

**FXA120
DAQSTANDARD for FX1000
Data Viewer**

vigilantplant®

Thank you for purchasing DAQSTANDARD for FX1000 (model name: FXA120, hereafter referred to as DAQSTANDARD).

This manual explains how to use the software. Please read this manual carefully before operating the software to ensure its correct use.

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End of document

How to Use This Manual

Structure of the Manual

This manual consists of the following three chapters and index.

Chapter	Title	Content
1	Before Using the DAQSTANDARD	Gives an overview of DAQSTANDARD and explains the PC environment that you require in order to use DAQSTANDARD.
2	Displaying Data	Explains the procedures to display measurement data files that were created on the FX and to convert these files into other formats, such as Excel and ASCII.
3	Troubleshooting	Gives a list of error messages and corrective measures.
Index		Gives a list of important terms used in this manual.

Scope of This Manual

This manual does not explain the basic operations of your PC's operating system (OS). For such descriptions, refer to the Windows User's Guide etc.

Conventions Used in This Manual

- **Unit**
K Indicates "1024". (Example: 100 KB)
- **Menus, commands, dialog boxes and buttons**
Enclosed in [].
- **Note**
Provides useful information regarding operation of the software.

About Images

The images that appear in this manual may be different from those that appear on the software, but not to a degree that interferes with procedural explanations.

Products Covered in This Manual

Item	Described in This Manual
FX1000	Up to firmware version R1.1x In the explanations in this manual, this is referred to as the "FX."
DAQSTANDARD for FX1000	Up to version R9.03.xx.

Revision History

Edition	Description
1	New edition
2	Revised for upgrade to 9.02 Release: (Added) Italian, Spanish, Portuguese, Russian, and Korean as display language. Improvements to descriptions.
3	Revised for upgrade to 9.03 Release

Contents

1

Software License Agreement	ii
How to Use This Manual	iv

2

Chapter 1 Before Using the DAQSTANDARD

1.1 Overview of DAQSTANDARD for FX1000	1-1
Software Applications in DAQSTANDARD	1-1
About the Data Viewer	1-1
1.2 Required PC System Environment	1-2
Hardware	1-2
Operating System (OS)	1-2

3

Index

Chapter 2 Displaying Data

2.1 Starting and Exiting the Data Viewer	2-1
Starting the Data Viewer	2-1
Opening the File	2-2
Checking File Information (Display Data Files and Event Data Files)	2-3
Exiting the Data Viewer	2-5
2.2 Displaying the Waveform	2-6
Displaying the Waveform	2-6
General Display Settings	2-7
Setting the Time Axis	2-10
Setting the Y-axis	2-11
Turn ON/OFF the Alarm Display	2-14
Waveform Labels (Selecting the channel identification strings)	2-15
Showing/Hiding Cursors	2-15
Displaying the Cursor Values	2-16
Displaying Statistics	2-17
Adding Arbitrary Marks	2-17
Searching the Alarm Transition Point and Mark Position	2-18
Deleting Marks	2-19
Resetting Marks	2-19
Setting the Window	2-20
2.3 Circular Display	2-21
Circular Display	2-21
General Display Settings	2-21
Setting the Time Axis	2-22
Setting the Y-axis	2-22
Turning ON/OFF the Alarm Display	2-22
2.4 Displaying Numeric Values	2-23
Displaying Numeric Values	2-23
General Display Settings of the Numeric Display	2-23
Setting the Time Axis	2-23
Turn ON/OFF the Alarm Display	2-23
Waveform Labels (Selecting the channel identification strings)	2-23
Showing/Hiding Cursors	2-24
Adding Arbitrary Marks, Deleting Marks, and Resetting Marks	2-24
2.5 Linking Files and Saving the Link Settings File	2-25
Linking Files	2-25
How the Number of Data Points in Linked Files Is Calculated	2-27
Saving the Link Settings File	2-27
Displaying Linked Files	2-27
2.6 Listing Alarms, Marks, and Control Modes, and Converting the List	2-28

Contents

2.7	Viewing Manual Sampled Data Files	2-30
2.8	Viewing Report Files	2-31
2.9	Saving the Display Settings	2-34
	Display Settings	2-34
	Viewing Data Files	2-34
	Saving the Display Conditions	2-35
2.10	Saving Display Template.....	2-37
	Saving Templates.....	2-37
	Using Templates.....	2-37
2.11	Converting the Data.....	2-38
	Conversion Example	2-40
2.12	Printing.....	2-41
	Setting the Printer	2-41
	Specifying the Contents to Be Printed (for Display Data File and Event Data File).....	2-41
	Header	2-43
	Print Preview	2-43
	Printing	2-43

Chapter 3 Troubleshooting

3.1	Troubleshooting	3-1
-----	-----------------------	-----

Index

1.1 Overview of DAQSTANDARD for FX1000

Software Applications in DAQSTANDARD

DAQSTANDARD consists of the following two software applications.

- Data Viewer
- Hardware Configurator

This manual explains Data Viewer.

Data Viewer

Data Viewer displays the values and waveforms of the measured data from the recorder and prints them.

Hardware Configurator

Hardware Configurator is a software application for creating setup data for the recorder. It can send setup files that you have created to the recorder and save them to storage media.

About the Data Viewer

The Data Viewer can display the following types of data—which have been created on the FX—on waveform, digital value, and circular displays. The Data Viewer can also print these types of data. With the displayed data, you can link files, save display conditions, and perform data conversion.

- Display data files
- Event data files
- Report files
- Manual sampled data files

1.2 Required PC System Environment

Hardware

Personal Computer

A computer which runs on Windows XP, Windows Vista, or Windows 7.

CPU and Main Memory

- **When Using Windows XP**
Pentium III, 600 MHz or faster Intel x64 or x86 processor; 128 MB or more of memory
- **When Using Windows Vista**
Pentium 4, 3 GHz or faster Intel x64 or x86 processor; 2 GB or more of memory
- **When Using Windows 7**
32-bit edition: Intel Pentium 4, 3 GHz or faster x64 or x86 processor; 2 GB or more of memory
64-bit edition: Intel x64 processor that is equivalent to Intel Pentium 4, 3 GHz or faster; 2 GB or more of memory

Hard Disk

A free space of 100 MB or more (more space may be required, depending on the amount of data stored).

CD-ROM Drive

To be used for installing the software.

Mouse

A mouse supported by Windows.

Monitor

A video card that is recommended for the OS and a display that is supported by the OS, has a resolution of 1024×768 or higher, and that can show 65,536 colors (16-bit, high color) or more.

Interface Port

When communicating through RS-232, use a COM port (COM1, COM2, COM3, or COM4) supported by Windows.

When communicating through RS-422/RS-485, connect a converter to an RS-232 port.

To communicate through an Ethernet connection, you need an Ethernet card supported by Windows. Also, the TCP/IP protocol must be installed.

Printer

A printer supported by Windows is required. An appropriate printer driver is also required.

Operating System (OS)

OS	Version
Windows XP	Home Edition SP3
	Professional SP3 (excluding x64 Editions)
Windows Vista	Home Premium SP2 (excluding 64-bit editions)
	Business SP2 (excluding 64-bit editions)
Windows 7	Home Premium, SP1 (32- or 64-bit edition)
	Professional, SP1 (32- or 64-bit edition)

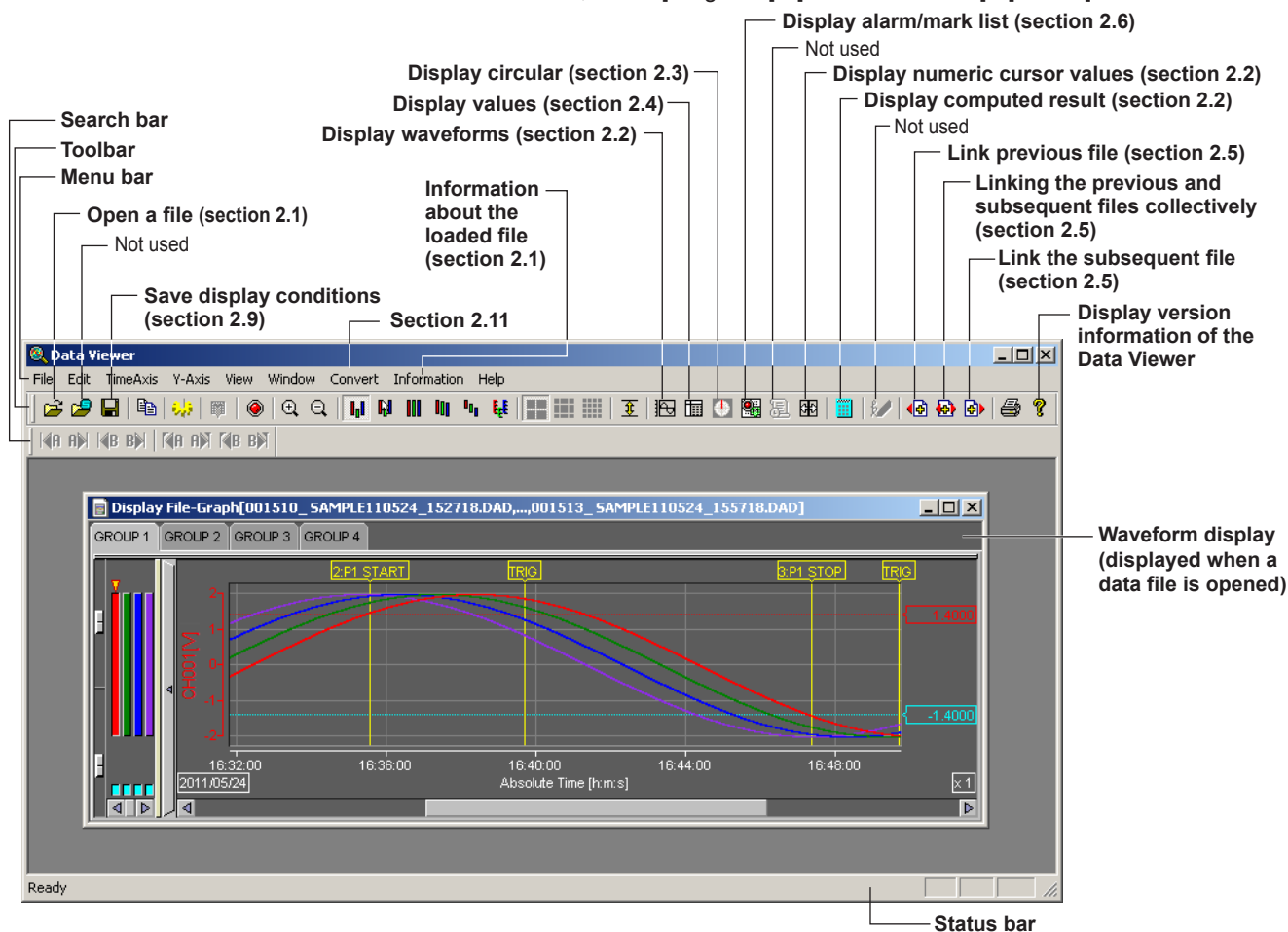
Note

- The time zone can be set in [Date/Time] which can be opened from [Control Panel].
- If daylight saving time is used, mark the check box of "Automatically adjust clock for daylight saving changes".
- The time zone should not be set using the autoexec.bat file. If "TZ=GTM0" is set in the file, specify "rem" to disable it.
- Data created in 2038 or later cannot be handled.
- The font "Courier New" needs to be installed on your personal computer.

2.1 Starting and Exiting the Data Viewer

Starting the Data Viewer

From the Start menu, select [Programs] - [DAQSTANDARD] - [Viewer].



You cannot start multiple Data Viewers. If you set file associations you can start Data Viewer by double-clicking a data file. You can start Data Viewer by dragging a data file onto the Data Viewer icon.

Files That the Data Viewer Can Display (Extension)

File Type	Extension
Display data file	DAD
Event data file	DAE
Link settings file	Idx ¹
Report file	DAR ²
Manually sampled data file	DAM

1 This is the information file that is created when you link and display multiple display data files or event data files. When you open this file, the linked data files are opened.

2 Can be displayed in stacked bar graphs (column bar).

2.1 Starting and Exiting the Data Viewer

Toolbar, Search Bar, and Status Bar

Select [View] - [Toolbar], [View] - [A/M Search Bar], or [View] - [Status Bar] on the menu bar to display the corresponding bar. A check mark will appear beside the entry in the menu. The bar will disappear if the check is removed.

Processing of New File Names

When you create a file using Data Viewer, it processes the specified file name in the following ways.

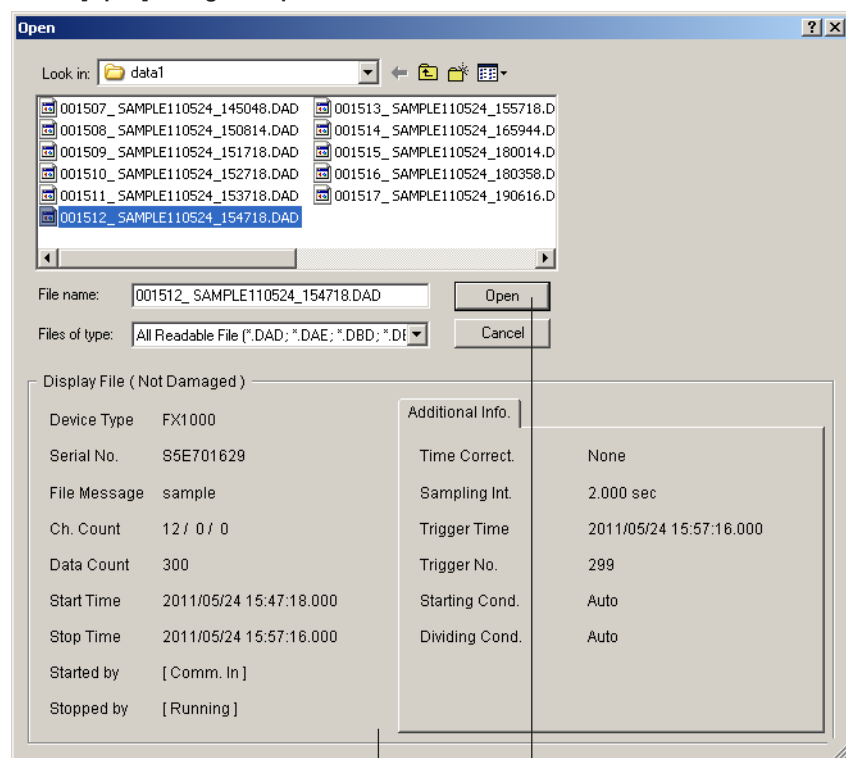
- The following characters are converted to underscores: slashes, colons, asterisks, backslashes, quotation marks, question marks, less-than signs, greater-than signs, and vertical bars.
- If you leave the extension out of a file name, and the file name starts with a period, the period is converted into an underscore.

Opening the File

1. Click here ([File] - [Open]).



2. The [Open] dialog box opens.



3. Select the desired file and click the [Open] button.

Information about the selected file

Note

You can change file names in the [Open] dialog box. You cannot delete files.

Checking File Information (Display Data Files and Event Data Files)

Select [Information] - [About Document] on the menu bar to view the active data file's information.

Items whose check boxes are selected are printed in the header when you print data.

The screenshot shows a 'File Information' dialog box with three tabs: 'Basic Information', 'Batch Information', and 'Batch Comment'. The 'Basic Information' tab is active, displaying a list of file parameters, each with a checked checkbox and a value. The parameters include File Name, Device Type, Serial No., File Message, Time Correction, Starting Cond., Dividing Cond., Meas Ch., Math Ch., Ext. Ch., Data Count, Sampling Int., Start Time, Stop Time, Trigger Time, Trigger No., Damage Check, Started by, Stopped by, and Comment. The 'Comment' field is currently empty. At the bottom right, there are 'OK' and 'Cancel' buttons.

Parameter	Value
File Name	001510_SAMPLE110524_152718.DAD, ..., 001513_SAMPLE110524_155718.DAT
Device Type	FX1000
Serial No.	S5E701629
File Message	sample
Time Correction	Done
Starting Cond.	Auto
Dividing Cond.	Auto
Meas Ch.	12
Math Ch.	0
Ext. Ch.	0
Data Count	1200
Sampling Int.	2.000 sec
Start Time	2011/05/24 16:19:44.000
Stop Time	2011/05/24 16:59:42.000
Trigger Time	2011/05/24 16:59:42.000
Trigger No.	1199
Damage Check	Not Damaged
Started by	[Comm. In]
Stopped by	[Running]
Comment	

Note

- Multiple files can be opened simultaneously.
- The number of files that can be opened simultaneously depends on the memory size of the PC and the free disk space.

2.1 Starting and Exiting the Data Viewer

Contents of the Basic Information Tab

Item		Description
File Name		The file name. (If the file name is long, the portion that does not fit within the dialog box is not displayed.)
Device Type		FX1000
Serial No.		The device's serial number.
File Message		The file message (up to 50 characters; specified as the file header).
Time Correction		Whether or not the time was changed while data was being acquired (done/none).
Start	Start Time	The time when data acquisition started (yyyy/mm/dd hh:mm:ss.mmm).
	Started by	The name of the user who started data acquisition (up to 20 characters).
	Starting Cond.	The condition under which data acquisition started (Manual/Restart after Black Out/Auto/Triggered Restart/Over Write/Unknown).
Stop	Stop Time	The time when data acquisition stopped (yyyy/mm/dd hh:mm:ss.mmm).
	Stopped by	The name of the user who stopped data acquisition (up to 20 characters).
	Dividing Cond.	The condition under which data acquisition stopped (Manual/Black Out/Auto/Data Count/ Interrupted/Unknown).
Meas Ch.		The number of measurement channels.
Math Ch.		The number of math channels.
Ext. Ch.		This is not applied to the FX data.
Data Count		The number of data points.
Sampling Int.		The sampling interval, in seconds.
Trigger Time		The trigger time (yyyy/mm/dd hh:mm:ss.mmm).
Trigger No.		The trigger position (from 0).
Damage Check		The status of the data file (damaged/not damaged).
Comment		You can insert a print comment of up to 127 characters in length.

Contents of the Batch Information Tab

Item		Description
Batch Name		The batch name (up to 32 characters).
Lot No.		The lot number (range: 0 to 99999999).
Title 1 to Title 24 ¹		The batch text title (up to 20 characters).
Description		The batch text description (up to 30 characters).

¹ You can use up to eight of these on the FX.

Contents of the Batch Comment Tab

Item		Description
Comment 1 to Comment 3		The time when the comment was made (yyyy/mm/dd hh:mm:ss.mmm).
		The comment itself
		The user who made the comment (up to 20 characters).

Exiting the Data Viewer

On the menu bar, select [File] - [Exit], or click the Close button. If you changed the settings in any of the windows, a message "Save changes to ****.***?" is displayed. Click the [Yes] button, if you wish to save the settings and exit the Data Viewer. Click the [No] button, if you do not wish to save the settings and exit the Data Viewer.

2.2 Displaying the Waveform

Displaying the Waveform

1. Click here ([Window] - [Graph]).

2. The waveform display screen opens.

Group selection tab

Mark on the active waveform

Zone display area

Show/Hide the zone display area

Waveform label (Channel number or tag)

A white frame indicates the section of the waveform that is being displayed

Link the subsequent file

Linking the previous and subsequent files collectively

Link the previous file

Display the cursor value

Display the alarm/mark list

Color overview

Adjuster (Turn ON/OFF the color overview display)

Trip line of the active waveform

Alarm display area

Magnification

Date

Waveform display area

Move the waveform display position (Scroll bar)

Absolute or relative time

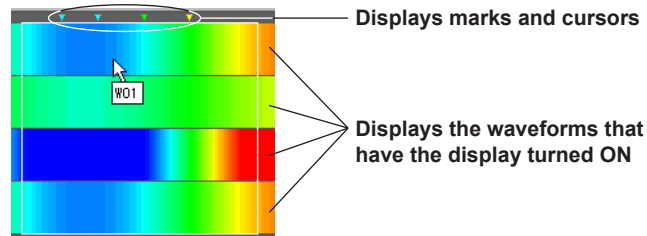
Drag this bar to change the size of the zone display area

Turn ON/OFF waveform display

Waveform display area brightness adjuster

Grid brightness adjuster

Color Overview Display



The measured values of the entire data are displayed using various colors. By assigning 50 different colors from the minimum to the maximum values of the scale, the measured values are assigned to those colors.

If the data are display data, the maximum value is displayed at the top of the space allocated to a single waveform, and the minimum value is displayed at the bottom.

If you click or drag the cursor on the color overview display area, the section of the waveform is displayed in the waveform display area.

Note

The color overview is turned OFF as default.

General Display Settings

You can use this to change the channels that are registered to groups, create new groups, and change the display format.

1. Click here ([View] - [General Display Settings]).



2. The [General Display Settings] dialog box opens.

General Display Settings

Group Name:

No	Channel	Y-Axis	Form	Scale		Zone		Trip 1	Trip 2	Scale Interval	Color
				MIN	MAX	MIN	MAX				
<input checked="" type="checkbox"/> W01	CH001	<input checked="" type="checkbox"/> Linear		-2.0000	2.0000	0	100	<input checked="" type="checkbox"/> 1.4000	<input checked="" type="checkbox"/> -1.4000	<input type="checkbox"/> 1.0000	
<input checked="" type="checkbox"/> W02	CH002	<input checked="" type="checkbox"/> Linear		-2.0000	2.0000	0	100	<input checked="" type="checkbox"/> 1.4000	<input checked="" type="checkbox"/> -1.4000	<input type="checkbox"/> 1.0000	
<input checked="" type="checkbox"/> W03	CH003	<input checked="" type="checkbox"/> Linear		-2.0000	2.0000	0	100	<input checked="" type="checkbox"/> 1.4000	<input checked="" type="checkbox"/> -1.4000	<input type="checkbox"/> 1.0000	
<input checked="" type="checkbox"/> W04	CH004	<input checked="" type="checkbox"/> Linear		-2.0000	2.0000	0	100	<input checked="" type="checkbox"/> 1.4000	<input checked="" type="checkbox"/> -1.4000	<input type="checkbox"/> 1.0000	
<input type="checkbox"/> W05	<None>	<input type="checkbox"/> Linear		-22.00	22.00	0	100	<input type="checkbox"/> 22.00	<input type="checkbox"/> -22.00	<input type="checkbox"/> 1.00	
<input type="checkbox"/> W06	<None>	<input type="checkbox"/> Linear		-22.00	22.00	0	100	<input type="checkbox"/> 22.00	<input type="checkbox"/> -22.00	<input type="checkbox"/> 1.00	
<input type="checkbox"/> W07	<None>	<input type="checkbox"/> Linear		-22.00	22.00	0	100	<input type="checkbox"/> 22.00	<input type="checkbox"/> -22.00	<input type="checkbox"/> 1.00	
<input type="checkbox"/> W08	<None>	<input type="checkbox"/> Linear		-22.00	22.00	0	100	<input type="checkbox"/> 22.00	<input type="checkbox"/> -22.00	<input type="checkbox"/> 1.00	
<input type="checkbox"/> W09	<None>	<input type="checkbox"/> Linear		-22.00	22.00	0	100	<input type="checkbox"/> 22.00	<input type="checkbox"/> -22.00	<input type="checkbox"/> 1.00	
<input type="checkbox"/> W10	<None>	<input type="checkbox"/> Linear		-22.00	22.00	0	100	<input type="checkbox"/> 22.00	<input type="checkbox"/> -22.00	<input type="checkbox"/> 1.00	
<input type="checkbox"/> W11	<None>	<input type="checkbox"/> Linear		-22.00	22.00	0	100	<input type="checkbox"/> 22.00	<input type="checkbox"/> -22.00	<input type="checkbox"/> 1.00	
<input type="checkbox"/> W12	<None>	<input type="checkbox"/> Linear		-22.00	22.00	0	100	<input type="checkbox"/> 22.00	<input type="checkbox"/> -22.00	<input type="checkbox"/> 1.00	
<input type="checkbox"/> W13	<None>	<input type="checkbox"/> Linear		-22.00	22.00	0	100	<input type="checkbox"/> 22.00	<input type="checkbox"/> -22.00	<input type="checkbox"/> 1.00	
<input type="checkbox"/> W14	<None>	<input type="checkbox"/> Linear		-22.00	22.00	0	100	<input type="checkbox"/> 22.00	<input type="checkbox"/> -22.00	<input type="checkbox"/> 1.00	
<input type="checkbox"/> W15	<None>	<input type="checkbox"/> Linear		-22.00	22.00	0	100	<input type="checkbox"/> 22.00	<input type="checkbox"/> -22.00	<input type="checkbox"/> 1.00	

Buttons: OK, Cancel, Scale Calc, Copy Setting..., Copy, Paste

Annotations:

- Group selection tab
- Click No. to toggle between selecting all waveforms and selecting no waveforms.
- Select waveforms by clicking their number or by dragging the mouse pointer.
- Enter the group name
- Select linear or logarithmic (each click switches between the two settings).
- Select normal display or exponential display (orange indicates that the exponential display has been selected).
- Enter the display range
- Enter the display position
- Show/Hide the trip line
- Enter the trip line
- Set the scale intervals.
- Display color
- Turn ON/OFF at once
- Turn ON/OFF waveform display (Blue is ON)
- Activate the settings and close the dialog box
- Assign numbers to the channels in the selected range in ascending order
- Register the channel
- Show/Hide the Y-axis
- Copy the settings of the first channel in the selected range to all other channels
- Set the maximum and minimum values of the measured data to the maximum and minimum values of the scale.
- Select the items to be copied
- Initialize
- Copy the setup data of the selected waveform number
- Pastes the copied settings to the copy destination

Scale Interval

You can specify the scale interval. You can specify values that are within the following range: “1/1000 of the scale width” (this is the smallest scale interval) to “1/2 of the scale width” (this is the largest scale interval). The default value is 1. The decimal place of this setting is the same as the decimal place of the scale.

Example: If the scale is –2.0000 to 2.0000, the smallest scale interval is 0.004, and the largest scale interval is 2.

Note

- If you specify a value that is smaller than the smallest possible value, the smallest possible value will be specified. If you specify a value that is larger than the largest possible value, the largest possible value will be specified.
- When the Y axis is set to logarithmic, you cannot set the scale interval. In this situation, this setting is disabled.
- Y-axis scale numbers
 - A maximum of 22 scale numbers and a minimum of 2 scale numbers can be displayed.
 - If “0” falls within the range of the scale, “0” and the integer multiples of the scale interval with “0” as the origin are displayed.

Color

You can select the color of each waveform. To create custom colors, click the [Define Custom Colors] button in the [Color] dialog box.

Copy/Paste

You can copy the setup data of one channel or more to other channels. Use the following procedure to copy and paste.

1. Click the source channel number that you want to copy. To select many channels, click the first source channel, then drag over all the channels that you want to copy.
2. Click the [Copy] button at the bottom of the window. The settings of the waveform whose number has been selected (the waveform number is displayed in red) are copied.
3. Click the destination channel number. To select many channels, click the first destination channel, then drag over all the channels where you want to paste.
4. Click the [Paste] button at the bottom of the window. The copied settings are pasted to the copy destination. If the range of channels that you have copied is smaller than the range of channels at the copy destination, the sequence of settings in the range of channels that you have copied will be repeatedly pasted at the copy destination until the specified copy destination range is full.

You can also copy and paste specific channel items.

After selecting the copy source in step 1, click the [Copy Details] button to display the [Copy Details] dialog box.

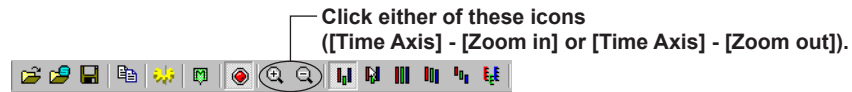
Select the items that you want to copy.

Setting the Time Axis

Selecting Absolute or Relative Time Display

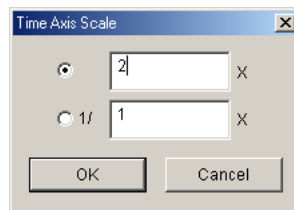
On the menu bar, select [Time Axis] - [Absolute Time] or [Time Axis] - [Relative Time]. If you select [Relative Time], the elapsed time from the first data point of the waveform is displayed.

Expanding and Reducing the Time Axis



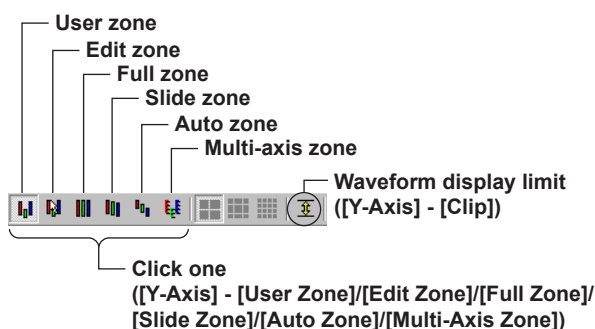
If you select [Time Axis] - [All] on the menu bar, the time axis is expanded or reduced so that all the data is displayed. To manually set the magnification, follow the procedure below (the settable range is 1/1000 to 20 times).

1. On the menu bar, select [Time Axis] - [Set Scale].
The [Time Axis Scale] dialog box appears.
2. Enter the magnification, and then click the [OK] button.



Setting the Y-axis

Selecting the Waveform Display Zone



Select from the following list of choices:

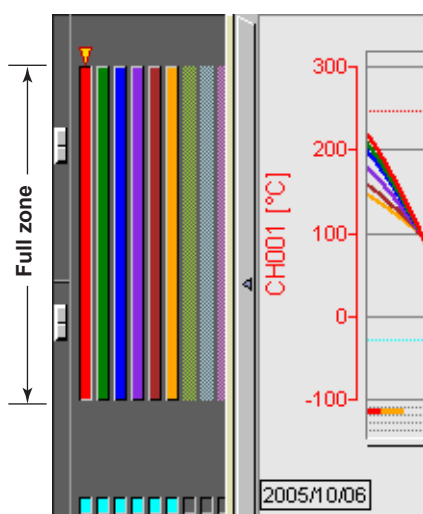
- User zone: Each waveform is displayed in the range specified in [Zone] under the [General Display Setting] (the zone cannot be changed on the waveform display screen).
- Edit zone: Each waveform is displayed in the range specified in [Zone] under the [General Display Setting] (the zone can be changed on the waveform display screen).
- Full zone: Display all waveforms using full zones.
- Slide zone: Display the waveforms in a cascade fashion from the top to the bottom of the waveform display area.
- Auto zone: Display the waveforms by equally dividing the waveform display area by the number of displayed waveforms.
- Multi-axis zone: Display the Y-axis of multiple waveforms.

Note

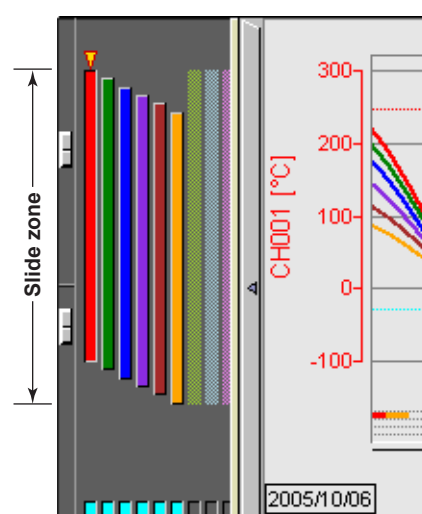
If the waveform display zone is set to some setting other than multi-axis zone and auto zone, only the Y-axis of the active waveform is displayed.

Examples of the Various Zone Settings

- Full zone

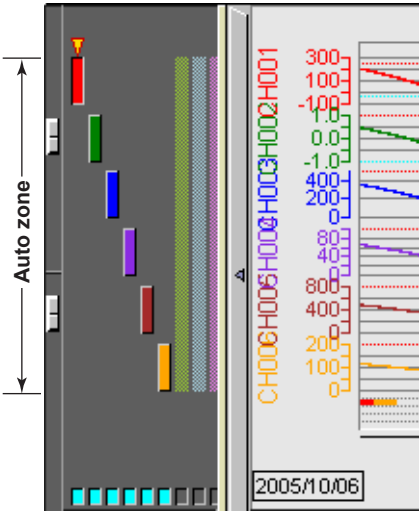


- Slide zone

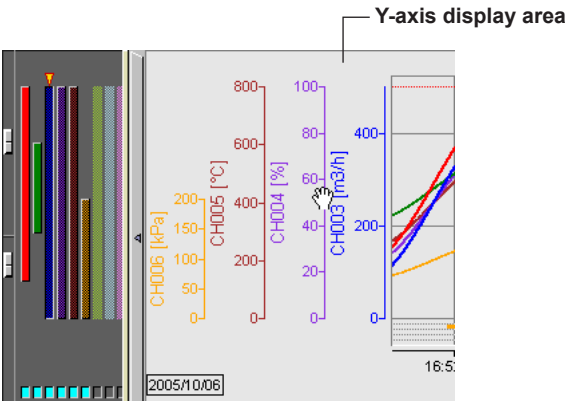


2.2 Displaying the Waveform

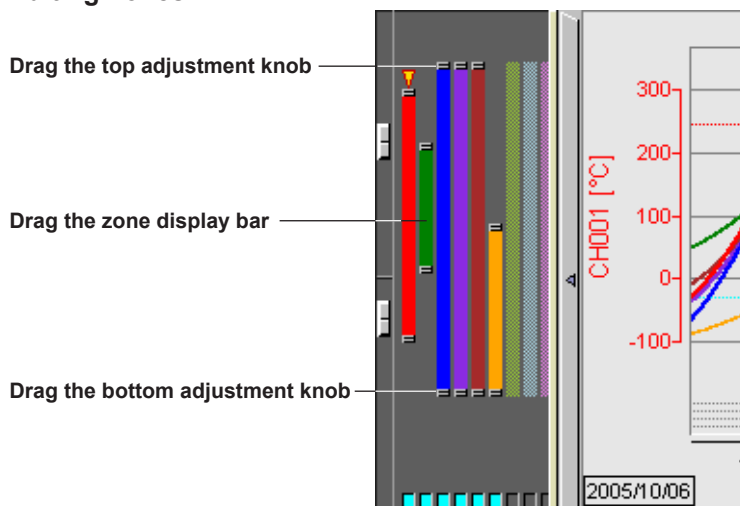
- Auto zone



- Multi-axis zone



Editing Zones

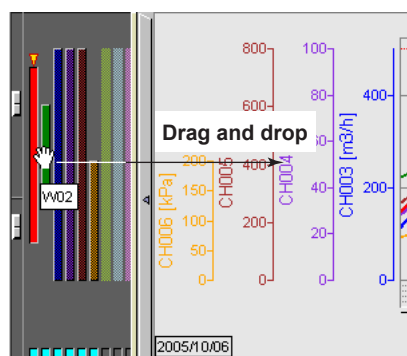


You can change the waveform display zone on the waveform display screen by clicking the edit zone icon on the tool bar or by selecting [Y-Axis] - [Edit Zone] in the menu bar. The size of the zone can be changed by dragging the top and bottom adjustment knobs. The entire zone can be moved by dragging the zone display bar. The zones that are set in [Edit Zone] are reflected in the [Zone] setting of the [General Display Settings].

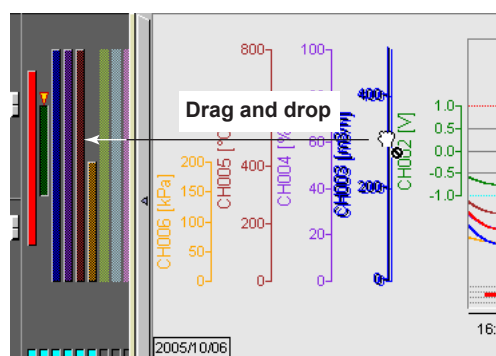
Displaying Multiple Y-axis

When multi-axis zone is selected, the Y-axis scales corresponding to the [Y-Axis] boxes in the [General Display Settings] that are checked will be displayed.

- Adding a Y-axis



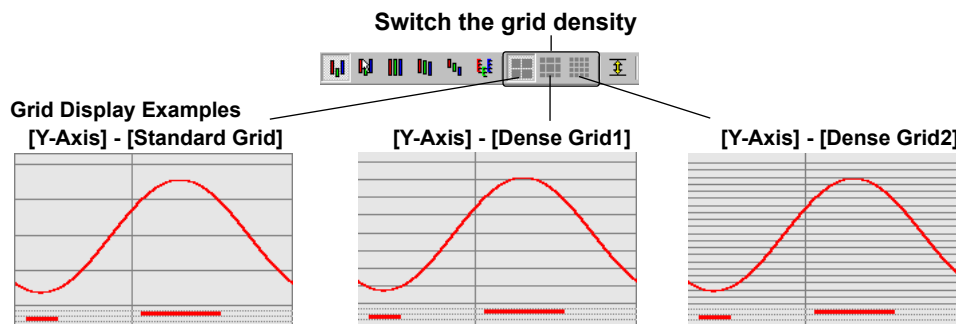
- Deleting a Y-axis




2.2 Displaying the Waveform

Changing the Grid Display

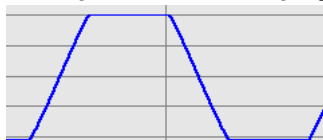
To select the grid type, click one of the grid density icons on the toolbar, or click [Y-Axis] on the menu bar.



Waveform Display Limit (clip)

To enable the waveform display limit, click the clip icon () on the toolbar, or select [Y-Axis] - [Clip] on the menu bar. When the limit is enabled, the waveform's Y-axis display range is limited to the minimum and maximum values that you have set under [General Display Settings] - [Scale]. Measured values that are less than the minimum value are set to the minimum value and values that are greater than the maximum value are set to the maximum value.

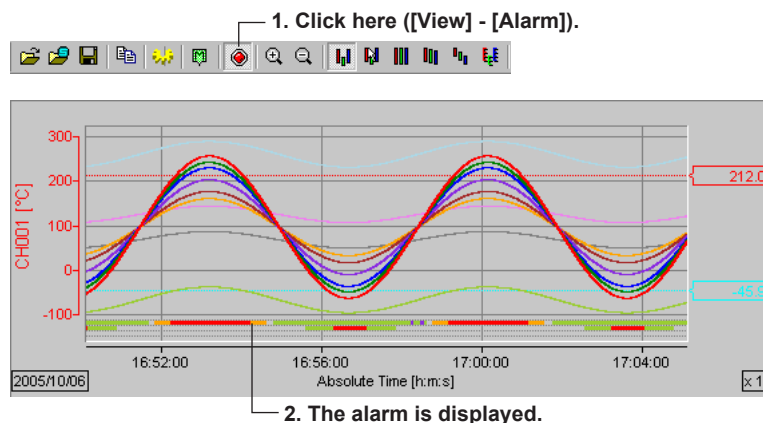
- **Example in which Display Limit is Enabled**



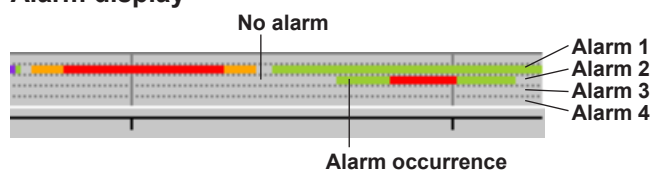
- **Example in which Display Limit is Disabled**



Turn ON/OFF the Alarm Display



Alarm display



Waveform Labels (Selecting the channel identification strings)

You can set what kind of labels are used to display channels by selecting [View] - [Channel No.] to specify channel numbers or [View] - [Tag] to specify tags.

Register labels from the FX front panel or by using the Hardware Configurator.

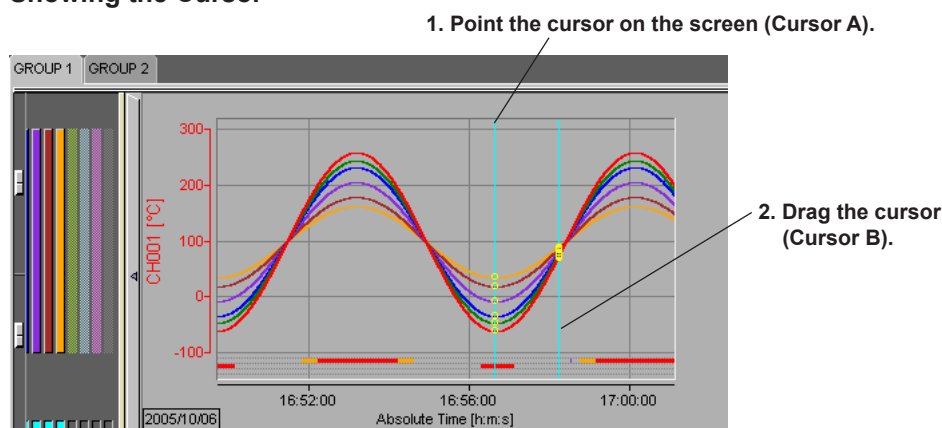
Note

- The label setting (channel number or tag) is common to all the following windows: Waveform display window, circular display window, numeric display window, list display window, [Control] window, [Statistics] window, [General Display Setting] dialog box, channel selection dialog box, and data conversion dialog box
- Channel number and tag displays
If you reduce the size of a waveform display window, labels may not be displayed in their entirety. Labels are displayed in their entirety on all other windows.
- If you convert measured data to Excel or other formats, the converted files contain channel numbers and tags.

Showing/Hiding Cursors

Cursors indicate the data range. Use the cursors when you want to read values or attach marks.

Showing the Cursor

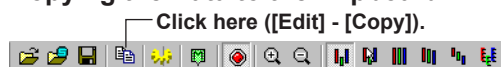


Select [Edit] - [Select All] on the menu bar to move cursor A to the beginning of the data and cursor B to the end of the data.

Hiding the Cursor

Select [Edit] - [Erase Cursor] on the menu bar.

Copying the Data to the Clipboard




On the numerical window and list display window (section 2.6), you can copy the data between Cursor A and Cursor B to the Windows clipboard. On the waveform display window and circular display window, the displayed image can be copied to the clipboard.

Note

- The maximum number of data points that can be copied to the clipboard is 1000.
- The channels that are copied to the clipboard are those that are registered in the selected group with the waveform display turned ON.
- When the display mode of the time axis is set to absolute time, the absolute time is output. If it is set to relative time, the relative time from the first data point is output.
- Contents that have been copied to the clipboard can be pasted to other applications for use.

Displaying the Cursor Values

1. Click here ([Window] - [Control]).



2. The [Control] dialog box opens.

The values of Cursor A and B on the waveform display screen

Control[001509_SAMPLE110524_151718.DAD,...001517_SAMPLE110524_190616.DAD:...			
	Cursor A	Cursor B	Difference
Data No.	1534	1622	88
Absolute Time	2011/05/24 17:51:22.000	2011/05/24 17:54:18.000	00:02:56.000
Channel	Value A	Value B	Value B-A
CH001 [V]	Max 1.8410	1.8733	0.0323
	Min 1.8341	1.8671	0.0330
CH002 [V]	Max 1.9805	1.6282	-0.3523
	Min 1.9780	1.6180	-0.3600
CH003 [V]	Max 1.9871	1.2721	-0.7150
	Min 1.9850	1.2586	-0.7264
CH004 [V]	Max 1.8608	0.6293	-1.0315
	Min 1.8543	0.6134	-1.0409

Cursor movement button

Alarm display
(Displays the conditions of alarm 1, 2, 3, and 4 from the left)

A list of Cursor A and B values and their differences on the waveform display screen is displayed. You can change the values of Cursor A and B by clicking the cursor movement buttons.

When the alarm display is turned ON, the alarm conditions are displayed. When an alarm is in effect, the indicator is red. When it is not, the indicator is green.


Displaying Numeric Values of Abnormal Data

- The abnormal data are displayed as follows:
- +OVER: Measured/computed data are over the positive limit
 - OVER: Measured/computed data are under the negative limit
 - LACK: Computation error or data dropout

Note When a cursor is not displayed on the waveform display screen, the cursor's value display area becomes blank. Difference becomes INVALID.

Displaying Statistics

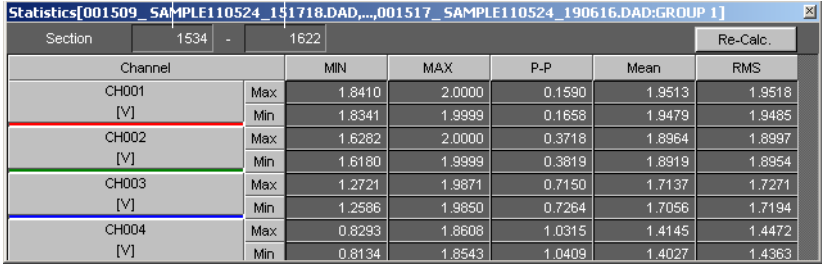
1. Click here ([Window] - [Statistics]).



2. The statistics display screen opens.

The first data number of the computed region (Cursor A)

The last data number of the computed region (Cursor B)



Note

$$RMS = \sqrt{\frac{1}{n} \sum_{k=0}^{n-1} (x_k)^2}$$

n : Number of data
x_k : value

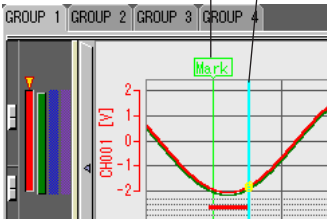
The minimum value, maximum value, P-P, mean, and rms value for each waveform in the range specified by Cursors A and B are computed and displayed. If the cursor is not displayed, the computation is performed over the entire data.

As the results of the computation do not update automatically, you must click the [Re-Calc.] button in the [Statistics] dialog box to update the computed results if you change the position of Cursor A or B.

Adding Arbitrary Marks

1. Using the mouse, click the position that you want to add an arbitrary mark at.

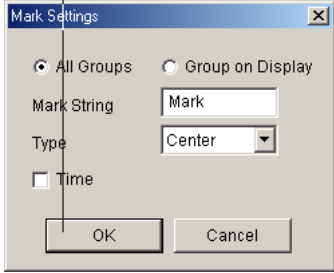
Arbitrary mark



2. Click here ([Edit] - [Append Mark]).

3. The [Mark Settings] dialog box opens.

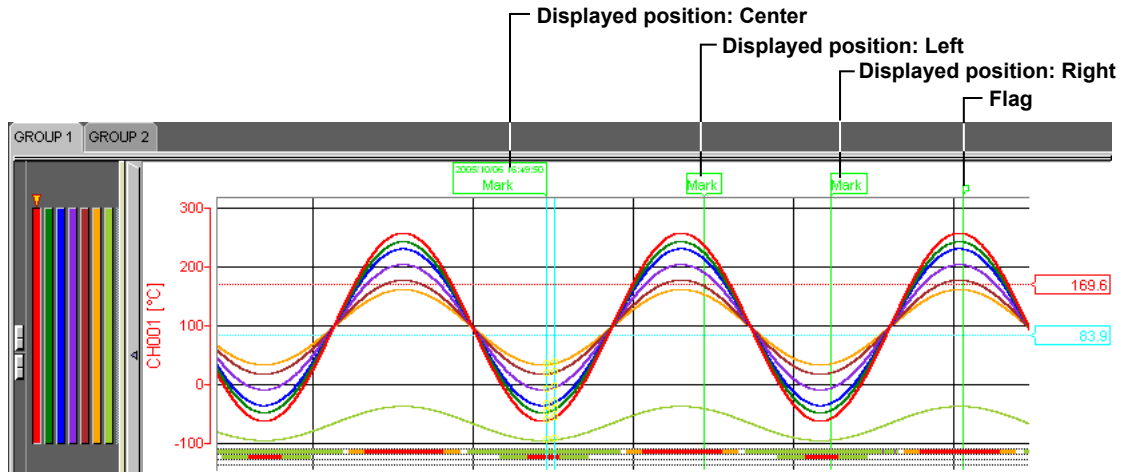
4. After entering the string, selecting the displayed position, or selecting whether the time is displayed, click the [OK] button.



When Cursor A and Cursor B are at the same position, arbitrary marks can be placed. You can select whether to put the arbitrary marks on all groups or only on the displayed group. And you can set the displayed position of the mark and select whether the time is displayed by the mark.

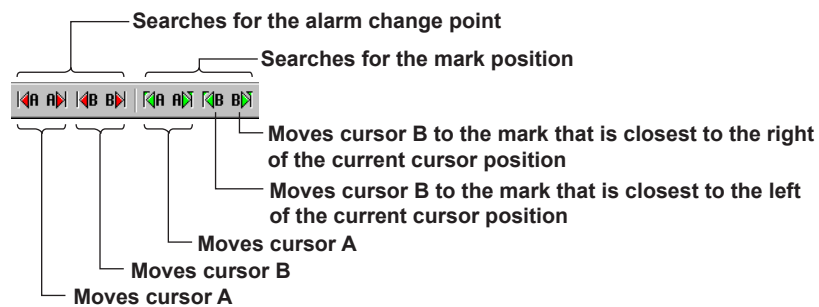
The displayed time is either the absolute time or relative time depending on the time axis setting.

2.2 Displaying the Waveform



If you left-click the mark while pressing the “Ctrl” key, the mark is displayed in front.
If you left-click the mark while pressing the “Shift” key, the mark is displayed in the back.
Double-clicking a mark, that has been created using the Data Viewer, opens the [Mark Settings] dialog box in which you can change the displayed group and the mark name.

Searching the Alarm Transition Point and Mark Position



Searching the Alarm Transition Point

Moves Cursor A or Cursor B to the alarm transition point (the point at which the alarm occurred and the point at which the alarm was released) of the active channel.
Searching is possible to the left and right of the cursor.

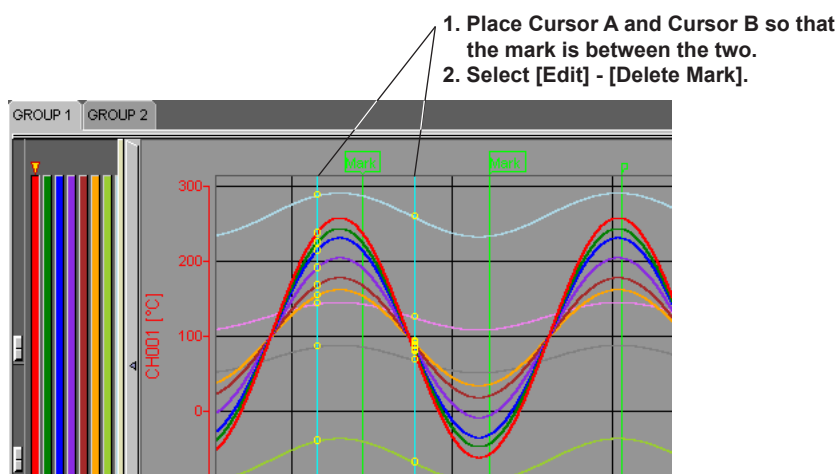
Searching the Mark Position

Moves Cursor A or Cursor B to the mark position (message, trigger mark, or arbitrary mark) of the active group.
Searching is possible to the left and right of the cursor.

Note

- The searching function cannot be used, if the cursor is not displayed.
- The search function cannot be used, if there are no arbitrary marks or when the alarm display is OFF.
- The following types of marks are available:
 - Message: Messages written on the recorder
 - Trigger mark: For each file, the trigger point at the start of recording
 - Arbitrary mark: Marks that have been created on the Data Viewer

Deleting Marks



The arbitrary marks (green/yellow) and trigger marks (yellow) between Cursor A and Cursor B are deleted.

Note

- The arbitrary marks placed on the Data Viewer are green. The arbitrary marks (messages) and trigger points placed on the recorder are yellow.
- Up to 32 characters can be used for a mark name.

Resetting Marks

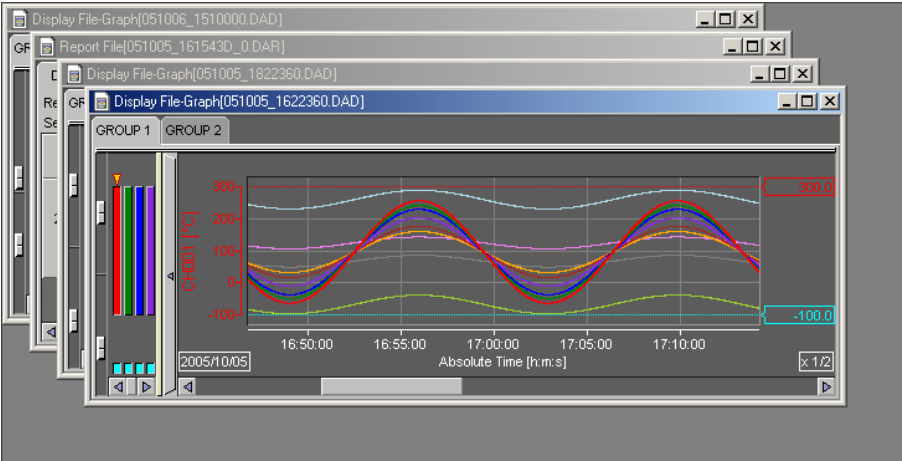
If you select [Edit] - [Reset Mark] on the menu bar, all the arbitrary marks that have been created on the Data Viewer will be deleted. The marks (messages) and the trigger point that were created on the recorder but deleted on the Data Viewer are displayed again.

2.2 Displaying the Waveform

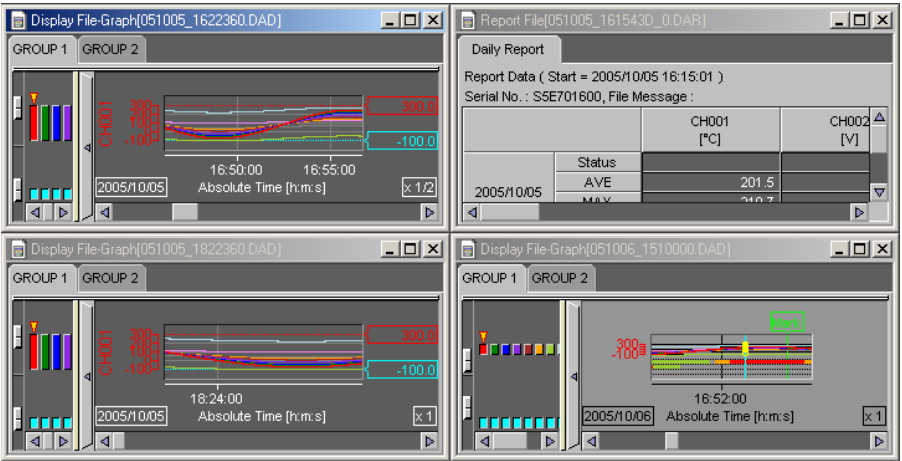
Setting the Window

Select [Window] - [Cascade], [Window] - [Tile], or [Window] - [Arrange Icons] on the menu bar.

• Example of a Cascading Display



• Example of a Tiled Display

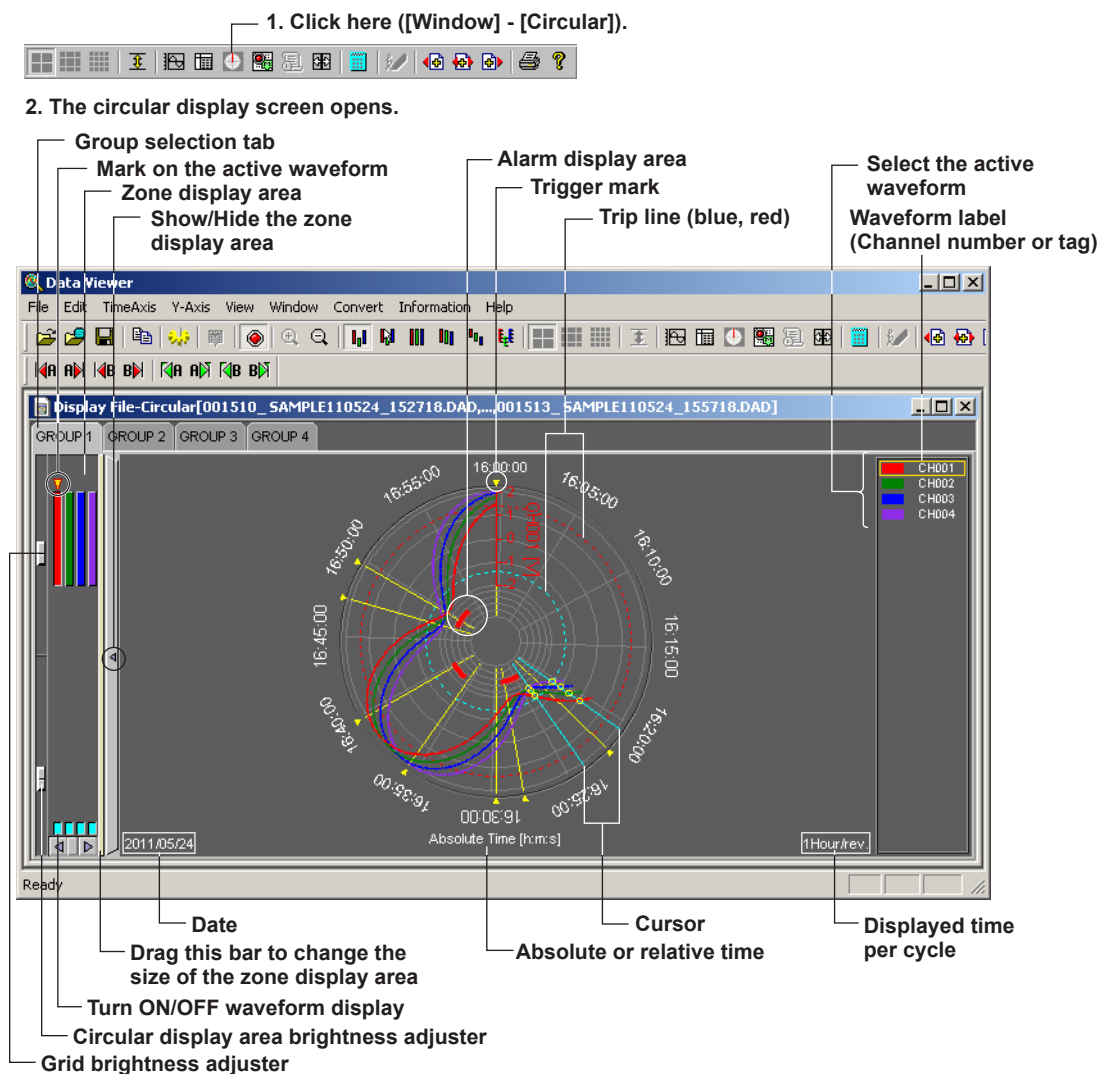


• Example of an Arranged Icon



2.3 Circular Display

Circular Display



General Display Settings

The parameters in the [General Display Settings] dialog box that are different between the circular display and the waveform display (section 2.2) are as follows:

Trip Line

You cannot drag the trip lines on the circular screen.

You can change the position of the trip lines by changing the values in the [General Display Settings] dialog box.

Setting the Time Axis

Selecting absolute or relative time display and zooming in or zooming out on the time axis.

See section 2.2, "Displaying the Waveform."

Selecting the displayed time

Specify the display time of a single cycle by setting the [TimeAxis] on the menu bar. The options are as follows:

[1 hour], [2 hours], [6 hours], [8 hours], [12 hours], [16 hours], [1 Day], [2 Days], [1 week], [2 weeks], and [4 weeks]

Setting the Y-axis

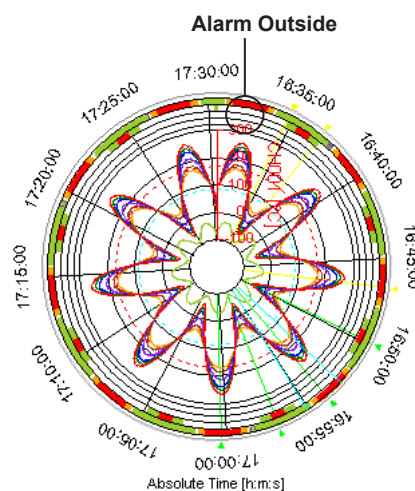
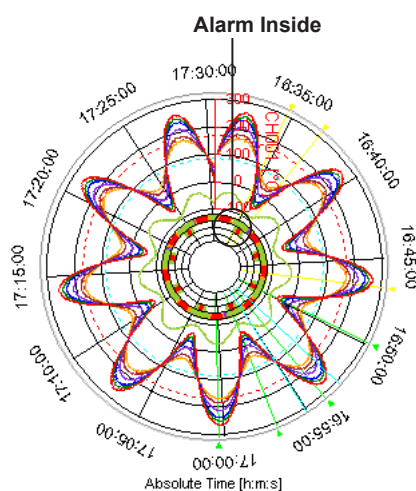
Setting Waveform Display Limits

The circular screen always displays the waveform that is limited to the values between the maximum and minimum values of the Y-axis display range. The range is set using [Scale] in the [General Display Settings] dialog box.

Turning ON/OFF the Alarm Display

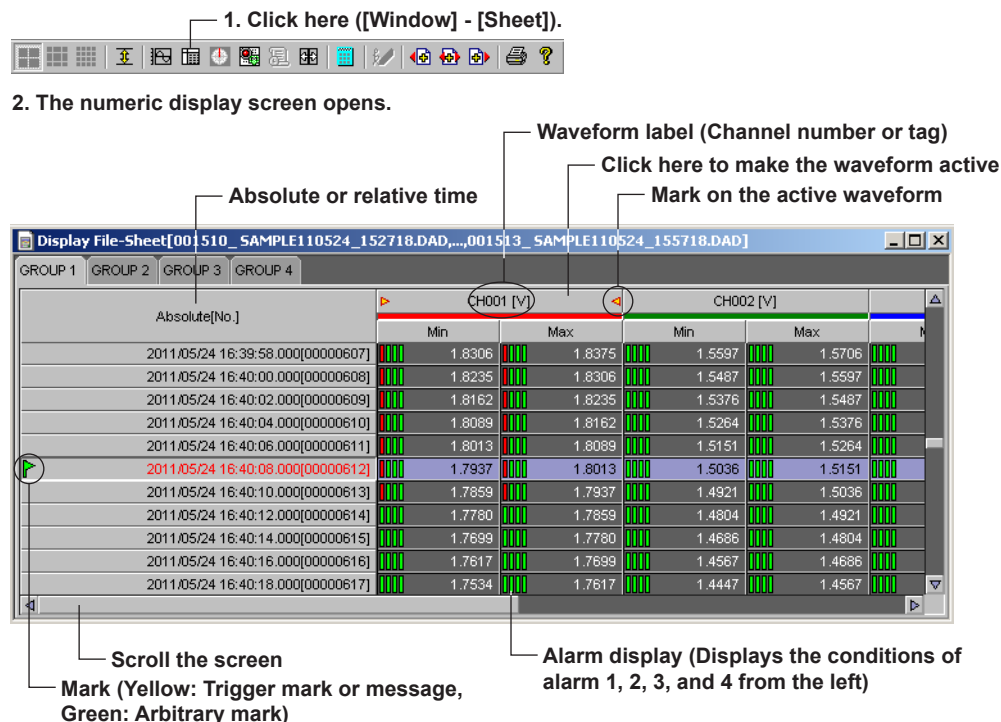
You can display alarms in the inside or outside of the circular screen's waveform display.

1. Click the alarm display icon on the toolbar, or select [View] - [Alarm] on the menu bar.
The alarms are displayed.
2. On the menu bar, select [View] - [Alarm Inside] or [View] - [Alarm Outside].



2.4 Displaying Numeric Values

Displaying Numeric Values



General Display Settings of the Numeric Display

Click the general display settings icon, or select [View] - [General Display Settings] on the menu bar to display the [General Display Settings] dialog box. Of the parameters in the [General Display Settings] dialog box, those that relate to the numeric display are as follows:

- Normal or Exponential display of numerical values
- Registering the channel and turn the display ON or OFF

For details related to the setting procedures, see "General Display Settings" in section 2.2, "Displaying the Waveform."

Setting the Time Axis

On the menu bar, select [View] - [Absolute Time] or [View] - [Relative Time].

Turn ON/OFF the Alarm Display

The alarm conditions of alarms 1 to 4 are displayed on the screen by clicking the alarm display icon or selecting [View] - [Alarm] and turning ON the alarm display. When an alarm is in effect, the indicator is red. When it is not, the indicator is green.

Waveform Labels (Selecting the channel identification strings)

For details, see "Waveform Labels (Selecting the channel identification strings)" in section 2.2, "Displaying the Waveform."

Showing/Hiding Cursors

Showing the cursor

1. Point the cursor (Cursor A)

Absolute[No.]	CH001 [V]		CH002 [V]	
	Min	Max	Min	Max
2011/05/24 16:39:58.000[00000607]	1.8306	1.8375	1.5597	1.5706
2011/05/24 16:40:00.000[00000608]	1.8235	1.8306	1.5487	1.5597
2011/05/24 16:40:02.000[00000609]	1.8162	1.8235	1.5376	1.5487
2011/05/24 16:40:04.000[00000610]	1.8089	1.8162	1.5264	1.5376
2011/05/24 16:40:06.000[00000611]	1.8013	1.8089	1.5151	1.5264
2011/05/24 16:40:08.000[00000612]	1.7937	1.8013	1.5036	1.5151
2011/05/24 16:40:10.000[00000613]	1.7859	1.7937	1.4921	1.5036
2011/05/24 16:40:12.000[00000614]	1.7780	1.7859	1.4804	1.4921
2011/05/24 16:40:14.000[00000615]	1.7699	1.7780	1.4686	1.4804
2011/05/24 16:40:16.000[00000616]	1.7617	1.7699	1.4567	1.4686
2011/05/24 16:40:18.000[00000617]	1.7534	1.7617	1.4447	1.4567

2. Drag the cursor (Cursor B).

Select [Edit] - [Select All] on the menu bar to move cursor A to the beginning of the data and cursor B to the end of the data.

Showing the Cursor Value, Displaying Statistics and Hiding the Cursor

For details, see “Displaying the Cursor’s values,” “Showing/Hiding Cursors,” “Displaying Statistics” in section 2.2, “Displaying the Waveform.”

Adding Arbitrary Marks, Deleting Marks, and Resetting Marks

For details, see “Adding Arbitrary Marks,” “Deleting Marks,” and “Resetting Marks” in section 2.2, “Displaying the Waveform.”

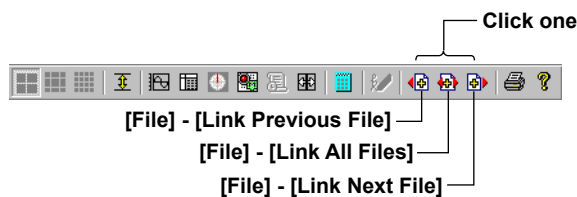
2.5 Linking Files and Saving the Link Settings File

Linking Files

You can link and display files that have been divided by the auto save function, power failures, or other means (factors) on the recorder.

The files that can be linked are those that exist in the same directory. You can use the toolbar or the menu bar to link files. Open the files that you want to link, and then follow the procedure below.

Using the Toolbar



Link Previous File

This links the current file to the previous file. Each time you press this icon, the next previous file is linked. When there are no files that can be linked, this icon is disabled.

Link Next File

This links the current file to the subsequent file. Each time you press this icon, the next subsequent file is linked. When there are no files that can be linked, this icon is disabled.

Link All Files

You can collectively link previous and subsequent files to the current file, and display them. All files available for linking are shown together in a display.

2.5 Linking Files and Saving the Link Settings File

Using the Menu Bar

On the menu bar, select [Window] - [Link] to display the [Link File] dialog box.

2. Select [Prev] (previous file), [Next] (subsequent file), or [All] (all files).

Link File

PrevNextMakeAll

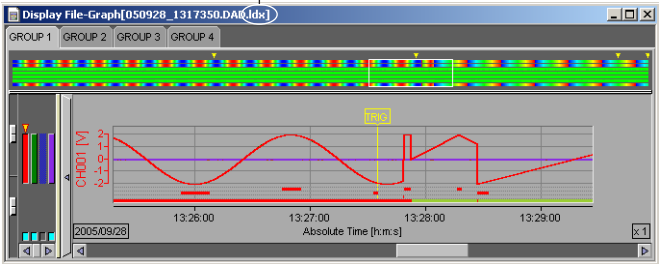
File	Start	End
050928_1307350.DAD	2005/09/28 13:07:35.500	2005/09/28 13:17:35.000
050928_1317350.DAD	2005/09/28 13:17:35.000	2005/09/28 13:27:35.000
050928_1327350.DAD	2005/09/28 13:27:35.000	2005/09/28 13:37:35.000
050928_1337350.DAD	2005/09/28 13:37:35.000	2005/09/28 13:39:06.000

1. Click here (display files for linking).

3. Displays the linked files in a different color.

4. Displays the linked files.

When the link settings file is saved (see the next page), the extension .ldx is appended to the original file name.

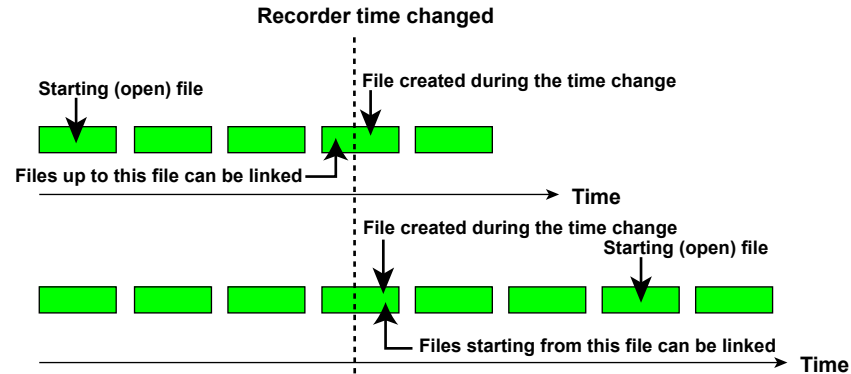


Note

- When linking and displaying files, make sure that the number of data points after linking does not exceed 5242880.
In addition, if there is a period over which data does not exist such as when a power failure occurs, data is counted as if the data is acquired at the given scan interval even during that period. The scan interval and the maximum period for linking files are indicated below.
- | Interval | Period |
|----------|------------|
| 25 ms | 36.4 hour |
| 125 ms | 7.5 days |
| 1 s | 60.6 days |
| 10 s | 606.8 days |

For example, if data is captured continuously at a 125-ms interval and there is a one or more week long power failure, the data from before and after the power failure cannot be linked and displayed.

- If you open a file that was created prior to a time change on the recorder and then link subsequent files, files from the open file up to the point of the time change are linked. If you open a file that was created after a time change on the recorder and then link previous files, files starting from the point of the time change are linked.



- The linked data display is based on the time of the starting file.

How the Number of Data Points in Linked Files Is Calculated

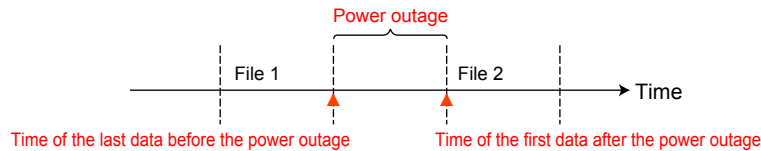
This section explains how the number of data points in linked files is calculated.

Calculation Method When No Data Is Missing

When there have been no power outages or time changes, the number of data points is calculated according to the data start and end numbers of each unit of data.

When there has been a time change, any time changes within connected files are ignored, and the number of data points is calculated according to the data start and end numbers of each unit of data. When there has been a power outage, blank data is inserted. The number of inserted blank data points is determined by the following formula.

$$[\text{Number of inserted blank data points}] = \frac{[\text{Time of the first data after the power outage}] - [\text{Time of the last data before the power outage}]}{[\text{Acquisition period}]} - 1$$



Saving the Link Settings File

The link settings are saved to the link settings file (the extension is .ldx). The procedure is the same as the procedure to save display settings. See section 2.9, "Saving the Display Settings."

Displaying Linked Files

When you open an .ldx file, the linked files are displayed.

Note

Files with the extension .ldx contain only link settings. To reopen a linked file, you must have the original data file.

2.6 Listing Alarms, Marks, and Control Modes, and Converting the List

A list of alarms, marks, and control modes is displayed with the display data file or event data file opened.

1. Click here([Window]-[Alarm/Mark]).



2. The [Display File List] dialog box opens.

3. Click the [Alarm List] tab.

The area that you select by dragging the mouse pointer on this screen and the area that you select by using the cursors on other screens are linked.

	High limit alarm		Delay high limit alarm
	Low limit alarm		Delay low limit alarm
	High limit on rate-of-change alarm		Difference high limit alarm
	Low limit on rate-of-change alarm		Difference low limit alarm

3. Click the [Mark List] tab.

The area that you select by dragging the mouse pointer on this screen and the area that you select by using the cursors on other screens are linked.

	Trigger mark
	Messages (mark created on the recorder)
	Arbitrary mark (mark created on the Data Viewer)

2.6 Listing Alarms, Marks, and Control Modes, and Converting the List

Click a label on the [Alarm List] display screen to sort using the label. The first click will sort the list in the ascending order; the second click will sort the list in the descending order.

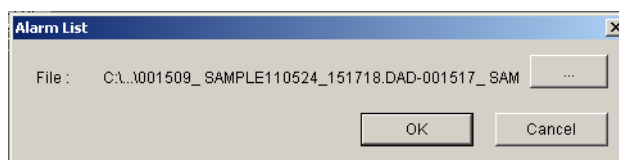
Note

- The alarms or marks in the range specified by the cursors on the waveform, circular, or numeric display are displayed in light blue when you select the [Alarm List] or [Mark List] tab.
- You can change the order of the items displayed in light blue by sorting the entries in the [Alarm List] tab by anything other than [Absolute Time] or [Relative Time]. In this situation, the yellow lines that indicate the cursor positions on the waveform, circular, or numeric display are not displayed on the [Alarm List] tab.

Converting the Alarm or Mark List

You can convert the alarm list or mark list to Excel, ASCII, or Lotus format.

On the menu bar, select [Convert] - [Alarm To] to display the [Alarm List] dialog box or [Convert] - [Mark To] to display the [Mark List] dialog box.



Click the [...] button.

The [Save As] dialog box appears. Set the file name, and then click the [OK] button. The [Save As] dialog box closes.

Click the [OK] button in the [Alarm List] or [Mark List] dialog box.

For details on the format of the files that are produced by the conversion, see section 2.11.

2.7 Viewing Manual Sampled Data Files

This section explains how to view the manual sampled data files.

Click the [Open] icon on the toolbar, or select [File] - [Open] on the menu bar. In the [Open] dialog box, select a manual sampled data file. The extension of manual sampled data files is “.DAM.”



Serial No. S5E701629

Date Time	CH001 V	CH002 V	CH003 V	CH004 V	CH005 V	CH006 V	CH
2011/05/24 15:30:11	-1.1038	-1.4979	-1.7898	-1.9598	-1.9962	-1.8966	
2011/05/24 15:33:30	-1.9861	-1.9793	-1.8375	-1.5706	-1.1966	-0.7411	
2011/05/24 15:36:36	-1.5376	-1.1542	-0.6922	-0.1830	0.3386	0.8373	
2011/05/24 15:43:36	1.6332	1.8763	1.9916	1.9711	1.8162	1.5376	

Date/time of manual sampling

2.8 Viewing Report Files

This section explains how to view report files.

Click the [Open] icon on the toolbar, or select [File] - [Open] on the menu bar. In the [Open] dialog box, select a report file. The report file name extension is .DAR.

Displaying Report Data Values

The following figure is an example in which hourly report and daily report are stored in a single report file.

Date Time	Data Kind	CH001 V	CH002 V	CH003 V	CH004 V
2011/05/24 18:00:00	Status	Cg	Cg	Cg	Cg
	Ave	1.2449	0.9748	0.6382	0.2582
	Max	2.0000	2.0000	2.0000	1.9739
	Min	-0.5596	-1.0375	-1.4447	-1.7534
	Sum	7.083632E+02	5.546574E+02	3.631516E+02	1.468966E+02
2011/05/24 19:00:00	Status	PwCg	PwCg	PwCg	PwCg
	Ave	-0.0885	-0.0244	0.0413	0.1042
	Max	1.6629	1.8938	1.9957	2.0000
	Min	-1.8013	-1.9649	-2.0000	-2.0000
	Sum	-3.699860E+01	-1.021510E+01	1.726450E+01	4.356770E+01
2011/05/24 19:07:45	Status				
	Ave	1.5261	1.2951	0.9759	0.5902
	Max	2.0000	2.0000	2.0000	1.9538

Status

The following characters are displayed in Status.

Character String	Meaning
Er	<p>A measurement or computation error occurred during the period over which the report was created.</p> <p>Note: "Er" is displayed for the following types of channels:</p> <ul style="list-style-type: none"> Channels that are set to Log scale (the report computation result will be an error). Math channels whose reference channels are set to Log scale (the computation result will be an error).
Ov	An over range or computation overflow occurred during the period over which the report was created.
Pw	A power failure occurred during the period over which the report was created.
Cg	The time was changed during the period over which the report was created.
Bo	The burn out occurred during the period for the report.

2.8 Viewing Report Files

- **[Hourly] Tab**
Displays hourly reports in the file.
- **[Daily] Tab**
Displays daily reports in the file.

Date Time	Data Kind	CH001 V	CH002 V	CH003 V	CH004 V
2011/05/24 19:07:45	Status	PwCg	PwCg	PwCg	PwCg
	Ave	0.3451	0.3040	0.2421	0.1637
	Max	2.0000	2.0000	2.0000	2.0000
	Min	-2.0000	-2.0000	-2.0000	-2.0000
	Sum	1.541923E+03	1.358093E+03	1.081711E+03	7.316108E+02

- **[All] Tab**
Displays all reports in the file.

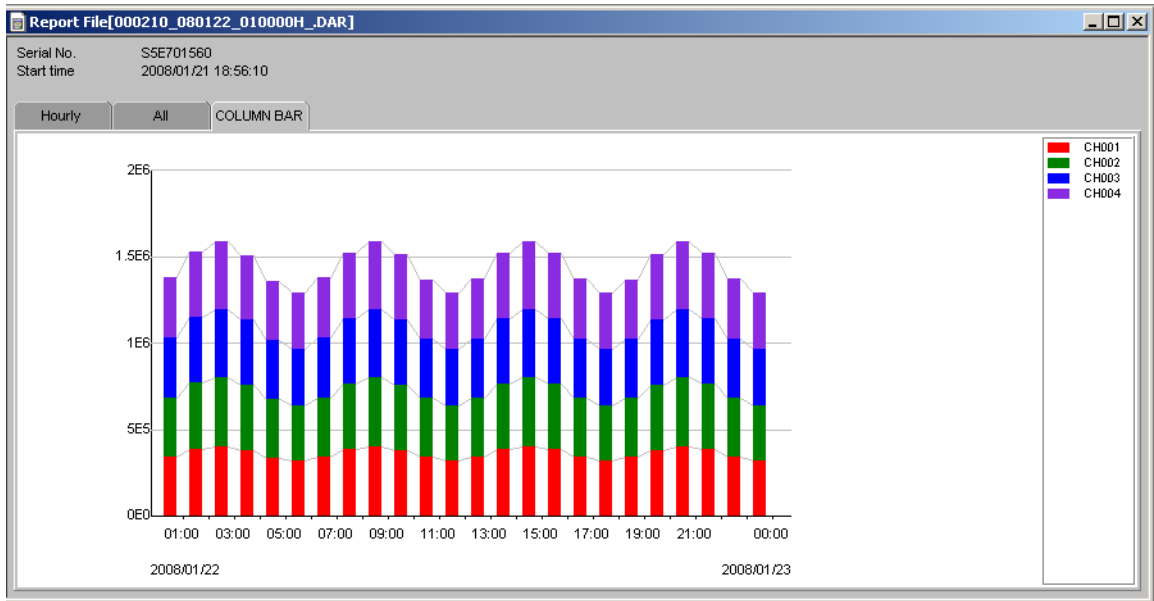
Date Time	Report kind	Data Kind	CH001 V	CH002 V	CH003 V	CH004 V
2011/05/24 16:00:00	Hourly	Status				
		Ave	0.0764	0.0183	-0.0410	
		Max	2.0000	2.0000	2.0000	
		Min	-2.0000	-2.0000	-2.0000	
		Sum	1.956366E+02	4.701700E+01	-1.050092E+02	-2.49
2011/05/24 17:00:00	Hourly	Status	Cg	Cg	Cg	
		Ave	-0.0737	0.3658	0.7803	
		Max	1.6180	1.8671	1.9890	
		Min	-1.7143	-1.3693	-0.9696	
		Sum	-3.339270E+01	1.656898E+02	3.534805E+02	5.17
		Status	Cg	Cg	Cg	
		Ave	1.2449	0.9748	0.6382	

Displaying a Stacked Bar Graph of Report Data

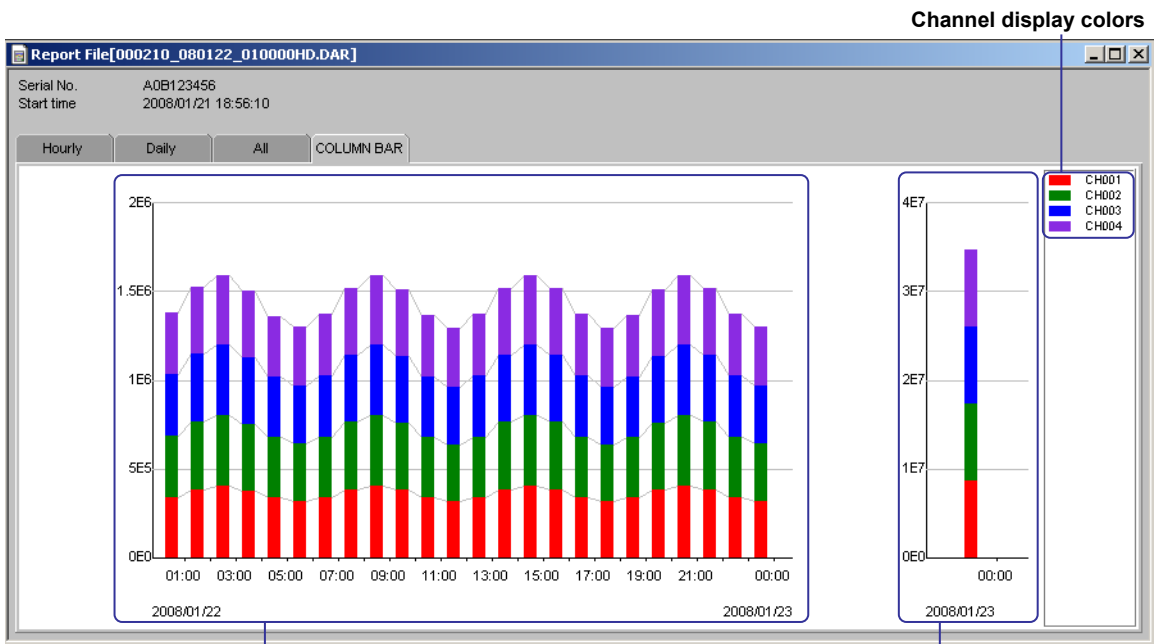
You can display report data on a stacked bar graph (only when stacked bar graph data is available). Click the [COLUMN BAR] tab.

• If the report data type is hourly

The example below shows a stacked bar graph of hourly reports for channels 001 to 004.



• If the report data type is hourly + daily



Hourly
Displays hourly for hourly + weekly
Displays hourly for hourly + monthly

Daily
Displays weekly for daily + weekly
Displays monthly for hourly + monthly

Note

- The channel colors are fixed. You cannot change them.
- All channels in the report file are displayed on one screen.
- Channels containing errors, overflow, or negative values are not displayed.

2.9 Saving the Display Settings

Display Settings

You can save the display data file and event data file display settings to a file. You can then display a data file with the display settings that you previously saved. The following display settings can be saved:

- Print comment
- Cursor A and Cursor B positions¹
- ON/OFF condition of the clipping of the displayed waveform
- Settings specified in the General Display Settings
- Mark information
- Zoom rate of the time axis
- Display mode of the time axis (absolute/relative)
- Waveform display area
- Grid type
- The channel identification string mode (channel/tag/tag number)
- ON/OFF condition of file information items (see section 2.1)
- The background and grid color of the waveform display area
- Y-axis zone setting
- The active waveform
- The height of the color overview of each group
- The width of the zone display area of each group
- Show/Hide condition of the zone display area
- Selected group
- ON/OFF condition of the alarm display
- Position of the display screen

¹ If there is only one cursor (cursor A or B) in the data, the cursor positions of cursor A and B are saved as the position of that cursor.

Viewing Data Files

When One File Is Opened

When you open a display data file or an event data file, the saved display settings are applied to display the file. If you do not want to apply the saved display settings, delete the display settings file, and then open the data file.

When an .Idx File Is Opened

The display settings and the file link settings are applied, and the linked files are displayed.

When Files Are Linked

The .Idx file is displayed as-is.

Saving the Display Conditions

The display settings are saved to a different .vdx file for each data file. The display settings for the linked files are saved to an .ldx file (a link settings file). Display settings files are saved to the same directories as their corresponding data files. The display settings files are overwritten each time that the settings are saved.

Operation

- [Save Display Setting]



- Saving Display Settings When the Data File Window Is Closed
When you close the window, a confirmation window is displayed.
- [Save Display Setting As]
On the menu bar, select [File] - [Save Display Setting As]. You can only perform this operation when you have linked multiple files together.

Display Settings File

The display settings are saved to files as shown in the following table.

Operation	[Save Display Setting] or Save Display Settings When the Window Is Closed	[Save Display Setting As]
Status		
When one file is open	The file name is the name of the data file with the ".vdx" extension appended to it. Example: 000123_.DAD.vdx	This operation is not possible.
When a single file is opened and linked to another file	The file names are the names of the data files with the ".vdx" extension appended to them. (However, only the display settings files of the data files that contain the changed mark information and the display settings file of the link reference file ¹ are created.)	An .ldx file is created. ²
When an ldx file is opened.	The .ldx file that was opened is overwritten.	

¹ If you open a single file and then link it to another file, the file that you opened first is the link reference file.

² The initial file names are determined as shown below.

- If a batch number and lot number are attached, the file name is (Batch number)-(Lot number).ldx.
- If the batch number is blank and a lot number is attached, the file name is -(Lot number).ldx.
- If a batch number is attached and there is no lot number, the file name is (Batch number).ldx.
- If the batch number and lot number are both blank and the names of the first and last files are "A.DAE" and "Z.DAE," the file name is "A.DAE-Z.DAE.lsx."

2.9 Saving the Display Settings

The images below show how display conditions and link information are saved.

Illustration of How Display Conditions Are Saved to .vdx Files

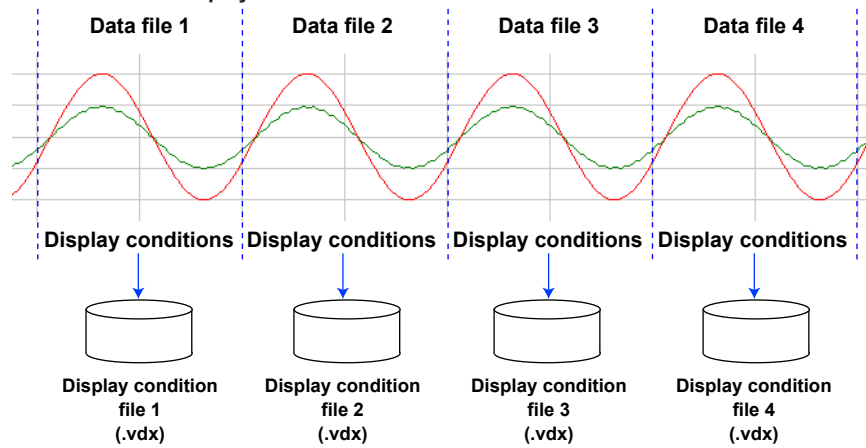
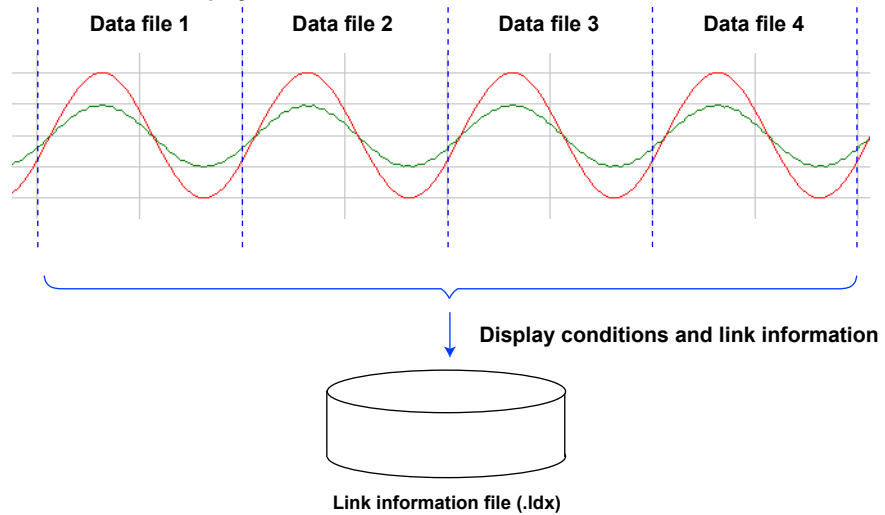


Illustration of How Display Conditions and Link Information Are Saved to .idx Files



2.10 Saving Display Template

Saving Templates

On the menu bar, select [File] - [Save Template]. The current display settings are saved as a template file. The template file is saved with the name default.tdx in the folder of the currently displayed data.

The following information is saved in the template.

- Print comment
- Y-axis zone setting
- ON/OFF condition of the clipping of the displayed waveform
- Settings specified in the General Display Settings
- The width of the zone display area of each group
- Zoom rate of the time axis
- Display mode of the time axis (absolute/relative)
- Waveform display area
- Grid type
- The channel identification string mode (channel/tag)
- ON/OFF condition of file information items (see section 2.1)
- The background and grid color of the waveform display area
- The width of the zone display area of each group
- The active waveform
- The height of the color overview of each group
- The grid density
- Show/Hide condition of the zone display area
- Selected group
- ON/OFF condition of the alarm display
- Position of the display screen

Using Templates

On the menu bar, select [File] - [Use Template].

- If there is no display settings file, the information from the template file that is in the same folder is used to display the data file.
- If there is a display settings file, the information in the display settings file is used to display the data file.

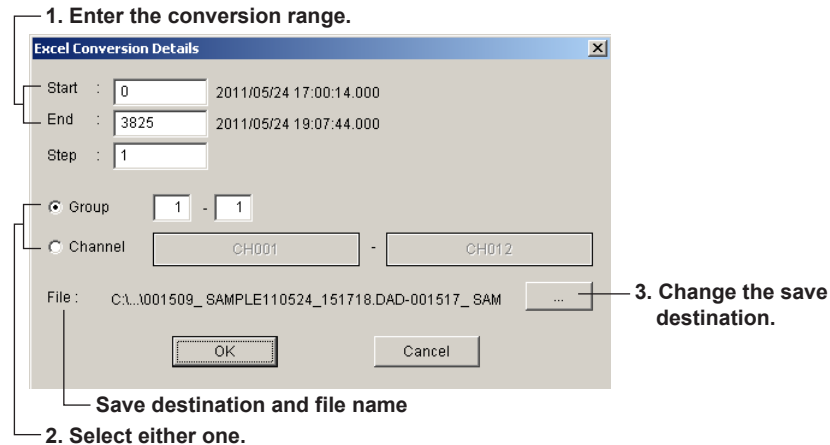
If you do not want to use a template, select [File] - [Use Template] again on the menu bar to clear the selection.

2.11 Converting the Data

Measured data can be converted into ASCII, Lotus, and Excel formats.

On the menu bar, select [Convert] - [To Excel], [Convert] - [To ASCII], or [Convert] - [To Lotus]. The [Conversion Details] dialog box appears.

When Viewing the Waveform Display or Digital Display



Start Point and End Point

Cursor A and Cursor B are used to set the start point and end point of the range, respectively. If Cursor A and Cursor B are not specified or the cursors were erased, the data numbers of the start and end points are automatically set to "0" and "total number of data points - 1", respectively.

To convert all the data in the specified range, set the step number to 1.

Step

To convert all the data in the specified range, set the step number to 1.

Group/Channel

If you select [Group], enter the range of groups to be converted.

If you select [Channel], enter the range of channels to be converted.

Changing the Save Destination

To change the destination folder or the name of the file containing the converted data, click the [...] button. The [Change the file name] dialog box opens. Select the save location, enter the file name, and then click the [OK] button.

Note

- The default group is set to the number of the group that is currently being displayed. The default channel is set to all channels.
- The name of the destination file is automatically set to the displayed file name followed by the extension that identifies the data format. For ASCII, Lotus, and Excel conversions, the file extensions [txt], [wrk] (can be loaded using version 2.0 or later), and [xls] (can be loaded by Excel 97 or later) are attached, respectively.
- There is a limit in the number of data points that Lotus1-2-3 and Excel can handle. For these programs, specify the number of data points to be converted before performing the conversion. Note that even if the number of data points to be converted is within the limits, it still may not be possible to load the data if there is not enough free memory available on the PC. If the limit is exceeded, perform automatic division prior to conversion. A serial number is attached to the file name.
- The conversion format of files with and without batch information differs.
- Do not specify an external storage medium as the save destination as it will take a long time for the save operation.
- Do not specify the root directory as the save destination.
- Prepare enough free space on the destination disk.

Conversion Example

ASCII conversion file

```

"DAQSTANDARD", "R9.01.01"
"Data Viewer", "R9.01.01"
"yokogawa", "NetSOLPMK", "116-99207-****"
"Device Type", "FX1000"
"Serial No.", "S5E701629"
"File Message", "sample"
"Time Correction", "Done"
"Starting Condition", "Auto"
"Dividing Condition", "Auto"
"Meas Ch.", 12
"Math Ch.", 0
"Ext Ch.", 0
"Data Count", 300
"Sampling Interval", 2.000, "sec"
"Start Time", "2011/05/24", "17:50:14", 0.000
"Stop Time", "2011/05/24", "18:00:12", 0.000
"Trigger Time", "2011/05/24", "18:00:12", 0.000
"Trigger No.", 299
"Damage Check", "Not Damaged"
"Started by", "[ Comm. In ]"
"Stopped by", "[ Running ]"
"Num. Of Converted Data", 300
"Num. Of Converted Ch.", 4
"Converted Group", 1, "-", 1
"Ch.", "CH001", "CH002", "CH003", "CH004"
"Tag", "", "", "", ""
"Unit", "V", "V", "V", "V"
"Date", "Time", "sec", "MIN", "MAX", "MIN", "MAX", "MIN", "MAX", "MIN", "MAX"
"2011/05/24", "17:50:14", 0.000, 1.5208, 1.5320, 1.8051, 1.8126, 1.9665,
"2011/05/24", "17:50:16", 0.000, 1.5320, 1.5432, 1.8126, 1.8199, 1.9696,
"2011/05/24", "17:50:18", 0.000, 1.5432, 1.5542, 1.8199, 1.8270, 1.9725,
"2011/05/24", "17:50:20", 0.000, 1.5542, 1.5652, 1.8270, 1.8341, 1.9753,
"2011/05/24", "17:50:22", 0.000, 1.5652, 1.5760, 1.8341, 1.8410, 1.9780,
"2011/05/24", "17:50:24", 0.000, 1.5760, 1.5867, 1.8410, 1.8477, 1.9805,

```

Excel conversion file

	A	B	C	D	E	F	G	H
1	DAQSTANDARD		R9.01.01					
2	Data Viewer		R9.01.01					
3	yokogawa		NetSOLPMK		116-99207-****			
4								
5	Device Type		FX1000					
6	Serial No.		S5E701629					
7	File Message		sample					
8	Time Correction		Done					
9	Starting Condition		Auto					
10	Dividing Condition		Auto					
11	Meas Ch.		12					
12	Math Ch.		0					
13	Ext Ch.		0					
14	Data Count		300					
15	Sampling Interval		2.000 sec					
16	Start Time		2011/05/24 17:50:14		0.000			
17	Stop Time		2011/05/24 18:00:12		0.000			
18	Trigger Time		2011/05/24 18:00:12		0.000			
19	Trigger No.		299					
20	Damage Check		Not Damaged					
21	Started by		[Comm. In]					
22	Stopped by		[Running]					
23								
24	Num. Of Converted Data		300					
25	Num. Of Converted Ch.		4					
26	Converted Group		1 -		1			
27								
28			Ch.	CH001		CH002		CH003
29			Tag					
30			Unit	V		V		V
31	Date	Time	sec	MIN	MAX	MIN	MAX	MIN
32	2011/05/24	17:50:14	0.000	1.5208	1.5320	1.8051	1.8126	1.9665
33	2011/05/24	17:50:16	0.000	1.5320	1.5432	1.8126	1.8199	1.9696
34	2011/05/24	17:50:18	0.000	1.5432	1.5542	1.8199	1.8270	1.9725
35	2011/05/24	17:50:20	0.000	1.5542	1.5652	1.8270	1.8341	1.9753
36	2011/05/24	17:50:22	0.000	1.5652	1.5760	1.8341	1.8410	1.9780
37	2011/05/24	17:50:24	0.000	1.5760	1.5867	1.8410	1.8477	1.9805
38	2011/05/24	17:50:26	0.000	1.5867	1.5972	1.8477	1.8543	1.9831

2.12 Printing

You can print a display data file, event data file, manually sampled data file, or report file.

Setting the Printer

1. On the menu bar, select [File] - [Print Setup].
2. Set the printer, paper and orientation.

Note

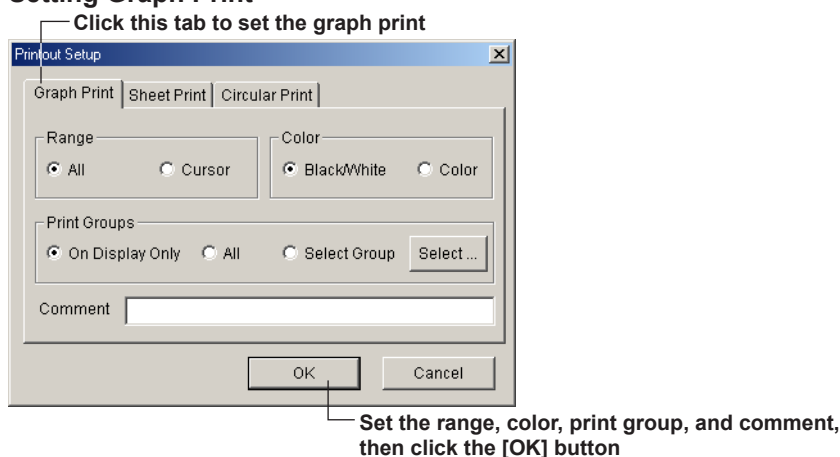
Set the printer according to the configuration of the system that you are using.

Specifying the Contents to Be Printed (for Display Data File and Event Data File)

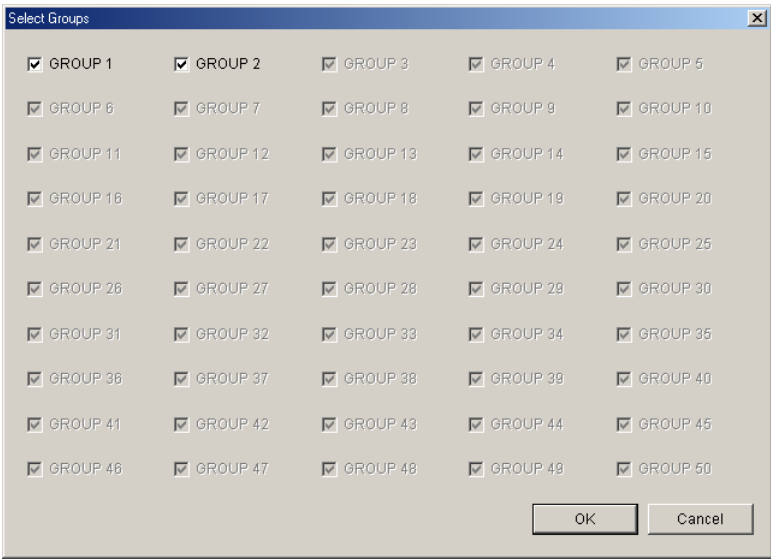
Specify the contents to be printed before executing the print. This setting is not necessary if you are printing a manually sampled data file, or report file.

On the menu bar, select [File] - [Print Settings] from the menu. The [Printout Setup] dialog box opens. When the waveform is displayed, printing is carried out according to the settings under the Graph Print tab of the [Printout Setup] dialog box. If numeric values are displayed, printing is carried out according to the settings under the Sheet Print tab.

Setting Graph Print

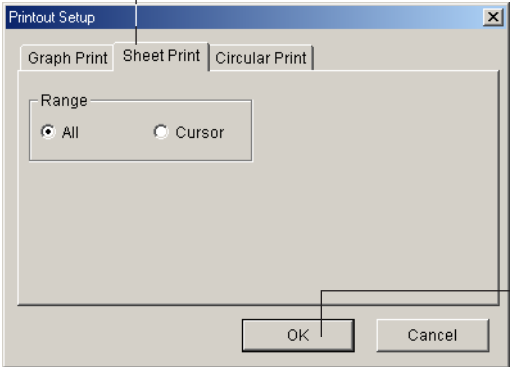


If you selected [Select Group], click the [Select] button. The [Select Groups] dialog box opens. Select the groups to be printed. Click the [OK] button to close the dialog box.



Setting Sheet Print

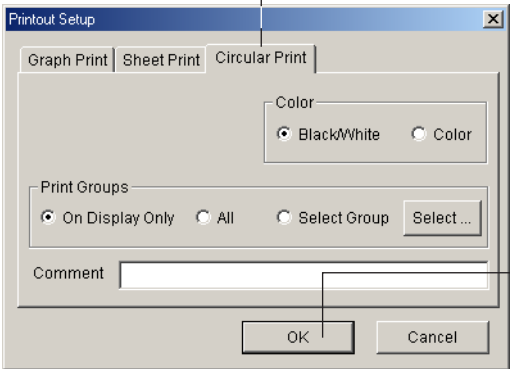
Click this tab to set the sheet print



Select the range to be printed, and click the [OK] button

Setting Circular Print

Click this tab to set the circular print



Select the range to be printed, and click the [OK] button

Note

- You can also use the [File Information] (see “Checking File Information” on page 2-3) to enter the [Comment]. When the print comment is entered or changed, it is reflected in the comment of [File Information] dialog box.
- Up to 127 characters can be entered in the [Comment] entry box. However, the number of characters that is actually printed is limited.
- If you set [Range] to [Cursor] in the [Printout Setup] dialog box, the range specified by the cursors will be printed. If the cursors are not being displayed, selecting this option is the same as selecting [All].

Header

A header can be printed when printing the waveform.

Of the items that are displayed in the file information dialog box ([Information] - [About Document]), those that are checked are printed in the header section. For details related to the file information, see section 2.1.

Print Preview

You can preview the print layout before actually printing the data.

On the menu bar, select [File] - [Print Preview] to display the print preview screen.

Note

- The preview screen will display the print image of the specified range.
- The file information is also displayed when previewing the graph. If the color overview, alarm, [Cursor value] window, and [Statistics] window are displayed, these are also displayed on the preview screen along with the graph
- For the print preview operation, see the instruction manual that came with your operating system.

Printing

1. Click the [Print] icon on the toolbar, or select [File] - [Print] on the menu bar. The [Print] dialog box appears.
2. Configure the settings, and then click the [OK] button.

3.1 Troubleshooting

Error Messages

Code	Message	Description	Corrective Action
E0002	Insufficient Memory. Please close at once.	–	Exit other programs then restart, or reboot the OS then restart.
E0211	Can't write to file.	There is insufficient space in the directory, or the file is being used by another program.	Check the free space in the directory. The file may be currently used by another program, so check it.
E0212	Can't read file.	The file does not exist, or there is a problem with the file system.	Check whether the file exists. Also check whether the file system is correct.
E0213	Can't open file.	The file does not exist, or there is a problem with the file system.	Check whether the file exists. Also check whether the file system is correct.
E0250	Failed to start Adobe Reader.	Adobe Reader 7 or more is required to see the user's manual.	Install Adobe Reader or confirm that Adobe Reader is already installed.
E3115	Too many data.	The number of data entries in the files that are to be linked exceeds 5,242,880 entries, so the files cannot be linked.	Decrease the number of files that you are linking.
E3118	Some files may be overwritten. Do you still want to continue?	The file may be corrupt.	Check the condition of the disk, and recover the file. Contact the administrator if you cannot solve the problem.

Index

A

abnormal data.....	2-16
about document.....	2-43
absolute time	2-10, 2-23
alarm display (data viewer).....	2-23
alarm display (trend monitor).....	2-22
alarm display, turning on and off.....	2-14
alarm list	2-28
alarm transition point	2-18
arbitrary mark	2-17
arbitrary marks, adding.....	2-17
auto zone.....	2-11

B

batch information	2-4
batch text	2-4

C

cascading	2-20
changing the destination folder.....	2-39
channel	2-38
channel identification strings, selecting	2-15
Channel No.....	2-15
circular	2-21
circular print.....	2-42
clip 2-14	
clipboard	2-15
color overview display	2-6
control mode list	2-28
conventions	iv
copy	2-9, 2-15
copyright.....	i
cursor, hiding	2-15
cursors, erasing.....	2-15
cursor, showing.....	2-24
cursor, showing (data viewer).....	2-15

D

DAQSTANDARD overview	1-1
data conversion	2-29
data, converting.....	2-38
Data Viewer	1-1
data viewer, exiting.....	2-5
data viewer, starting.....	2-1
delete the mark.....	2-19
display data file.....	2-1
display numeric value	2-23
display position	2-8
display range	2-8

E

edit zone	2-11
end point.....	2-38
error messages.....	3-1
event data file	2-1
expand.....	2-10
extension	2-1

F

file, basic information.....	2-4
file information, checking.....	2-3

file names	2-2
file names, processing of new	2-2
files that the data viewer can display.....	2-1
full zone	2-11

G

general display setting.....	2-7
graph print	2-41
group	2-38

H

hardware configurator.....	1-1
hardware (system requirements).....	1-2
header	2-43

I

icon, arranged.....	2-20
---------------------	------

L

LACK	2-16
linked files, displaying.....	2-27
link reference file	2-35
link settings file	2-1, 2-25
link settings file, saving.....	2-27
list of alarms	2-28
list of marks	2-28

M

manually sampled data file	2-1
manual sampled data file.....	2-30
manual, structure.....	iv
mark.....	2-17
mark list	2-28
mark position	2-18
marks, resetting	2-19
multi-axis zone.....	2-11

N

notes.....	i
------------	---

O

opening.....	2-2
over.....	2-16

P

paste.....	2-9
print.....	2-41
printer, setting	2-41
print preview	2-43
print, specifying the contents.....	2-41
products covered in this manual.....	iv

R

reduce.....	2-10
registering the channel	2-8
relative time	2-10, 2-23
report file.....	2-1
report file, displaying.....	2-31
revision history.....	iv

Index

S

save display setting as	2-35
scale value.....	2-8
select all.....	2-24
select group	2-42
sheet print.....	2-42
showing the cursor	2-15
signable units of data, opening.....	2-3
slide zone	2-11
stacked bar graph.....	2-33
start point.....	2-38
statistics.....	2-17
step.....	2-38

T

Tag 2-15	
templates	2-37
tiled	2-20
time axis, setting.....	2-10, 2-22, 2-23
trademarks.....	i
trip line	2-8

U

user zone.....	2-11
using templates	2-37

W

waveform, displaying	2-6, 2-21
waveform display limit	2-14, 2-22
waveform display, turning on and off	2-8
window, setting	2-20

Y

Y-axis, setting	2-11, 2-22
Y-axis, turning on and off.....	2-8
Y-axis, types	2-8

Z

zone.....	2-8, 2-11
zones, editing	2-13