

WATCH LOGGER

Data collection and management
(Standard Edition)

User Manual

Version 2.0.5.0

Fujita Electric Works, Ltd.

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1. At the beginning

Thank you very much for purchasing WATCH LOGGER.

This data collection and management system instruction manual explains how to set up and operate the application software used for setting, data collection and storage of WATCH LOGGER on PC.

2. Please note

Be sure to read this manual in order to use this product correctly.

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- The specifications of the software and the contents of this manual are subject to change without notice. In addition, there is the case that specifications may change and services may be stopped to provide without prior notice to the user. In that case, we shall not be liable for any direct or indirect failure that may occur, and shall not make any compensation.
- Please note in advance that we can not be responsible for any failure or gain from using the software.
- This product is designed on the premise that it is used for general industry. Do not use for applications requiring high safety in terms of function and accuracy.
- Please note in advance that we are not responsible for any failure that occurs in the system due to failure, malfunction or failure, or any damage that occurs using measurement records.
- Please keep the manual carefully.

3. Operating environment

The software supports the following operating environment.

- Supported devices : IBM PC/AT compatible machine
- OS : Microsoft Windows 8/8.1
: Microsoft Windows 10
- Display resolution : 1024×768 (XGA) or more

The following version of “.NET Framework” is required for software operation.

- .NET Framework 4.5.2 or later

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4. "WATCH LOGGER data collection and management"

This software uses a data logger (hereinafter, loggers) to set recording and data collection for measuring "temperature" "humidity" and "shock", graph measurement data, create reports, save text file(log) and etc.

■ Main functions

1. Operating condition setting function.
It can be set according to the intended use, such as measurement start time, measurement interval, and recording mode.
2. Data read function.
The measured data can be read out and displayed on PC.
3. Report print function.
The read and saved data can be printed in report format and output as PDF.
4. Individual identification name registration function.
It is possible to register names and numbers for individual loggers.
5. Security function.
Permission of data can be prevented from being falsified and restricted in terms of access and password setting by restricting access privileges and password.

■ Useful function.

1. Auto save function.
The data can be automatically saved to the specified folder at the same time after the data reading is completed.
2. FTP serve transmission function.
The scanned data is automatically transferred to the FTP server and saved.
3. Differential data acquisition function
Only records after the last acquired data are acquired.
4. Operation log function.
Operation logs such as operation date and time and user are automatically saved.
5. User authority function.
You can set up access privileges such as passwords and usage restriction.
6. Mapping function.
A list of up to 25 data can be displayed.

5. Software installation

In order to recognize logger to PC, it is necessary to install dedicated application software and USB driver. Applications and USB driver can be downloaded free of charge by applying from our website. When applying, please use in an environment where you can connect to the Internet.

When installing and using applications, please use PC administrator privileges(administrator). Cannot be used with non-administrator accounts.

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1. Application software installation flow

Software installation proceeds in 3 steps. For details on each step, see the explanation for each step. Also, make sure that connection and installation are correct as they may interfere with measurement.

Step 1 <software installation>

Install the software on PC

- Common to all models (KT-XXXF/KT-XXXU) ... P.5



Step 2 <Driver installation>

Install each driver by model

1. NFC type (KT-XXXF) ... P.8
2. USB type (KT-XXXU) ... P.9



Step 3 <Start communication check / read>

Connect to each device by model

1. NFC type (KT-XXXF) ... P.8
2. USB type (KT-XXXU) ... P.8



About installation

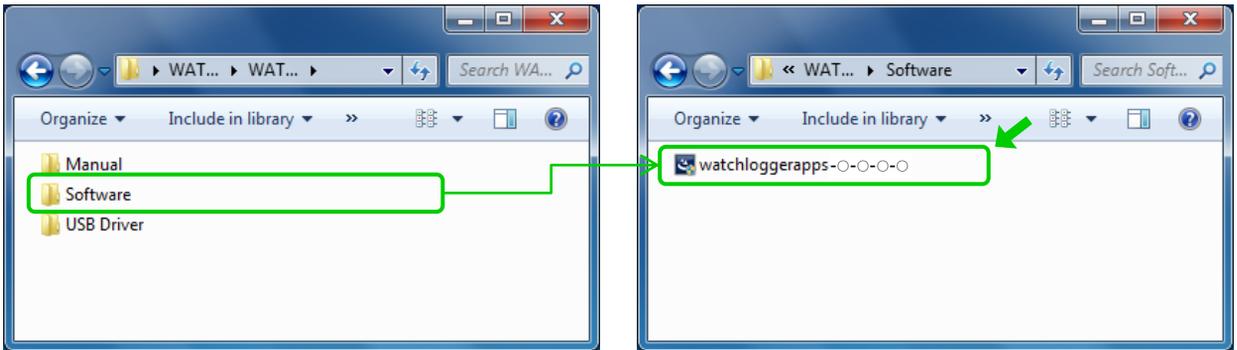
In order to recognize logger to PC, it is necessary to install dedicated application software and USB driver. Applications and USB driver can be downloaded free of charge by applying from our website. When applying, please use in an environment where you can connect to the Internet.

When installing and using applications, please use PC administrator privileges(administrator). Cannot be used with non-administrator accounts.

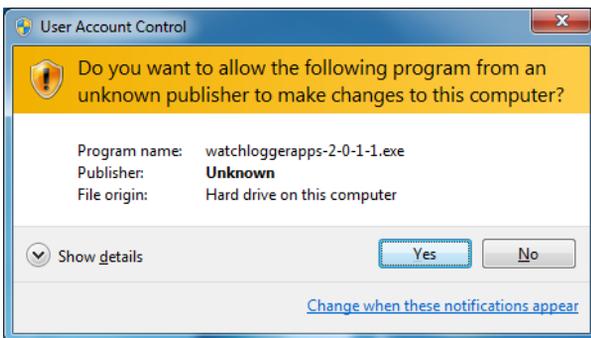
2. Software installation

Install software for setting WATCH LOGGER and displaying and saving measurement data. Finish all other software that is running.

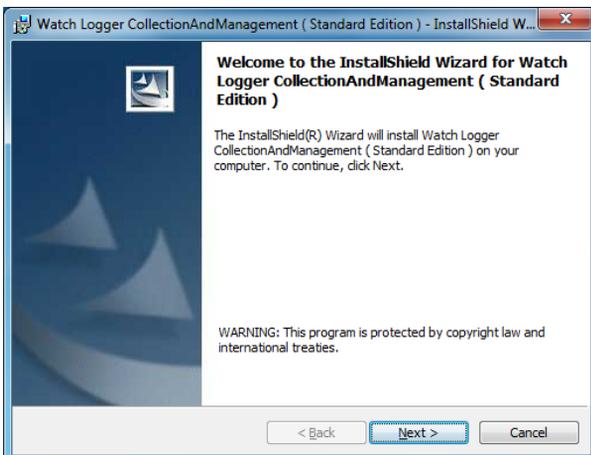
- 1) Double-click the file "watchloggerapps-0-0-0-0.exe" in the downloaded folder "Software".



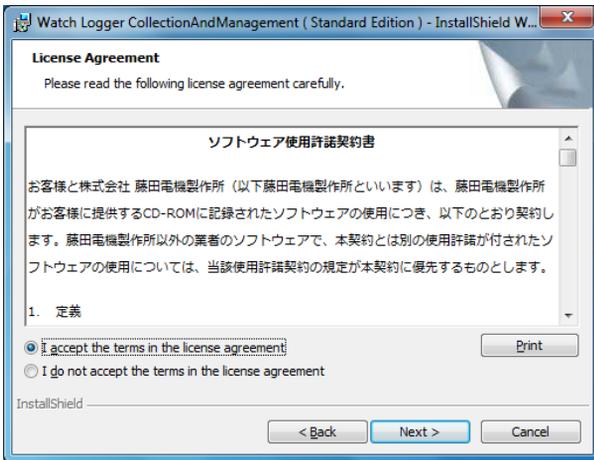
- 2) When the following screen is displayed, click "Yes".



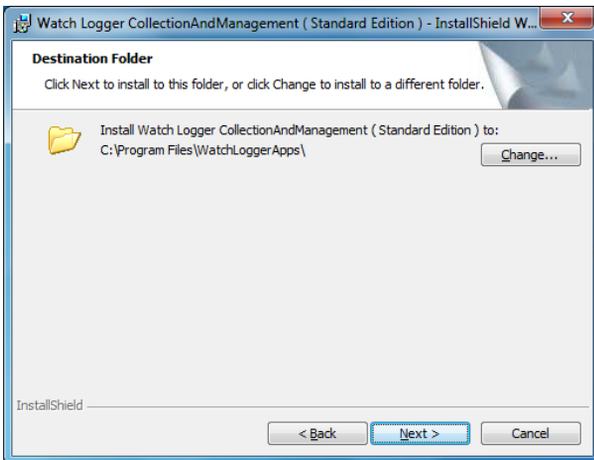
- 3) After extracting the folder, when the following screen is displayed, click "Next".



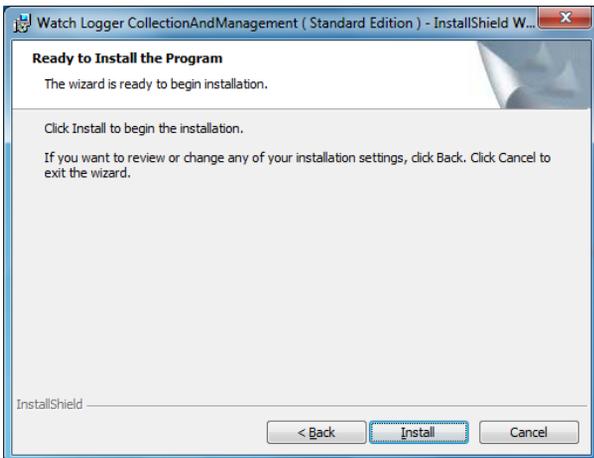
- 4) Confirm the “Software License Agreement” and then check “I accept the terms in the license agreement” and click “Next”. *English text is after Japanese text.



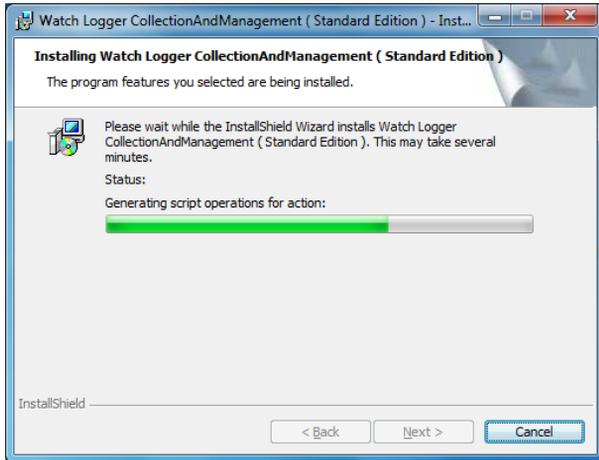
- 5) The following screen will be displayed. Click “Next” if this is acceptable. If you want to change the installation destination, click “change...” and specify the path.



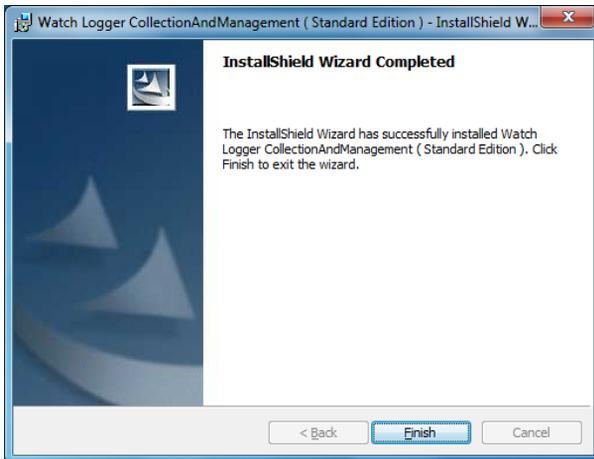
- 6) The following window will be displayed. Click “Install”.



7) Installation will begin.



8) When the following screen appears, click "Finish" to finish the installation.



3 - 1 . Driver installation for NFC communication

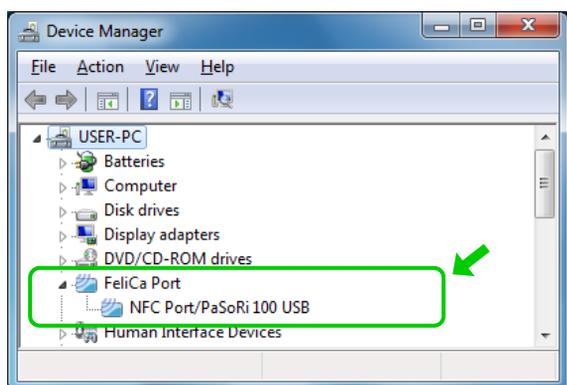
To use NFC type (KT-XXXXF) with the software, install the driver for “Contactless IC Card Reader // Writer” (hereinafter PaSoRi) according to the following procedure.

*During installation, you have to connect PC to the internet.

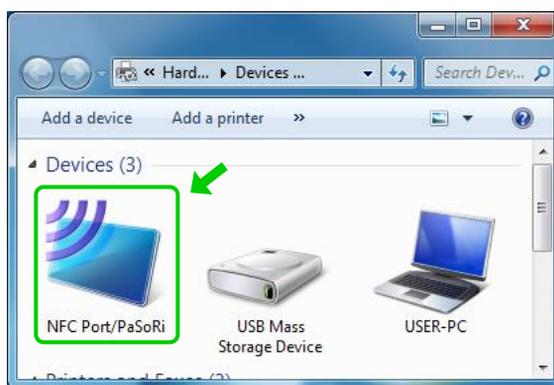
- 1) Installation starts automatically when PaSoRi is connected to PC, and is completed when the following screen is displayed.



- 2) If the installation is successful, you can see the following display in “Device Manager(*1)” or “Device and Printer(*2)”.



*1. [Control Panel] - [Hardware and Sound] - [Device Manager]



*2. [Control Panel] - [Devices and Printers]

*Installation may take several minutes to several tens of minutes depending on PC usage environment.

*If PaSoRi is not recognized automatically or if the driver cannot be installed properly, please download and use the following software from “Sony Japan | FeliCa website”.

URL <https://www.sony.net/Products/felica/business/products/RC-S380.html>

Driver Software

Driver software for RC-S380/S (Free-of-charge)

Driver software package

NFC Port Software

(Version: 5.6.9.0 / 45 MB / June 17, 2019)

[Download](#)

*When using PaSoRi on a PC with a built-in NFC, PC settings are required.
For details, please see PaSoRi instruction manual.

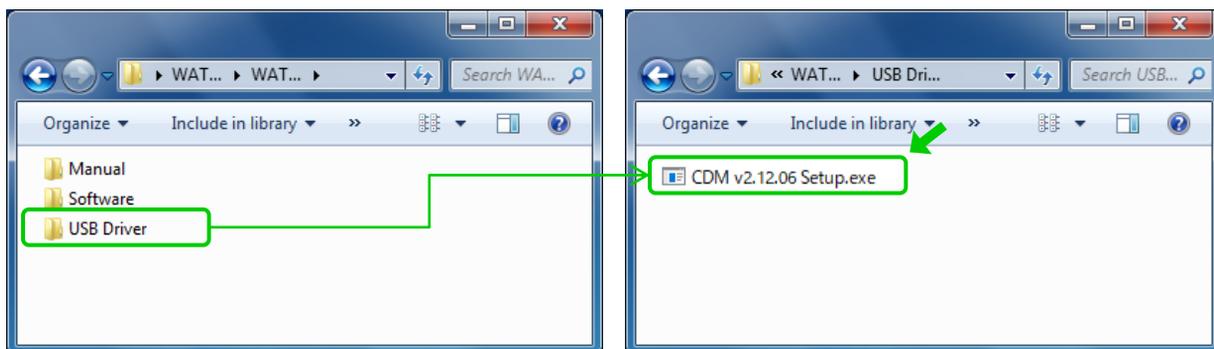
*“FeliCa” and “PaSoRi” are registered trademarks of Sony Corporation.

3 - 2 . Driver installation for USB communication

To use USB type (KT-XXXU) with the software, install the specified USB driver according to the following procedure.

*Do not connect logger to PC during installation.

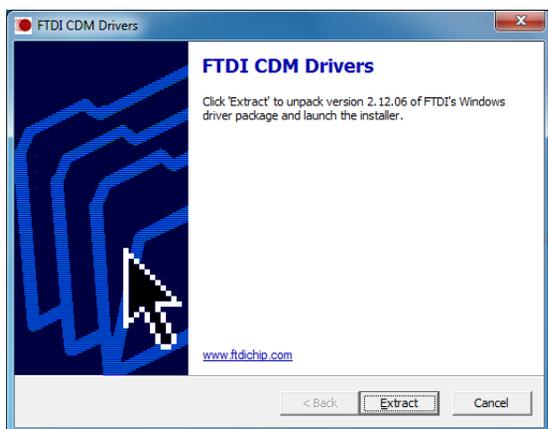
- 1) Double-click the file "CDM v2.12.06_Setup.exe" in the downloaded folder "USB Driver".



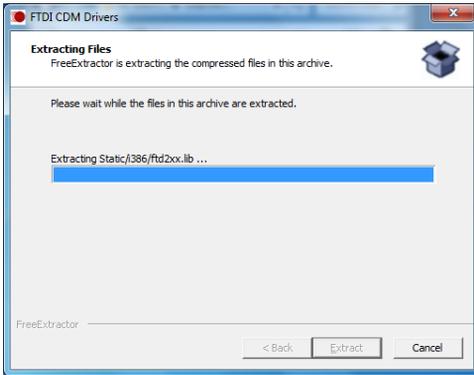
- 2) When the following screen appears, click "Yes".



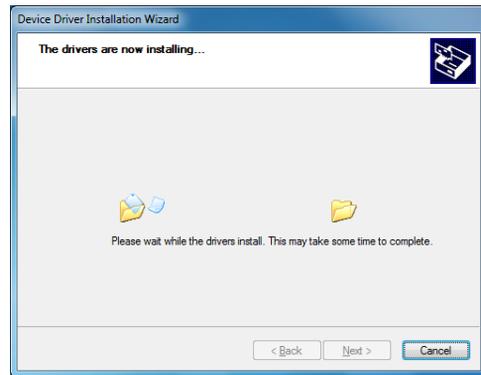
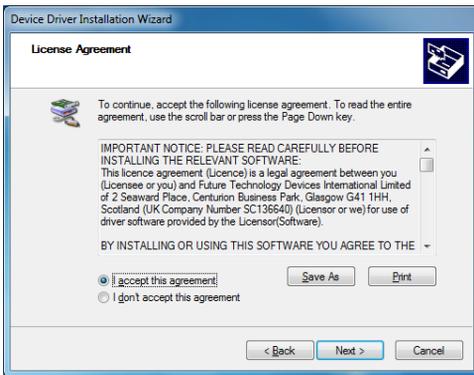
- 3) The following screen will appear and click "Extract"



4) Preparation for installation begins. Click "Next".



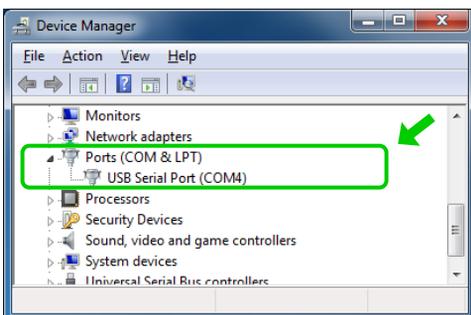
5) Confirm the "License Agreement", check "I accept this agreement", and click "Next". Installation will begin.



6) When the following screen is displayed, click "Finish" to complete the installation.



7) If the installation is successful, you can see the following display in "Device Manager(*1)".

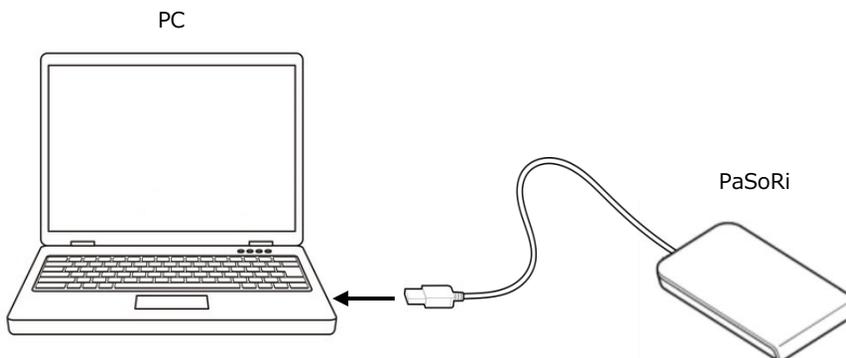


*1. [Control Panel] - [Hardware and Sound] - [Device Manager]

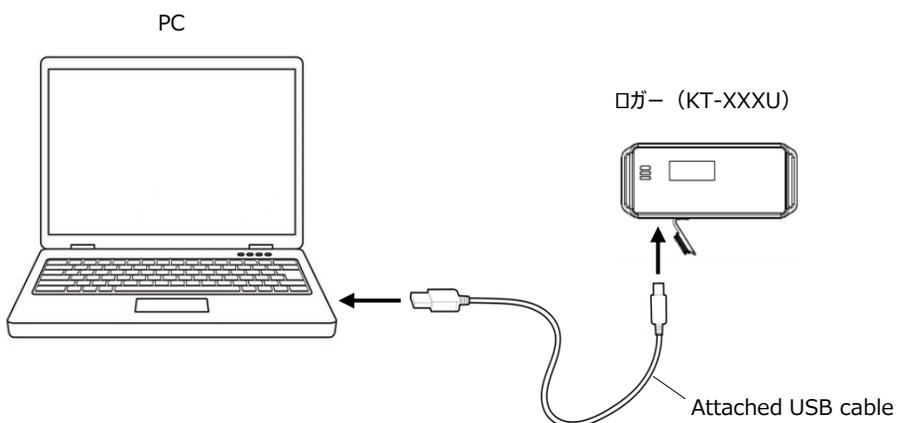
4. Device connection

Connect each device by communication type.

- 1) For NFC type (KT-XXXF), connect PaSoRi to USB port of PC.



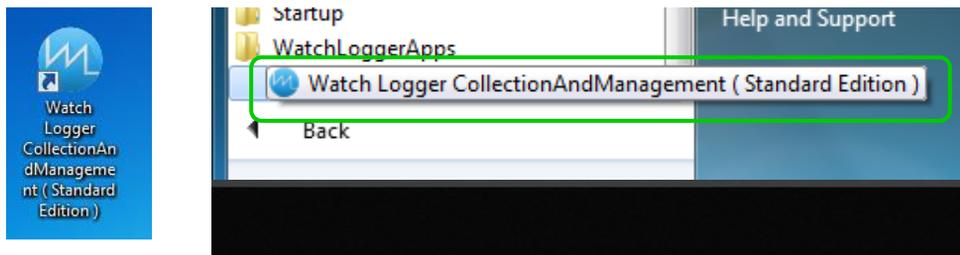
- 2) For USB type (KT-XXXU), connect logger and PC USB port directly with the attached USB cable.



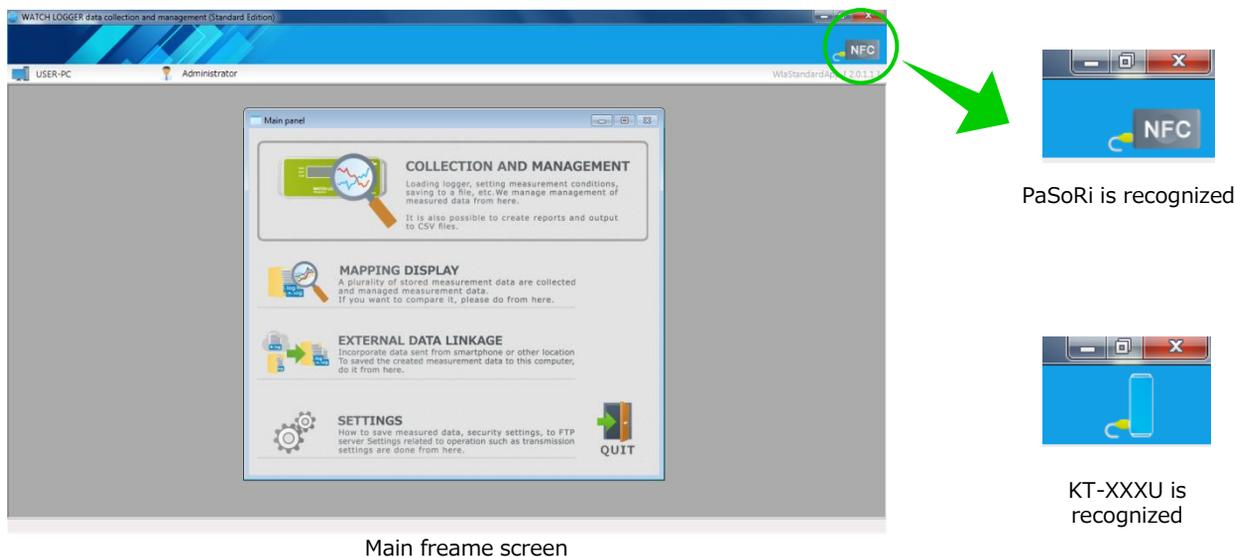
1. Starting and exiting the software

【Starting the software】

- 1) Click the shortcut icon on the desktop or click [start]-[WatchLoggerApps]-[Watch Logger collection And Management(Standard Edition)].



- 2) The following mainframe screen is displayed. When “PaSoRi” or “KT-XXXU” is connected and each device is recognized correctly, the device image is displayed in the upper right.



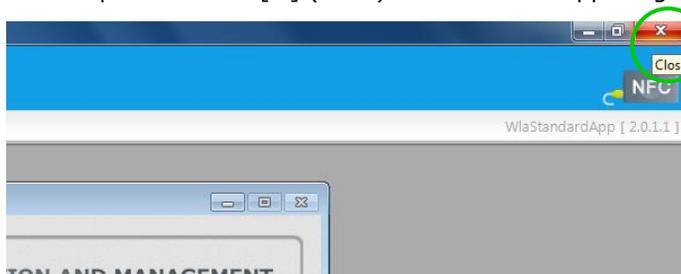
Main frame screen



If the device image is not displayed
 Since the following operations cannot be performed, confirm the driver installation status or whether each device is connected correctly. Refer to “2. Driver installation” (P8 or P10) to check the driver installation status.

【Exit the software】

- 1) Click “QUIT” on the main panel or click [x] (close) button on the upper right of the main frame.



2. Main panel (menu display)

Click each menu button displayed on the main panel to access each function



① COLLECTION AND MANAGEMENT

- Set measurement conditions on logger, and acquire, display, save, and output recorded measurement data.

② MAPPING DISPLAY

- Multiple saved measurement data can be displayed side-by-side for graph display (comparison).

③ EXTERNAL DATA LINKAGE

- Data saved on another PC or smartphone can be imported to this PC.

④ SETTINGS

- Set the measurement data storage location, display method, security, and network environment.

*Access to the above menus can be restricted by changing the user rights in "Security setting".
For details, please refer to [Security setting] (P17).

3. Set application environment

【Data collection setting】

- 1) Click “SETTINGS” in the main panel to open the “Environment setting” screen. On the “Data collection setting” tab screen, set the measurement data acquisition method, storage location, storage rules and etc.

*How to switch “ON” or “OFF” of the function.
You can change bellow switch by click with the mouse.

“ON” (enabled) state  “OFF” (invalid) state 



The items set-up here are saved on PC and are not registered in individual loggers.

① Collection data setting

- Specify where to save the measurement data.
(Initial state ... C:/Users/"USER"/Documents/WatchLogger/Data)
- Click to change the save destination. (255 single-byte characters)

② Rules for creating collection data storage folder (Default ... [Place of use / name]-[None]-[None])

- A folder is automatically created in the save destination set in ① according to the specified rule.
- Folders can combine three from the following items.
[None], [Serial-No], [Measurement start data (year/month)], [Measurement start data (day)],
[Save data (year / month / day)], [Used location number], [Place of use / name]

③ Rule of saving collected data name

(Default ... [Serial-No]-[Place of use / name]-[Measurement start data and time])

- When saving measurement data, a file name is automatically assigned according to the specified rule.
- You can combine three file name from the following six items.
[None], [Serial-No], [Measurement start data and time], [Save data and time], [Used location number],
[Place of use / name]

④Automatically saved (Default ... OFF)

- When this function is turned on, the measurement data of the logger can be automatically saved in the folder specified in ②. If a file with the same name exists in the save destination, it is overwritten as it is.

⑤Summary record (Default ... OFF)

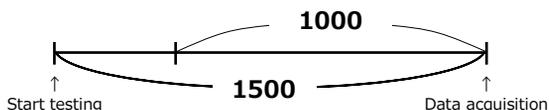
- When this function is turned ON, when there is a file with the same name at the save destination in saving measurement data, the data can be added to one file without overwriting.
- This function is valid only when the measurement data "Serial-No", "Start time" and "Measurement cycle" are same.

*This function cannot be used when the saved measurement data is saved by previous software version "v1.04(2010.06.0008)" or earlier.

*The number of log data that can be saved is 200,000 cases.

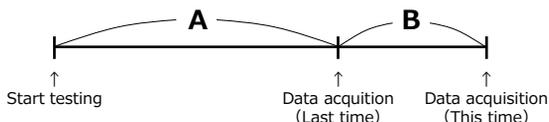
⑥Collection data acquisition method

- Select from the following two methods to obtain the measurement data recorded in the logger.
 1. Acquire the specified number of items ... Acquires the specified number of items from the latest measurement data. (0 to 999,999 can be specified. Default ... 999,999)



*For example, if the number of acquisitions is 1000, only 1000 data will be acquired as shown in the left figure. To obtain all data, you can check the data by setting the maximum value to 999,999.

2. Acquire only difference data ... Only the data (B) recorded after the last acquired data (A) is acquired.



*Once acquired, the data cannot be acquired the next time it is read.

⑦If a logger is placed, retrieve the data at 1 minute intervals

- When this function is turned on, the data can be acquired and updated every one minutes on the measurement data collection / management screen by placing the logger being recorded on PaSoRi (NFC type) or USB connection (USB type).
- When used in conjunction with "Auto save", "Summary record" and "Acquire only difference data", the data can be saved in real time (1 minute interval)



About creation of collected data storage folder name and storage file name

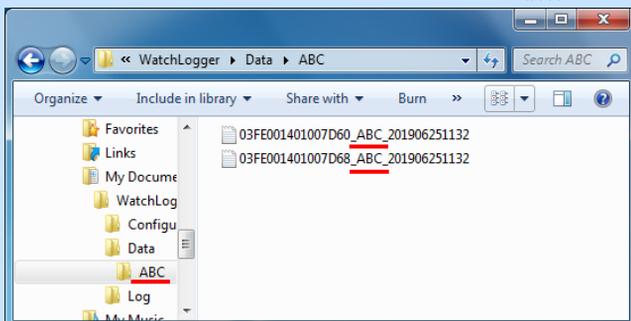
For example, when the following logger is used

Data logger : KT-295F/GX Serial-No : 03FE001401007D60

When "ABC" is entered in "Place of use / name" in the measurement condition settings, an "ABC" folder is created under the "Data" folder where the is stored. As shown below, it is saved in the folder with the following file name.

03FE001401007D60_ABC_201906251132.log

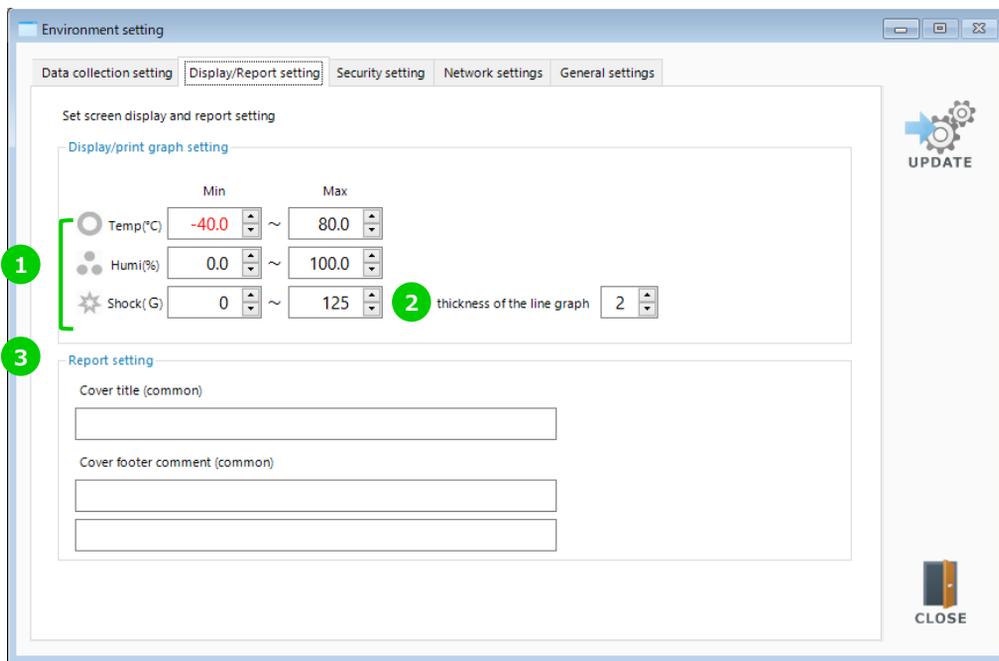
[Serial-No] [Place of use/name] [Measurement start data and time]
(yyyyMMddHHmm)



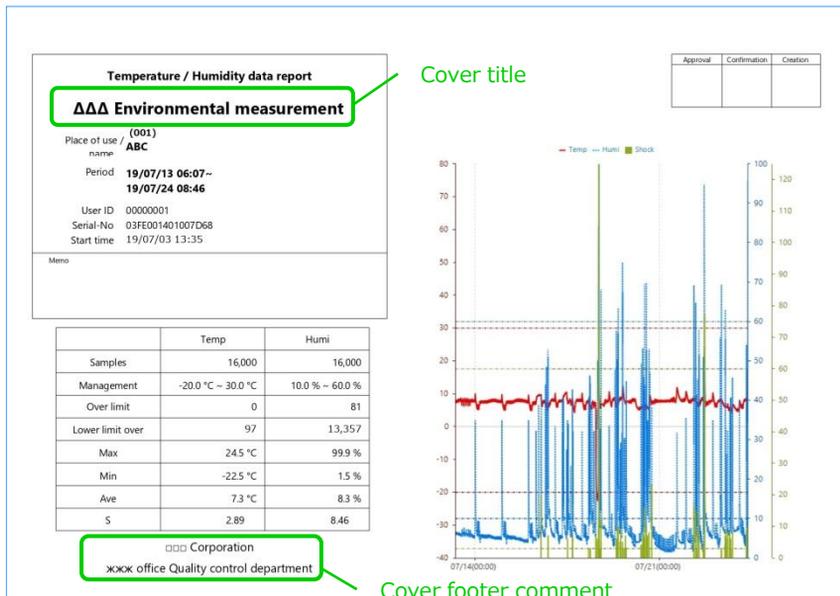
By making the same settings for multiple logger, you can easily collect measurement data in one folder as shown in the left figure.

【Display / Report setting】

2) Click the “Display / Report setting” tab. Here , you can set the graph display on the data collection / management screen and te graph and title display when outputting the report.



- ① Graph scale (vertical axis) … Both the minimum and maximum values can be set as follows.
 - Temperature : -999.9 to 999.9 (°C) (Default : -40.0 to 80.0)
 - Humidity : 0.0 to 999.9 (%) (Default : 0.0 to 100.0)
 - shock : 0 to 999 (G) (Default : 0 to 125)
- ② Thickness of the line graph (Default : 2)
 - The thickness of the graph line can be changed in 9 levels from [1 (thin) to 9 (thick)].
- ③ Report setting (Default : blank)
 - Enter the title and footer (2 lines) on the cover of the data report. (40 characters for each line or 20 characters)



About report settings

To print display the title and footer as in the right report, enter in “Cover title” and “Cover footer comment” in the report settings.

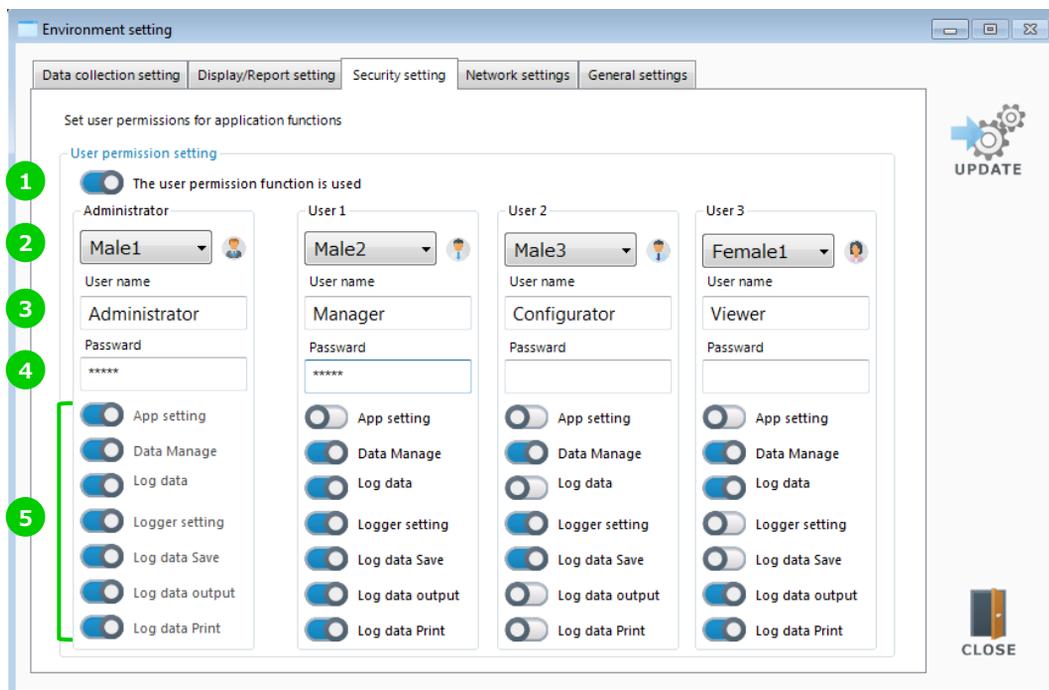
Report setting

Cover title (common)

Cover footer comment (common)

【Security setting】

3) Click the “Security setting” tab. Here, you can make settings to limit the software users and the functions used.



①The user authority function (Default : OFF)

- When this function is turned ON, the software users can be divided into 4 ranks (administrators, users 1 to 3), and user restrictions and authority can be set by passwords. After setting, the login screen is displayed when the software is started.

②Icon

- You can choose from 6 types of login screen icons (1-3 for men and 1-3 for women).

③User name

- Register the user name to use the software. (20 characters)

④Password

- Register password for login. (10 characters)

⑤Functional restriction

- The function is restricted for each user by the switch “ON” (enabled) and “OFF” (disabled).

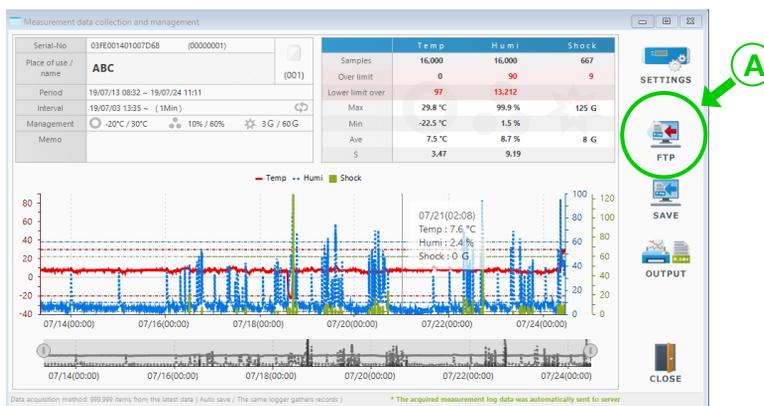
Switch	Functional
Environment setting	Launching the “Environment setting” screen
Measurement data management	Launching the “Collection and Management” screen Launching the “External Data Linkage” screen
Measurement data reading	Launching the “Mapping Display” screen Reading measurement data on the “Collection and Management” screen
Measurement condition setting	Setting the “Collection and Management” screen
Measurement data saving	“SAVE” button on “Collection and Management” screen “FTP” button on “Collection and Management” screen “Auto save” function when collection data “FTP automatic saving” function when collection data
Measurement data output	“OUTPUT” button on “Measurement log data External output” screen
Measurement data print	“REPORT” button on “Measurement log data External output” screen “REPORT” button on “Mapping display” screen

【Network settings】

- 4) Click the “Network settings” tab. Here, configure settings when using an FTP server as the storage location for measurement data.

① Use FTP server transmission function. (Default : OFF)

- When this function is turned on, the “FTP” (A) button is displayed on the “Collection and Management” screen. Click this to save the data obtained from the logger to the FTP server.



② Server address (40 single-byte characters) / User name (20 single-byte characters) / Password (20 single-byte characters)

- Enter the FTP server address, login user name, and password to be used.

③ Use passive mode (Default : ON)

- FTP transfer mode can be set.
- * If communication is not possible, set it to “OFF” and check communication.

④ Send it to FTP server when automatic saving (Default : OFF)

- When this function is turned ON, when “Auto save” (3.SETTING ④ P.15) is turned ON, the measurement data auto save destination is FTP server.
- * If an error occurs during data transmission, an error message is displayed and the data is saved in the following folder. C:/ Users / <user name> / Documents / WatchLogger / Ftp

⑤ Send destination folder (20 single-byte characters)

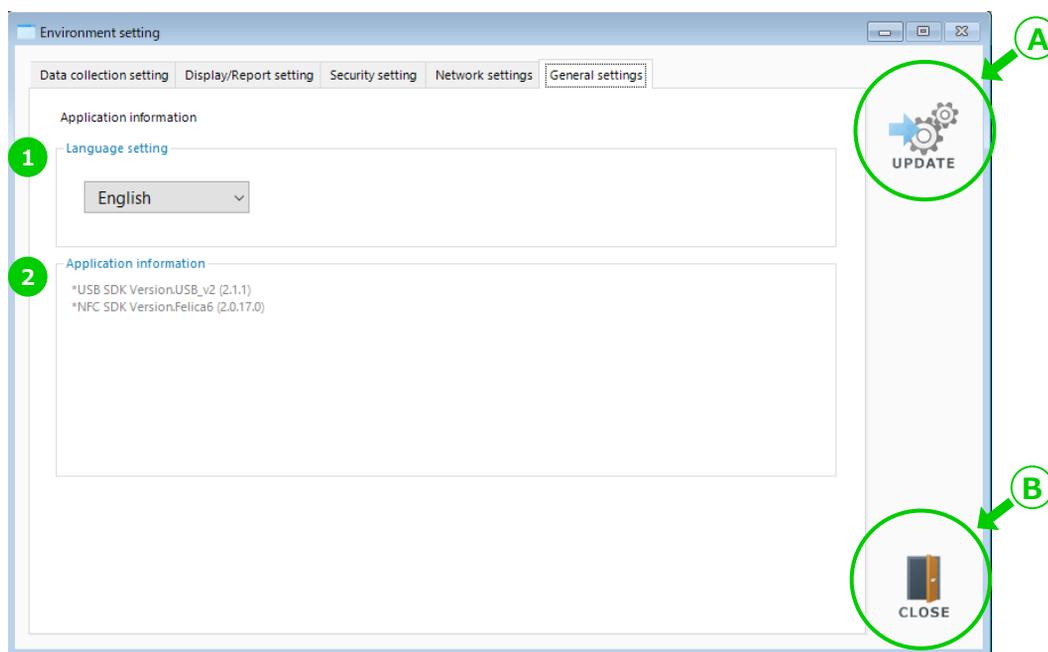
- A destination folder is created in the server with the name entered here. Data is saved in the destination folder according to “Rules for creating folder” and “Rules for creating file” (3. ②③ P.14)

⑥ Destination folder (20 single-byte characters)

- When receiving data from the server in the main panel “EXTERNAL DATA LINKAGE” (11. P.43), the data in the folder specified here will be the target.

【General settings】

5) Click the “General settings” tab.



①Language setting

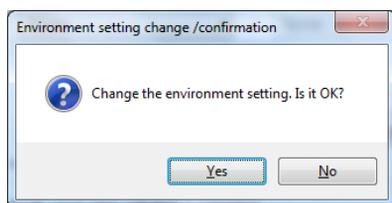
- Switch between [Japanese] and [English] for software notation. If you change the setting, the display will change after restarting the software.

②Application information

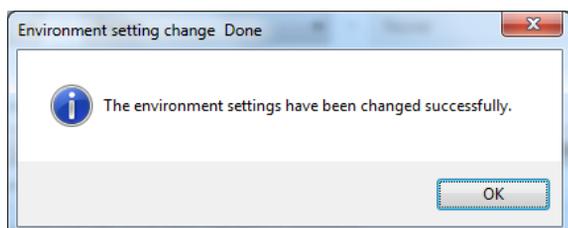
- Displays the SDK version used and internal information of the application.

【End of Environment setting】

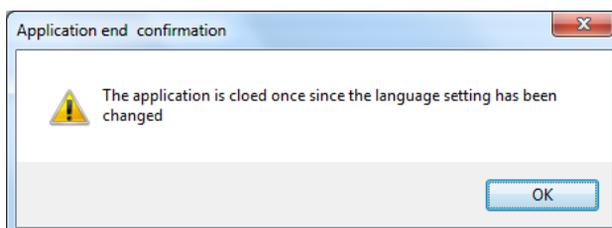
6) When all changes are completed, click the “UPDATE” button (A) in the upper right. When the following confirmation screen is displayed, click “YES”.



When the following screen is displayed, click “OK”.



If the language setting has been changed, the following will be displayed. Click “OK” to finish the environment setting.



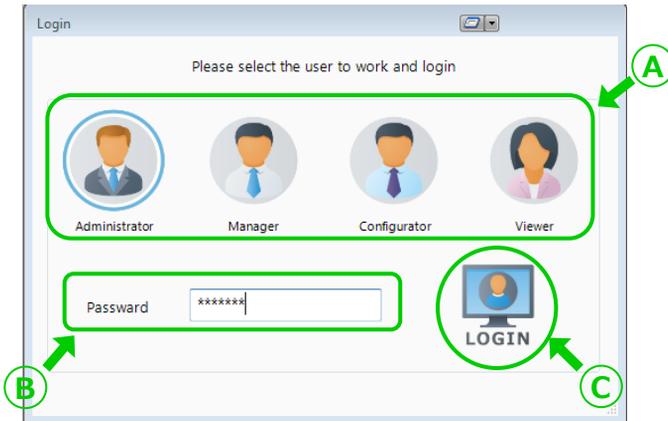
Click the “CLOSE” button (B) at the lower right of the environment setting screen to finish the environment setting.

- ※ To cancel the change, click the “CLOSE” button (B) in the lower right to exit without reflection the changes so far.

4. Login

When “User Permission Function” is enabled in the environment settings, login operation is required. If not set, the “Main panel” screen will appear.

1) When you start the software, the following login screen is displayed.

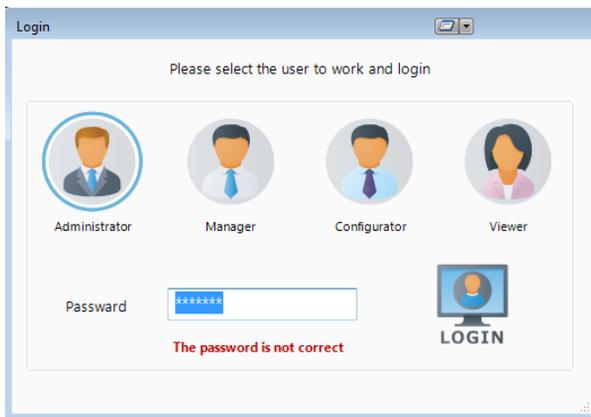


2) Click the user to log in. (A)

3) Enter the password. (up to 10 single-byte characters) (B)

4) Click “Login” . (C)

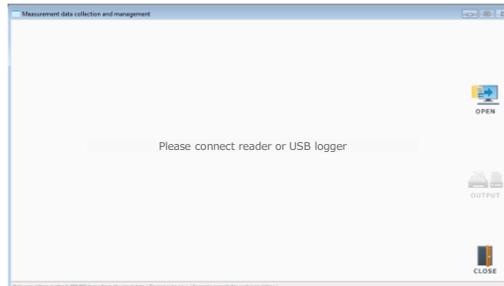
If the password is correct, the main panel is displayed. If the password is not correct, it will be displayed as follows. Enter the correct password again.



5. Setting measurement conditions

Write measurement conditions such as start/end dates and control values to the logger. Once written, the contents will be retained from the next time unless changed or initialized, except for the start/end date and time.

- 1) Click "COLLECTION AND MANAGEMENT" on the main panel and connect a reader or USB logger.

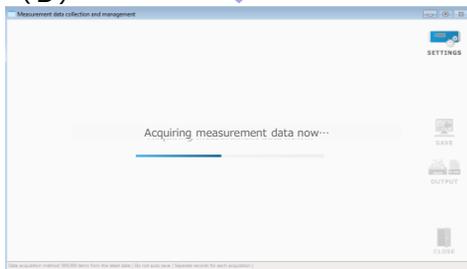


- 2) <NFC type> Screen (A) opens. When the logger is placed on PaSoRi, (B) → (C) is displayed.
<USB type> (B) → (C) is displayed on the screen.

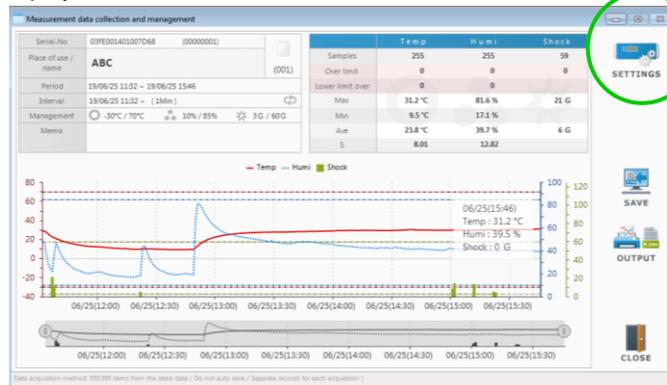
(A)



(B)



(C)



2-2) Click "SETTINGS" in the upper right to open the measurement condition setting screen.

【Measurement condition settings】

3) I will explain to the setting items. This section 3) describes settings that are effective when you want to manage multiple loggers centrally, or when you want to manage security of measurement data. If setting is not required, proceed to the next section 4).

The screenshot shows the 'Measurement condition setting' window with the following fields and controls:

- 1** Serial-No: 03FE001401007D60
- 2** User ID: 00000001
- 3** Password: [Empty]
- 4** Place of use / name: Set up name to identify this logger
- 5** Used location number/color: 001, Noni
- 6** Measurement condition: Start from the specified time, Start time: 2019/07/05 16:00, End time: 2019/07/06 08:00, Measurement cycle: 1 Min, To roll over (checked), Exclude start abnormality (unchecked), Use start/stop button (unchecked).
- 7** Standard value: Temp(°C) [-30, 70, 1], Humi(%) [10, 85, 1], Shock(G) [15, 60, 1].
- 8** Memo: [Empty]
- NOTE UPDATE** button
- CLOSE** button

①Serial-No

- Displays the serial number of the logger. It cannot be set.

②User ID (Default : 00000001)

- You can set a user ID (8single-byte, number only) to identify the logger.

③Password (NFC type only)

- A password (1 to 4 single-byte characters) can be set for the logger.
- Logger with passwords will be asked to enter a password when acquiring data.

④Place of use / name

- You can set the location and name of the logger. (32 characters)
- The contents described can be used as the logger file name and storage folder name. (Refer to P.14 ②③)

⑤Used location number (Default : 001)

- You can set the location number (3 digits only) to the logger.
- [000 to 999] can be set for the NFC type and [000 to 255] for the USB type, and can be displayed on the logger's LCD.

⑥Color (NFC type only) (Default : None)

- To identify loggers by color, [None] , [Brown] , [Red] , [Orange] , [Yellow] , [Green] , [Blue] , [Purple] , [Gray] , [Black]. You can choose from colors.
- The set color can be reflected in the graph color in the mapping display.

⑦Memo

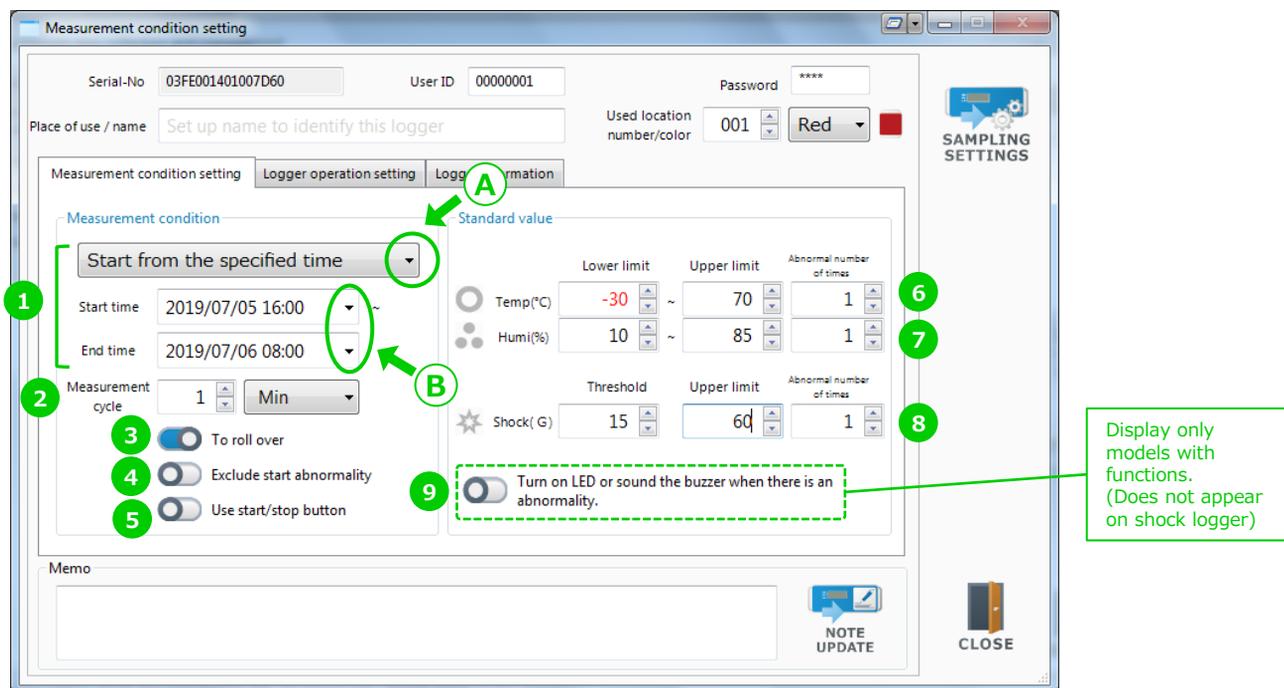
- You can record notes on the logger. (192 characters)

⑧Note update

- Click "NOTE UPDATE" to rewrite only the memo regardless of the measurement condition settings.

【Measurement condition settings】

4) Set the measurement conditions as follows. By making this setting, the logger is ready to record measurement data.

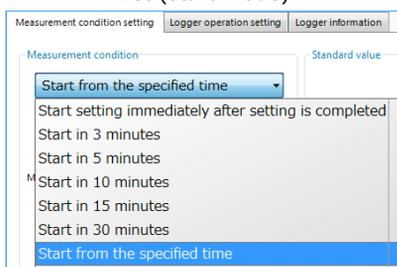


<Measurement condition> ... Select the start date and time and method for recording to the logger.

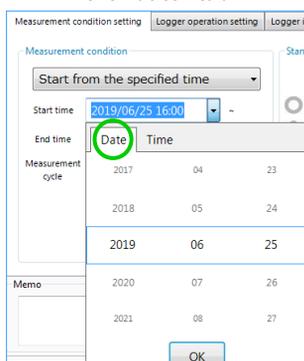
① Start/End date and time

- Click the ▼ mark (arrow A) to display a list of start modes.
- Select [Start from the specified time] to set the start date and time and the end date and time.
- If you select [Start setting immediately after setting is completed] or [Start after xx minutes], the logger will start recording after the specified time has elapsed since the measurement conditions were set.
- You can directly input the date and time for both start and end. Click the ▼ mark (arrow B) next to the date and time displays the "Date / Time" screen as shown below, and you can change the value by scrolling the mouse wheel.

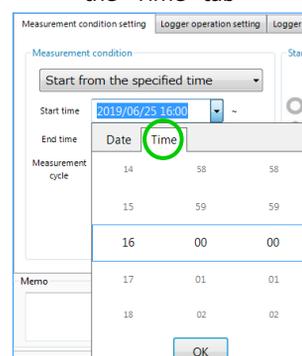
List (start mode)



To change the date, click the "date" tab



To change the time, click the "Time" tab



② Measurement cycle (Default : 1 minute)

- Set the logger measurement cycle [1 to 255 minutes] (in 1 minute increments) or [1 to 255 seconds] (in 1 second increments).
- * The cycle setting is only available for the NFC type, but it may not be used depending on the product version.

Pin icon About date and time settings
 Since the date and time used at the time of setting is linked to the date and time of the PC, please check the date and time of the PC when using it.

③ To roll over (default : ON)

- In the initial state, when the number of measurement data reaches the maximum amount, recording is continued by deleting old data and rewriting to new data in order. (Rollover recording)
- When this function is turned OFF, the recording stops when the maximum amount of measurement data is reached. (one-time recording)

*Depending on the product version of the logger, it may not be used.

④ Exclude start abnormality (default : OFF) (NFC type only)

- In the initial state, if the standard value is exceeded from the beginning of data recording, error detection starts.
- When this function is turned ON, abnormal count is not counted even if the control value has already been exceeded since the start of data recording. Anomaly detection starts once the measured value is within the control value.

*USB type is ON regardless of "ON" or "OFF".

⑤ Use start / stop button (supports LCD display switch) (default : OFF)

- In the initial state, only the normal LCD switch function is available.
- When this function is turned on, the start / stop button of the logger will be enabled according to the display switching function, and recording can be started or stopped by long-pressing the button (about 2 seconds).

*This function can be used only once when the condition setting is completed. To start the logger once stopped, it is necessary to set the conditions again.



Notes on using the start / stop button

The display switching and start / stop function switches are shared. Please be careful about malfunction by pressing the switch.

<Standard value>

By setting a control value, alarms can be displayed and statistical data can be output as a report.

*the displayed contents of "standard value" vary depending on the model.

⑥ Temperature

- Set the upper and lower temperature limits within the measurement temperature range of the logger. (default : -30 to 70)
- Set the number of abnormalities between [1 to 65536]. (default : 1)
- When the number of times the control value is exceeded reaches the "Abnormal number of time", an alarm is displayed on the logger. For example, if it is set to [1] in the initial state, an alarm will be displayed once over, but if set to [5], it will not be displayed up to four times.

*The number of abnormalities can be set only for the NFC type, including the following humidity and shock

⑦ Humidity (only for models that support humidity)

- Set the upper and lower humidity limits within the measurement humidity range of the logger. (default : 10 to 85)
- Set the number of abnormalities in the same way as the temperature. (default : 1)

⑧ Shock (shock compatible models only)

- Set the shock threshold and upper limit within the range of the measured shock value of the logger. (default : threshold 15 upper limit 60)
- Logger detects shock (G value) above the set "Threshold" and records it in real time.
- Set the number of abnormalities in the same way the temperature. (default : 1)

⑨ Turn on LED or sound the buzzer when there is an abnormality.

- When this function is turned on, the LED lights up or the buzzer sounds at the same time as the alarm is displayed. (default : OFF)

*Valid only for models with LED and buzzer functions



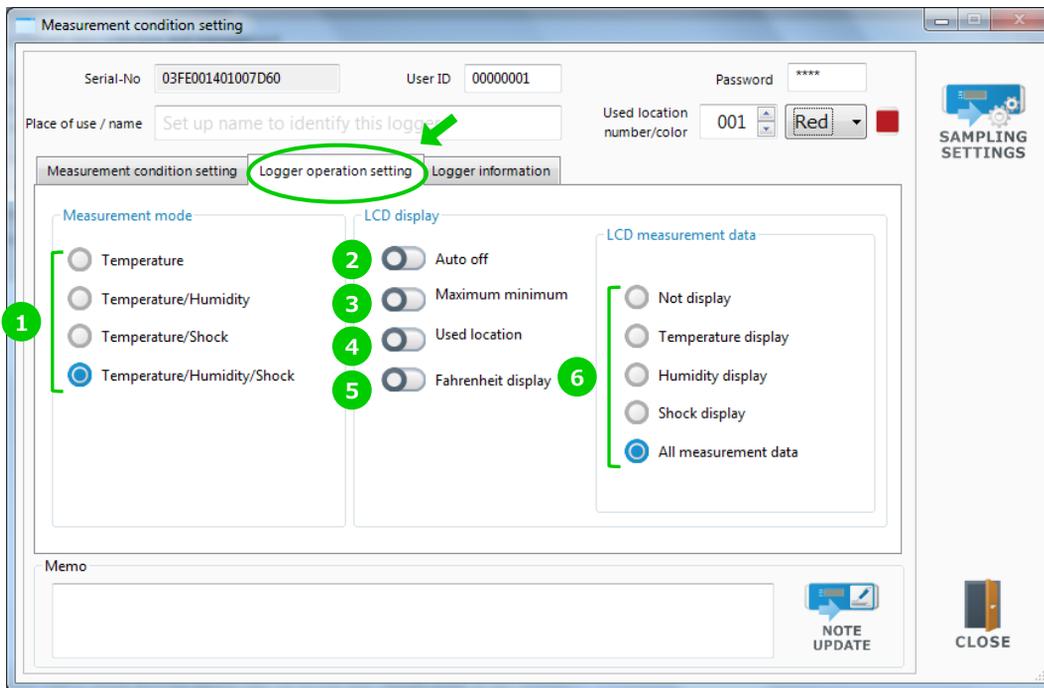
"Management value"

The values that can be set vary depending on the specifications of the logger used. Check the instruction manual attached to the logger for specifications.

【Logger operation setting】

5) Set the operating environment of the logger.

*The measurement mode display varies depending on the model.



<Measurement mode>

Select the measurement target to be recorded on the logger.

- ① "Temperature", "Temperature/Humidity", "Temperature/Shock", "Temperature/Humidity/shock"
- In the initial state, all measurement targets that can be recorded by the logger are selected.

<LCD display>

Make the following settings for the logger's LCD display after setting the measurement conditions.

- ② Auto off (default : OFF)
- When this function is turned on, the temperature and humidity display will disappear after a certain period of time and will be hidden.
- ③ Maximum Minimum display (default : OFF)
- When this function is ON, the maximum and minimum values of each measurement mode can be displayed from all data recorded in the logger.
- ④ Used location (default : OFF)
- When this function is ON, the location number (⑤ P.22) can be displayed.
- ⑤ Fahrenheit display (default : OFF)
- When this function is ON, the temperature display can be changed from Celsius to Fahrenheit.

<LCD measurement data>

Select the measurement mode you want to display on the LCD.

- ⑥ "Not display", "Temperature display", "Humidity display", "Shock display", "All measurement data"
- In the default, "All measurement data" is selected, and the display contents can be switched with the buttons on the logger. For details, see the operating instruction manual for the logger.
 - If "Not display" is selected, the measured value and data collection (REC), battery life warning (BAT), and control value error alarm (ALM) will not be displayed. (Excluding KT-165F / KT-265F)
 - When "Temperature display", "Humidity display" or "Shock display" is selected, the display will be fixed to the selected item.

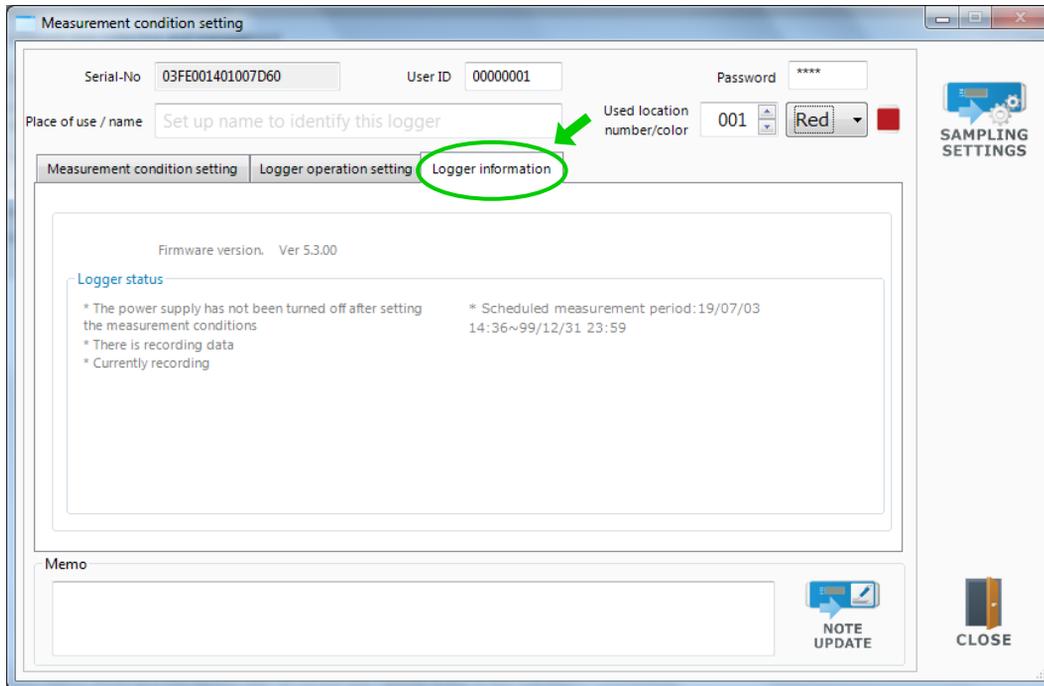


<LCD display> <LCD measurement data>

This function is valid only for models that have an LCD display switching button. Cannot be used for models that do not have a switch button.

【Logger information】

6) The firmware version and current logger status are displayed. If a flag that may interfere with subsequent measurements such as “Low battery voltage” is displayed, take appropriate measures.

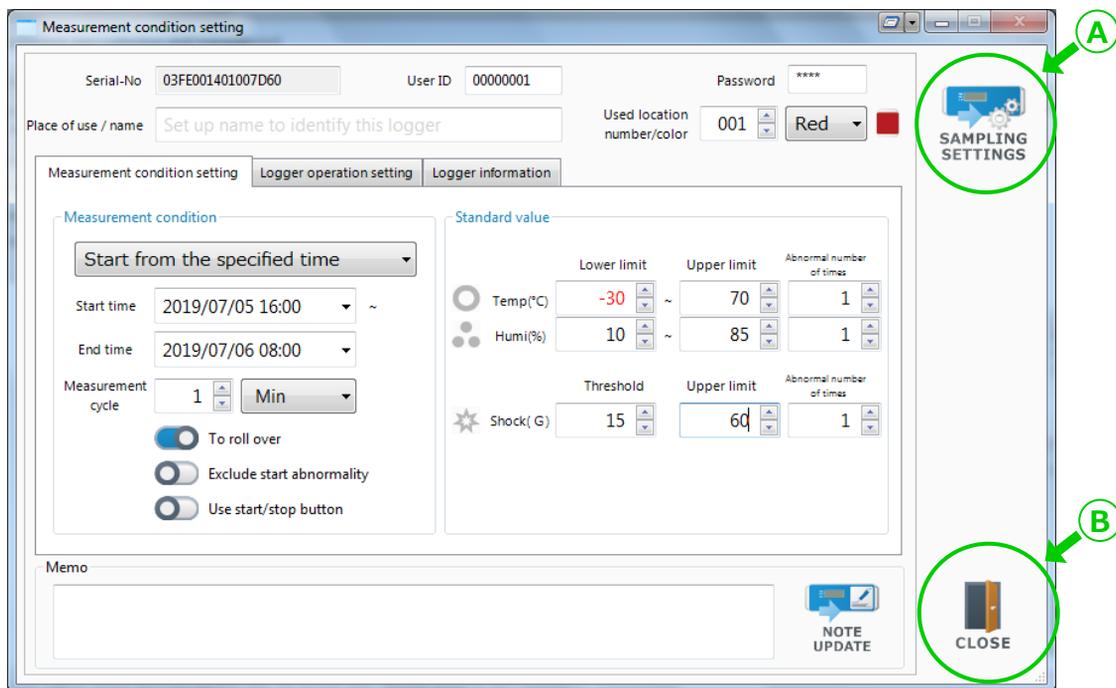


Display content

- Firmware version
- State
 - Measurement period : yy/MM/dd HH:mm:ss to yy/MM/dd HH:mm:ss
 - Logger operating status (NFC type only)

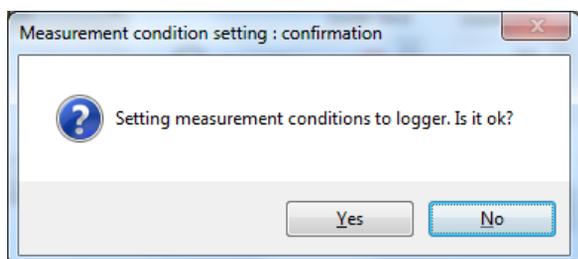
7) Click "SAMPLING SETTINGS" button (A) at the upper right the screen.

*To cancel the setting, click "CLOSE" button (B) at the lower right to exit without reflecting the setting change.

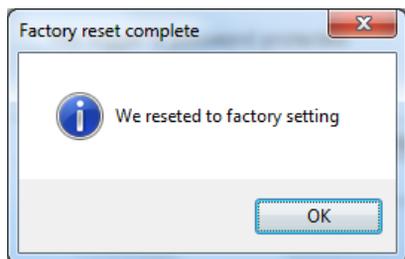


8) When the following screen appears, click "Yes" and wait for the logger to finish writing.

*IF the connection with the PC is canceled before the "Completed" message appears, problems such as data recording not starting properly may occur.



9) When the following screen is displayed, click "OK".



10) Disconnect the logger from the PC. (remove the NFC type from PaSoRi and remove the USB type USB cable), and click the "CLOSE" button (B) to complete the settings. To set multiple units with the same "Start time / End time" connect the logger to the PC without clicking "CLOSE" and return to step 3) or step 4) to repeat the same procedure.

*The previously set conditions are memorized unless the measurement condition setting screen is closed.

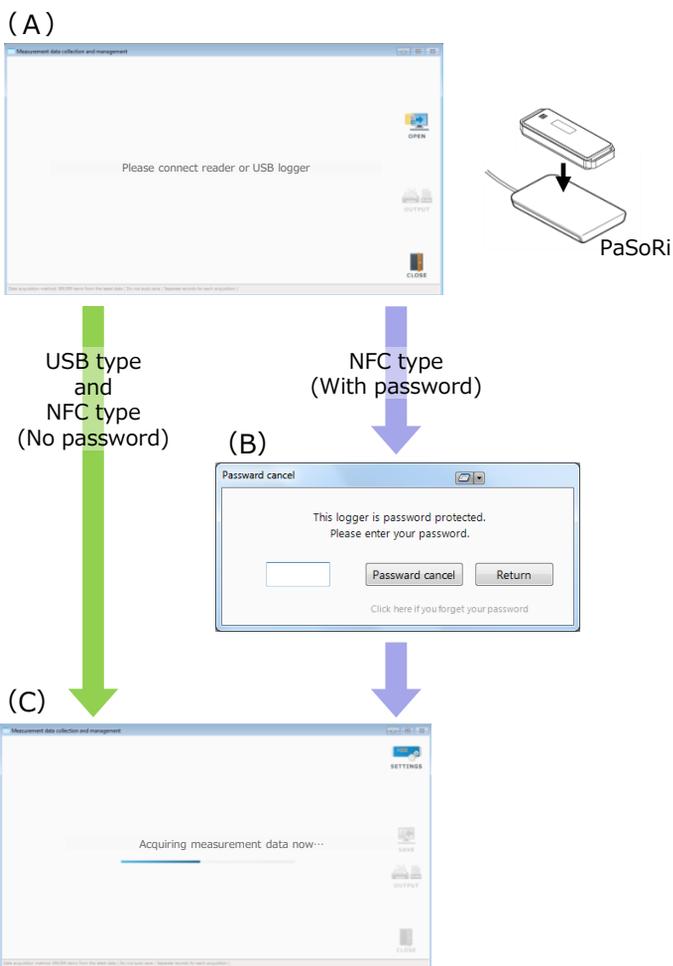
11) Install the logger at the measurement location.
For precautions for installation, refer to the instruction manual.

6. Measurement data acquisition

To acquire the measurement data that has been recorded in the logger, please do following after measurement conditions set at the time , the connection of the PC and the device and the start-up and login of the software.

1) Click "COLLECTION AND MANAGEMENT" in the main panel.

- In case of USB type, measurement data acquisition starts. (C)
- For NFC type, the screen (A) will be displayed. Place the logger on PaSoRi and the acquisition of measurement data will start. (C)



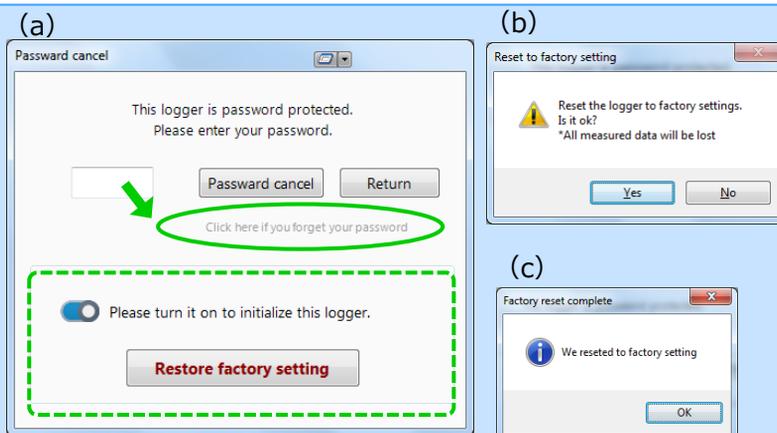
- If a password has been set for the logger, screen (B) will be displayed. Enter the set password and click "Password cancel". (Refer to P.22 ③)

If you forget your password

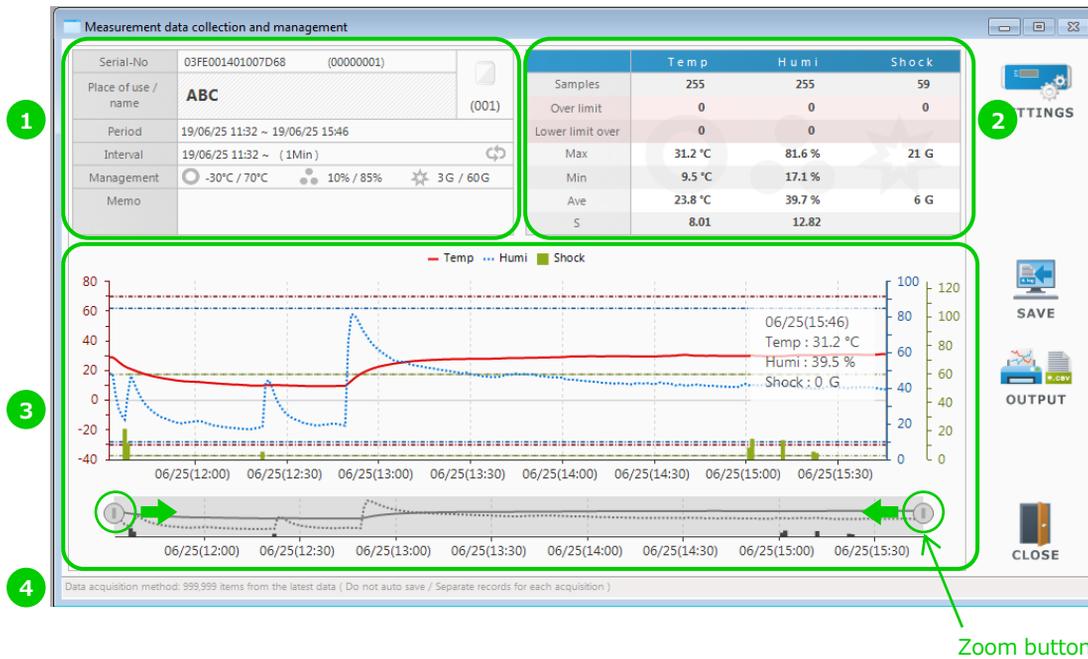
- If you click "Click here if forget your password", the screen (a) will be displayed. Click the "Please turn it on to initialize this logger" Button "Restore factory setting" Click.
- When the screen (b) is displayed, click "Yes".
- It becomes screen (c) and starts reading.

! Note

All recorded data and setting conditions are deleted. Please note that it cannot be restored.



2) When acquisition is completed, measurement conditions, an overview of acquired data, graphs, etc. are displayed on the Measurement data collection and management screen.



Zoom button

① Logger information

- Serial-No “Serial number” of the logger and the parentheses are the “User ID” set in (P.22②)
- Place of use /name “Name” set in (P22.④)
- Used location number / color “Place number” and “Identification color” set in (P.22⑤⑥)
- Period The measurement period of the acquired data is displayed. If you select “Acquire only difference data” in the environment settings, the period of this acquisition will be displayed.
- Interval Displays the measurement start data, measurement interval, and recording mode (|→| To rollover / ↻ To one-time)
- Management Control values for temperature (○), humidity (●●), and shock (☆) are displayed.
- Memo The information entered in (P.22⑦) is displayed.

② Data summary information

- Samples number The number of data for each measurement mode acquired this time is displayed.
- Upper limit over / Lower limit over Of the data acquired this time, the number exceeding the management value is displayed. Data that has already been deleted due to rollover is not reflected in the difference acquisition until the previous time.
- Maximum value (Max) / Minimum value (Min) / Average value (Ave) / Standard deviation value (S) Each statistical value with the data obtained this time as the parent population

③ Graph

- All acquired data in the measurement period is displayed in a graph.
- If you move the mouse cursor on the graph, the measurement data and data will be displayed.
- Slide the zoom button on the left and right below the graph to zoom in on any location.

④ Data acquisition method

- Displays the conditions under which data is read.

Data acquisition method: 999,999 items from the latest data (Auto save / Separate records for each acquisition <Overwrite the same file>)

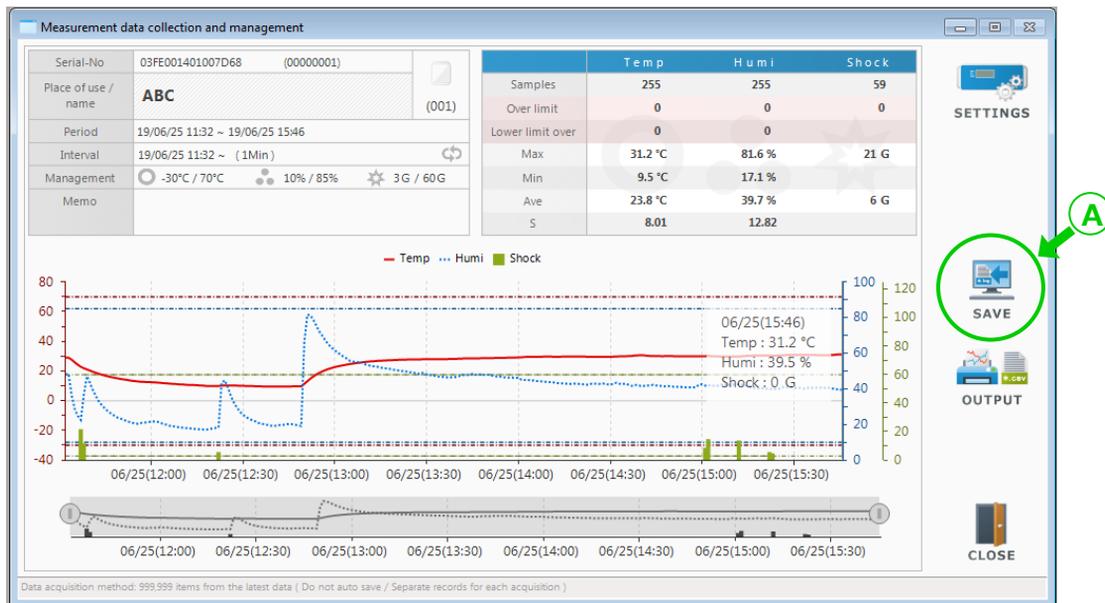
* The acquired measurement log data was automatically saved

7. Save data

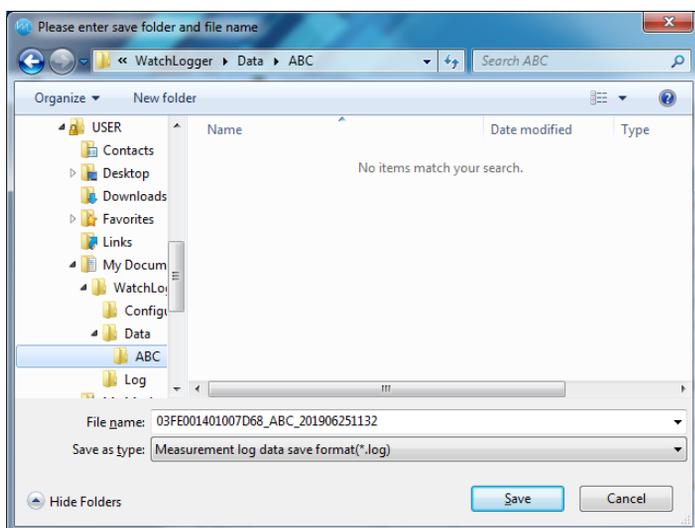
Save the acquired data to the specified destination.(Manual save)

*If "Automatically saved" is enabled in the preferences, the following operations are all performed automatically.

1) Click "SAVE" (A) on the Measurement data collection and management screen.

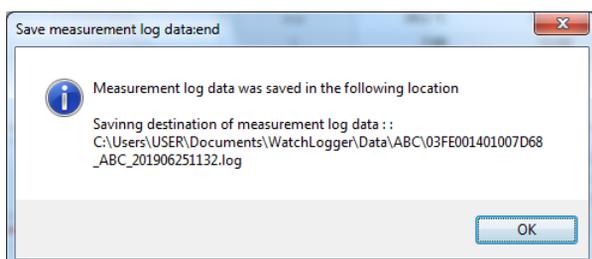


2) The save destination and file name specified in the preferences are displayed. If there are no changes, click "Save".



*When used in the initial state (when the save destination and file name are not specified), the [Used location name Unregistered] folder is created as the save destination under the [Data] folder.

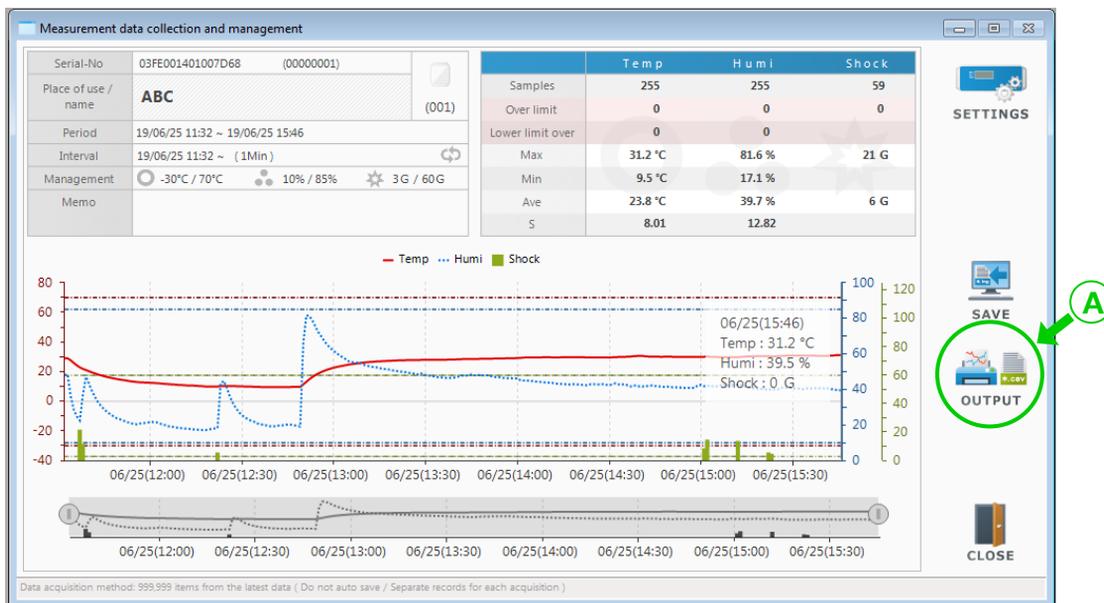
3) When the following screen is displayed, click "OK".



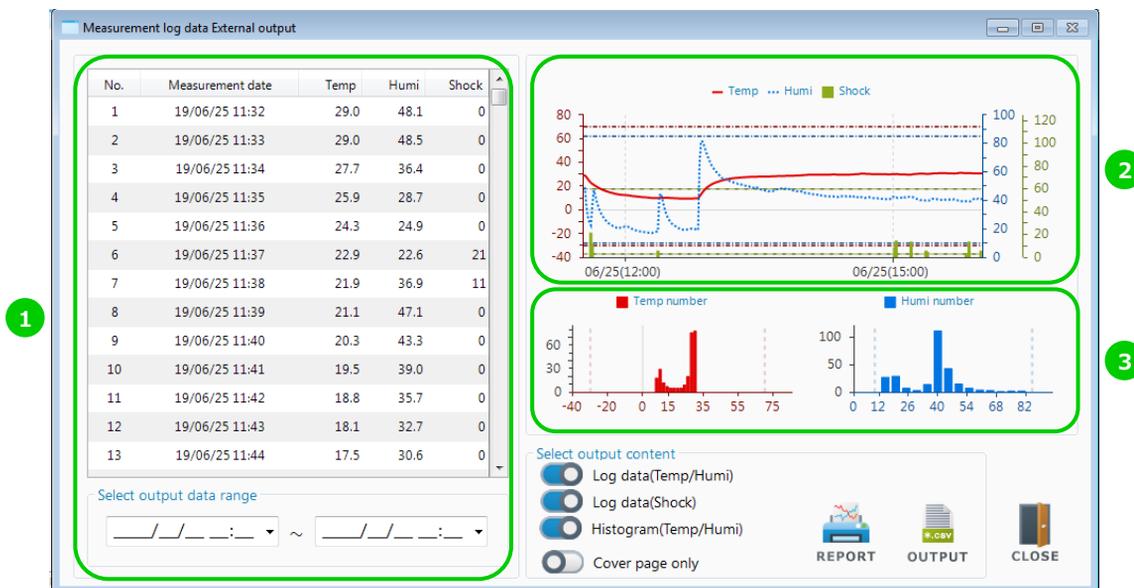
8. Output data

Output the acquired data in a standard format.

1) Click "OUTPUT" (A) on the measurement data collection management screen.



2) The Measurement log data External output screen is displayed.



① Output data list

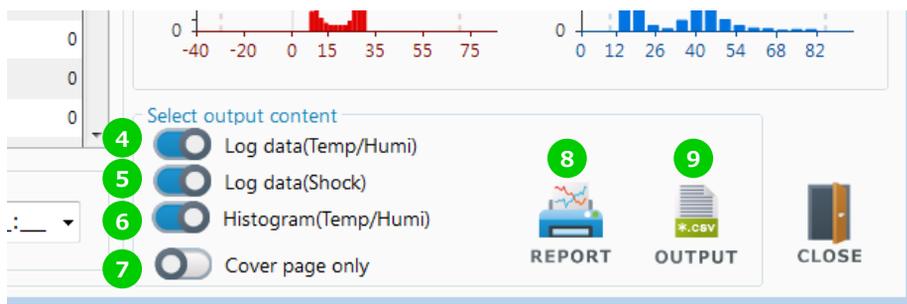
- All output data are displayed. The output range can be narrowed down by specifying the data and time in "Select output data range" below the list. (If blank, all data is displayed)

② Graph

- The range specified output data is displayed in a graph.

③ Histogram

- Histogram is displayed based on the output data in the specified range.



④Log data (temperature / humidity) (default : ON)

- In the initial state, temperature data and humidity data (only for target models) are output. When the button is turned OFF, temperature / humidity data is not output.

⑤Log data (shock model only) (default : ON)

- In the initial state, shock data is output. When the button is turned OFF, shock data is not output.

⑥Histogram (Temperature / Humidity) (default : ON)

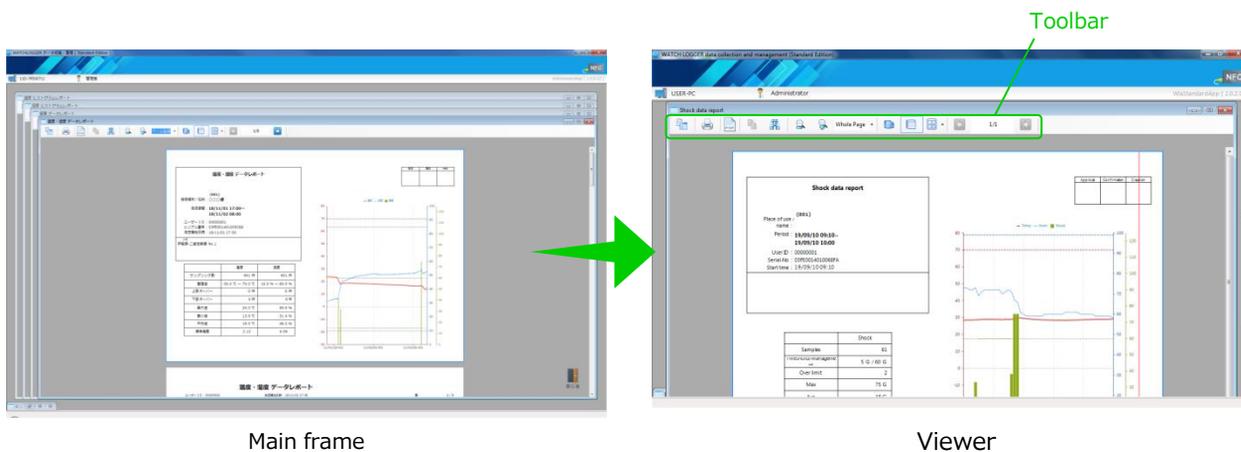
- In the initial state, temperature histogram and humidity histogram are output (only for the target model). When the button is turned OFF, the temperature / humidity histogram is not output.

⑦Cover page only (default : OFF)

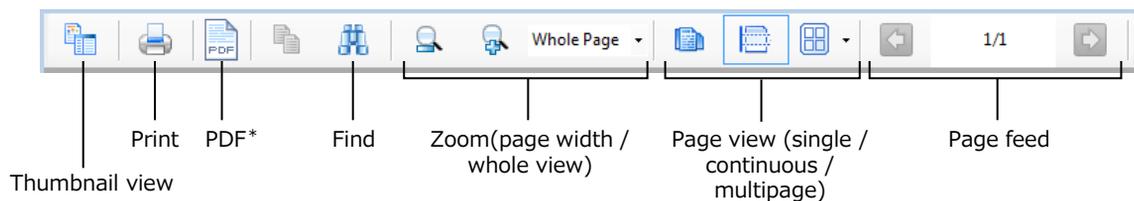
- In the initial state, the cover page (measurement period, data summary information, graphs, memo, etc.) and measurement data are attached and output when the report is printed. When the button is turned on, only the cover page (1 page) is output and measurement data is not attached.

⑧Report printing

- Click "REPORT" and each report will be displayed in the main frame according to the button setting of ④ ~ ⑥.



- Each report is displayed in a separate viewer window, and can be switched or printed by operating the icons on the toolbar.



*PDF file output destination (default) : C:/Users/<user name>/Desktop/

⑧-1 Temperature / Humidity data report

- Data report creates two types of reports : cover data and measurement data. The cover page displays the measurement period and memo contents, etc (⑦ P.22), title and footer set in the environment settings (③ P.16) is also displayed. Data that exceeds the standard value is displayed in different colors in the data details.

Page 1 (cover)

Temperature / Humidity data report

ΔΔΔ Environmental measurement

Place of use / name (001)

Period **19/08/26 15:00~**
19/10/03 11:20

User ID 00000001

Serial-No 03FE001401007D68

Start time 19/08/26 15:00

Serial number, Measurement period, etc.

	Temp	Humi
Samples	2,726	2,726
Management	0.0 °C ~ 30.0 °C	40.0 % ~ 60.0 %
Over limit	36	2,411
Lower limit over	0	0
Max	32.1 °C	98.1 %
Min	21.1 °C	45.4 %
Ave	25.3 °C	69.7 %
S	1.61	9.64

□□□ Corporation

●●● office Quality control department

Approval	Confirmation	Creation

Graph

Title, Footer settings

Data summary Information, Measurement Result digest

2nd page~ (temperature / humidity data)

Temperature / Humidity data report

User ID 00000001 Start time 19/08/26 15:00 Page. 6 / 22

Serial-No 03FE001401007D68 Place of use / name (001) Creation date. 19/10/03 16:20:35

Date	Temp	Humi									
19/09/03 23:00	26.2	76.4	19/09/03 10:00	25.6	58.9	19/09/03 21:00	25.8	67.9	19/09/04 08:00	24.8	79.0
19/09/03 23:20	26.2	77.5	19/09/03 10:20	25.5	57.3	19/09/03 21:20	25.8	71.3	19/09/04 08:20	24.9	78.7
19/09/03 23:40	26.2	78.1	19/09/03 10:40	25.2	55.6	19/09/03 21:40	25.7	73.2	19/09/04 08:40	25.2	78.6
19/09/03 00:00	26.1	78.6	19/09/03 11:00	25.0	54.7	19/09/03 22:00	25.5	73.6	19/09/04 09:00	25.6	78.6
19/09/03 00:20	26.1	78.9	19/09/03 11:20	24.9	54.6	19/09/03 22:20	25.4	74.4	19/09/04 09:20	25.7	75.5
19/09/03 00:40	26.1	79.1	19/09/03 11:40	25.0	55.0	19/09/03 22:40	25.3	74.7	19/09/04 09:40	25.6	72.8
19/09/03 01:00	26.1	79.2	19/09/03 12:00	25.1	54.4	19/09/03 23:00	25.2	75.3	19/09/04 10:00	25.8	71.8
19/09/03 01:20	25.9	79.6	19/09/03 12:20	25.2	53.4	19/09/03 23:20	25.2	75.7	19/09/04 10:20	26.2	69.9
19/09/03 01:40	25.9	80.0	19/09/03 12:40	25.5	52.0	19/09/03 23:40	25.1	76.2	19/09/04 10:40	26.4	69.0
19/09/03 02:00	25.9	80.0	19/09/03 13:00	25.3	51.5	19/09/04 00:00	25.0	76.2	19/09/04 11:00	26.6	67.5
19/09/03 02:20	25.8	80.8	19/09/03 13:20	25.1	51.4	19/09/04 00:20	24.9	76.5	19/09/04 11:20	26.8	65.9
19/09/03 02:40	25.8	81.0	19/09/03 13:40	25.0	52.1	19/09/04 00:40	24.9	76.7	19/09/04 11:40	26.9	64.5
19/09/03 03:00	25.8	81.2	19/09/03 14:00	24.9	52.2	19/09/04 01:00	24.8	77.0	19/09/04 12:00	27.0	63.7
19/09/03 03:20	25.7	80.9	19/09/03 14:20	24.9	52.7	19/09/04 01:20	24.8	77.0	19/09/04 12:20	27.2	63.7
19/09/03 03:40	25.7	81.0	19/09/03 14:40	24.8	52.6	19/09/04 01:40	24.8	77.3	19/09/04 12:40	27.5	62.4
19/09/03 04:00	25.6	80.9	19/09/03 15:00	24.7	52.8	19/09/04 02:00	24.7	77.6	19/09/04 13:00	27.7	62.4
19/09/03 04:20	25.6	81.3	19/09/03 15:20	24.5	53.7	19/09/04 02:20	24.7	78.0	19/09/04 13:20	27.9	61.9
19/09/03 04:40	25.6	81.7	19/09/03 15:40	24.4	54.0	19/09/04 02:40	24.7	78.2	19/09/04 13:40	28.2	62.0
19/09/03 05:00	25.5	81.9	19/09/03 16:00	24.5	53.6	19/09/04 03:00	24.7	78.2	19/09/04 14:00	28.0	61.7
19/09/03 05:20	25.5	81.3	19/09/03 16:20	24.5	52.9	19/09/04 03:20	24.5	78.5	19/09/04 14:20	27.0	57.7
19/09/03 05:40	25.5	81.0	19/09/03 16:40	24.5	52.6	19/09/04 03:40	24.5	78.7	19/09/04 14:40	26.2	56.5
19/09/03 06:00	25.5	81.3	19/09/03 17:00	24.3	53.2	19/09/04 04:00	24.5	78.9	19/09/04 15:00	25.4	54.0
19/09/03 06:20	25.5	81.2	19/09/03 17:20	24.7	52.8	19/09/04 04:20	24.5	79.2	19/09/04 15:20	24.9	52.7
19/09/03 06:40	25.5	80.7	19/09/03 17:40	25.5	55.0	19/09/04 04:40	24.5	79.4	19/09/04 15:40	24.7	51.9
19/09/03 07:00	25.6	80.5	19/09/03 18:00	25.7	57.4	19/09/04 05:00	24.4	79.5	19/09/04 16:00	24.3	51.5
19/09/03 07:20	25.8	80.0	19/09/03 18:20	25.8	59.9	19/09/04 05:20	24.4	79.7	19/09/04 16:20	24.1	51.2
19/09/03 07:40	25.9	79.4	19/09/03 18:40	25.8	62.2	19/09/04 05:40	24.4	79.8	19/09/04 16:40	24.8	54.1
19/09/03 08:00	26.2	79.1	19/09/03 19:00	25.9	64.0	19/09/04 06:00	24.4	80.0	19/09/04 17:00	25.4	57.7
19/09/03 08:20	26.3	78.9	19/09/03 19:20	25.7	64.7	19/09/04 06:20	24.4	80.3	19/09/04 17:20	25.8	60.4
19/09/03 08:40	26.6	77.9	19/09/03 19:40	25.6	64.6	19/09/04 06:40	24.4	80.4	19/09/04 17:40	26.3	61.2
19/09/03 09:00	26.4	78.1	19/09/03 20:00	25.8	65.9	19/09/04 07:00	24.4	80.6	19/09/04 18:00	26.8	60.0
19/09/03 09:20	26.1	64.3	19/09/03 20:20	25.8	65.8	19/09/04 07:20	24.5	79.4	19/09/04 18:20	26.2	63.4
19/09/03 09:40	25.6	61.0	19/09/03 20:40	25.7	67.1	19/09/04 07:40	24.7	79.1	19/09/04 18:40	25.9	64.0

Samples 2,726 Management (0.0 °C ~ 30.0 °C) Lower / Upper limit over 0 / 36 Min / Max value 21.1 °C / 32.1 °C Ave 25.3 °C S 1.61
 Samples 2,726 Management (40.0 % ~ 60.0 %) Lower / Upper limit over 0 / 2,411 Min / Max value 45.4 % / 98.1 % Ave 69.7 % S 9.64

Standard value over

*If "Cover page only" is set to ON, the second and subsequent pages will not be output.

⑧-2 Shock data report

Data report creates two types of reports : cover data and measurement data. The cover page displays the measurement period and memo contents, etc (⑦ P.22), title and footer set in the environment settings (③ P.16) is also displayed. Data that exceeds the standard value is displayed in different colors in the data details.

Page 1 (cover)

Shock data report

ΔΔ Environmental measurement

Place of use / (001)
name

Period **19/08/26 15:00~**
19/10/03 11:20

User ID 00000001
Serial-No 03FE001401007D68
Start time 19/08/26 15:00

Serial number,
Measurement
period, etc.

Approval	Confirmation	Creation

Shock	
Samples	984
Over limit	11
Max	125
Ave	10

□□ Corporation

ЖЖЖ office Quality control department

Graph

Title,
Footer settings

Data summary
Information,
Measurement
Result digest

2nd page~ (shock data)

Shock data report

User ID 00000001 Start time 19/08/26 15:00 Page. 6 / 9
Serial-No 03FE001401007D68 Place of use / name (001) Creation date. 19/10/03 16:20:34

Date	(X)	(Y)	(Z)												
19/09/02 12:01:29	0	0	-6	19/09/02 12:01:29	0	0	6	19/09/04 17:49:32	-3	-5	0	19/09/04 17:49:32	9	-2	-10
12:01:29	0	0	-6	12:01:29	1	0	6	17:49:32	-3	-5	0	17:49:32	5	-4	-9
12:01:29	0	0	-6	12:01:29	1	0	6	17:49:32	-4	-5	0	17:49:32	0	-5	-6
12:01:29	0	0	-6	12:01:29	1	0	5	17:49:32	-5	0	-1	17:49:32	0	-6	-3
12:01:29	0	0	-6	12:01:29	0	0	5	17:49:32	-5	0	0	17:49:32	1	-5	-1
12:01:29	0	0	-5	17:02:07	-1	0	-9	17:49:32	-5	2	-1	17:49:32	2	-5	0
12:01:29	0	0	-5	17:02:07	-4	4	-72	17:49:32	-5	3	-1	17:49:32	7	-2	0
12:01:29	0	0	-5	17:02:07	-12	-2	-46	17:49:32	-5	3	-1	17:49:32	7	-2	0
12:01:29	0	0	-5	17:02:07	-6	-2	-3	17:49:32	-5	4	-2	17:49:32	6	-1	-1
12:01:29	-2	0	5	19/09/04 17:45:20	-1	1	-10	17:49:32	-5	5	-2	17:49:32	4	-5	-2
12:01:29	-1	0	5	17:45:20	0	0	-5	17:49:32	-5	6	-2	17:49:32	3	-7	-1
12:01:29	0	0	5	17:48:49	2	-7	1	17:49:32	-5	7	-2	17:49:32	2	-8	-1
12:01:29	-1	0	5	17:48:49	2	-5	1	17:49:32	-5	8	-2	17:49:32	0	-9	0
12:01:29	-1	0	5	17:49:06	0	0	5	17:49:32	-4	8	-3	17:49:32	0	-9	0
12:01:29	0	0	5	17:49:06	0	2	5	17:49:32	-3	9	-3	17:49:32	0	-9	0
12:01:29	0	0	6	17:49:06	5	10	13	17:49:32	-3	10	-3	17:49:32	0	-9	0
12:01:29	0	0	6	17:49:06	0	-8	-4	17:49:32	-3	11	-3	17:49:32	1	-8	0
12:01:29	-1	0	7	17:49:06	0	-3	11	17:49:32	-3	11	-3	17:49:32	1	-8	0
12:01:29	0	0	7	17:49:06	1	0	9	17:49:32	-3	12	-3	17:49:32	0	-7	0
12:01:29	0	0	7	17:49:15	-7	19	0	17:49:32	-7	44	-10	17:49:32	1	-6	0
12:01:29	0	0	8	17:49:15	-7	13	5	19/09/04 17:49:32	5	125	12	17:49:32	1	-5	0
12:01:29	0	0	8	17:49:15	0	5	0	19/09/04 17:49:32	6	119	7	17:49:32	-5	2	0
12:01:29	0	0	8	17:49:32	-2	-5	0	19/09/04 17:49:32	4	42	9	17:49:32	-5	2	0
12:01:29	0	0	8	17:49:32	-2	-5	0	17:49:32	3	6	5	17:49:32	-4	9	2
12:01:29	0	0	8	17:49:32	-2	-5	0	17:49:32	4	1	-5	19/09/04 17:49:32	6	95	0
12:01:29	0	0	8	17:49:32	-2	-6	0	17:49:32	0	0	-5	19/09/04 17:49:32	-8	92	9
12:01:29	0	0	9	17:49:32	-1	-6	0	17:49:32	-4	-5	9	17:49:32	-5	41	-9
12:01:29	0	0	8	17:49:32	-3	-6	0	17:49:32	0	-6	7	17:49:32	2	15	-3
12:01:29	0	0	8	17:49:32	-2	-6	0	17:49:32	3	-5	3	17:49:32	0	22	0
12:01:29	0	0	8	17:49:32	-3	-6	0	17:49:32	5	-4	0	17:49:32	2	24	0
12:01:29	1	0	8	17:49:32	-3	-6	0	17:49:32	6	-4	-1	17:49:32	11	14	-2
12:01:29	1	0	7	17:49:32	-3	-6	0	17:49:32	9	-4	-4	17:49:32	13	3	-5
12:01:29	0	0	7	17:49:32	-3	-5	0	17:49:32	10	-2	-7	17:49:32	6	0	-8

Standard value over

*If "Cover page only" is set to ON, the second and subsequent pages will not be output.

⑧-3 Temperature histogram report

The histogram report creates two types of reports : cover data and measurement data. The measurement period and memo contents, etc (⑦ P.22) are displayed on the cover page, and the title and footer set in the environment settings (③ P.16) is displayed. In addition, the standard value are displayed in the background color, the process capability index [cpk] is calculated, and the process capability criteria table is displayed. Related standards are colored.

*When the number of data is 0 or 1, the standard deviation value[S] is "0". In this case, the process capability index is also "0".

Page 1 (cover)

Temperature histogram report

ΔΔΔ Environmental measurement

Place of use / (001)
name

Period **19/08/26 15:00~**
19/10/03 11:20

User ID 00000001
Serial-No 03FE001401007D68
Start time 19/08/26 15:00

Serial number,
Measurement
period, etc.

Temp	
Samples	2,726
Management	0.0 °C ~ 30.0 °C
Over limit	36
Lower limit over	0
Max	32.1 °C
Min	21.1 °C
Ave	25.3 °C
S	1.61
Cpk	0.97

□□□ Corporation

〃〃〃 office Quality control department

No.	Cpk value	Quality judgment	Treatment
1	1.67	Process capability is too enough	Although there is no need to worry about slightly increasing the variation, it should rather think about how to simplify management and reduce costs
2	1.33 ~ 1.66	Process capability is sufficient	It is an ideal condition
3	1.00 ~ 1.32	Process capability is not sufficient but acceptable	As Cpk approaches 1, there is a danger of defective product generation, so should take action as necessary
4	0.67 ~ 0.99	Process capability is insufficient	It is necessary to select all of them, process control and improvement, since nonstandard products are generated
5	~ 0.66	Process capability is very short	Urgent measures are necessary and the standards are reviewed, since it is not in a state that quite satisfies the quality

Approval	Confirmation	Creation

Title,
Footer settings

Data summary
Information,
Measurement
Result digest

Process capability
criteria table

2nd page~ (temperature data)

Temperature histogram report

User ID 00000001
Serial-No 03FE001401007D68

Start time 19/08/26 15:00
Place of use / name (001)

Page 2 / 2
Creation date 19/10/03 16:20:34

Range	number	Range	number	Range	number
-40.0	-38.0	0	26.0	28.0	641
-38.0	-36.0	0	28.0	30.0	129
-36.0	-34.0	0	30.0	32.0	35
-34.0	-32.0	0	32.0	34.0	1
-32.0	-30.0	0	34.0	36.0	0
-30.0	-28.0	0	36.0	38.0	0
-28.0	-26.0	0	38.0	40.0	0
-26.0	-24.0	0	40.0	42.0	0
-24.0	-22.0	0	42.0	44.0	0
-22.0	-20.0	0	44.0	46.0	0
-20.0	-18.0	0	46.0	48.0	0
-18.0	-16.0	0	48.0	50.0	0
-16.0	-14.0	0	50.0	52.0	0
-14.0	-12.0	0	52.0	54.0	0
-12.0	-10.0	0	54.0	56.0	0
-10.0	-8.0	0	56.0	58.0	0
-8.0	-6.0	0	58.0	60.0	0
-6.0	-4.0	0	60.0	62.0	0
-4.0	-2.0	0	62.0	64.0	0
-2.0	0.0	0	64.0	66.0	0
0.0	2.0	0	66.0	68.0	0
2.0	4.0	0	68.0	70.0	0
4.0	6.0	0	70.0	72.0	0
6.0	8.0	0	72.0	74.0	0
8.0	10.0	0	74.0	76.0	0
10.0	12.0	0	76.0	78.0	0
12.0	14.0	0	78.0	80.0	0
14.0	16.0	0	80.0	82.0	0
16.0	18.0	0			
18.0	20.0	0			
20.0	22.0	31			
22.0	24.0	500			
24.0	26.0	1389			

Samples 2,726 Management (0.0 °C ~ 30.0 °C) Lower / Upper limit over 0 / 36 Mini/Max value 21.1 °C / 32.1 °C Ave 25.3 °C S 1.61 Cpk 0.97

Standard value
over

*If "Cover page only" is set to ON, the second and subsequent pages will not be output.

⑧-4 Humidity histogram report

The histogram report creates two types of reports : cover data and measurement data. The measurement period and memo contents, etc (⑦ P.22) are displayed on the cover page, and the title and footer set in the environment settings (③ P.16) is displayed. In addition, the standard value are displayed in the background color, the process capability index [cpk] is calculated, and the process capability criteria table is displayed. Related standards are colored.

*When the number of data is 0 or 1, the standard deviation value[S] is "0". In this case, the process capability index is also "0".

Page 1 (cover)

Humidity histogram report

ΔΔ Environmental measurement

Place of use / (001)
name

Period **19/08/26 15:00~**
19/10/03 11:20

User ID 00000001
Serial-No 03FE001401007D68
Start time 19/08/26 15:00

] Serial number, Measurement period, etc.

	Humi
Samples	2,726
Management	40.0 % ~ 60.0 %
Over limit	2,411
Lower limit over	0
Max	98.1 %
Min	45.4 %
Ave	69.7 %
S	9.64
Cpk	-0.34

□□ Corporation
〼〼 office Quality control department

Approval	Confirmation	Creation

Process capability criteria table

No.	Cpk value	Quality judgment	Treatment
1	1.67	Process capability is too enough	Although there is no need to worry about slightly increasing the variation, it should rather think about how to simplify management and reduce costs
2	1.33 ~ 1.66	Process capability is sufficient	It is an ideal condition
3	1.00 ~ 1.32	Process capability is not sufficient but acceptable	As Cpk approaches 1, there is a danger of defective product generation, so should take action as necessary
4	0.67 ~ 0.99	Process capability is insufficient	It is necessary to select all of them, process control and improvement, since nonstandard products are generated
5	- 0.66	Process capability is very short	Urgent measures are necessary and the standards are reviewed, since it is not in a state that quite satisfies the quality

Title, Footer settings

Data summary Information, Measurement Result digest

2nd page~ (humidity data)

Humidity histogram report

User ID 00000001 Start time 19/08/26 15:00 Page. 2 / 2
Serial-No 03FE001401007D68 Place of use / name (001) Creation date. 19/10/03 16:20:34

Range	number	Range	number	Range	number	Range	number
0.0	5.0	0					
5.0	10.0	0					
10.0	15.0	0					
15.0	20.0	0					
20.0	25.0	0					
25.0	30.0	0					
30.0	35.0	0					
35.0	40.0	0					
40.0	45.0	0					
45.0	50.0	46					
50.0	55.0	124					
55.0	60.0	135					
60.0	65.0	444					
65.0	70.0	849					
70.0	75.0	525					
75.0	80.0	217					
80.0	85.0	146					
85.0	90.0	98					
90.0	95.0	114					
95.0	100.0	28					

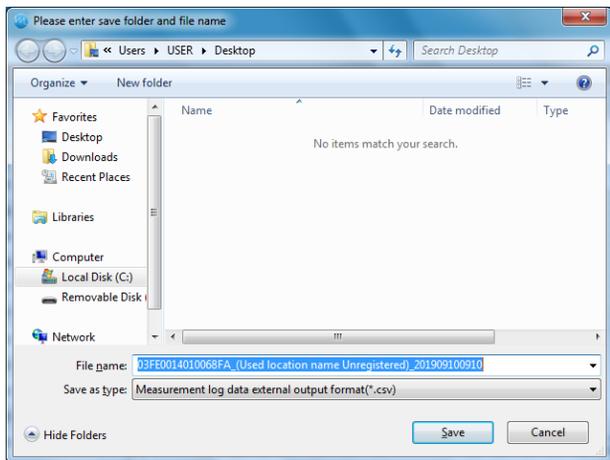
Standard value over

Samples 2,726 Management (40.0 % ~ 60.0 %) Lower / Upper limit over 0 / 2,411 Mini/Max value 45.4 % / 98.1 % Ave 69.7 % S 9.64 Cpk -0.34

*If "Cover page only" is set to ON, the second and subsequent pages will not be output.

⑨ OUTPUT

- Click "OUTPUT" to outputs each report (data only) as a CSV file according to the button settings ④ to ⑥. The "Please enter save folder and file name" screen appears. If there is no change in the file name, click "Save".
- * CSV file output destination (default) : C:/Users/<user name>/Desktop/



- The output file is output with the file name determined for each data.

⑨-1. Temperature / Humidity measurement data

… [File name rule specified in environment settings] THD.csv

- Temperature / Humidity measurement data format items

※ n : Number of sampling

Measurement condition setting information sampling	Header field (A)			
Temperature and humidity measurement data	Measurement data	Measurement temperature	Measurement humidity	× n rows

⑨-2. Shock measurement data … [File name rule specified in environment settings] VBD.csv

- Shock measurement data format items

Measurement condition setting information sampling	Header field (A)				
Shock measurement data	Measurement data	Measurement shock X	Measurement shock Y	Measurement shock Z	× n rows

⑨-3. Temperature histogram … [File name rule specified in environment settings] TPH.csv

- Temperature histogram format item

Measurement condition setting information sampling	Header field (A)			
Temperature histogram	Range (start)	Range (end)	Number of occurrences	× 64 rows

⑨-4. Humidity histogram … [File name rule specified in environment settings] HUH.csv

- Humidity histogram format item

Measurement condition setting information sampling	Header field (A)			
Humidity histogram	Range (start)	Range (end)	Number of occurrences	× 32 rows

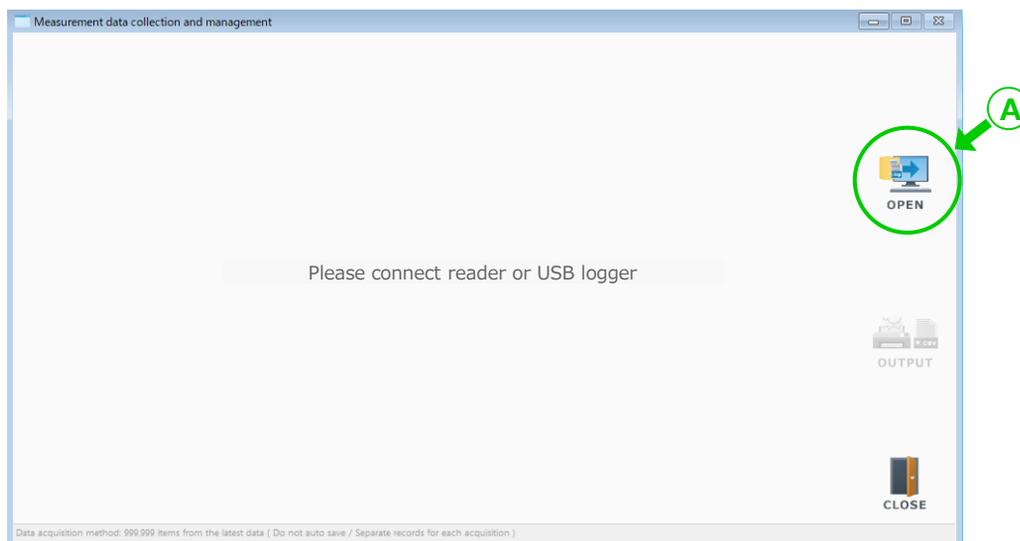
(A) Header field

Logger type	Measurement mode	Serial-NO	User ID	Usage location number	Place of use / name	Measurement start time	Measurement cycle	Unit of measurement	Upper temperature limit	Lower temperature limit	Upper humidity limit	Lower humidity limit	Shock threshold	Upper shock limit	Roll over
-------------	------------------	-----------	---------	-----------------------	---------------------	------------------------	-------------------	---------------------	-------------------------	-------------------------	----------------------	----------------------	-----------------	-------------------	-----------

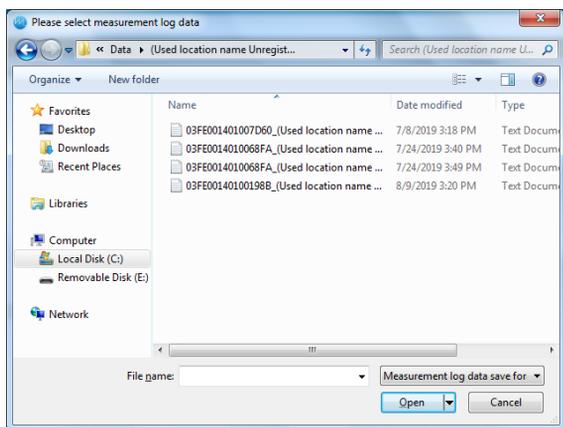
9. Reading stored data

Graphs and data can be displayed by reading saved measurement data (Operation P.30) with the system.

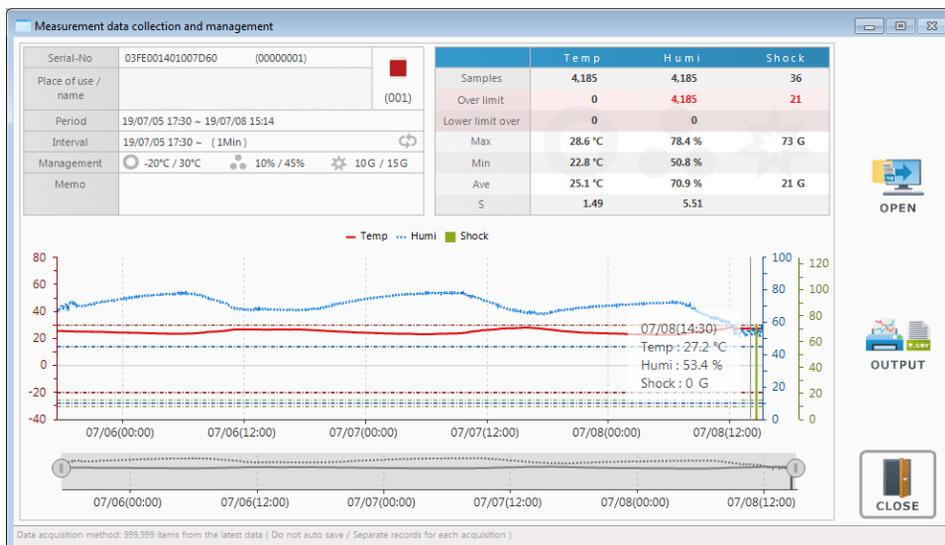
- 1) Click "COLLECTION AND MANEGEMENT" main panel.
 - Click "OPEN" (A).



- 2) "Please select measurement log data" screen appears. Select the saved log data and click "Open".



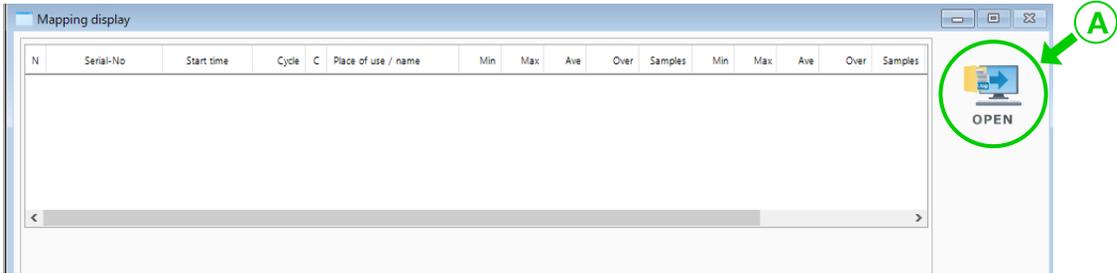
- 3) The log data is read and displayed on the screen.



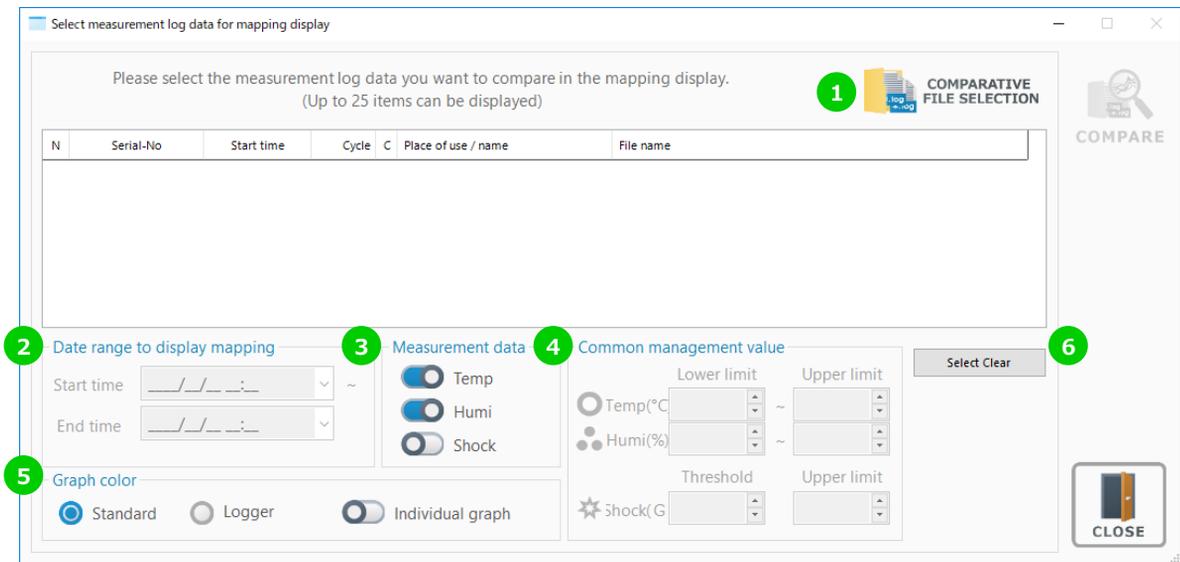
1 0 . Mapping display

Multiple saved “measurement log data file (.log)” are displayed in one graph. Up to 25 log data items are displayed in duplicate. Continuous difference data can be displayed as a single data.

1) Click “MAPPING DISPLAY” on the main panel to open the screen and click “OPEN” (A).

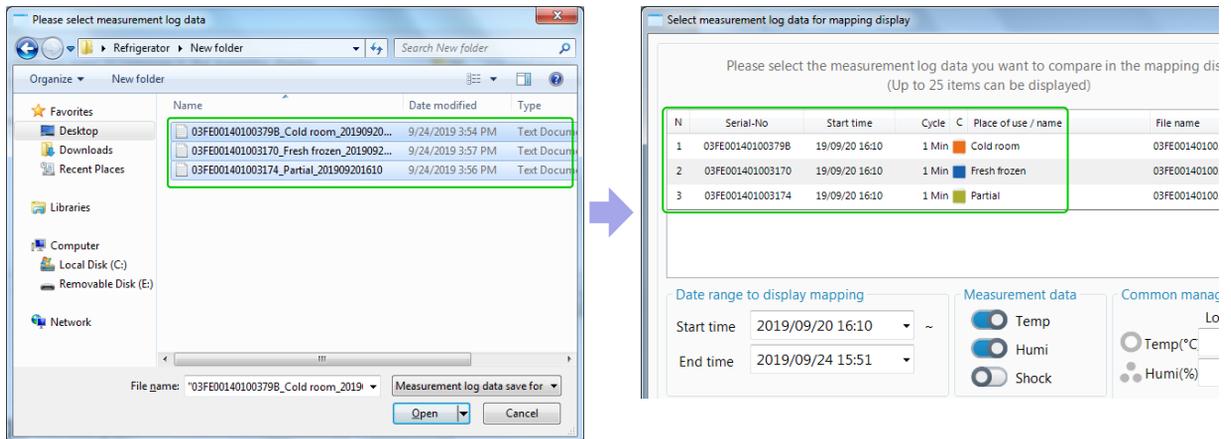


2) “Select measurement log data for mapping display” screen appears. On this screen, you can select saved measurement log data and set conditions.



① COMPARATIVE FILE SELECTION

- “Please measurement log data” screen opens. Select the log file to be displayed and click “Open” to display it in the list on the screen.



② Data range to display mapping

- The start date and end date are displayed in the selected measurement log data.

③ Target measurement data

- Select the measurement target to be displayed in the mapping report.

④ Common management value

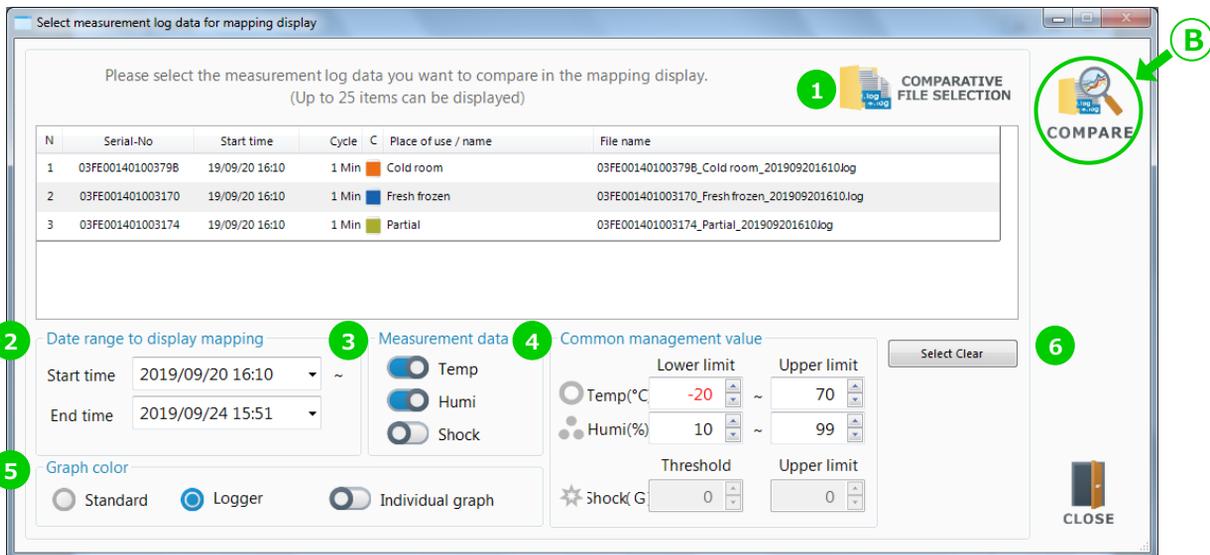
- When the standard value is set, an alarm displayed. (Refer to [standard value], ⑥⑦⑧ P.24)

⑤ Graph color (default : Standard)

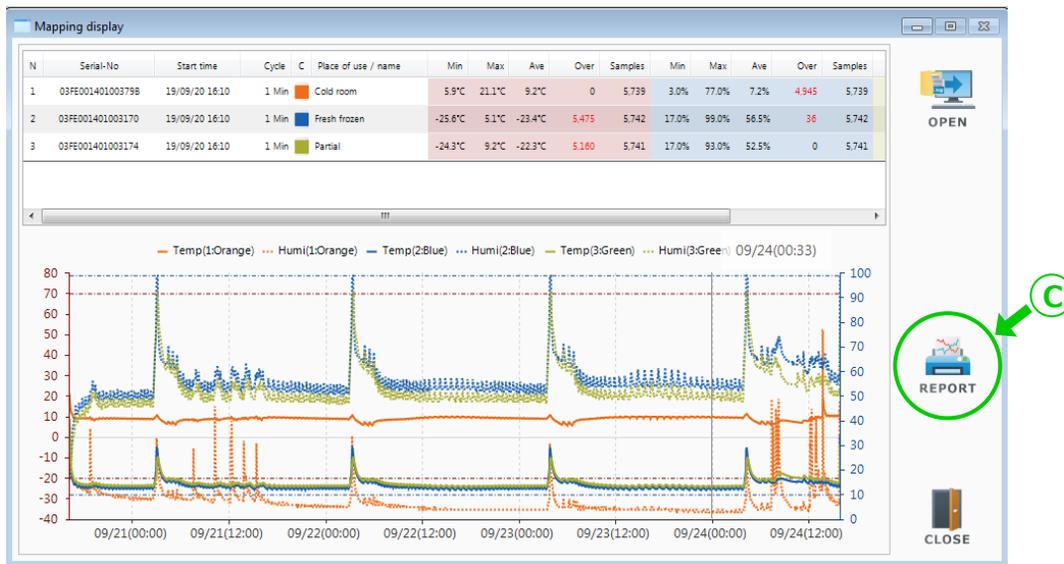
- Standard Identified by temperature "red", humidity "blue", shock "green".
- Logger Identifies with the color set in the measurement condition setting (⑥ P.22)
- Individual graph ... Select the mapping report output method.
 OFF : Graph measurement log information is output on one page.
 ON : Output graph and measurement log information to each page.

⑥ Select Clear

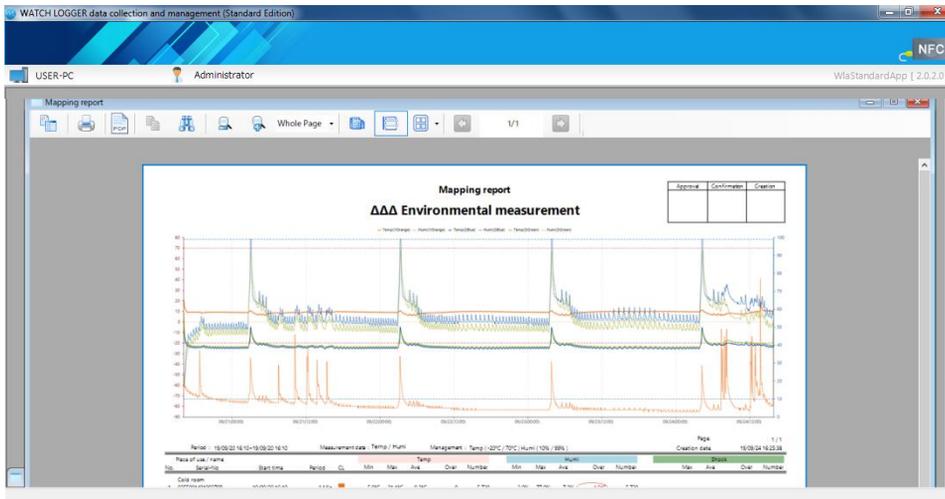
- Clear (delete) all selected log files.



3) Check the comparison result of the measurement log data. Click "COMPARE" (B) to display the result graph on the mapping display screen.



- 4) Print the mapping report. When you click "REPORT" (C) , the report will be displayed on the main frame according to the conditions of ② to ⑤.
(Refer to Operation 8 P.32 for toolbar icon operations.)



- Mapping report (individual graph : OFF)

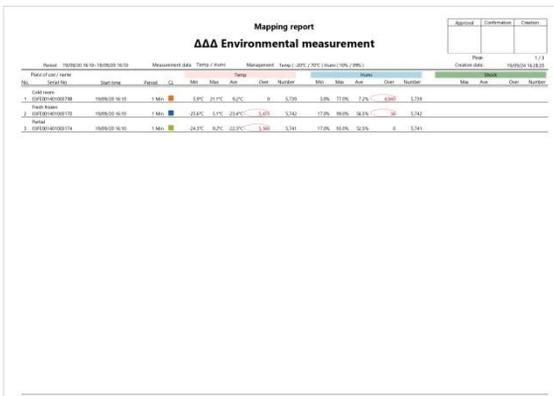


*Measurement log information is printed on the first page, 7 items, and after 8 items, it is printed on the second page.

- Mapping report (individual graph print : ON)

Page 1 (measurement log information list)

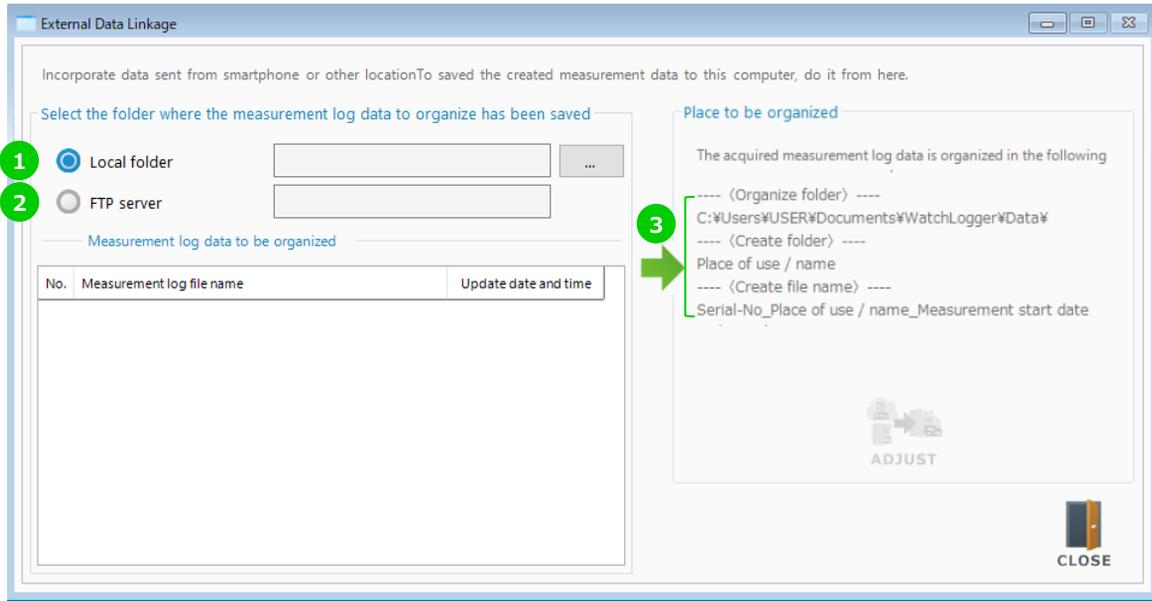
Page 2 and after (graph)



1 1 . External data linkage

Multiple stored log files can be read to a specified folder. Also, by using the summary recording function, multiple log files can be made into one file and can be read on a PC.

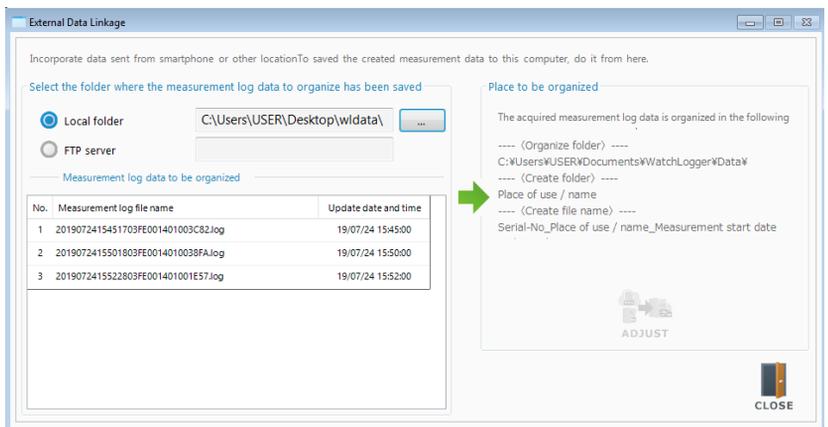
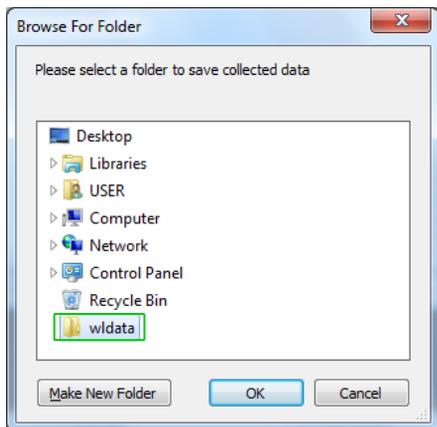
1) Click "EXTERNAL DATA LINKAGE" on the main panel.



Select the measurement log data folder to be organized.

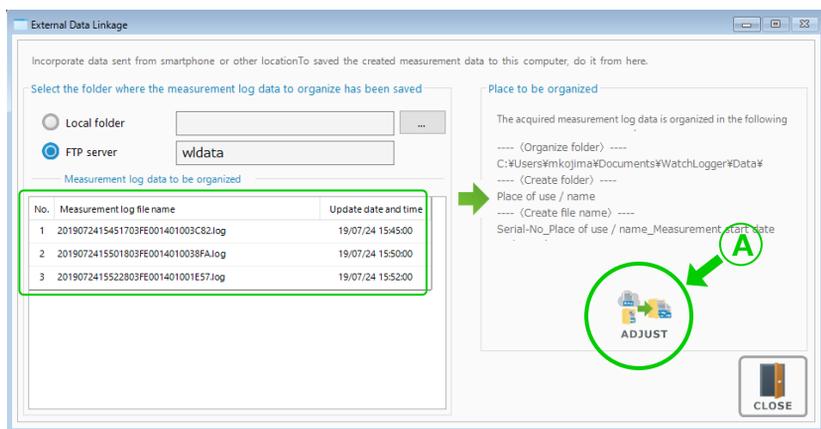
① Local folder

- Click [...] to open the [Browse For Folder] screen. Select the folder where the log data is saved and click "OK".
- The log file will be displayed in [Measurement log data to be organized] on the "External Data Linkage" screen. Click "ADJUST".
- The log file is saved in the specified save destination. (Refer to ③Place to be organized)



② FTP server

- Read the FTP server folder where the log data is stored.
*The folder setting is the folder specified in step 3. Preferences 【Network settings】 ⑥ (P.18).
- Log files are displayed in “Measurement log data to be organized”. Click “ADJUST” (A).
- The log file is saved in the specified save destination. (Refer to ③ “Place to be organized”)



【Place to be organized】

③ 〈Organize folder〉, 〈Create folder〉, 〈Create file name〉

- Save rules determined by “SETTINGS” on the main panel.
*Save rule is managed with the rule set in step 3. Preferences 【Data collection setting】 ①②③ (Refer to page 14).

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