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*Paperless Recorder*

***VGR-B100***

***Data Viewer  
Instruction Manual***

Thank you for purchasing this RKC product. In order to achieve maximum performance and ensure proper operation of your new instrument, carefully read all the instructions in this manual. Please place the manual in a convenient location for easy reference.

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# 1. OUTLINE

## 1.1 Foreword

This instruction manual describes installation and operation for the Data Viewer of the Paperless Recorder. Read it carefully before use.

## 1.2 Data viewer

This Data Viewer refers to the SD card set in a Paperless Recorder and recorded data can be referred to with the personal computer by the adaptor or the FTP.

## 1.3 Contents of package

The following items are packaged with the product.

- CD-ROM for installation: 1
- Instruction Manual which is installed above CD-ROM

## 1.4 Recommended operating environment

- Microsoft Windows 7(SP1 or later) / 8.1/10 (32bit, 64bit)
- Hard disk with a free capacity of 500MB or more
- Capacity of RAM necessary so that OS may operate normally
- Memory card. (SD card)  
(Panasonic company 1~32GB or Sandisk company 1~32GB is recommended  
or HAGIWARA Solutions corporation 1~32GB)
- PC made of maker
- The printer driver and printer corresponding to OS
- The mouse and keyboard corresponding to OS
- The Ethernet communication port (10BASE-T, TCP/IP protocol)
- CD-ROM drive
- Display resolution of 1024 × 768 pixels (XGA) or more

## 1.5 Install

- 1) If other application software programs are open, terminate all of them.
  - 2) If the data viewer has been already installed, delete it from “Add/Remove Programs” on Control Panel.
  - 3) Set CD-ROM in the personal computer drive.
  - 4) The menu is automatically displayed. Follow the instructions on the screen. If the menu is not displayed, please start “index.htm” that CD-ROM drive has. The menu for the installation is displayed, and please install it according to the instruction of the screen. The Data Viewer and the Parameter Loader are installed at the same time.
- \* When installing the software, it may be necessary to install “.NET Framework”. In that case, please install the software after installing “.NET Framework”. When installing the .NET Framework attached to the CD on Windows 7, please install after updating the OS to the latest state. Windows 8.1 / 10 is already installed, so installation is not required.
- 5) A message is displayed, prompting you to verify that “Data display setup is complete”.  
Now, the Data Viewer installation is completed.

## 1.6 Uninstall

Please uninstall the Data Viewer by the following operations, and delete it according to the instruction of Windows (Notes are included).

The Data Viewer and the Parameter Loader are uninstalled at the same time.

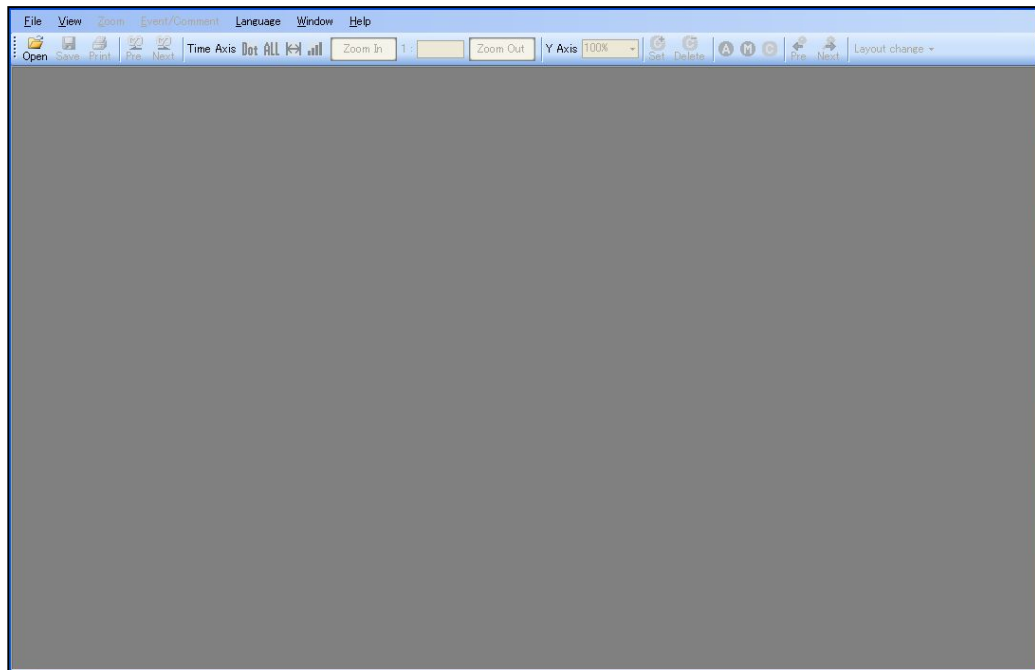
“START of Windows” ⇒ “Control Panel” ⇒ “Add/Remove Programs” ⇒ “VGR-B100”

When you install the differing version, before installing the upcoming version, please uninstall the software that is now by the above-mentioned method. There is a possibility of not operating normally.

## 2. BASIC OPERATION

### 2.1 Start

Select “Programs” ⇒ “VGR-B100” ⇒ “Data Viewer” from the Start menu.



## 2.2 Open the file

To open the file of recorded data, the following operation is done.

- 1) The file is copied from the SD card to the personal computer.

When you insert the SD card in the main body of a Paperless Recorder, the folder of “Recorder” is automatically made in the SD card.

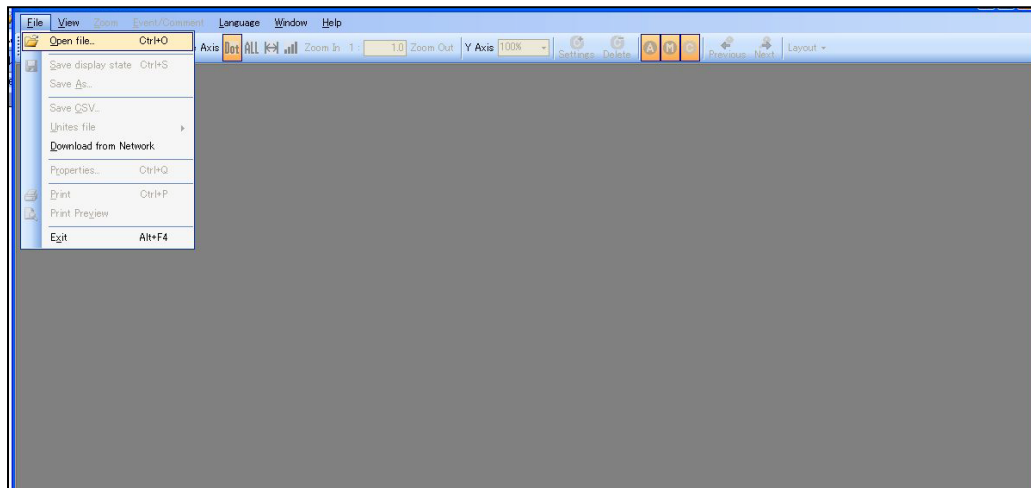
The SD card where the file is preserved is connected with the personal computer, an arbitrary file is selected from “Recorder” ⇒ “Data”, and it copies it to the personal computer.

The SD card reader might become necessary.

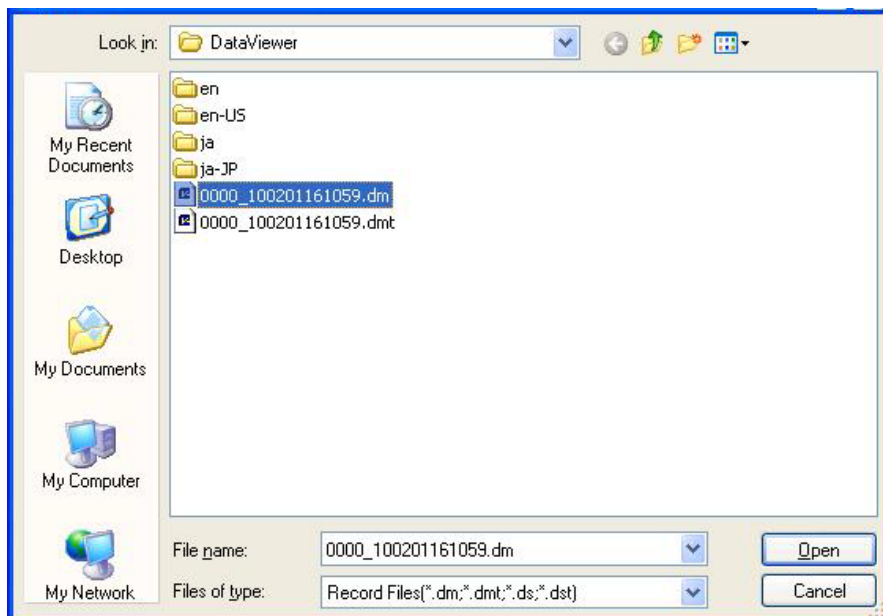
- 2) Select “File” ⇒ “Open file”.

The same operation can be done even by the “Open” of tool bar.

Refer item 3.1 for the tool bar.



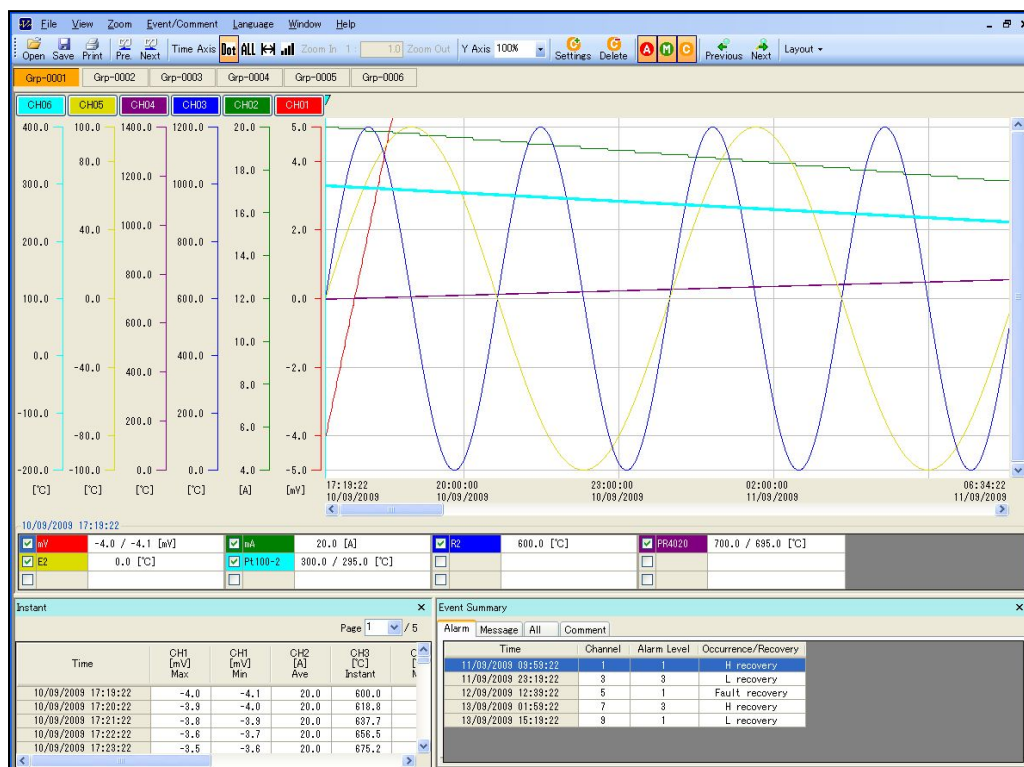
- 3) Please select “Open” that chooses the file of recorded data in the folder copied to the personal computer and opens.



If data file is normal, following display is appeared.

Data Viewer is composed of three (Trend screen, Instantaneous value, and Event Summary). Instantaneous value and Event Summary can only be changed “Display / Non-display” from “View” of menu. And, Layout can be changed from same Item.

Refer item 3 for the composition of display, and refer item 4.2 for the “View” of menu.





## 2.3 Save the file

The report set up with the Data Viewer is saved. The report saved becomes below.

- Comment (Refer item 4.4 for comment)
- Network option setting (Refer item 5.3 for network option setting)
- Scale range (Refer item 5.5 for scale range)
- Print setting (Refer item 5.6 for print option)

- 1) Select “File” ⇒ “Save display state” or “Save As”.

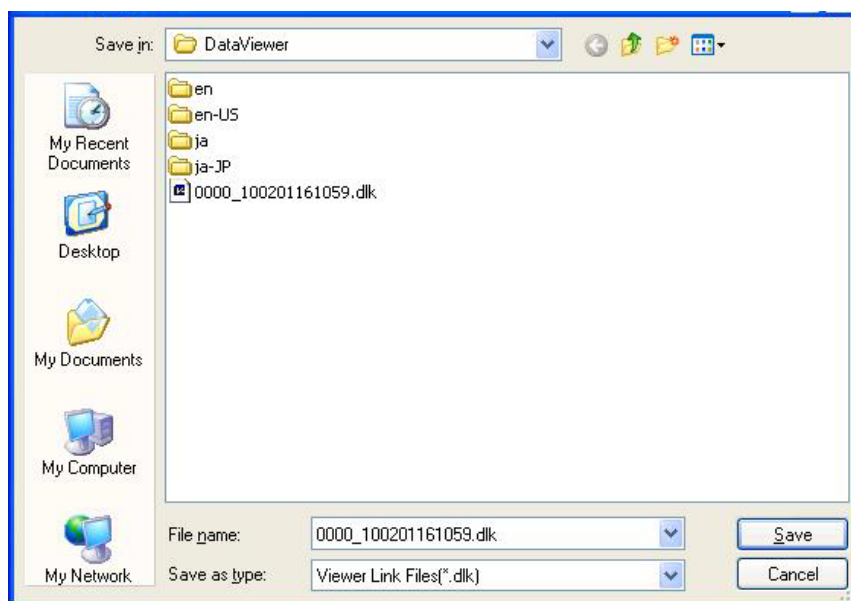
The same operation can be done even by the “Save” of tool bar.

Refer item 3.1 for the tool bar.



- 2) The currently screen displayed to select “Save display state” is preserved in former open file in the superscription by viewer link file format (\*.dlk).

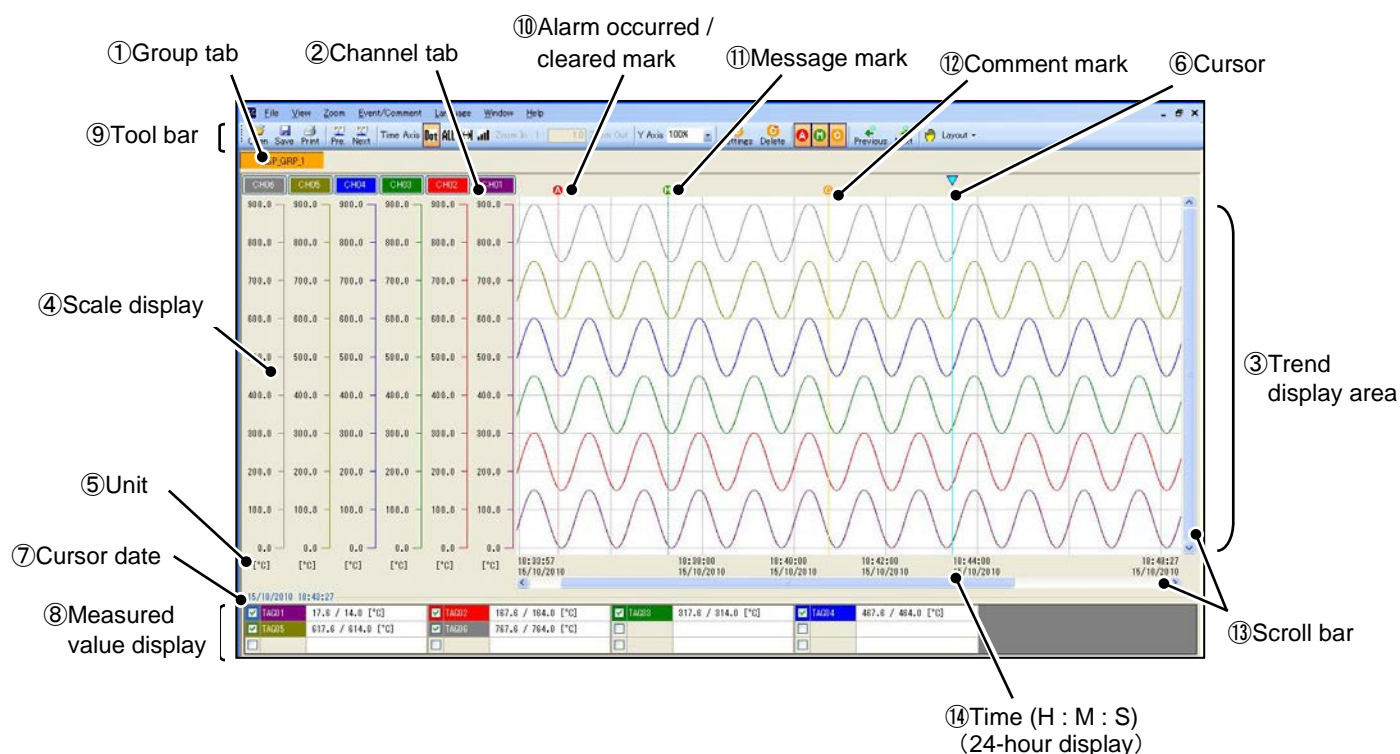
It preserves it specifying the file name and preserving ahead of new when “Save as” is selected.



If the saved viewer link file is opened again, record data can be referred to in the condition of having set up last time.

# 3. BASIC COMPOSITION OF TREND DISPLAY

## 3.1 Trend display



### ① Group tab

The group display can be changed by selecting “①Group tab”.

### ② Channel tab

Selected “②Channel tab” moves at the right of the channel, and displays the corresponding width of the scale in “③Trend display area”.

### ③ Trend display area

The trend data recorded can be displayed.

### ④ Scale display

The scale width set each channel can be displayed.

When “④Scale display” is double-clicked, the scale can be set with the manual.  
 (Refer item 5.5 for manual setting of a scale.)

### ⑤ Unit

The unit set each channel can be displayed.

### ⑥ Cursor

This date of line for measured value is displayed on the “⑧Measured value display”.

### ⑦ Cursor date

The date that the “⑥Cursor” indicates is displayed.

⑧ Measured value display

Measured values at the position selected by “⑥ Cursor” are displayed. And, “Display/non-display” of the trend and the width of the scale in “④Scale display” is switched by selecting the check box.

☒display : Display the trend and scale width.

☒display : Display the trend.

☐display : No display the trend and scale width.

⑨ Tool bar

The function often used is displayed as a shortcut key.

The set of tool bar cannot be changing.

⑩ Alarm occurred / cleared mark

The alarm occurred or cleared while recording is marked and displayed.

⑪ Message mark

The message occurred while recording is marked and displayed.

⑫ Comment mark

The comment set while recording and the comment set in the Data Viewer are marked and displayed.

Refer item 5.4 for the comment setting.

⑬ Scroll bar

When the display of the trend overflows with the setting change etc. of the time axis and Y axis of “⑨Tool bar” in the margin, the display can be changed by sliding “⑬Scroll bar”.

Refer item 5.3 for the time axis and Y axis.

⑭ Time

The recorded time is displayed.

## 3.2 Instantaneous value

① Measured value area

② Page switch

③ Scroll bar

④ Time

Time	CH1 [mV] Max	CH1 [mV] Min	CH2 [A] Ave	CH3 [°C] Instant	CH4 [°C] Max	CH4 [°C] Min	CH5 [°C] Ave	CH6 [°C] Max	CH6 [°C] Min
10/09/2009 17:19:22	-4.0	-4.1	20.0	600.0	700.0	695.0	0.0	300.0	295.0
10/09/2009 17:20:22	-3.9	-4.0	20.0	618.8	700.1	695.1	1.6	299.9	294.9
10/09/2009 17:21:22	-3.8	-3.9	20.0	637.7	700.2	695.2	3.1	299.8	294.8
10/09/2009 17:22:22	-3.6	-3.7	20.0	656.5	700.3	695.3	4.7	299.8	294.8
10/09/2009 17:23:22	-3.5	-3.6	20.0	675.2	700.4	695.4	6.3	299.7	294.7
10/09/2009 17:24:22	-3.4	-3.5	20.0	693.9	700.5	695.5	7.8	299.6	294.6
10/09/2009 17:25:22	-3.3	-3.4	20.0	712.4	700.6	695.6	9.4	299.5	294.5

### ① Measured value area

The recorded data of each channel is listed and the batch display is done.

### ② Page switch

The number of recorded data that can be viewed on a single Instant value Viewer screen is up to 1000.

To view data in excess of 1000, select the “②Page switch”.

### ③ Scroll bar

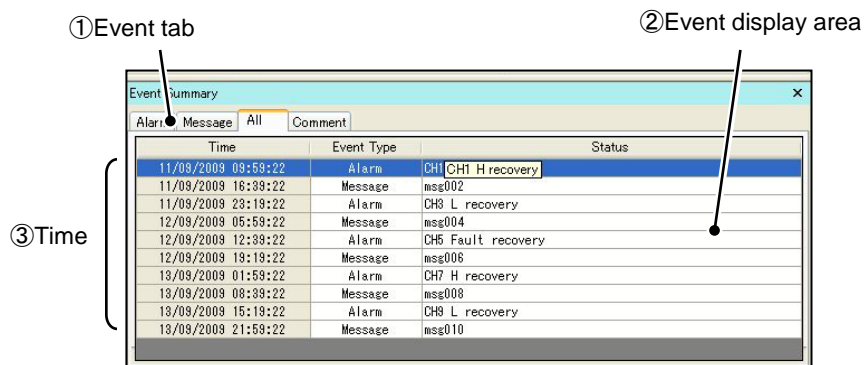
Measured values that overflow in the margin can be displayed by doing “③Scroll bar” in the slide.

### ④ Time

Measured values are recorded at the cycle set with the main body. The above figure sets up a record cycle in "1 minute."

(Refer item 7.19 of Paperless Recorder Manual for record cycle.)

## 3.3 Event Summary



- ① Event tab  
The event occurred while recording is changed.
- ② Event display area  
The event occurred while recording is displayed.
- ③ Time  
The occurred event is displayed.

## 4. OPERATION METHOD

### 4.1 File

[File]

Item	Setting contents
Open file	Open the recording data.
Save display state	Save the current display status. (※1)
Save As	A present display is saved specifying the name and the preservation place. (※1)
Save CSV	Converts it into the CSV file. (※2)
Unites file	Plurals files that are brought together in one. (※2)
Download from Network	Download the recoding data by Ethernet. (※2)
Properties	It displays the serial number and version information etc. of recorder that created the file.
Print	Print the current displayed screen.
Print Preview	Display the print preview. (※2)
Exit	End the Data Viewer.

※1 Refer item 2.3 for details.

※2 Refer item 5 for details.

### 4.2 View

[View]

Item	Setting contents
Realtime Trend	Display the Realtime Trend. (Up to eight can be displayed simultaneously.)(※1)
Instant View	Select the “Display/non-display” of instantaneous view.
Event summary	Select the “Display/non-display” of event summary.
Layout	Select the layout of trend display.
Touch scroll	The display of a trend screen can be scrolled by mouse's drag.
ToolBar	Select the “Display/non-display” of tool bar.
Scale setting	The scale display of a trend screen can be set as arbitrary range. (※2)
Option	Display the option.

※1 Refer item 5.4 for details.

※2 It supports since software version 1.30.

## 4.3 Zoom

[Zoom]

Item	Setting contents
Time Axis	Select the display method of time axis. Dot by Dot : Display the trend dot by dot. Whole view : Whole display the trend. Point to point : Display the trend point to point. Manual Zoom : The expansion rate is specified by the numerical value.
Y Axis	Select the display magnification of Y axis.
Default view	Initialize the setting contents of “Zoom”.

## 4.4 Event/Comment

[Event/Comment]

Item	Setting contents
Set Comment	Input the comment on the cursor.
Delete Comment	Delete the comment is selected.
Alarm disp	Select the “Display/non-display” of alarm mark on the trend display area.
Message disp	Select the “Display/non-display” of message mark on the trend display area.
Comment disp	Select the “Display/non-display” of comment mark on the trend display area.
Find Previous	Move the previous point.
Find Next	Move the next point.

## 4.5 Language

[Language] (※1)

Item	Setting contents
Japanese	Change the Japanese.
English	Change the English.
Czech	Change the Czech. (※2)
Chinese	Change the Chinese. (※2)
Korean	Change the Korean. (※3)

※1 It is necessary to reactivate the Data Viewer to apply the change.

※2 It supports since software version 1.10.

※3 It supports since software version 1.11.

## 4.6 Window

[Window]

Item	Setting contents
Cascade windows	It displays it repeatedly when there is plurals window.
Tile windows Vertically	It displays it to tile vertical when there is plurals window.
Tile windows Horizontally	It displays it to tile horizontal when there is plurals window.

## 4.7 Help

[Help]

Item	Setting contents
About	Display the version of Data Viewer.

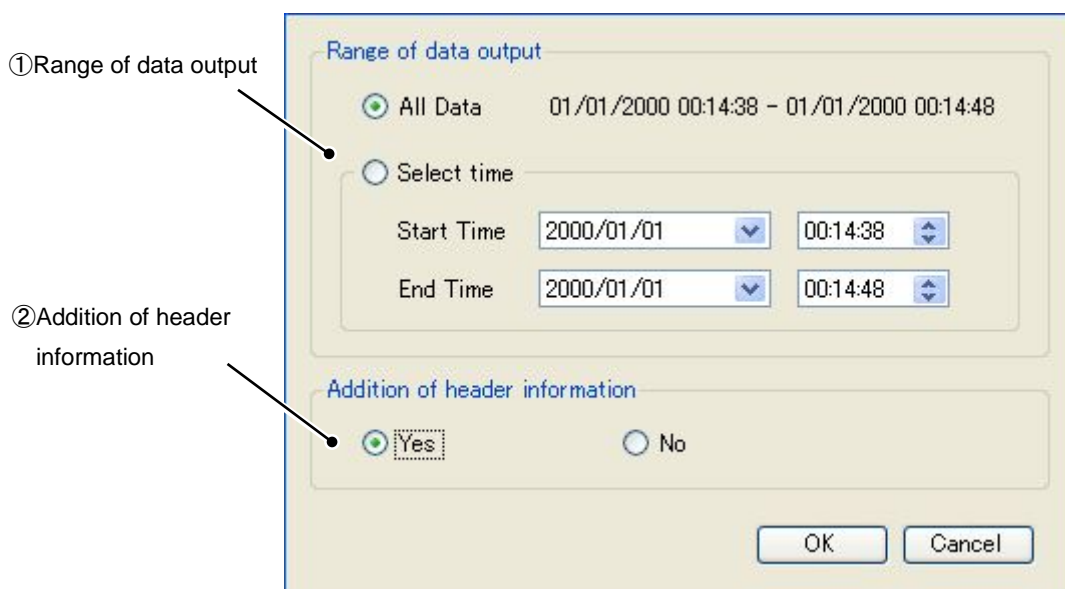


## 5. OTHERS

### 5.1 Save CSV

When you select “File” ⇒ “Save CSV” of the menu bar of the data viewer, the recorded data can be converted into the CSV file.

The CSV file can be referred to by Excel.



#### ① Range of data output

The range which outputs data is chosen from "All data" or "Select time".

All data : The data from a recording start to a recording stop are outputted to CSV.

Select time : Arbitrary range is outputted to CSV. (Initial value is the range of "All data".)

#### ② Addition of header information

Header information, such as channel information and group information, is added to a CSV file.

When you convert the folder into the CSV file, the following three files are made.

- \*\*\*dmt.csv file : Trend file
- \*\*\*dmc.csv file : Comment file
- \*\*\*dme.csv file : Event file

※ The record date is written in the part of “\*\*\*”.

Ex) Record start at 09/01/2015 12:34:56

Record date is "150901123456".

## 5.2 Unites file

“dmt file” can be brought together by selecting “File” ⇒ “Unites file” of menu bar.

The same operation can be done even by the “Pre.” and “Next” of tool bar.

(Refer item 3.1 for the tool bar.)

(Refer item 10.17/10.16 of Paperless Recorder Manual(WXPVM70mnAR001E) for "dm, dmt file".)

### ① Unites Previous data

Previous “dmt file” is united from one file that is opening now, and displays it as a file of one.

### ② Unites Next data

Next “dmt file” is united from one file that is opening now, and displays it as a file of one.

- ※ Only when “dmt file” is one, files cannot be united. To make two or more “dmt file”. In order to create plural "dmt files", a "File record cycle" is set up. Then, it is necessary to record more than a "File record cycle."

(Refer item 7.19 of Paperless Recorder Manual for "File record cycle")

- ※ "dm file" can not unite. (If [Unites file] of a "dm file" is performed, a display will be switched to the next "dm file" (or previous "dm file").)

Moreover, each "dmt file" managed by plural "dm files" can not unite.

(By one "dm file", a "dmt file" manages to 50 file. If 50 or more "dmt files" are created, "dm file" is created newly. A "dmt file" can unite only between "50 dmt files" managed by "dm file".)

In order to increase time recordable between one "dm file", it is necessary to set up a "File record cycle."

### ● Relationship between a "File record cycle" and "dm file"

Case: File recording cycle "1 hour"

Whenever an hour passes, one dmt file is created. And when 50 dmt files are created (When 50 hours pass), one dm file is created.

Case: File recording cycle "1 week"

Whenever 1 week passes, one dmt file is created. And when 50 dmt files are created (When 50 weeks pass), one dm file is created.

## 5.3 Download from Network

The record file can be downloaded directly by connecting a Paperless Recorder to the personal computer.

When you select “File” ⇒ “Download from Network” ⇒ “Connection” of the menu bar of the Data Viewer, the connection with a Paperless Recorder begins.

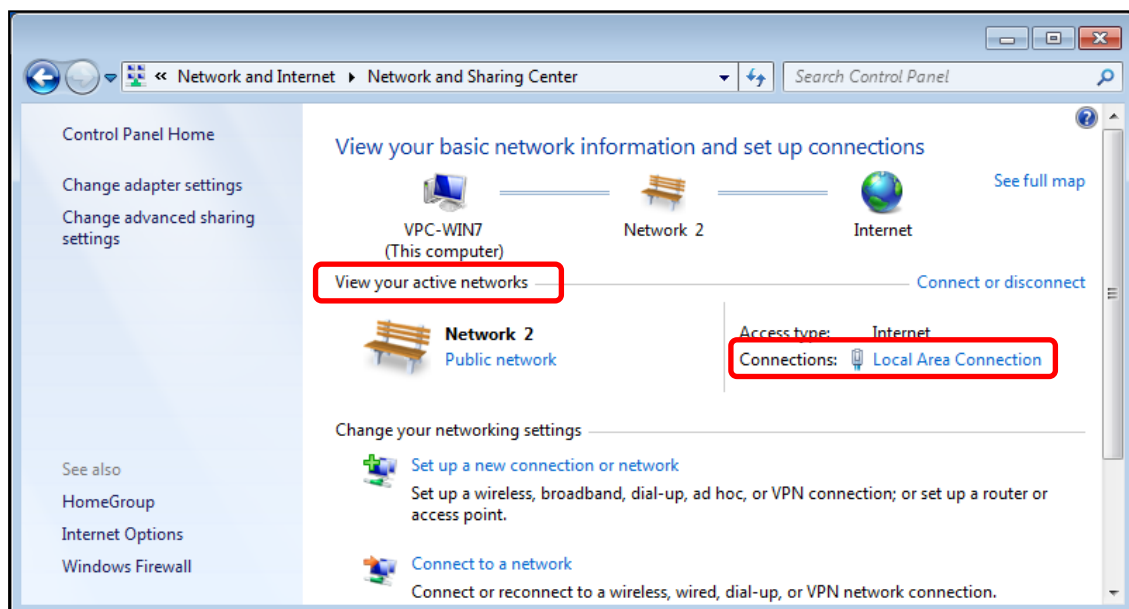
※ Please match “IP Address” of Data Viewer and “IP Address” of Paperless Recorder from “Option” ⇒ “Communication” of the menu bar before it connects.

(IP Address of a Paperless Recorder can be set from “System” ⇒ “Comm.” ⇒ “Ethernet1”.

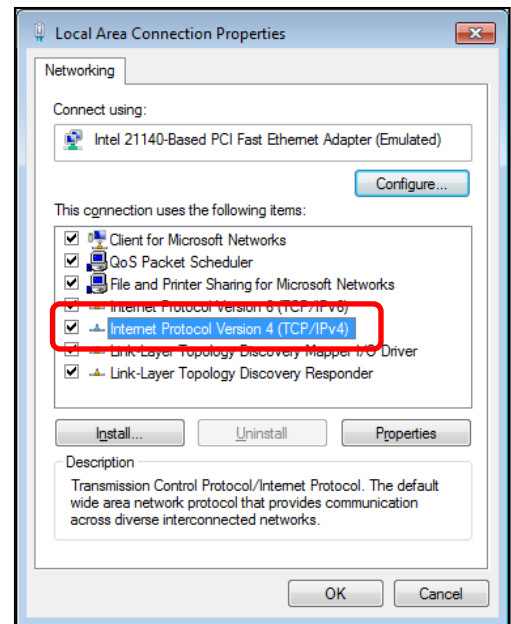
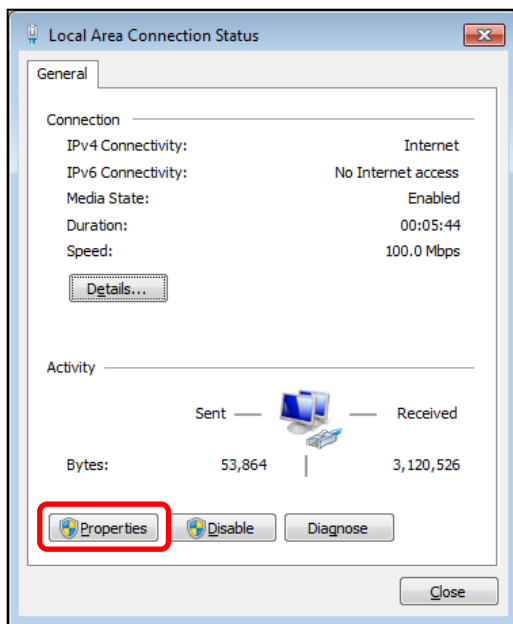
Refer the following “●Example of setting IP Address” and “●Example of setting telecommunication facility” for the details.)

### ● Example of setting the IP address on a PC

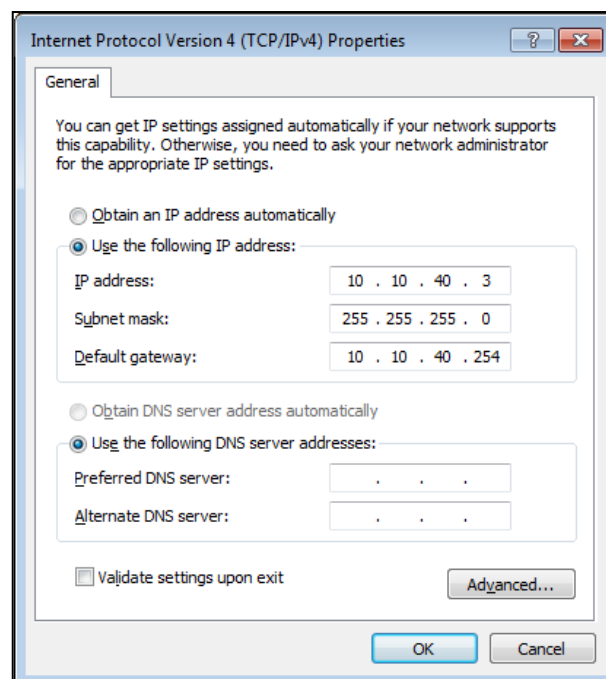
- open [Control Panel] and select [Network and Sharing Center].



- When you select [Connections] under [View your active networks] , [Local Area Connection Status] window appears.



- Click the **Properties** button to open the Connection Properties window as shown.
- From the list, select [Internet Protocol Version 4 (TCP/IPv4)] to open the Internet Protocol Version 4 (TCP/IPv4) Properties window appears.

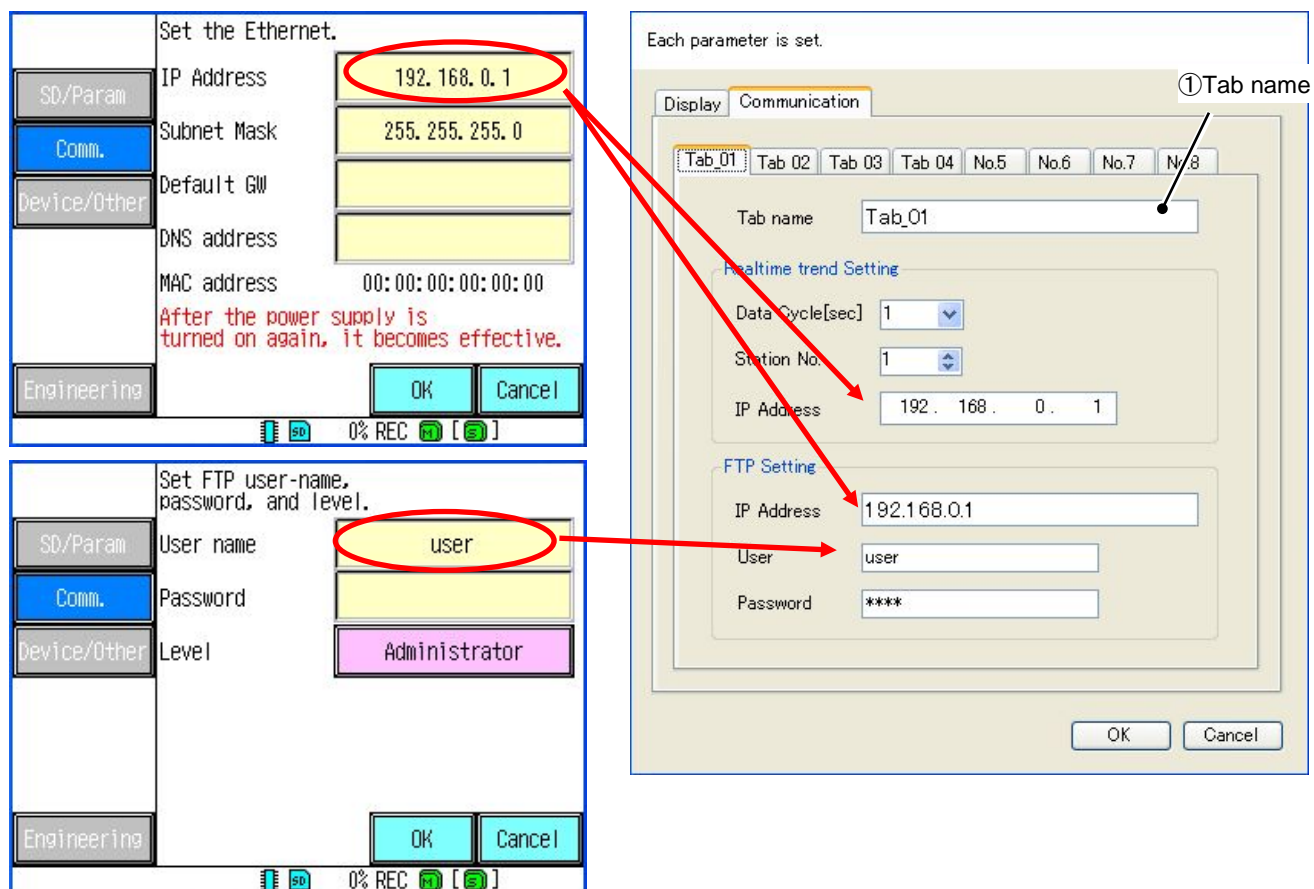


- Specify the pertinent IP address and subnet mask. This example assumes that the IP address is "10.10.40.3" and the subnet mask is "255.255.255.0."

※ When you set a DNS server address , an IP address, a subnet mask, and a default gateway, Ask a network administrator and set up carefully. When a setup is not right, the danger that an obstacle will occur is in a network.

- Example of setting telecommunication facility

When you select “View” ⇒ “Option” of the menu bar of the data viewer, and switching to “Communication”.



The “IP Address” of “Realtime trend Setting” and “FTP Setting” is set to become it as well as “Paperless Recorder (※Ethernet1)”. (In this case, “IP Address” is set as “192.168.0.1”.)

The “User” and “Password (It is omissible.)” of “FTP Setting” is set to become it as well as “Paperless Recorder (※FTP)”. (In this case, “User” is set as “user”.)

**OK** is selected and the setting is preserved.

※ Refer item 8.6 and 8.10 of “Paperless Recorder manual” for the “Ethernet1” and “FTP”.

Moreover, a maximum of 8 sets of communication setting of a recorder can be performed by switching a tab. (It supports since software version 1.20.)

#### ① Tab name

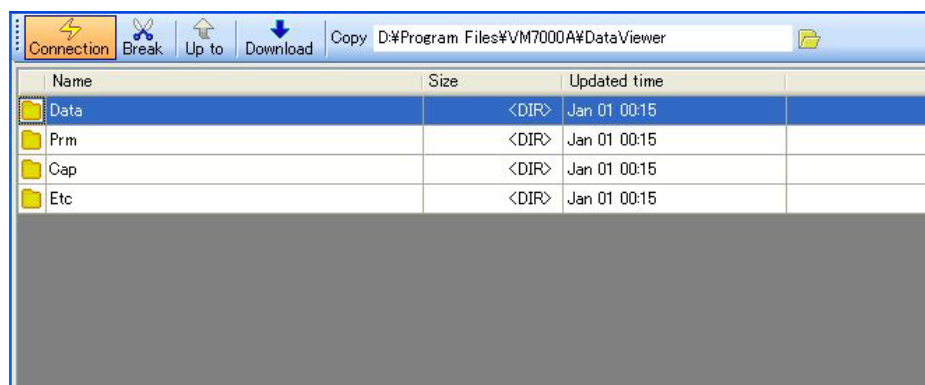
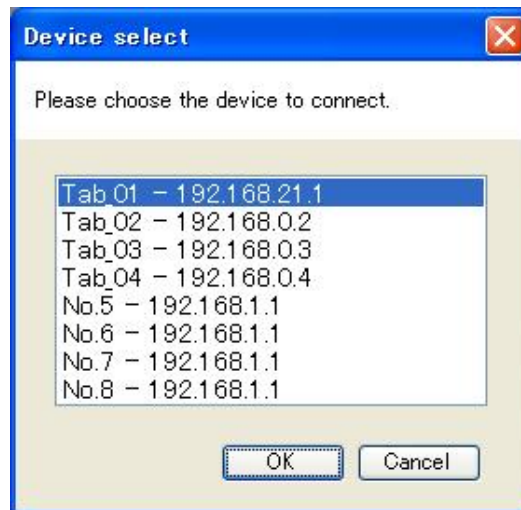
In the communication tab (No.1~No.8) of "Option" and a "Device-select screen", and a "Realtime trend display screen", a name can be set to each communication No.

(Refer next page for "Device-select screen". Moreover, refer item 5.4 for "Realtime trend display".)

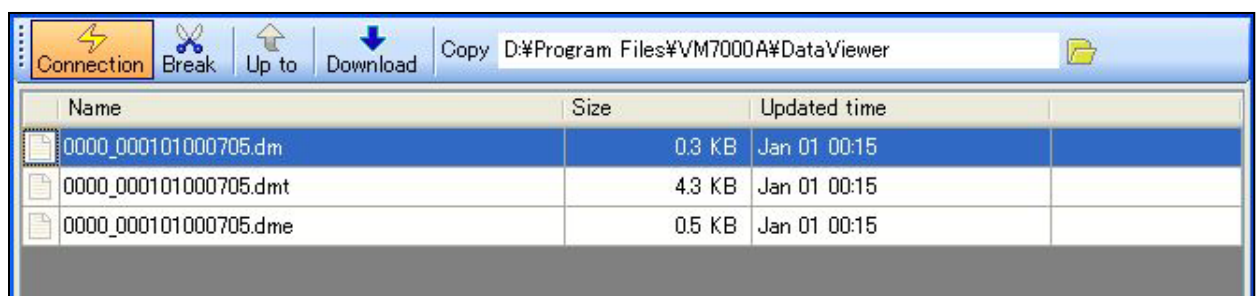
If connected to a network, "Device select screen" appears.

Also, if selected an address to communicate, "Download screen" appears.

- ※ The error occurs if the SD card has not been inserted in the recorder. Please try again after inserting the SD card in the recorder.



In this case, the file can be downloaded by selecting the "dm file" in the "Data" folder, and pushing "Download".



- ※ The file which can be referred to with a Data Viewer is "dm file" or "dmt file".

In order to read "dm file", the "dmt file" and "dme file" is necessary on the same folder.

In order to read "dmt file", the "dme file" is necessary on the same folder.

(Refer item 10.17 of Paperless Recorder Manual (WXPVM70mnAR001E) for detail of each file.)

## 5.4 Realtime Trend

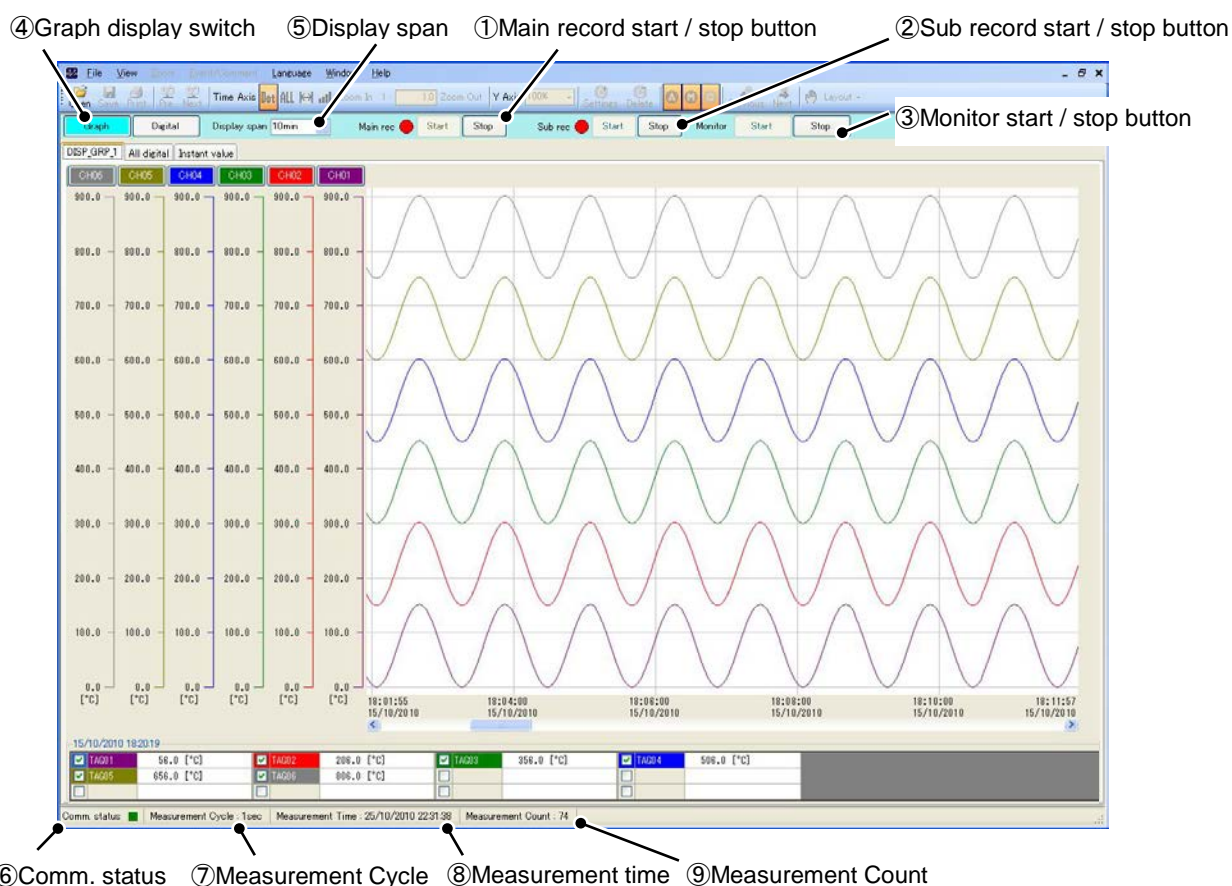
When the Paperless recorder connects to the personal computer, the “Realtime trend” is displayed with the Data Viewer.

※Please note that you can not access one unit from multiple PCs at the same time.

When you select “View” ⇒ “Realtime Trend” of the menu bar of the Data Viewer, the connection with a Paperless recorder begins. (Up to eight can be displayed simultaneously.)

※ Please match “IP Address” of Data Viewer and “IP Address” of Paperless recorder from “Option” ⇒ “Communication” of the menu bar before it connects.

(IP Address of a Paperless recorder can be set from “System” ⇒ “Comm.” ⇒ “Ethernet1”. Refer the item 5.3 “●Example of setting telecommunication facility” for the details.)



① Main record start / stop button (It supports since software version 1.20.)

The recorder start main recording and stop main recording.

② Sub record start / stop button (It supports since software version 1.20.)

The recorder start sub recording and stop sub recording.

Sub record of a Recorder can record only during main record.

Moreover, [System] ⇒ [Device/Other] ⇒ [FUNC key] is "OFF". And, [Parameter] ⇒ [Record] ⇒ [Setting(Sub)] ⇒ [Sub rec timing] is need to “Func key”.

(Refer item 7.20 and 8.15 of Paperless Recorder Manual for "Record" and "FUNC key".)



※ The current recorded state of main record and sub record can be checked in the state of an adjoining icon.

Red blink : The main / sub record is being recorded.

Green lighted : The main / sub record is being stopped

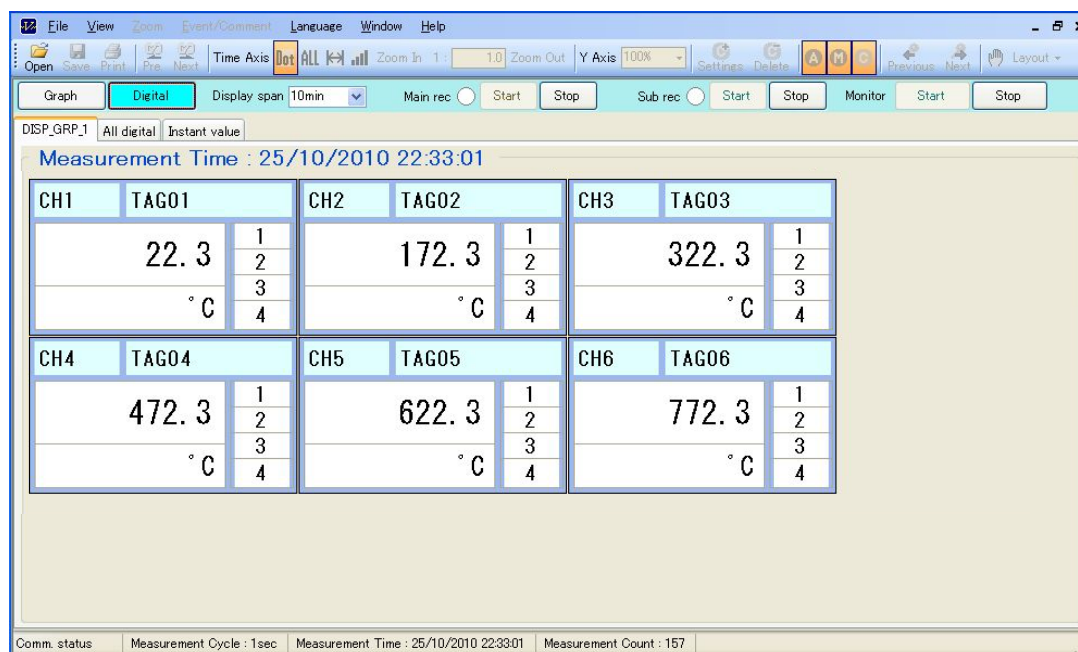
③ Monitor start / stop button

Start or stop monitoring of Realtime trend display.

④ Graph display switch

The type of trend data can be chosen from a "Graph" / "Digital" etc.

[Digital]



⑤ Display span

Display span from one end of a Realtime trend display screen is changed.

⑥ Comm. status

The current communicating state is displayed.

Green : Data Viewer and a recorder are communicating.

Black : Data Viewer and a recorder are not communicating.

⑦ Measurement Cycle

The measurement cycle (Record cycle) of a Realtime trend is displayed.

A "Record cycle" can be set up from [View] ⇒ [Option] ⇒ [Communication] ⇒ [Data cycle (sec)] of Menu bar.

⑧ Measurement Time

The current time is displayed.

⑨ Measurement Count

The count which updated the measurement data of the Realtime trend is displayed.

(A update cycle depends on [⑦Measurement Cycle].)

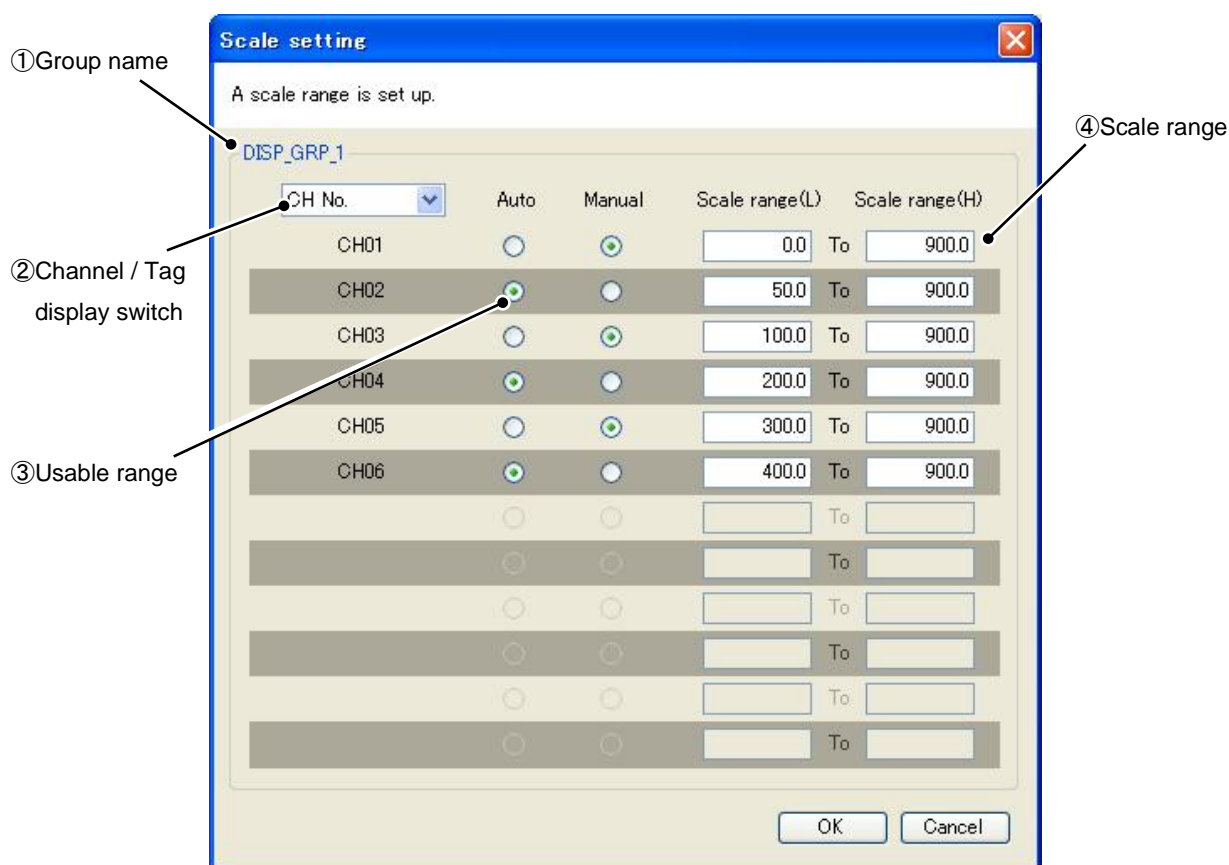
The maximum displays number of a sampling is 86400 pieces. If a sampling exceeds 86400 pieces, it deletes from old data.



## 5.5 Manual setting of a scale display

The scale display of a trend screen can be set as arbitrary range.  
(It supports since software version 1.30.)

When "[Menu bar]-[View]-[Scale setting]" is chosen, "Scale setting screen" (the following figure) is displayed. Moreover a double click of the [scale display] of a trend screen will display a set scale screen. (Refer item 3.1 for scale display.)



① Group name

The group name set up with the recorder is displayed.

② Channel / Tag display switch

The display of channel No. and a tag is switched.

③ Usable range

The scale range to be used is chosen from Auto and a Manual.

Auto : Setting of [④Scale range] is not used for a scale, but the initialized value of record data is used.

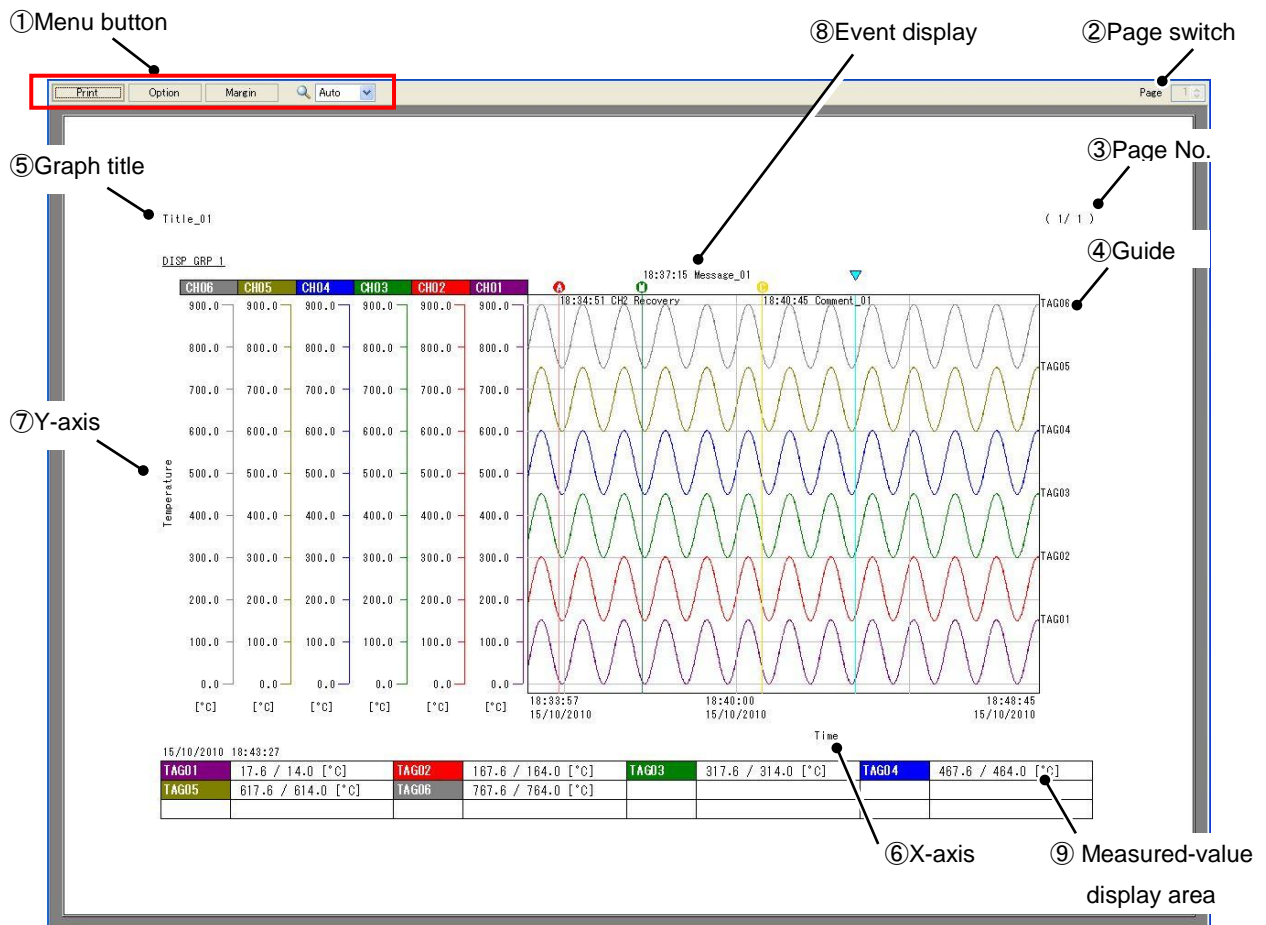
Manual: Use setting of [④Scale range] for a scale.

④ Scale range

A scale range (L) and a scale range (H) are set up. An input of the value exceeding the span (-32000~32000) which can be set up will input 0 automatically. (It is dependent on the decimal point.)

## 5.6 Print preview setting

When printing the record data currently displayed with the Data Viewer, event data, a chart title, etc. can be added and printed. (It supports since software version 1.20.)



### ① Menu button

Print of a preview and setting of an option and a margin are carried out.

### ② Page switch

If there are 2 pages or more of record data, the page displayed by [②Page switch] is switched.

It can be operated only when the [⑩Print type] of option setting is a "Page unit."

(Refer next page for option.)

### ③ Page No.

The current page number is added to the record data to print.

### ④ Guide

Tag names are added to the measurement data of each CH as a guide.

### ⑤ Graph title

Arbitrary titles are added to the record data to print.

### ⑥ X-axis

Arbitrary X-axis name are added to the record data to print.

### ⑦ Y-axis

Arbitrary Y-axis name are added to the record data to print.

⑧ Event display

The description of the event generated at the time of record is added to the record data to print. An event is displayed on the same place as marks (comment mark etc.). An event can be displayed to three lines. If three or more events occur at the same point, an event laps.

Moreover, the display places of an event can be chosen from the inside of a trend, or the outside of a trend by option. (Refer “●Option” for option.)

⑨ Measured-value display area

The measured value of the position chosen with [Cursor] is displayed

Move of cursor cannot be performed in a print preview.

Moreover, when it switches to the page as which cursor is not displayed, [⑨Measured-value display] becomes blank.

●Option

A push on the [Option] button of a print preview screen will display a print option screen (the following figure).

⑩Print type

⑪Setting the page No.

⑫Setting the guide

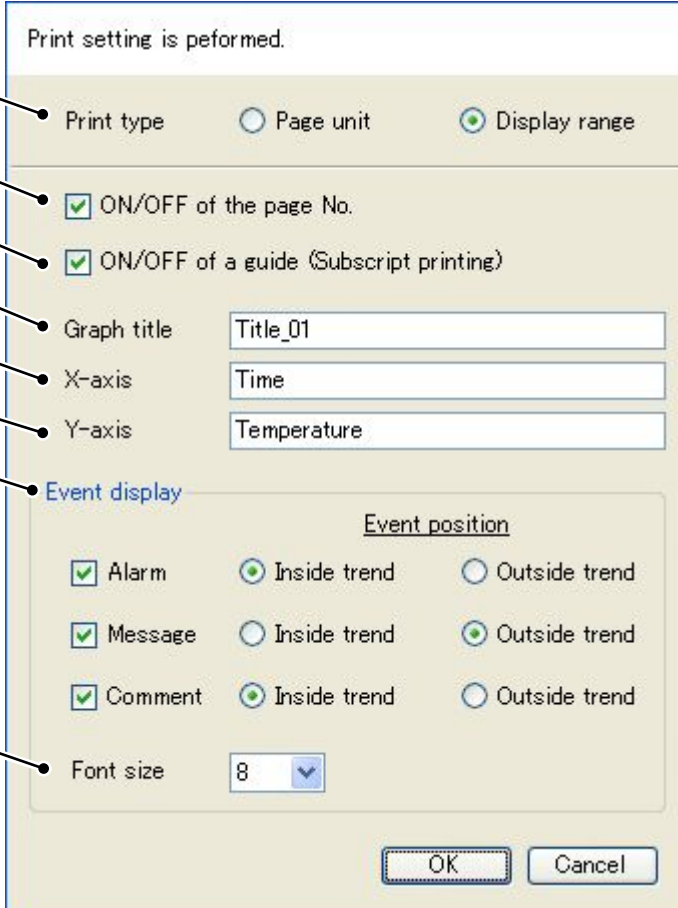
⑬Setting the graph title

⑭Setting the X-axis

⑮Setting the V-axis

⑯Setting the event display

⑰Font size



The image shows a 'Print setting is performed.' dialog box. It has a title bar and a main area with various settings. At the top, there are three radio buttons: 'Print type', 'Page unit', and 'Display range'. Below these are two checked checkboxes: 'ON/OFF of the page No.' and 'ON/OFF of a guide (Subscript printing)'. Then there are three text input fields: 'Graph title' (containing 'Title\_01'), 'X-axis' (containing 'Time'), and 'Y-axis' (containing 'Temperature'). Below these is a section titled 'Event display' which contains a sub-section 'Event position' with six radio buttons arranged in a 3x2 grid. The first row has 'Alarm' (checked), 'Inside trend' (selected), and 'Outside trend'. The second row has 'Message' (checked), 'Inside trend', and 'Outside trend' (selected). The third row has 'Comment' (checked), 'Inside trend' (selected), and 'Outside trend'. At the bottom of the dialog is a 'Font size' dropdown menu set to '8'. There are 'OK' and 'Cancel' buttons at the very bottom right. Numbered callouts 10 through 17 point to these specific elements.

Print setting is performed.

Print type ☐ Page unit ☒ Display range

☒ ON/OFF of the page No.

☒ ON/OFF of a guide (Subscript printing)

Graph title

X-axis

Y-axis

Event display

Event position

☒ Alarm ☒ Inside trend ☐ Outside trend

☒ Message ☐ Inside trend ☒ Outside trend

☒ Comment ☒ Inside trend ☐ Outside trend

Font size  ▼

OK Cancel

⑩ Print type

The range which displays a preview is chosen from a "Page unit" and a "Display range".

Page unit : All the range of record data is displayed in a preview screen. If there are 2 pages or more, a page is switched from [②Page switch].

Display range : The range currently displayed on the trend screen is displayed on a preview. In this case, [②Page switch] cannot be operated.

⑪ Setting the page No.

It sets up a display / un-displaying of [③Page No.].

⑫ Setting the guide

It sets up a display / un-displaying of [④Guide].

⑬ Setting the graph title

The name of the graph title displayed on [⑤graph title] is set up.

⑭ Setting the X-axis

The name of the X-axis displayed on [⑥X-axis] is set up.

⑮ Setting the Y-axis

The name of the Y-axis displayed on [⑦Y-axis] is set up.

⑯ Setting the event display

It sets up a display / un-displaying of [⑧Event display]. Moreover, display places are chosen from the inside of a trend, or the outside of a trend.

⑰ Font size

The font size of [⑧Event display] is set up. (The font size of other setting items is not changed.)