCHNO	-