Instruction Manual

DXA310
DAQ PharmBio

YOKOGAWA ◆

Yokogawa Electric Corporation

Foreword

Thank you for purchasing the DAQ PharmBio Software.

This manual explains how to use the software on Windows 95/98/2000 and NT4.0.

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

After you have read this manual, keep it in a safe place where it can be referred to anytime a question arises.

Notes

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How to Use this Manual

Structure of the Manual

This manual consists of the following five chapters and index.

Chapter	Title	Content
1	Before using the DAQ PharmBio	Explains the PC system environment required for use of the software. Also explains how to install it.
2	Launcher	Explains Launcher which is used to start the utility programs. Also explains how to set communications between the DX100/DX200 and your computer.
3	Hardware Configurator	Explains how to set measurement conditions of the DX100/DX200.
4	Troubleshooting	Gives a list of error messages and corrective measures.
Index		Gives a list of important terms used in this manual.

Range of Explanation in this Manual

This manual does not provide a description of basic operations of Windows 95/98/2000. For such descriptions, refer to the Windows User's Guide etc.

Conventions Used in This Manual

- **Unit**

  K .... Indicates "1024". (Example: 100KB)

- **Menus, commands, dialog boxes and buttons**

  Enclosed in [ ].

- **Note**

  Provides useful information regarding operation of the software.

Contents

Contents

Chapter 4　Troubleshooting

Index

1.1 Overview of the DAQ PharmBio

The DAQ PharmBio consists of the following three utility programs.
*   Launcher
*   Hardware Configurator
*   Data Viewer

Launcher
Launcher is provided to start the last two utility programs. It also allows you to set communication conditions between the DX100/DX200 and this DX Standard Software. Launcher and Data Viewer will be automatically registered to the Start menu of Windows when the DX Standard Software is installed.

Hardware Configurator
Allows you to set the DX100/DX200 hardware (measurement/math channels, display method etc.). It also allows transfer of the setup data to the DX100/DX200 and saving it to the personal computer's hard disk. Setup data can be set by the following three methods.

(1) Receiving the setup data from the DX100/DX200 currently connected to the PC

(2) Loading existing setup data

(3) By configuring a system

Data Viewer(Refer to IM04L01B02-61E)
Displays the following three types of data generated by the DX100/DX200 and prints them. The data can be displayed graphically or digitally. If you want to open two or more Data Viewers, select [Program] - [DAQ PharmBio] - [Viewer] from the Start menu.
*   Display data file (.dds)
*   Event data file (.dev)

1.2 Required PC System Environment

Hardware

Personal computer

A computer which runs on Windows 95/98/2000 or Windows NT4.0, and is equipped with Pentium 133MHz or higher (Pentium II 200 MHz or higher is recommended)

Main memory

32MB or more (generally, 64 to 96MB is recommended with Pentium II, though the computer performance depends on the graphic board) However, some application programs may require more memory.

Hard disk

A free space of 100MB or more

Floppy disk drive

One floppy disk drive (1.44MB)

Mouse

A mouse supported by Windows 95/98/2000 or Windows NT4.0

Monitor

A monitor supported by Windows 95/98 or Windows NT4.0, Resolution: 800 x 600 dots or higher, Number of colors: 32K or more (A monitor with 1024 x 768 dots and 65536 colors is recommended)

Interface board

For RS-232, a COM port (COM1, COM2, COM3, COM4) which is supported by Windows must be used.

For RS-422-A/RS-485, a converter must be connected to the RS-232 port. This software supports 4-wire system.

For Ethernet, an Ethernet card supported by Windows is required. TCP/IP protocol also needs to be installed.

Printer

A printer supported by Windows 95/98/2000 or Windows NT4.0 is required. An appropriate printer driver is also required.

Operating System (OS)

Windows 95/98/2000 or Windows NT4.0

> *Note*
> - If your computer runs on Windows 95, Internet Explorer (3.02 or higher) is required.
> - 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.

1.3 Installing the DAQ PharmBio

The DAQ PharmBio is provided by two floppy disks. To install the software, an appropriate serial number needs to be entered. The serial number is indicated on the floppy disk #1.

Operating Method

1. Turn ON the personal computer, then start Windows 95/98/2000 (or WindowsNT 4.0).
2. Insert Floppy Disk #1 into the floppy disk drive.
3. From [Computer], double-click [31/2 Floppy] to open the [31/2 Floppy] window.
4. Double-click the setup.exe file. Installation will start, so follow the instructions displayed in the monitor to complete installation.

Note

- Before starting installation, make sure that all the resident programs such as anti-virus programs are exited.
- When installation is complete, Launcher and Data Viewer will be registered to the Start menu.
- To re-install the software, first uninstall it, then re-install it.
- To uninstall the software, follow the procedure given below.
1. In the [Control Panel], double-click [Add/Remove Programs]. The [Add/Remove Programs Properties] dialog box will appear. From the list, select [DAQ PharmBio] and uninstall it.
2. If necessary, back up the following files to another directory.
   - Setup data file (*.pnl) and DX data files saved under the directory where the DAQ PharmBio has been installed
3. From Windows Explore, delete all the files (data files and subdirectories) created after installation as well as the directory where the software was installed.

1.4 Starting/Exiting the Utility Software

Starting

1. From the Start menu, select [Programs] - [DAQ PharmBio] - [Launcher].
Launcher will start, and the following window will appear. If communications have not been set, the [Network] dialog box will appear. Hardware Configurator (CONFIG), Data Viewer (VIEWER) and [Network] dialog box (NETWORK) can be started from Launcher.

Menu bar

[Network] dialog box display button
Data Viewer Start button
Hardware Configurator Start button
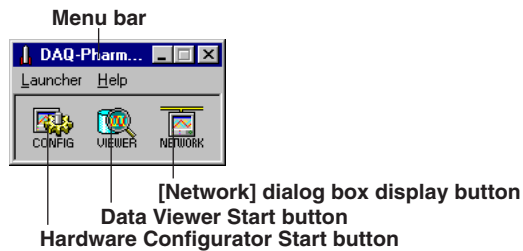
2. Click the start button of the desired utility, or select the desired utility from the Launcher menu.

Note

- Once Hardware Configurator, Data Viewer or [Network] dialog box has started, the corresponding start button will be disabled until it is exited.
- If you want to open two or more Data Viewers, select [Program] - [DAQ PharmBio] - [Viewer] from the Start menu.
- Once Hardware Configurator has started, it is not possible to open the [Network] dialog box.
- Once the [Network] dialog box is opened, it is not possible to start Hardware Configurator and Data Viewer.

Exiting

To exit Hardware Configurator or Data Viewer, select [File] - [Exit], or click the [X] button.
To exit the [Network] dialog box, click [OK], [Cancel] or [X] button.
To exit Launcher, select [Launcher] - [Exit]. or click the [X] button.

Note

- Before exiting Launcher, make sure that all the utilities are exited.
- When Launcher is exited, the DAQ PharmBio will also be exited.

2.1 Functions of Launcher

Starting

The utilities of the DAQ PharmBio can be started from Launcher.

From the Start menu, select [Programs] - [DAQ PharmBio] - [Launcher].
Launcher will start, and the following window will appear. If communications have not been set, the [Network] dialog box will appear. Hardware Configurator (CONFIG), Data Viewer (VIEWER) and [Network] dialog box (NETWORK) can be started from Launcher.

Description of Each Button

The following three tool buttons are available.

CONFIG	Hardware Configurator Start button. Used to start Hardware Configurator. Once Hardware Configurator has started, this button will be disabled.
VIEWER	Data Viewer Start button. Used to start Data Viewer. Once Data Viewer has started, this button will be disabled. Refer to IM 04L01B02-62E.
NETWORK	[Network] Dialog Box Display button. Used to open the [Network] dialog box toset communication conditions. Once Hardware Configurator has started, this button will be disabled.

Description of Each Menu

The following two menus are available.

Launcher	Hardware Configurator	Same as the CONFIG button
	Data Viewer	Same as the VIEWER button
	Network Configuration	Same as the NETWORK button
Help About		Displays the version number of Launcher.

2.2 Displaying the Version Information

To find the version of the DAQ PharmBio, display the [About] dialog box.

Operating Method

1. From the menu bar of Launcher, select [Help] - [About].
The [About] dialog box will appear.
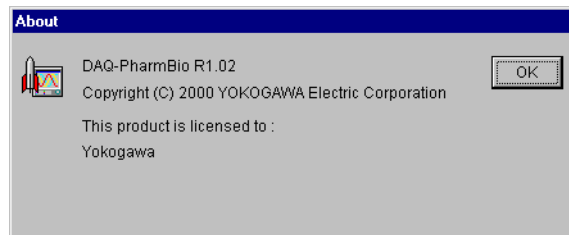
2. To close the dialog box, click [OK].

2.3 Setting the Communication Method

Your computer can be communicated with the DX100/DX200 via a network. To use a network, start Network Configurator and set parameters according to the DX100/DX200.

Operating Method

1. Click the CONFIG button of Launcher, or select [Launcher] - [Network Configuration] from the menu bar. The [Network] dialog box will appear. Ethernet or serial interface (RS-232 or RS-422A/RS-485) can be used.
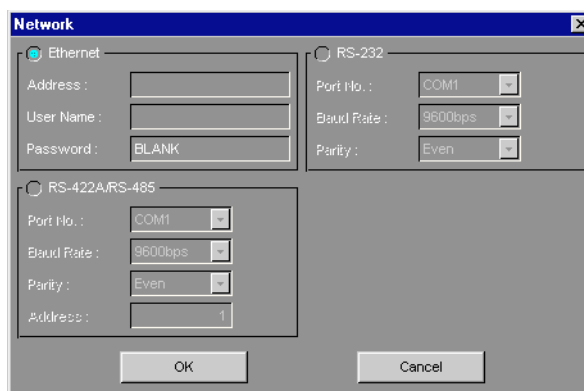
2. Select the desired network type. The color of the selected network will turn to blue.
3. Set each parameter. (For a description of the parameters, refer to "Description of Each Parameter".)
4. When all the parameters are set, click [OK]. To cancel the settings, click [Cancel]. The dialog will close, and the settings will be reflected to enable communications. (If communications are in progress, the dialog will close and communications will be re-started.)

Description of Each Parameter

Ethernet
Address   : Specify the IP address or host name.
User Name   : Specify the user name.
Password   : Specify the password of the user name.
Serial interface (RS-232 or RS-422A/RS-485)
Port No.   : Specify the port no. (COM1 to COM4) to be used.
Baud Rate   : Specify the baud rate (2400 to 38400).
Parity   : Specify the parity check (None, Odd or Even).
Address   : Specify the address (for RS-422A/RS-485 only)

3.1   Starting Hardware Configurator

Hardware Configurator allows setting of the DX100/DX200 hardware (measurement/ math channels, display method etc.).

Starting Method

Click the [CONFIG] button of Launcher, or select [Launcher] - [Hardware Configurator] from the menu bar.

Hardware Configurator Window

The following window will appear when Hardware Configurator is started. (The following window shows an example of DX200/10CH.)

3

Hardware Configurator
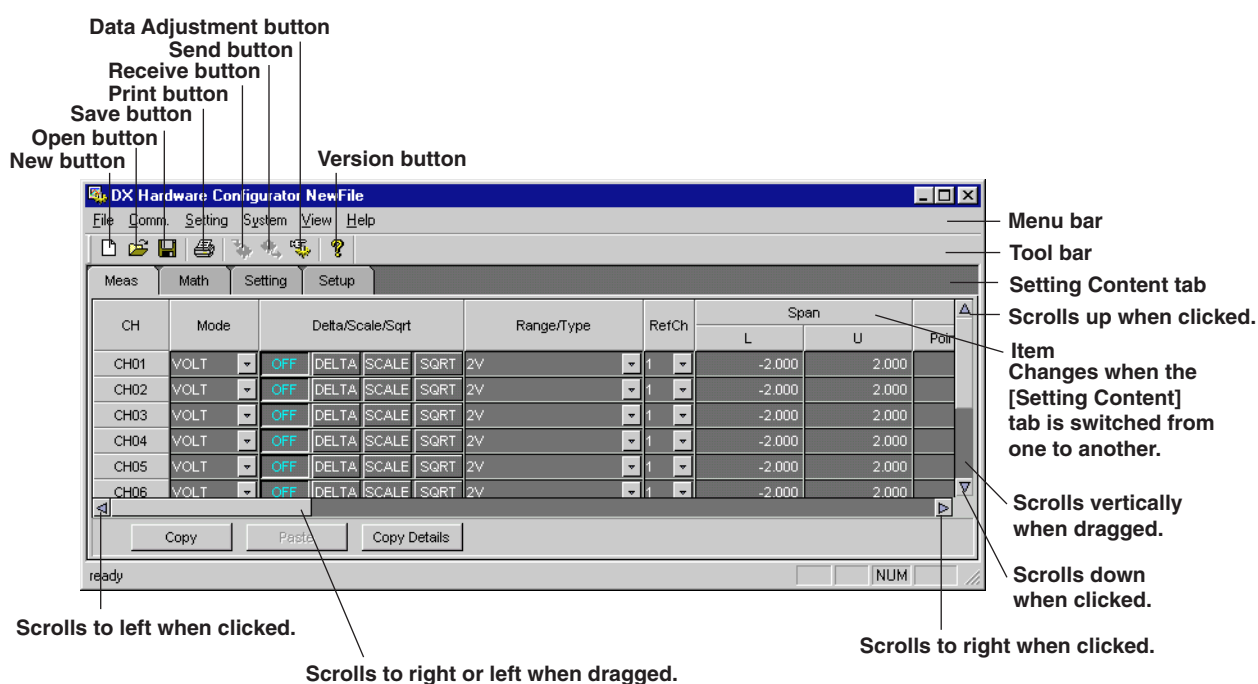
3.2 Loading Existing Setup Data

Operating Method

The setup data to be modified can be loaded as follows.

Loading the setup data from the DX100/DX200 currently connected to the PC

1. Start Hardware Configurator.

Hardware Configurator start button (CONFIG)

2. Click the [Receive] button, or select [Comm.] - [Receive Setting] from the Menu bar.
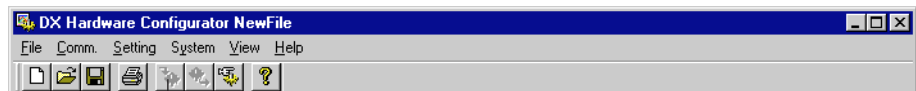
Receive button

3. A message asking you whether or not to receive the data will appear, so click [OK]. The setup data currently set on the DX100/DX200 will be loaded.
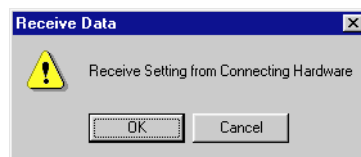
Loading the setup data from a floppy disk or hard disk

The setup data (.pnl) which has been created on the DX100/DX200 and saved to a floppy disk or hard disk can be loaded.

1. Start Hardware Configurator.
2. Click the Open button or select [File] - [Open] from the menu bar.

Directory

File list

Selected file

File type
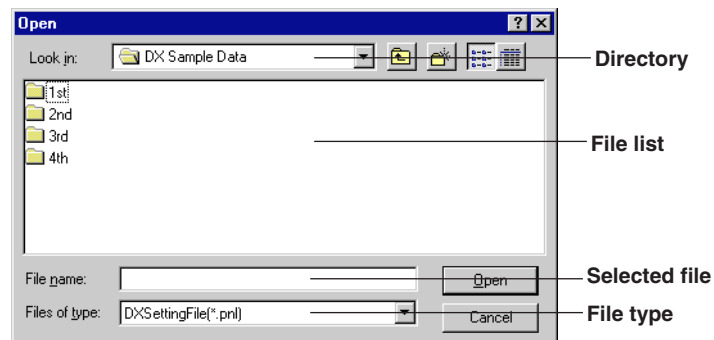
3. From the file list, select the file to be loaded.
4. Click [Open]. The selected file will be loaded.
If the setup data currently edited has not been saved, a message asking you whether or not to save the data will appear. Click [Yes] if you want to save it, or click [No] if not. If you want to cancel opening the file, click [Cancel].

3

Utilizing the default setup data of the DAQ PharmBio

1. Start Hardware Configurator.

Hardware Configurator will start with the default settings.

The default settings are as follows:

System	DX200, 10CH
Serial interface	OFF
Math function	ON
External media	FDD
Alarm relay	2
Option	None
Setup data	Default setup data of DX100/DX200 (refer to the DX100/DX200 manual)

3.3 Configuring a New System and Creating Setup Data

This section explains how to create new setup data without utilizing an existing one. For this, the configuration of the DX100/DX200 must be specified first.

Operating Method

1. Start Hardware Configurator.
2. Click the New button, or select [File] - [New...] from the menu bar.
   If the setup data currently edited has not been saved, a message asking you whether or not to save the data will appear. Click [Yes] if you want to save it, or click [No] if not. If you want to cancel creating a new file, click [Cancel].
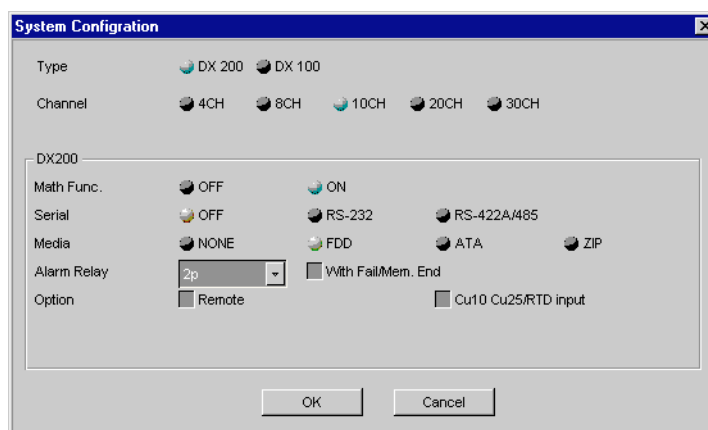3. If [Yes] or [No] is clicked, the [System Configuration] dialog box will open. Specify the configuration so that it matches that of the DX100/DX200 to be used.

4. When the configuration has been set, click [OK]. The [System Configuration] dialog box will close, and the Hardware Configurator window will reappear. Make sure that the configuration set in the [System Configuration] dialog box is reflected in the Hardware Configurator window.
   To cancel the changes to the configuration, click [Cancel].
5. Proceed to section 3.4.

Description of Each Item

Item	Description	
Type	Select the DX type (DX200 or DX100).	
Channel	Select the number of channels.	
	DX200	4CH or 8H for DX204 or DX208, 10CH, 20CH or 30H for DX210, DX220 or DX230
	DX100	2CH or 4CH for DX102 or DX104, 6CH or 12CH for DX106 or DX112
Math Func.	Specify whether the DX has a math function.	
Serial	Select the type of the serial interface to be used from OFF (not used), RS-232C and RS-422.	
Media	Select the type of external media to be used from NONE (not used), FDD, ATA and ZIP.	
Alarm Relay	Specify the number of alarm relays to be used. Also specify whether FAIL/memory end output relay is to be used. The number of alarm relays must be selected from the following: DX200: NONE (no alarm), 2, 4, 6, 12, 24 DX100: NONE (no alarm), 2, 4, 6	
Option	Specify whether the remote function is available. Also specify whether Cu10 and Cu25 are available.	

3.4 Overview of Measurement Channels

This section explains how to set items regarding measurement channels.

Operating Method

1. Start Hardware Configurator.
2. Click the [Meas] tab, or select [Setting] - [SET [Regular] Setting] - [Meas Channels] from the menu bar. The following measurement channel page will open.
3. Set each item.

CH	Mode	Delta/Scale/Sqrt	Range/Type	RefCh	Span		Scale			Unit
					L	U	Point	L	U	
CH01	VOLT	OFF DELTA SCALE SQRT	2V	1	-2.000	2.000				

Mode (input mode)   **Range/type**   **Span**   **Scale**   **Unit**

Delta/scale/square   **Reference channel**

CH	Alarm 4		Moving Ave	Tag	Zone		Graph			Partial		Color
	Value	Relay			L	U	Div	Bargraph	Scale	Expand (%)	Boundary	
CH01	0.00	NONE	OFF		0	100	10	Normal	1	OFF 50	0.00	

Alarm   **Alarm output relay**   **Tag**   **Zone**   **Graph**   **Partial expand**

Moving averaging (or filter)   **Display color**

> *Note*
>
> - The [Meas] page is organized in spreadsheet form. Measurement channels are viewed in rows and items are viewed in columns.
> - If the desired channel or item is not shown in the page, enlarge the window size or drag the vertical (or horizontal) scroll bar until it appears.
> - Items can also be set using a dialog box which can be opened for each individual channel (to open the dialog box, double-click the desired channel no.). For a detailed description, refer to 3.14, "Making Settings for Each Individual Measurement Channel".

3.5 Setting a Channel to Measure DC Voltage (VOLT Mode)

This section explains how to set a channel to measure DC voltage.

Operating Method

1. Mode

Click the Mode Select button of the target channel. A pull-down menu will appear, so select [VOLT].

Mode Select button

2. Range

Click the Range/Type Select button. A pull-down menu will appear, so select the desired input range.

Range/Type Select button

3. Span L, Span U

Click the currently set span L (or span U). It can now be changed, so enter the desired lower (span L) and upper (span U) limits.

Click

Note

• If a value outside the settable range is entered or if the same value is entered for Span L and Span U, the value will be corrected when data adjustment is performed.

3.6 Setting a Channel to Measure TC/RTD Input (TC/RTD Mode)

This section explains how to set a channel to measure the input from a thermocouple (TC) or resistance temperature detector (RTD).

Operating Method

1. Mode

Click the Mode Select button of the target channel. A pull-down menu will appear, so select [TC] or [RTD].

			Meas	Math	Setting	Setup						
CH	Mode		Delta/Scale/Sqrt			Range/Type		RefCh	Span		Point
									L	U	
CH01	TC		OFF	DELTA	SCALE	SQRT	TypeR		1	-2.0	2.0

Mode Select button

2. Type

Click the Range/Type Select button. A pull-down menu will appear, so select the desired TC or RTD type.

			Meas	Math	Setting	Setup						
CH	Mode		Delta/Scale/Sqrt			Range/Type		RefCh	Span		Point
									L	U	
CH01	TC		OFF	DELTA	SCALE	SQRT	TypeR		1	-2.0	2.0
CH02	VOLT		OFF	DELTA	SCALE	SQRT	2V		1	-2.000	2.000

Range/Type Select button

3. Span L, Span U

Click the currently set span L (or span U). It can now be changed, so enter the desired lower (span L) and upper (span U) limits.

			Meas	Math	Setting	Setup						
CH	Mode		Delta/Scale/Sqrt			Range/Type		RefCh	Span		Point
									L	U	
CH01	TC		OFF	DELTA	SCALE	SQRT	TypeR		1	-2.0	2.0
CH02	VOLT		OFF	DELTA	SCALE	SQRT	2V		1	-2.000	2.000

Click

Note

- If a value outside the settable range is entered or if the same value is entered for Span L and Span U, the value will be corrected when data adjustment is performed.

3.7 Setting a Channel to Measure Voltage Level (DI Mode)

This section explains how to set a channel to measure voltage level.

Operating Method

1. Mode

Click the Mode Select button of the target channel. A pull-down menu will appear, so select [DI].

Mode Select button

2. Range

Click the Range/Type Select button. A pull-down menu will appear, so select [LEVEL] (voltage level) or [CONT] (contact).

Range/Type Select button

3. Span L, Span U

Click the currently set span L (or span U). It can now be changed, so enter the desired lower (span L) and upper (span U) limits.

Click

Note

- If a value outside the settable range is entered or if the same value is entered for Span L and Span U, the value will be corrected when data adjustment is performed.

3.8 Setting a Channel to Exclude Measure/Display (SKIP Mode)

This section explains how to set a channel so that it does not perform measurement.

Operating Method

1. Mode

Click the Mode Select button of the target channel. A pull-down menu will appear, so select [SKIP].

Meas	Math	Setting	Setup						
CH	Mode	Delta/Scale/Sqrt			Range/Type	RefCh	Span L	U	Point
CH01	SKIP	OFF DELTA SCALE SQRT			LEVEL	1	-1	2	
CH02	VOLT	OFF DELTA SCALE SQRT			2V	1	-2.000	2.000	

Mode Select button

Items such as Delta/Scale/Sqrt and Range/Type will be invalidated.

3.9 Setting the Delta Math Function

This section explains how to set a channel so that it displays the difference in the measured value from the reference channel. This function is used when VOLT, TC or RTD is selected as the input mode. (A channel to which Delta is designated is called a Delta channel.)

(Value measured by the Delta channel) - (Value measured by the reference channel) = Displayed by the Delta channel

Operating Method

1. Mode

Make sure that [VOLT], [TC] or [RTD] is selected as the input mode for the target channel.

2. Delta/Scale/Sqrt

Click [DELTA] to select it. The color of [DELTA] will switch to blue.
[OFF] is selected as the default.

Click

3. Range

Set an appropriate range/type.

Note

- If Delta is performed between channels having different range/type settings, the position of the decimal point of the result will be the same as that for the Delta channel. If the number of decimal places for the reference channel is greater than that for the Delta channel, the value in the decimal place next to the last decimal place for the Delta channel will be rounded up.
  For instance, if the Delta channel shows 100.0 and reference channel shows 0.050, the value in the second decimal place for the reference channel will be rounded up (i.e. 0.050 → 0.1). Thus, the result will be 99.9 (= 100.0 - 0.1).

4. Span L, Span U

Set span L and U.

5. Refch

Click the Reference Channel Select button. A pull-down menu will appear, so select the channel no. to be used as the reference channel.

Reference Channel Select button

Note

- If the reference channel no. is greater than the Delta channel no., the difference between the value measured by the Delta channel and that measured by the reference channel in the previous scan will be displayed.
- The selected reference channel will be invalid if Delta is not selected.

3.10 Setting the Scale Math Function

If an input mode other than SKIP is selected, the display scale can be set. This section explains the method.

Operating Method

1. Mode
Make sure that an input mode other than SKIP is selected for the target channel.

2. Delta/Scale/Sqrt
Click [SCALE] to select it. The color of [SCALE] will switch to blue.
[OFF] is selected as the default.

CH	Mode	Delta/Scale/Sqrt	Range/Type	RefCh	Span L	Span U	Scale Point	Scale L	Scale U	Unit
CH01	VOLT	OFF DELTA SCALE SQRT	60mV	10	-1.00	2.00	2	0.00	200.00	
CH02	VOLT	OFF DELTA SCALE SQRT	2V	1	-2.000	2.000				

Click

3. Range
Make sure that an appropriate range/type is selected.

4. Span L, Span U
Make sure that appropriate span L and U are selected.

5. Scale L, Scale U, Point
Click the currently set scale L (or scale R). It can now be changed, so enter the desired lower (scale L) and upper (scale U) limits.

CH	Mode	Delta/Scale/Sqrt	Range/Type	RefCh	Span L	Span U	Scale Point	Scale L	Scale U	Unit
CH01	VOLT	OFF DELTA SCALE SQRT	60mV	10	-1.00	2.00	2	0.00	200.00	
CH02	VOLT	OFF DELTA SCALE SQRT	2V	1	-2.000	2.000				

Note
- If a value outside the settable range is entered or if the same value is entered for Scale L and Scale U, the value will be corrected when data adjustment is performed.

6. Unit
Click the currently set unit. It can now be changed, so enter the desired unit (up to six characters).

CH	Mode	Delta/Scale/Sqrt	Range/Type	RefCh	Span L	Span U	Scale Point	Scale L	Scale U	Unit
CH01	VOLT	OFF DELTA SCALE SQRT	60mV	10	-1.00	2.00	2	0.00	200.00	
CH02	VOLT	OFF DELTA SCALE SQRT	2V	1	-2.000	2.000				

Note
- For characters which can be used for the unit, refer to 3.62, "Usable Characters".

3.11 Setting the Square Math Function

SQUARE can be selected only if VOLT has been selected as the input mode. Selecting SQUARE will calculate the square root of the input and display the result at the specified scale.

Operating Method

1. Mode

Make sure that [VOLT] is selected as the input mode for the target channel.

2. Delta/Scale/Sqrt

Click [SQUARE] to select it. The color of [SQUARE] will switch to blue.
[OFF] is selected as the default.

CH	Mode	Delta/Scale/Sqrt				Range/Type	RefCh	Span		Scale				Unit
								L	U	Point	L	U		
CH01	VOLT	▼	OFF	DELTA	SCALE	SQRT	60mV	▼ 10 ▼	-1.00	2.00	2 ▼	0.00	200.00	
CH02	VOLT	▼	OFF	DELTA	SCALE	SQRT	2V	▼ 1 ▼	-2.000	2.000				

Click

3. Range

Set an appropriate range/type.

4. Span L, Span U

Set appropriate span L and U.

5. Scale L, Scale U, Point

Click the currently set scale L (or scale R). It can now be changed, so enter the desired lower (scale L) and upper (scale U) limits.

CH	Mode	Delta/Scale/Sqrt				Range/Type	RefCh	Span		Scale				Unit
								L	U	Point	L	U		
CH01	VOLT	▼	OFF	DELTA	SCALE	SQRT	60mV	▼ 10 ▼	-1.00	2.00	2 ▼	0.00	200.00	
CH02	VOLT	▼	OFF	DELTA	SCALE	SQRT	2V	▼ 1 ▼	-2.000	2.000				

Note

- If a value outside the settable range is entered or if the same value is entered for Scale L and Scale U, the value will be corrected when data adjustment is performed.

6. Unit

Click the currently set unit. It can now be changed, so enter the desired unit (up to six characters).

CH	Mode	Delta/Scale/Sqrt				Range/Type	RefCh	Span		Scale				Unit
								L	U	Point	L	U		
CH01	VOLT	▼	OFF	DELTA	SCALE	SQRT	60mV	▼ 10 ▼	-1.00	2.00	2 ▼	0.00	200.00	
CH02	VOLT	▼	OFF	DELTA	SCALE	SQRT	2V	▼ 1 ▼	-2.000	2.000				

Note

- For characters which can be used for the unit, refer to 3.62, "Usable Characters".

3.12 Setting Alarms to a Measurement Channel

Alarms 1 to 4 can be set for each measurement channel. This section explains how to set them.

Operating Method

1. Alarm 1: Type

Click the Alarm Type Select button. A pull-down menu will appear, so select the desired alarm type. If you are not going to set alarm, select [OFF].

CH	Alarm 1			Alarm 2			Alarm 3			Alarm 4		
	Type	Value	Relay	Type	Value	Relay	Type	Value	Relay	Type	Value	Relay
CH01	H	0.00	NONE	OFF	0.00	NONE	OFF	0.00	NONE	OFF	0.00	NONE
CH02	OFF	0.000	NONE	OFF	0.000	NONE	OFF	0.000	NONE	OFF	0.000	NONE

Tabs: Meas | Math | Setting | Setup

Alarm Type Select button

2. Alarm 1: Value

Click the currently set alarm value. It can now be changed, so enter the desired value.

Note

•   The settable range for the alarm value will vary with the selected input mode, math function (Delta/Scale/Sqrt), range/type and alarm type.
•   If a value outside the settable range is entered, the value will be corrected when data adjustment is performed.

3. Alarm 1: Relay

Click the Relay Select button. A pull-down menu will appear, so select [NONE] if you are not going to use any output relays or select the desired output relay no. if you are going to use one.

CH	Alarm 1			Alarm 2			Alarm 3			Alarm 4		
	Type	Value	Relay	Type	Value	Relay	Type	Value	Relay	Type	Value	Relay
CH01	H	0.00	01	OFF	0.00	NONE	OFF	0.00	NONE	OFF	0.00	NONE
CH02	OFF	0.000	NONE	OFF	0.000	NONE	OFF	0.000	NONE	OFF	0.000	NONE

Tabs: Meas | Math | Setting | Setup

Relay Select button

**4.** If necessary, repeat the above steps to set other alarms (2 to 4).

3.13 Setting the Input Filter/Moving Averaging

An input filter or moving averaging can be set to measurement channels. The input filter can be set for DX102, DX104, DX204 and DX208 and moving averaging for DX106, DX112, DX210, DX220 and DX230.

Operating Method

1. Filter

Use to select the desired filter. Select [OFF] if you are not going to use any filters. If you want to use a filter, select the desired time constant (from 2s, 5s and 10s). [OFF] is selected as the default.
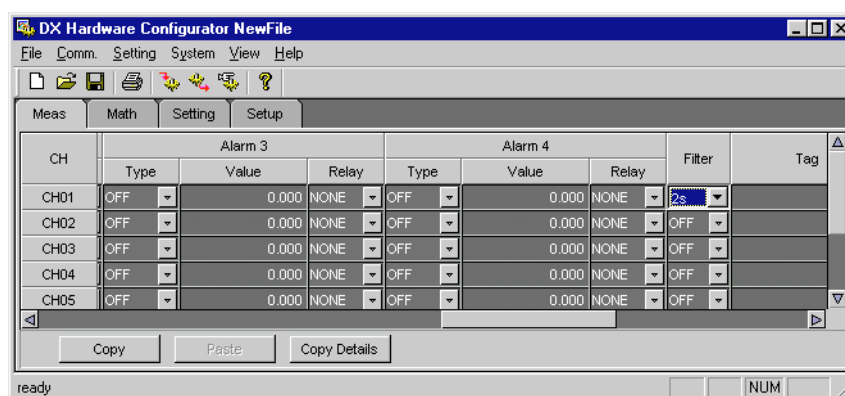
2. Moving Ave

Select the desired moving averaging times (sampling times). Select [OFF] if you are not going to use moving averaging. If you want to use it, select the desired sampling times (2 to 16). [OFF] is selected as the default.

3.14 Making Settings for Each Individual Measurement Channel

Settings can be made for each individual measurement channel.

Operating Method

1. Double-click the desired channel no.

Double-click

2. The following dialog box will appear. The dialog box consists of two pages: Meas Channel Setting and Display.

[Meas Channel Setting] Page

1. Set each item.

The contents of each item are the same as those in the spreadsheet form, so refer to the related sections.

2. When all the items are set, click [OK] to close the dialog box.

Note

- The settings made will be reflected in the spreadsheet form.
- If you want to cancel the changes and restore the previous settings, click [Cancel] and close the dialog box.

Item	Description	Related Sections
Input	Select the input mode.	3.5 to 3.8
Range/Type	Select the measuring range/type.	3.5 to 3.8
Span (L), Span (U)	Set the lower and upper limits of the span.	3.5 to 3.8
Move Ave	Set the sampling times (this item is displayed only for medium-speed type).	3.13
Filter	Set the filter (this item is displayed only for high-speed type).	3.13
Sub Input	Select the math function to be used.	3.9 to 3.11
Point, Scale (L), Scale (U)	Set the display scale.	3.10, 3.11
Ref Ch	Select the reference channel.	3.9
Unit	Set the unit if SCALE or SQRT is selected.	3.10, 3.11
Alarm	Set the alarms.	3.12
Tag	Set the tag name.	3.23

[Display] Page

1. **Set each item.**

   The contents of each item are the same as those in the spreadsheet form, so refer to the related sections.

2. When all the items are set, click [OK] to close the dialog box.

Note

- The settings made will be reflected in the spreadsheet form.
- If you want to cancel the changes and restore the previous settings, click [Cancel] and close the dialog box.

Item	Description	Related Sections
Zone (L), Zone (U)	Set the display zone.	3.30
Graph	Set the bar graph.	3.31
Partial	Set the partial expand function.	3.32
Color	Select the display color.	3.29

3.15 Overview of Math Channels

It is possible to specify an expression which uses the measured data as a variable, and display or save the math results. An expression can be set for each math channel.

Operating Method

1. Start Hardware Configurator.
2. Click the [Math] tab, or select [Setting] - [SET [Regular] Setting] - [Math Functions] from the menu bar. The following math channel page will open.
3. Set each item.

Expression setting section   **Separator**   **Constant setting section**

Meas	Math	Setting	Setup									
CH		Expression		Span			Unit			Constant	
				Point	L	U		Type			
CH31	☐ OFF	01		2 ▾	-200.00	200.00		OFF	K01		1
CH32	☐ OFF	01		2 ▾	-200.00	200.00		OFF	K02		1
CH33	☐ OFF	01		2 ▾	-200.00	200.00		OFF	K03		1
CH34	☐ OFF	01		2 ▾	-200.00	200.00		OFF	K04		1
CH35	☐ OFF	01		2 ▾	-200.00	200.00		OFF	K05		1

Note

- The [Math] page consists of the expression setting and constant setting sections. They are separated by the separator bar.
- Each time the separator bar is clicked, the constant setting section appears and disappears alternately.
- The expression setting section is organized in a spreadsheet form. Math channels are viewed in rows and items are viewed in columns. The constant setting section have constants (K01 to K30) in rows.
- If the desired channel or item is not shown in the page, enlarge the window size or drag the vertical (or horizontal) scroll bar until it appears.
- Items can also be set using a dialog box which can be opened for each individual channel (to open the dialog box, double-click the desired channel no.). For a detailed description, refer to 3.21, "Making Settings for Each Individual Math Channel".

3

Hardware Configurator

3.16 Setting a Math Channel

It is possible to set an expression, span and unit and whether the expression is to be used. This setting can be made for each math channel.

Operating Method

1. ON/OFF

Set whether the expression set at step 2 is to be used or not. Select [ON] if you are going to use it, or select [OFF] if not.

CH		Expression	Span			Unit		Constant	
			Point	L	U		Type		
CH31	☐ OFF	01	2 ▼	-200.00	200.00		OFF	K01	1
CH32	☐ OFF	01	2 ▼	-200.00	200.00		OFF	K02	1
CH33	☐ OFF	01	2 ▼	-200.00	200.00		OFF	K03	1

2. Expression

Specify the desired expression (up to 40 characters). Click the currently specified expression. It can now be changed, so specify the desired expression. The expression can consist of measurement/math channel nos., constant nos. (K01 to K30) and various operators.

For details on expression, refer to the DX100 or DX200 manual.

Note

- A method that allows you to select operators just by selecting them from a list is also available. For details, refer to 3.21, "Making Settings for Each Individual Math Channel".

3. Span L, Span U

Set the lower (span L) and upper (span U) limits of the display span. Click the currently set span L (or span U). It can now be changed, so enter the desired lower (span L) and upper (span U) limits.

Note

- Settable range: -9999999 to 99999999
- The number of decimal places must be 4 or less.
- If a value outside the settable range is entered or if the same value is entered for Span L and Span U, the value will be corrected when data adjustment is performed.

4. Unit

Used to specify the unit to be used for the math channel. Click the currently set unit. It can now be changed, so enter the desired unit (up to six characters).

Note

- For characters which can be used for the unit, refer to 3.62, "Usable Characters".

3.17 Setting Alarms to a Math Channel

Alarms 1 to 4 can be set for each math channel. This section explains how to set them.

Operating Method

1. **Alarm 1: Type**

   Click the Alarm Type Select button. A pull-down menu will appear, so select the desired alarm type. If you are not going to set alarm, select [OFF].

		Alarm 1			Alarm 2			Alarm 3 △	
CH	Unit	Type	Value	Relay	Type	Value	Relay	Type	Value
CH31		H ▼	0.00	NONE ▼	OFF ▼	0.00	NONE ▼	OFF ▼	
CH32		OFF ▼	0.00	NONE ▼	OFF ▼	0.00	NONE ▼	OFF ▼	

Tabs: Meas | Math | Setting | Setup

Alarm Type Select button

2. **Alarm 1: Value**

   Click the currently set alarm value. It can now be changed, so enter the desired value.

Note

- The settable range is from span L to span U.
- If a value outside the settable range is entered, the value will be corrected when data adjustment is performed.

3. **Alarm 1: Relay**

   Click the Relay Select button. A pull-down menu will appear, so select [NONE] if you are not going to use any output relays or select the desired output relay no. if you are going to use one.

		Alarm 1			Alarm 2			Alarm 3 △	
CH	Unit	Type	Value	Relay	Type	Value	Relay	Type	Value
CH31		H ▼	0.00	01 ▼	OFF ▼	0.00	NONE ▼	OFF ▼	
CH32		OFF ▼	0.00	NONE ▼	OFF ▼	0.00	NONE ▼	OFF ▼	

Tabs: Meas | Math | Setting | Setup

Relay Select button

4. If necessary, repeat the above steps to set other alarms (2 to 4).

3.18 Setting the TLOG Math Function (Setting the Timer/Sum Scale)

This section explains how to set the timer to be used for a math channel to which TLOG is designated. The sum scale to be used for TLOG.SUM.

Operating Method

1. Timer

Select the desired timer from timers 1 to 3 set in setup mode.

Click the Timer Select button. A pull-down menu will appear, so select the desired timer no. The time set on the selected timer will be the math interval for TLOG.SUM.

TLOG	
Timer	Sum Scale
1 ▼	OFF ▼
1 ▼	OFF ▼

2. Sum Scale

Used to select the desired sum scale. Click the Sum Scale Select button. A pull-down menu will appear, so select the desired sum scale.

3.19 Setting the Rolling Averaging Function

It is possible to set whether the math result is to be subjected to rolling averaging. This setting can be made for each math channel.

Operating Method

1. ON/OFF

Set whether rolling averaging is to be used or not. Select [ON] if you are going to use it, or select [OFF] if not.

Rolling Average		
	Interval	Times
OFF	10s	1
OFF	10s	1

2. Interval

Used to set the data collection interval (sampling interval) for rolling averaging. Click the Interval Select button. A pull-down menu will appear, so select the desired sampling interval.

3. Times

Used to set the number of data sets (sampling times) to be subjected to rolling averaging. Click the Times Select button. A pull-down menu will appear, so select the desired sampling times.

3.20 Setting a Constant

It is possible to set constants to be used for the expression.

Operating Method

1. Constant

Used to set a constant. Click the currently set constant. It can now be changed, so enter the desired constant.

			Span			Unit			Constant
CH		Expression	Point	L	U		Typ		
CH31	☐ OFF	01	2 ▼	-200.00	200.00		OFF	K01	1
CH32	☐ OFF	01	2 ▼	-200.00	200.00		OFF	K02	1
CH33	☐ OFF	01	2 ▼	-200.00	200.00		OFF	K03	1
CH34	☐ OFF	01	2 ▼	-200.00	200.00		OFF	K04	1
CH35	☐ OFF	01	2 ▼	-200.00	200.00		OFF	K05	1
CH36	☐ OFF	01	2 ▼	-200.00	200.00		OFF	K06	1
CH37	☐ OFF	01	2 ▼	-200.00	200.00		OFF	K07	1

Tabs: Meas | Math | Setting | Setup

Note

- Up to 30 constants (K01 to K30) can be set.
- Constants can be specified using an exponent (e.g. 1.00E+19). For details, refer to the DX100/DX200 manual.

3.21 Making Settings for Each Individual Math Channel

Settings can be made for each individual math channel.

Operating Method

1. Double-click the desired channel no.

CH		Expression	Span			Unit
			Point	L	U	
CH31	☐ OFF	01	2 ▾	-200.00	200.00	
CH32	☐ OFF	01	2 ▾	-200.00	200.00	
CH33	☐ OFF	01	2 ▾	-200.00	200.00	

Double-click

2. The following dialog box will appear. The dialog box consists of two pages: Math Channel Setting and Display.

[Math Channel Setting] Page

1. Set each item.

The contents of each item are the same as those in the spreadsheet form, so refer to the related sections.

2. When all the items are set, click [OK] to close the dialog box.

Note

• Clicking [Operator] will display the [Select Operator] dialog box. This allows you to specify an operator just by selecting it from the list.

Note

- The settings made will be reflected in the spreadsheet form.
- If you want to cancel the changes and restore the previous settings, click [Cancel] and close the dialog box.

Item	Description
Function	Select whether the math function is to be used or not.
Expression	Specify the desired expression (up to 40 characters).
Operator	Clicking [Operator] will display a list of operators. Select the desired operator from the list.
Point, Span (L), Span (U)	Set the lower and upper limits of display span.
Unit	Set the unit to be used for the math channel.
Rolling Average	Set the sampling interval and times.
Alarm	Set the alarms.
Tag	Set the tag name.
TLOG Timer	Select a timer from timers 1 to 3 set in setup mode.
Sum Scale	Set the sum scale.

[Display] Page

Same as that for measurement channels. Refer to 3.14, "Making Settings for Each Individual Measurement Channel".

3.22 Copying the Settings From one Channel to Another

The settings made to one channel can be copied to another channel. The method is basically the same, irrespective of measurement or math channels.

Operating Method

1. Click the source channel no. The row of the selected channel will be highlighted, and the color of the channel no. will switch to red.

Meas	Math	Setting	Setup						
CH	Mode		Delta/Scale/Sqrt		Range/Type	RefCh	Span		Point
							L	U	
CH01	VOLT	OFF	DELTA SCALE SQRT	2V		1	-2.000	2.000	
CH02	VOLT	OFF	DELTA SCALE SQRT	2V		1	-2.000	2.000	

Note
- If you want to copy the settings of two or more channels, select the corresponding channel nos. by dragging them

2. Click [Copy Details]. The [Meas Channel Copy Details] dialog box will open. (In the case of math channels, the [Math Channel Copy Details] dialog box will open.)

Meas Channel Copy Details

☐ Input   ☐ Tag   [OK]
☐ Unit   ☐ Zone   [Cancel]
☐ Alarm   ☐ Graph   [Select All]
☐ Filter ☐ Partial
☐ MoveAve ☐ Color

Math Channel Copy Details

☐ Input   ☐ Tag   [OK]
☐ Unit   ☐ Zone   [Cancel]
☐ Alarm   ☐ Graph   [Select All]
☐ TLOG   ☐ Partial
☐ RollingAverage ☐ Color
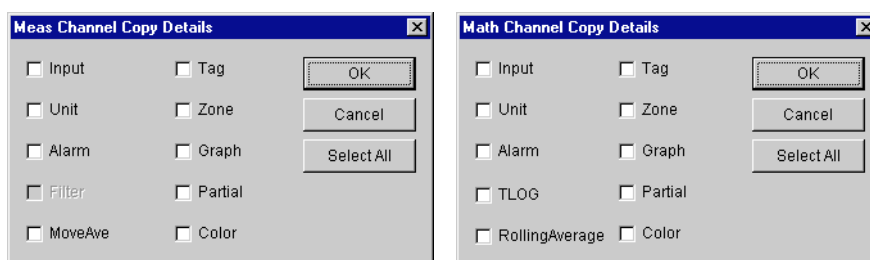
3. Select the item(s) to be copied, and then click [OK]. To select all the items, click [Select All]. The dialog box will close.

4. Click [Copy]. Selection of the source channels and items will be confirmed.

5. Click the destination channel no. The row of the selected channel will be highlighted, and the color of the channel no. will switch to red.

Note
- If you want to copy the settings to two or more channels, select the corresponding channel nos. by dragging them

6. Click [Paste]. The settings will be copied.

3.23 Assigning a Tag Name to a Channel

A tag name can be assigned to a channel and displayed instead of the channel no. The method is the same, irrespective of measurement or math channel.
Selection of whether the channel nos. or tag names are to be displayed can be made in setup mode (refer to 3.42, "Selecting to Display Tag Names or Channel Nos.".

Operating Method

1. Tag
Click the currently set tag name. It can now be changed, so enter the desired tag name.

Meas	Math	Setting	Setup			
CH			Moving Ave	Tag	Zone	
		Relay			L	U
CH01	0.000	NONE	OFF		0	100
CH02	0.000	NONE	OFF		0	100

Note

- The tag name can consist of up to 16 characters. For characters which can be used for the unit, refer to 3.62, "Usable Characters".
- If no tag name is assigned even though a setting has been made so that the tag name would be displayed, the channel no. will be displayed.
- The same setting method will also apply to math channels.

3.24 Assigning a Channel to a Group

Measurement/math channels can be assigned to groups.

Operating Method

1. Displaying the menu

Click the [Setting] tab and select [Group/Trip Line], or select [Setting] - [SET [Regular] Setting] - [Group] from the menu bar.
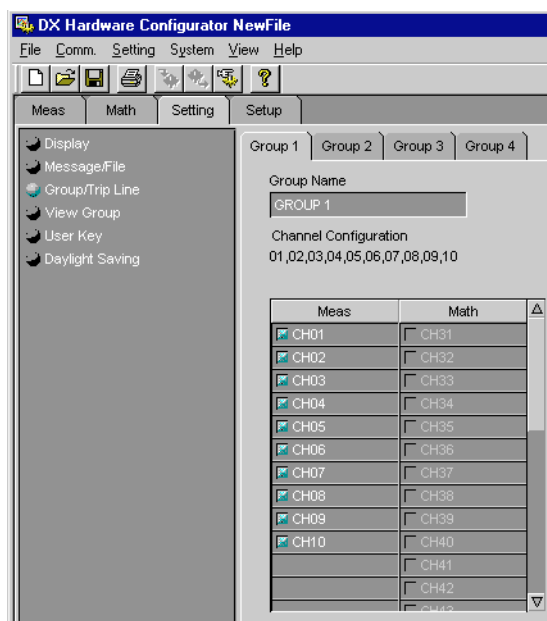
2. Group number

Click the tab of the desired group no. (in the above example, group 1 is selected).

3. Group Name

Click the currently set group name. It can now be changed, so enter the desired group name.

Note

- The group name can consist of up to 16 characters. For characters which can be used for the unit, refer to 3.62, "Usable Characters".

4. Meas/Math

Click the channel(s) to be assigned to the selected group. The color of the selected channels will switch to blue.

Note

- Up to 10 channels can be assigned to each group in the case of DX200 (6 channels in the case of DX100).
- The assigned channels will be displayed under Channel Configuration.
- If no channels are assigned, CH01 will be assigned automatically.

3.25 Assigning Display Contents to a View Group (DX200 Only)

The view type (i.e. the contents to be displayed) can be assigned to each group. Seven view kinds are available (e.g. trend display, digital display, bar graph).

**Operating Method**

1. Displaying the menu

Click the [Setting] tab and select [View Group], or select [Setting] - [SET [Regular] Setting] - [View Group] from the menu bar.
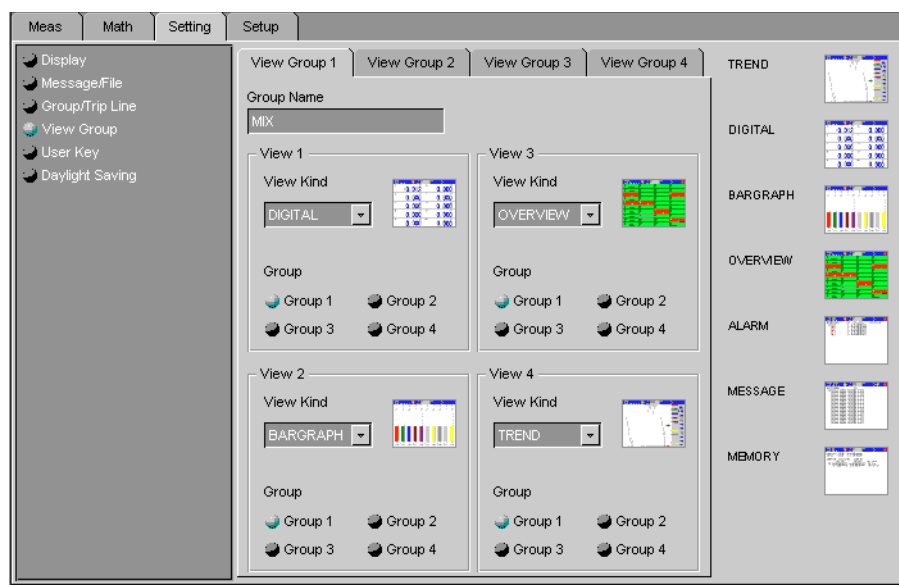
2. View Group 1/2/3/4

Click the tab of the desired view group no. (in the above example, view group 1 is selected).

3. Group Name

Click the currently set view group name. It can now be changed, so enter the desired view group name.

Note

- The view group name can consist of up to 16 characters. For characters which can be used for the unit, refer to 3.62, "Usable Characters".

4. View Kind

Used to select a view kind for each view (each view group can have four views). Click the button in the combo box. A list of view kinds will appear, so select the desired view kind.
The selected view kind will be displayed graphically next to View Kind.

5. Group

Select the group to be displayed in each view. The color of the selected group will switch to blue.

3.26 Setting Trip Lines

For trend display, trip lines can be displayed to indicate target positions on the scale. Up to four trip lines can be set for each group.

Operating Method

1. Displaying the menu

Click the [Setting] tab and select [Group/Trip Line], or select [Setting] - [SET [Regular] Setting] - [Trip Line] from the menu bar.
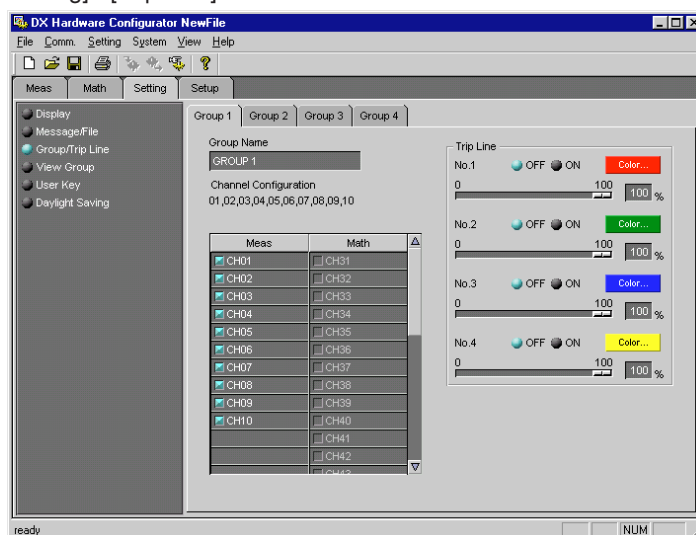
2. Group 1/2/3/4

Click the tab of the desired group no. (in the above example, group 1 is selected).

3. Trip Line

Use to select trip lines to be displayed. Select [ON] if you want to display the trip line, or select [OFF] if not.

4. Display position (slider)

Used to set the display position of the trip line as the position (%) on the display scale. The position can be set by dragging the slider to right/left or by entering the desired value (%).

5. Color

The currently selected color is displayed in the [Color...] button. To change the color, click the button.

The [Color] dialog box will appear, so select the desired color and click [OK]. The selected color will appear in the button.
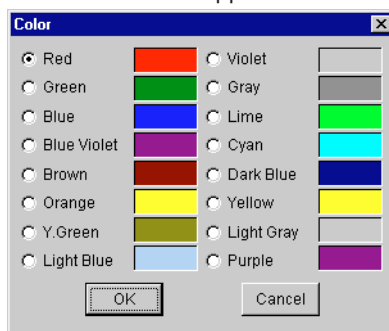
Note

- A color can be selected from a total of 16 colors.
- To cancel change and restore the previously selected color, click [Cancel].

6. Repeat steps 3 to 5 to set other trip lines.

3.27 Setting the Display Update Interval

The time per division for the trend display time axis can be set.

Operating Method

1. **Displaying the menu**
   Click the [Setting] tab and select [Display], or select [Setting] - [SET [Regular] Setting] - [Trend/Save Interval] from the menu bar.
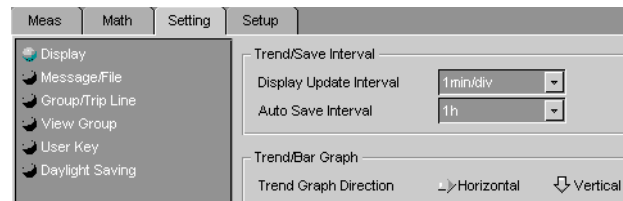
2. **Display Update Interval**
   Set the time per division.

3.28 Entering a Message

Messages can be set and displayed in trend display or saved together with the display/event data. Up to eight messages can be set.

Operating Method

1. Displaying the menu
Click the [Setting] tab and select [Message/File], or select [Setting] - [SET [Regular] Setting] - [Message] from the menu bar.

2. Message
Click the message display area of the desired message no. The currently set message can now be changed, so enter the desired message.
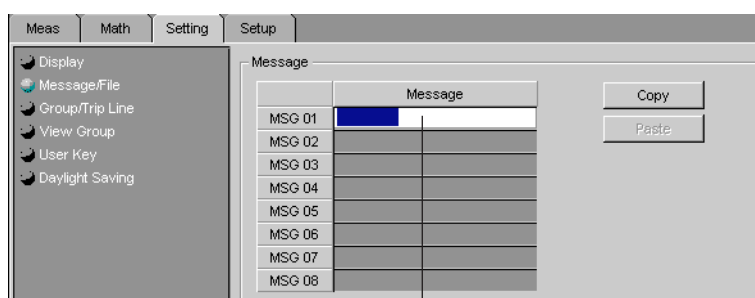
Click

Note _____
- Messages can consist of up to 16 characters. For characters which can be used for the unit, refer to 3.62, "Usable Characters".

3. To set a message for other message nos., repeat step 2.

Copying a Message
The message set to a message no. can be copied to another message no.

1. Click the source message no. The color of the message no. will switch to red.

Note _____
- If you want to copy two or more messages, select the corresponding message nos. by dragging them

2. Click [Copy].

3. Click the destination message no. The color of the selected message no. will switch to red.

Note _____
- If you want to copy the message to two or more message nos., select the corresponding channel nos. by dragging them

4. Click [Paste].
The message will be copied.

3.29 Setting the Display Color

The display color can be set for each channel. The method is the same, irrespective of measurement or math channel.

Operating Method

1. Displaying the [Color] dialog box

Click the currently selected color of the desired channel.

The [Color] dialog box will appear.

2. Selecting a color

Select the desired color and click [OK].
The selected color will appear.

Note

- A color can be selected from a total of 16 colors.
- To cancel change and restore the previously selected color, click [Cancel].

3.30 Setting the Display Zone

By setting the display zone, waveforms can be displayed in different areas of the window. This avoids overlapping of waveforms, making them easier to view. The waveforms are displayed between the specified upper and lower limits of the display zone. The setting method is the same, irrespective of measurement or math channels.

Operating Method

1. Click the [Meas] (or [Math] tab).

2. L

Click the currently set lower limit. It can now be changed, so enter the desired lower limit.

Meas	Math	Setting	Setup				
		Zone		Graph			
CH	Tag	L	U	Div	Bargraph	Scale	
CH31		0	100	10	Normal	1	
CH32		0	100	10	Normal	1	

3. U

Click the currently set upper limit. It can now be changed, so enter the desired upper limit.

Note

- Both lower and upper limits must be set in percentage (%) of the display scale.
- The settable range of the zone is given below.
  Settable range: 0% to 100%
  Lower limit < Upper limit
  The difference between the lower and upper limits: 5 or more
- If a value outside the settable range entered, the value will be corrected when data adjustment is performed.

3.31 Setting the Graph Properties

It is possible to set the number of divisions of graph, reference position of the bar graph and scale of the trend graph. The setting method is the same, irrespective of measurement or math channels.

Operating Method

1. Click the [Meas] (or [Math] tab).

2. Div

Set the number of divisions of the display scale. The scale will be equally divided, and a mark will appear at each division position. A value between 4 and 12 can be selected (default: 10).
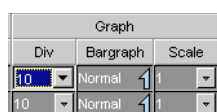
3. Bargraph

Used to set the reference position of the bar graph. Normal or Center can be selected.

Note

*   If the bar graph is set to be displayed vertically, selection of Center will be ignored. Normal will be selected when data adjustment is performed.

4. Scale

Used to set the scale display for trend graph. Select OFF or 1 to 10 for DX200, and OFF or 1 to 6 for DX100.

3.32 Setting the Partial Expand Function

The partial expand function allows you to enlarge the desired part of the waveform along the axis of measured values (i.e. the remaining part is compressed). The setting method is the same, irrespective of measurement or math channels. However, for a math channel, this function will disabled if the channel is set to ignore use of the math function.

Operating Method

1. Click the [Meas] (or [Math] tab).

2. ON/OFF

Used to select whether the partial expand function is to be used or not. Select [ON] if you are going to use it, or select [OFF] if not.

Partial		
	Expand (%)	Boundary
☑ ON	50 ▼	0.00
☐ OFF	50 ▼	0.00

3. Expand (%)

Used to set the position of the boundary. Set it in relation to the display scale. A value from 1% to 99% can be set.

4. Boundary

Used to set the display range. By moving to another position within the display range (step 3), the areas before and after the boundary will be expanded or compressed.

Note

- Boundary setting conditions (for measurement channels)
  When neither SCALE nor SQRT is selected : Span L < Boundary < Span U
  When SCALE or SQRT is selected : Scale L < Boundary < Scale U
- Boundary setting conditions (for math channel)
  Span L < Boundary < Span U
- To enable this function, [Partial] must be set to [Use] in the setup mode (refer to 3.43, "Selecting Whether or Not to Use the Partial Expand Function").
- This setting cannot be made if DI is selected as the input mode.
- If the settings are incorrect, they will be corrected automatically when data adjustment is performed.

3.33 Setting the Display Direction, Background Color, Trend/Trip Line Width and Grid

Trend or bar graphs can be displayed vertically or horizontally, and the screen's background color can be set to white or black. Furthermore, trend/trip line width can be changed and the grid in the trend display area can be divided between 4 and 12.

Operating Method

1. Displaying the menu

Click the [Setting] tab and select [Display], or select [Setting] - [SET [Regular] Setting] - [Trend/Bar Direction] from the menu bar.
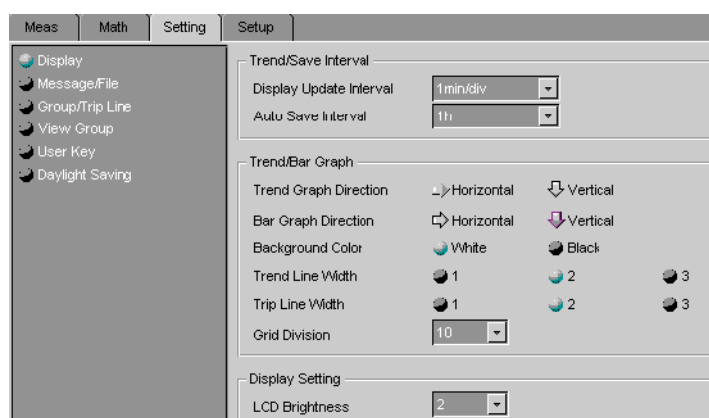
2. Trend Graph Direction

Select the desired direction. The color of the arrow will switch to blue if [Horizontal] is selected, or it will switch to red if [Vertical] selected.

3. Bar Graph Direction

Select the desired direction. The color of the arrow will switch to blue if [Horizontal] is selected, or it will switch to red if [Vertical] selected.

4. Background Color

Select the desired background color.

5. Trend Line Width

Three widths (1, 2, 3) are available for trend lines (the larger, the thicker). Select the desired width by clicking the corresponding number. The color of the selected width will switch to blue.

6. Trip Line Width

Three widths (1, 2, 3) are available for trip lines (the larger, the thicker). Select the desired width by clicking the corresponding number. The color of the selected width will switch to blue.

7. Grid Division

Used to set the number of grid divisions. Click the button in the combo box. A list will appear, so select the desired number (4 to 12).

3.34 Setting the LCD Brightness and Saver Function

The screen brightness and saver function can be set. If the saver function is enabled (ON), the screen will become blank if no key is pressed or no alarm occurs during the specified save time.

Operating Method

1. **Displaying the menu**

   Click the [Setting] tab and select [Display], or select [Setting] - [SET [Regular] Setting] - [LCD Brightness] or [View Saver] from the menu bar.
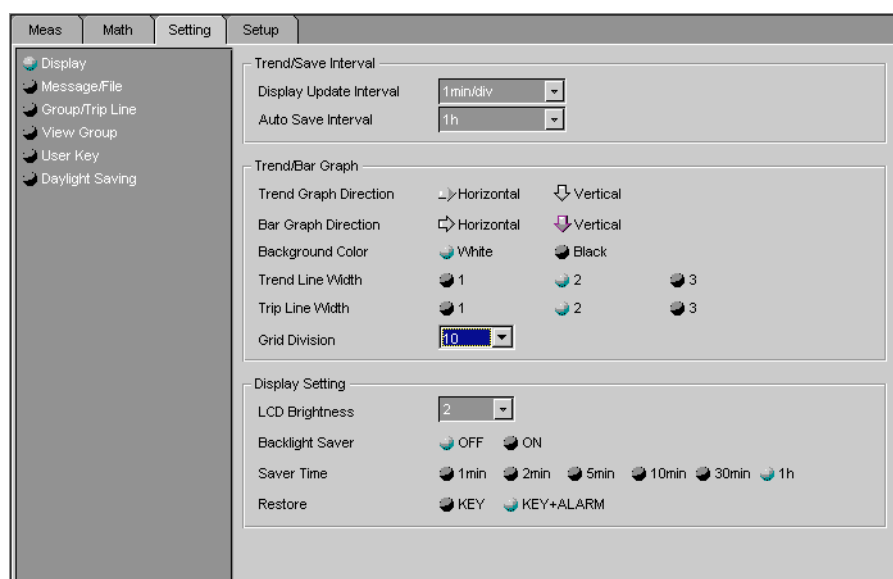
2. **LCD Brightness**

   Used to set the brightness of the LCD screen. Click the button in the list box. A list will appear, so select the desired brightness (the larger, the brighter). (Brightness levels 1 to 4 are available for DX200, and 1 to 8 for DX100.)

3. **Backlight Saver**

   Used to select whether the saver function is to be used or not. Select [ON] if you are going to use it, or select [OFF] if not.

4. **Saver Time**

   Used to set the saver time. If no key is pressed or no alarm occurs during the saver time, the screen will automatically become blank.
   The color of the selected time will switch to blue.

5. **Restore**

   Used to set the conditions which cause the screen to restore (i.e. display the contents). Select [KEY] if you want the screen to restore when a key is pressed, or select [KEY+ALARM] if you want the screen to restore when a key is pressed or an alarm occurs.

3.35 Setting the Daylight Saving Time

This section explains how to set summer/winter time.

Operating Method

1. Displaying the menu

Click the [Setting] tab and select [Daylight Saving], or select [Setting] – [SET [Regular] Setting] – [Daylight Saving] from the menu bar.
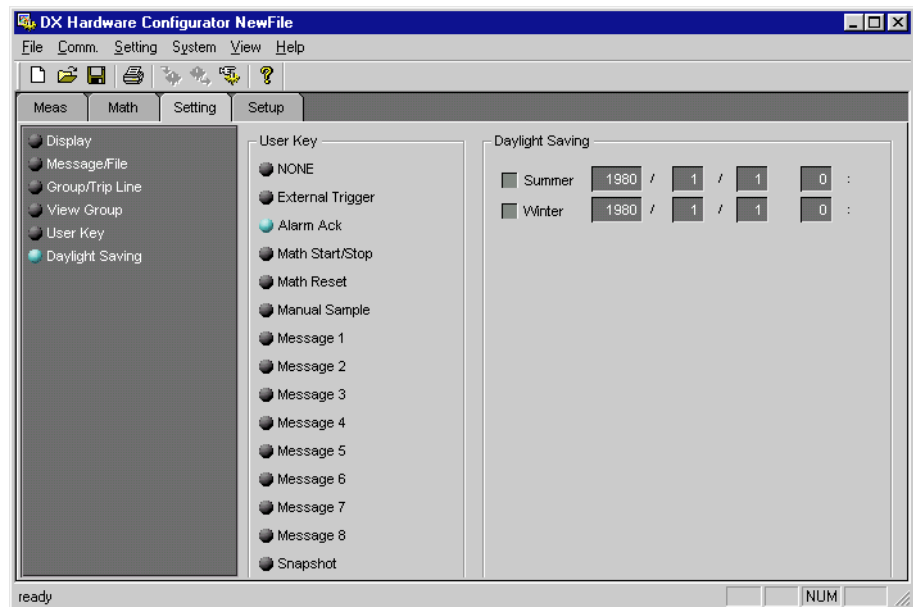
2. Summer/Winter

Used to set the summer or winter time. Click the check box on the left of the desired item (Summer or Winter). The selected check box will switch to blue.

3. Setting the year/month/day/time

Click the currently set year, month, day or time to be changed. It can now be changed, so enter the desired year, month, day or time.

Note

- Year 2038 and later cannot be set.

3.36 Setting the Alarm Method

This section explains how to set the alarm method.

Operating Method

1. **Displaying the menu**
   Click the [Setup] tab and select [Alarm/Relay/Remote], or select [Setting] - [SET [Basic] Setting] - [Setting] - [Alarm] from the menu bar.
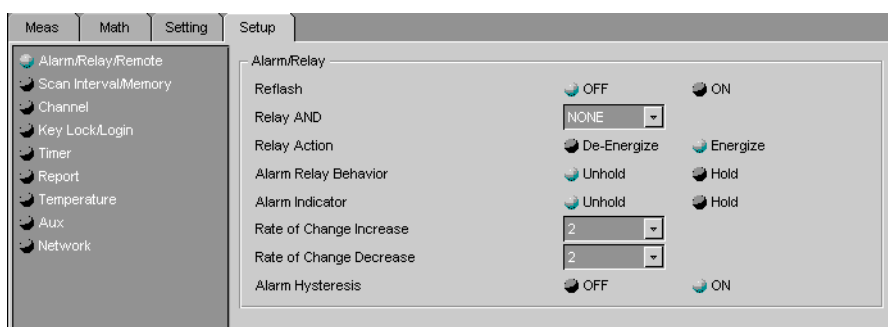
2. **Reflash**
   Used to select whether reflash alarms are to be used for alarm output relays. Select [ON] if you are going to use, or select [OFF] if not.

3. **Relay AND**
   Used to select the range of the alarm output relays to be used in AND mode. Select the last relay of the range. The relays from the first one to the one selected here will be used in AND mode. The other relays will be used in OR mode. To use all the relays in OR mode, select [NONE].

4. **Relay Action**
   Select whether alarm output relays are to be energized (Energize) or de-energized (Re-energize) in case of an alarm. The color of the selected option will switch to blue.

5. **Alarm Relay Behavior**
   Select whether alarm output relays are to hold the status (Hold) or not (Unhold). The color of the selected option will switch to blue.

6. **Alarm Indicator**
   Select whether alarm indication is to be held (Hold) or not (Unhold) even if the alarm has been cleared. The color of the selected option will switch to blue.

7. **Rate of Change Increase**
   Used to set the interval for upper change rate alarms. Select the desired interval (1 to 15).

8. **Rate of Change Decrease**
   Used to set the interval for lower change rate alarms. Select the desired interval (1 to 15).

9. **Alarm Hysteresis**
   Used to provide a hysteresis between the value which causes an alarm to occur and the one which causes it to clear. Select [ON] if you want to provide a hysteresis, or select [OFF] if not. The color of the selected option will switch to blue.

3.37 Setting the Scan Interval

This section explains how to set the scan interval and A/D integration time.

Operating Method

1. Displaying the menu

Click the [Setup] tab and select [Scan Interval/Memory], or select [Setting] - [SET [Basic] Setting] - [Setting] - [Interval] from the menu bar.
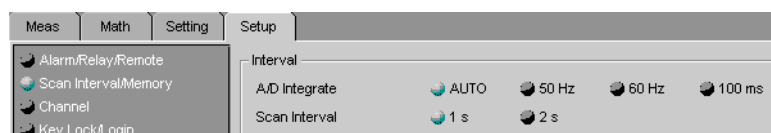
2. Scan Interval

Set the scan interval. The color of the selected scan interval will switch to blue.

Note _____
  • The available scan intervals differ between the medium-speed and high-speed types.
    DX102, DX104, DX204, DX208   : 1s, 2s
    DX106, DX112, DX210, DX220, DX230   : 125ms, 250ms
_____

3. A/D Integrate

Set the A/D integration time. The color of the selected A/D/D integration time will switch to blue.

Note _____
  • A/D integration time 100ms can be selected only when 2s is selected for the scan interval.

3.38 Selecting the Burn-out and RJC

This section explains the method for setting how the measurement result is to be treated in case of a burnout of the thermo-couple in TC input mode. It also explains how to set the RJC type (internal or external).

Operating Method

1. Displaying the menu

Click the [Setup] tab and select [Channel], or select [Setting] - [SET [Basic] Setting] - [Setting] - [Burnout] from the menu bar.

2. BURN OUT

Used to select how the measurement result is to be treated in case of a burnout of the thermo-couple. Select [OFF], [UP] (+ over) or [DOWN] (- over).

3. RJC Type

Used to select the RJC type. Select Internal or External.

4. RJC Volt (uV)

Used to specify the compensation value if [External] is selected as the RJC type. Enter the desired value (-20,000 to 20,000).

Copying the Settings

The burnout and RJC settings made to a channel can be copied to another channel.

Operating Method

1. Click the source channel no. The color of the channel no. will switch to red.

Note _____

   • If you want to copy the settings of two or more channels, select the corresponding channel nos. by dragging them
_____

Setup Channel Copy Details

☑ Burnout   ☐ RJC   [OK]

[Cancel]

2. Click [Copy Details].

3. Select the item(s) to be copied, and then click [OK].

4. Click [Copy].

5. Click the destination channel no. The color of the channel no. will switch to red.

Note _____

   • If you want to copy the settings to two or more channels, select the corresponding channel nos. by dragging them
_____

6. Click [Paste].

The settings will be copied.

3.39 Setting the Save Method for Measurement/ Math Data

This section explains how to set the save method for measurement/math data.

Operating Method

1. Displaying the menu

Click the [Setup] tab and select [Scan Interval/Memory], or select [Setting] - [SET [Basic] Setting] - [Setting] - [Memory Sample] from the menu bar.
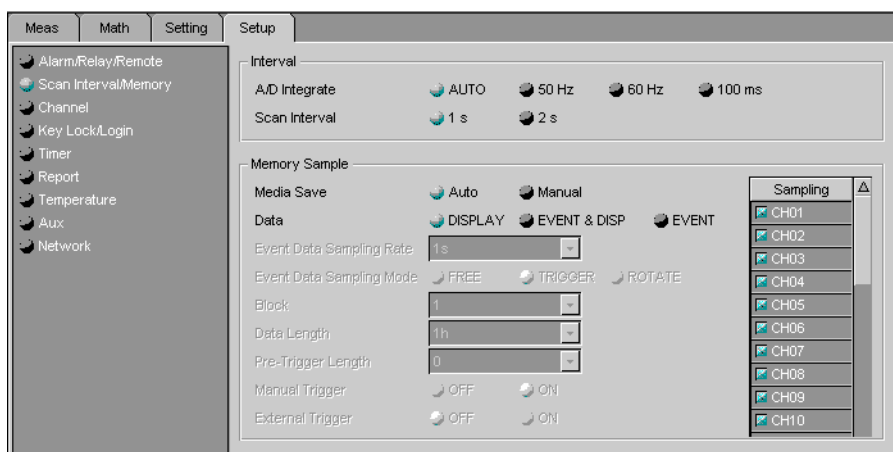
2. Media Save

Used to set whether the data is to be saved manually or automatically. Select [Auto] if you want to save it automatically, and select [Manual] if you want to save it manually.

3. Data

Used to set the type of data to be saved. Select [DISPLAY] if you want to save display data only, select [EVENT] if you want to save event data only, or select [EVENT & DISP] if you want to save both.

Note

Steps 4 to 10 are necessary only if [EVENT] or [EVENT & DISP] is selected at step 3, since they relate to event data.

4. Event Data Sampling Rate

Set the sampling rate for event data. The sampling rate differs between high-speed and medium-speed types.

5. Event Data Sampling Mode

Used to select the sampling mode. Select from [FREE], [TRIGGER] and [ROTATE].

6. Block

Used to divide the event data save area (memory) into blocks. Select the desired number of blocks from "1" (does not divide), "2", "4", "8" and "16".

Note

The number of blocks can be selected only from "1", "2" and "4" if [EVENT & DISP] is selected as the data type at step 3.

7. Data Length

Used to set the length (i.e. size) of the event data file. The size must be set in terms of sampling time. The size varies with the specified event data sampling rate and number of blocks.

8. Pre-Trigger Length

Used to set the portion of the data to be written before generation of a trigger. The portion must be set in ratio (0, 5, 25, 50, 75, 95 and 100%) to the data length.

Note

0% means that the entire event data is written after generation of the trigger, and 100% means that the entire event data is written before generation of the trigger.

9. Manual Trigger

Select [ON] if you want to cause a trigger to be generated when a manual trigger is designated.

10. External Trigger

Select [ON] if you want to cause a trigger to be generated when the external contact (remote input) is turned ON.

11. Alarm Trigger

Select [ON] if you want to cause a trigger to be generated when any of the alarms occur.

12. Sampling

Select the channel whose display/event data is to be saved.

3.40 Selecting to Display Channels in Tag Names or Channel Nos.

This section explains how to set whether channels are to be displayed in tag names or channel nos. For a description of how to set a tag name to a channel, refer to 3.23, "Assigning a Tag Name to a Channel".

Operating Method

1. Displaying the menu

Click the [Setup] tab and select [Aux], or select [Setting] - [SET [Basic] Setting] - [Setting] - [Tag] from the menu bar.
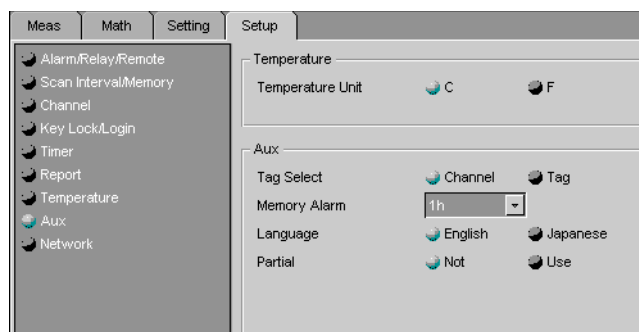

2. Tag Select

Select [Channel] if you want to display channels in channel nos., or select [Tag] if you want to display channels in tag names. The color of the selected option will switch to blue.

3.41 Setting the Memory Full Relay Output Time

The software can check the current free space in the internal memory and cause the memory full relay to activate at the specified time prior to the time at which the internal memory is expected to run out of free space. This time is called memory alarm time.

Operating Method

1. **Displaying the menu**

   Click the [Setup] tab and select [Aux], or select [Setting] - [SET [Basic] Setting] - [Setting] - [Memory Alarm] from the menu bar.
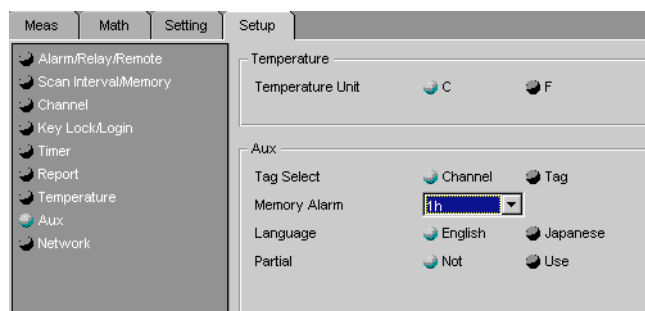
2. **Memory Alarm**

   Set the desired memory alarm.

3.42 Selecting the Display Language

The language of messages to be displayed can be selected. The selectable languages vary with the options and DX currently connected to the PC.

Operating Method

1. Displaying the menu

Click the [Setup] tab and select [Aux], or select [Setting] - [SET [Basic] Setting] - [Setting] - [Language] from the menu bar.
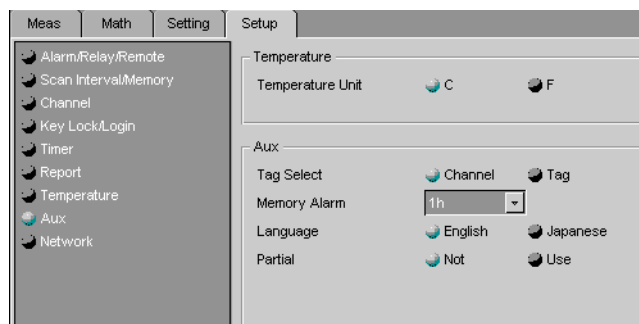
2. Language

Select the desired language.

3.43 Selecting Whether or Not to Use the Partial Expand Function

This section explains how to select whether or not the partial expand function is to be used.

Operating Method

1. Displaying the menu

Click the [Setup] tab and select [Aux], or select [Setting] - [SET [Basic] Setting] - [Setting] - [Partial] from the menu bar.
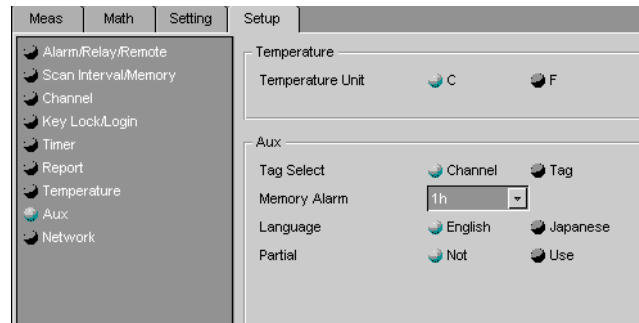
2. Partial

Select [Use] if you are going to use the partial expand function, or select [Not] if not. The color of the selected option will switch to blue.

3.44 Setting the Key Lock Function

The key lock function for keys and external media can be enabled or disabled. The password to be used to cancel the key lock function can also be specified.

Operating Method

1. Displaying the menu

Click the [Setup] tab and select [Kay Lock/Login], or select [Setting] - [SET [Basic] Setting] - [Setting] - [Key Lock] from the menu bar.
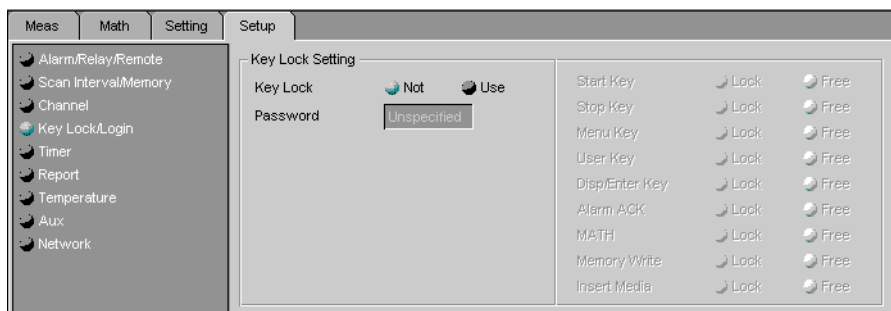
2. Key Lock

Used to select whether or not to use the key lock. If [Use] is selected, a list of the keys and external media which can be subjected to this function will be displayed.

3. Lock/Free

For each key and media, select [Free] if you want to enable the function, or select [Lock] if you want to disable the function.

3. Password

Enter the password to be used to cancel the function.

Note
- The password can consist of up to six characters. For characters which can be used for the unit, refer to 3.62, "Usable Characters".

3.45 Setting the Login/Logout Function

The login function and user ID can be set.

Operating Method

1. Displaying the menu

Click the [Setup] tab and select [Key Lock/Login], or select [Setting] - [SET [Basic] Setting] - [Setting] - [Login] from the menu bar.

2. Use Login

Select [Use Login] if you want to use the login function.

3. Auto Logout

Select [Auto Logout] if you want to use the auto logout function. If this function is used, a logout will be made after a certain time has elapsed following the login.

4. Use ID

Select [User ID] if you want to use the user ID. When [User ID] is selected, the [User ID] field will become available.

5. ON/OFF

Select [ON] if you want to use the user settings, or select [OFF] if not. If [ON] is selected, the current user registration will be effective.

6. User Name

Enter a user name (up to 16 characters). For characters which can be used for the unit, refer to 3.62, "Usable Characters".

7. User ID

Enter a user ID (up to 4 characters). For characters which can be used for the unit, refer to 3.62, "Usable Characters".

8. Password

Enter a password (up to 6 characters). For characters which can be used for the unit, refer to 3.62, "Usable Characters".

9. Setup

Used to select whether or not to permit the ID setting to be changed in setup mode.
Enable   Possible to enter setup mode.
Disable   Not possible to enter setup mode.

Note

- If a user name for which [ON] is selected is also used for another user, [OFF] will be selected for the user that has the larger user no.
- If [Disable] is selected for all the users for which [ON] is selected, [Enable] will be selected for the user who has the smallest user no.

3.46 Assigning a Remote Control Function to Each Remote Control Terminal

A remote control function can be assigned to a total of eight remote control terminals. This setting is available if the DX100/DX200 has the remote function.

Operating Method

1. Displaying the menu

Click the [Setup] tab and select [Alarm/Relay/Remote], or select [Setting] - [SET [Basic] Setting] - [Setting] - [Remote Action] from the menu bar.
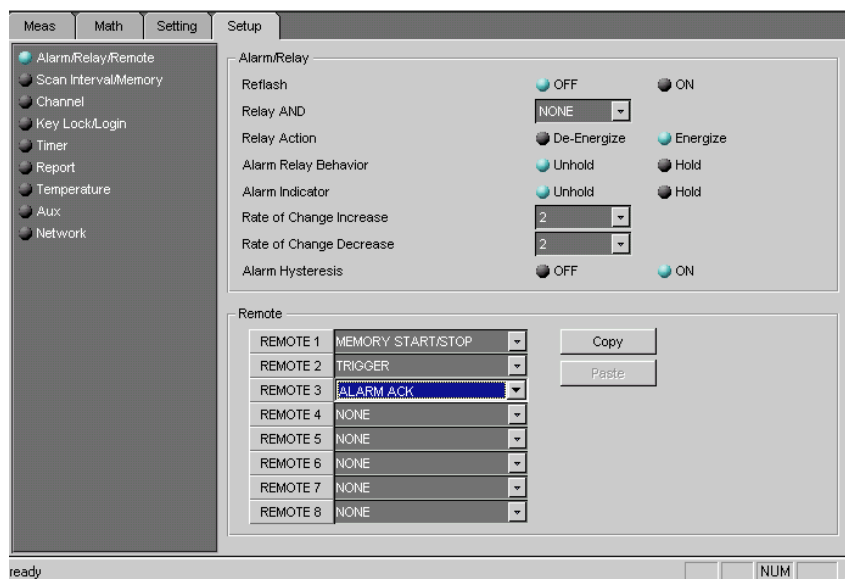
2. Selecting a remote control function for each remote no.

The following control functions are available.

NONE, ALARM ACK, MEMORY START/STOP, MANUAL SAMPLE, TRIGER, MESSAGE 1, MESSAGE 2, MESSAGE 3, MESSAGE 4, MESSAGE 5, MESSAGE 6, MESSAGE 7, MESSAGE 8, PANEL 1 LOAD, PANEL 2 LOAD, PANEL 3 LOAD, MATH START/STOP, MATH RESET, TIME ADJUST

Copying the Settings

The settings made to a remote no. can be copied to another remote no.

1. Click the source remote no. The color of the remote no. will switch to red.

Note

- If you want to copy the settings of two or more remote nos., select the corresponding remote nos. by dragging them

2. Click [Copy].

3. Click the destination remote no. The color of the remote no. will switch to red.

Note

- If you want to copy the settings to two or more remote nos., select the corresponding remote nos. by dragging them

4. Click [Paste].
The settings will be copied.

3.47 Setting the Timers to be Used for TLOG

A total of three timers to be used for TLOG can be set. When the time set on a timer expires, the data will be saved to the TLOG file or math will be reset.

Operating Method

1. Displaying the menu

Click the [Setup] tab and select [Timer], or select [Setting] - [SET [Basic] Setting] - [Setting] - [Timer] from the menu bar.
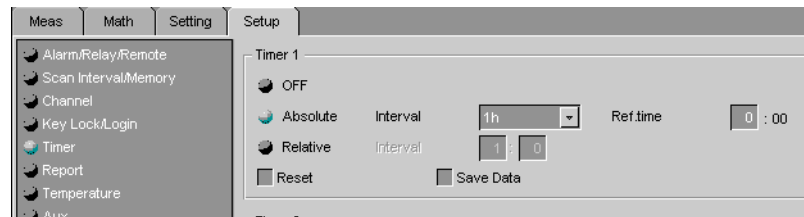
2. OFF

Select [OFF] if you are not going to use the timer.

Using as an Absolute Timer

3. Select [Absolute].

4. Interval

Select the period of time to be elapsed before a time-up.

5. Ref.time

Set the clock time to be used as the reference. The timer starts at the specified clock time, and a time-up will occur when the specified interval elapses.

6. Save Data

Select this option if you want to save the data to the TLOG file when a time-up occurs.

7. Reset

Select this option if you want to reset math when a time-up occurs.

8. Repeat the above steps for each timer.

Using as a Relative Timer

3. Select [Relative].

4. Interval

Set the interval between time-ups. A time-up occurs each time the specified interval expires.

5. Save Data

Select this option if you want to save the data to the TLOG file when a time-up occurs.

6. Reset

Select this option if you want to reset math when a time-up occurs.

7. Repeat the above steps for each timer.

3.48 Setting the Report Function

Various reports (hourly, daily, weekly and monthly) can be created. It is possible to create an hourly report only, daily only, daily and weekly, or daily and monthly. A total of 30 channels are available for this function in the case of DX200 (12 channels in the case of DX100).

Operating Method

1. **Displaying the menu**
   Click the [Setup] tab and select [Report], or select [Setting] - [SET [Basic] Setting] - [Setting] - [Report] from the menu bar.
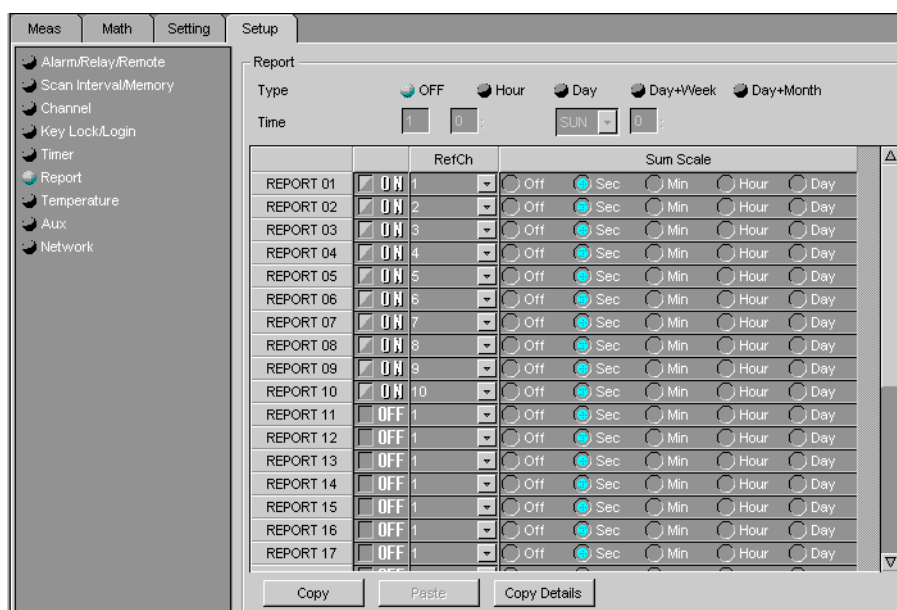
2. **Type**
   Select the desired type of report. The color of the selected type will switch to blue.

3. **Time**
   Set the date/time or day of week/time on which the report is to be created.

4. **ON/OFF**
   Used to enable (ON) or disable (OFF) the report channel.

5. **RefCh**
   Assign a target channel (measurement/math channel) to the report channel.

6. **Sum Scale**
   Used to set whether the math result of the TLOG.SUM math channel is to be converted to time values before being reported. Select [Off] if you are not going to convert.

Copying the Settings

The settings made to a report channel can be copied to another report channel.

Operating Method

1. Click the source report channel no. The color of the channel no. will switch to red.

Note

- If you want to copy the settings of two or more channels, select the corresponding channel nos. by dragging them

2. Click [Copy Details].

3. Select the item(s) to be copied, and then click [OK].

4. Click [Copy].
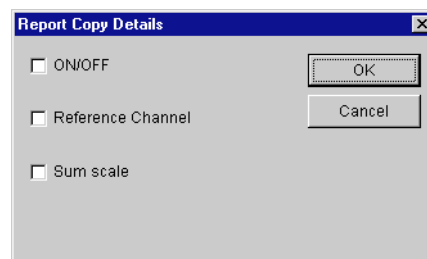
5. Click the destination report channel no. The color of the channel no. will switch to red.

Note

- If you want to copy the settings to two or more channels, select the corresponding channel nos. by dragging them

6. Click [Paste].
The settings will be copied.

3.49 Setting the TCP/IP

Before communicating with the DX100/DX200 via Ethernet, the IP address, subnet mask and default gateway of the DX100/DX200 must be set.

Operating Method

1. Displaying the menu

Click the [Setup] tab, select [Network], and then click the [TCP/IP] tab.
Selecting [Setting] - [SET [Basic] Setting] - [Comm] - [Ethernet], [Keep Alive], [DNS] or [Timeout] from the menu bar will also have the same result.

2. IP Address

Set the IP address.

3. Subnet Mask

Set the subnet mask.

4. Default Gateway

Set the default gateway.

5. DNS

Used to select whether or not to use DNS. Select [ON] if you are going to use it, or select [OFF] if not.

6. Primary Sever IP Address

Set the IP address of the primary DNS server.

7. Secondary Sever IP Address

Set the IP address of the secondary DNS server.

8. Host Name

Enter the host name.

9. Domain Name

Enter the domain name.

10. Domain Suffix 1

Enter the domain suffix 1.

11. Domain Suffix 2

Enter the domain suffix 2.

12. Keep Alive

Used to select whether to enable or disable keep alive. Select [ON] to enable it, or select [OFF] to disable.

13. Time Out

Used to select whether to enable or disable time out. Select [ON] to enable it, or select [OFF] to disable. If [ON] is selected, enter the desired time out value.

14. Memory Data Out

Used to select the communication module to which the memory data is to be output. Select [Ethernet] to use Ethernet, or select [Serial] to use the serial interface.

Note

• [Serial] is displayed only if the DX100/DX200 has the serial communication function.

3.50 Setting the FTP Function

Use of the FTP function enables automatic transfer of a measurement/math data file to the personal computer.

Operating Method

1. Displaying the menu

Click the [Setup] tab, select [Network], and then click the [FTP] tab, or select [Setting] - [SET [Basic] Setting] - [Comm] - [FTP] from the menu bar.

2. Click the [Primary] or [Secondary] tab.

(The following steps apply whether the [Primary] or [Secondary] tab is clicked.)

3. Server Name

Enter the server name.

4. Port Number

Enter the port number.

5. Login Name

Enter the login name.

6. Password

Enter the password.

7. Account

Enter the account.

8. PASV

Used to select whether or not to use PASV. Select [Use] if you are going to use it, or select [Not] if not.

9. Initial Path

Enter the initial path.

10. Disp & Event Data

Select [ON] if you want to send a file when memory data is created.

11. Report

Select [ON] if you want to send a file when the report time expires.

3.51 Setting the Serial Communication Function

Operating Method

1. **Displaying the menu**

   Click the [Setup] tab, select [Network], and then click the [Serial] tab, or select [Setting] - [SET [Basic] Setting] - [Comm] - [Serial] from the menu bar.
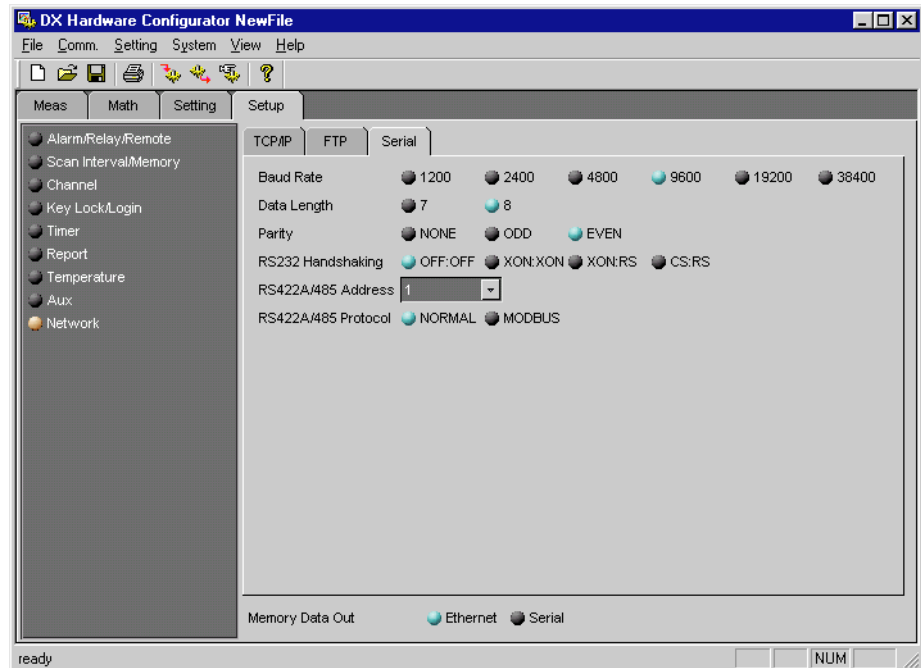
2. **Baud Rate**

   Select the desired baud rate.

3. **Data Length**

   Select the desired data length.

4. **Parity**

   Used to select the type of parity check. Select [ODD] for odd parity check, select [EVEN] for even parity check, or select [NONE] if you do not want to perform any parity checks.

5. **RS232 Handshaking**

   Select the handshaking method for RS232.

6. **RS422A/485 Address**

   Select the address for RS422A/485.

7. **RS422A/485 Protocol**

   Used to select the protocol for RS422A/485. [NORMAL] or [MODBUS].can be selected

3.52 Setting the Temperature Unit

This section explains how to set the unit for temperature measurement. Either Celsius (C) or Fahrenheit (F) can be set.

Operating Method

1. Displaying the menu

Click the [Setup] tab and select [Temperature], or select [Setting] - [SET [Basic] Setting] - [Temperature Unit] from the menu bar.
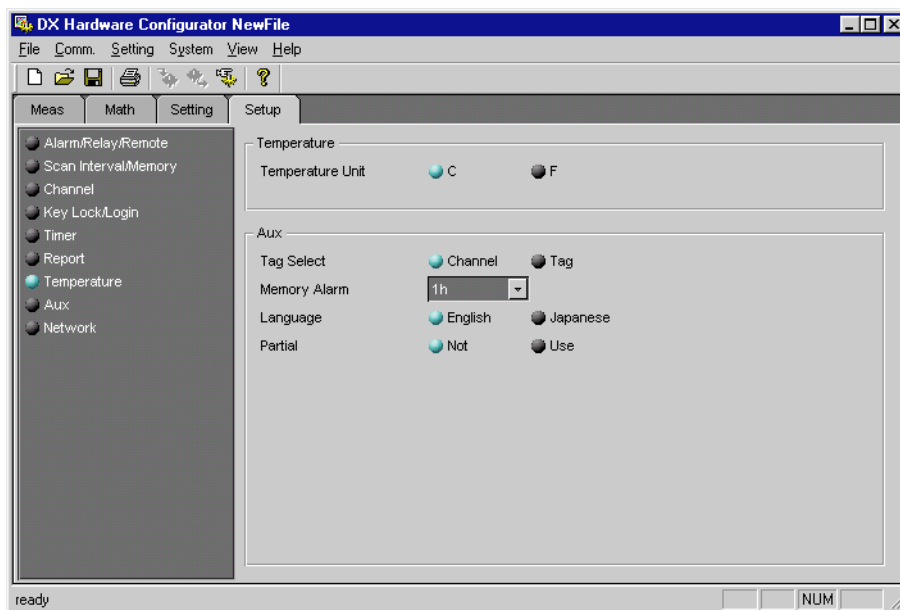
2. Select C of F by clicking it.

3.53 Setting the File Header, Destination Directory Name and the Data to be Saved in Manual Save Mode?

The software allows you to write a comment in the header of a measurement/math data file, and set the directory where the file is to be saved. It also allows you to select whether to save all the data or only the data which has not been saved.

Operating Method

1. Displaying the menu

Click the [Setting] tab and select [Message/File], or select [Setting] - [SET [Regular] Setting] - [File Header] from the menu bar.

```
┌─ File ──────────────────────────────────┐
│  File Header      [                    ] │
│  Directory Name   [DATA0    ]            │
│  Manual Save        ◉ Unsave    ◉ All    │
└──────────────────────────────────────────┘
```
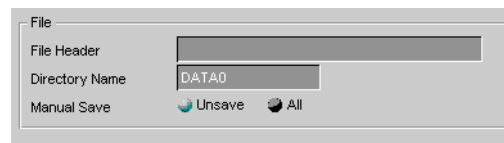
2. File Header

Used to enter a comment in the header of the measurement/math data file. Click the header display area. A comment can now be entered, so enter the desired comment. Up to 32 characters can be entered. For characters which can be used for the unit, refer to 3.62, "Usable Characters".

3. Directory Name

Used to specify the directory where the measurement/math data file is to be saved. Click the currently set directory name. The directory name can now be changed, so enter the desired directory name.

Note

- The directory name can consist of up to eight characters. For characters which can be used for the unit, refer to 3.62, "Usable Characters".

  The following cannot be used:
  AUX, CON, PRN, NUL, CLOCK
- If no directory name is entered, "DATA0" (default directory name) will be given automatically.

4. Manual Save

Used to select whether to save all the data or only the data which has not been saved in the case of manual save mode. Select [All] to save all the data, or select [Unsave] to save only the data which has not been saved.

3.54 Setting the Auto Save Interval for Displayed Data

If an external media (floppy disk, ZIP, ATA memory card) is set on the DX100/DX200, the data in the internal memory can be saved to the media automatically at the specified intervals. This section explains how to set the interval (i.e. auto save interval).

Operating Method

1. Displaying the menu

Click the [Setting] tab and select [Display], or select [Setting] - [SET [Regular] Setting] - [Trend/Save Interval] from the menu bar.
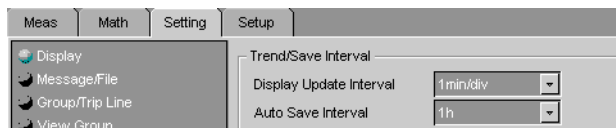
2. Auto Save Interval

Select the desired auto save interval.

Note

• This setting is available only if [Event Data Sample Mode] is set to [Free] and [Data] is set to either [DISPLAY] or [EVENT & DISP] in Memory Sample setting. For details, refer to 3.39, "Setting the Save Method for Measurement/Math Data".

3.55 Assigning a Function to the USER Key

A function can be assigned to the [USER] key. Pressing the [USER] key during operation will cause the assigned function to be performed.

Operating Method

1. Displaying the menu

Click the [Setting] tab and select [User Key], or select [Setting] - [SET [Regular] Setting] - [User Key] from the menu bar.
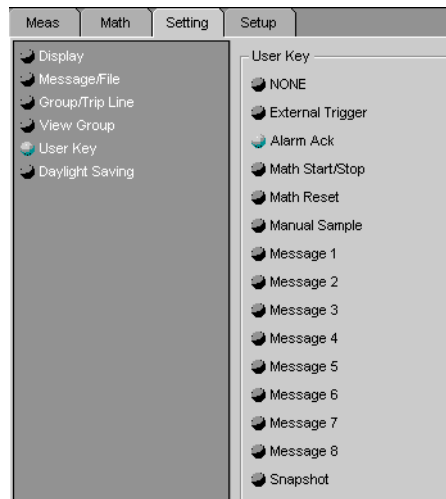
2. User Key

Select the desired function from the list. The color of the selected function will switch to blue.

3.56 Adjusting the Setup Data

This section explains how to check whether the setup data matches the actual system. If they do not match, the data will be corrected automatically.

Operating Method

1. Click the Data Adjust button.

Data Adjust button

2. The [Data Adjustment] dialog box will appear, so click [OK] to start data adjustment.
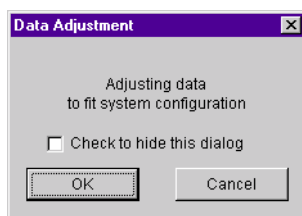
3.57 Initializing the Setup Data

This section explains how to initialize the currently edited setup data.

Operating Method

1. From the menu bar, select [Setting] - [Initialize].

2. The [Initialize] dialog box will appear, so click [OK] to start initialization.
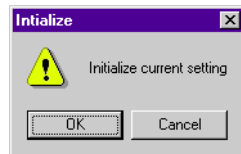
3.58 Sending the Setup Data

This section explains how to send the setup data created by Hardware Configurator to the DX100/DX200.

Operating Method

1. Click the Send button, or select [Comm] - [Send Setting] from the menu bar.
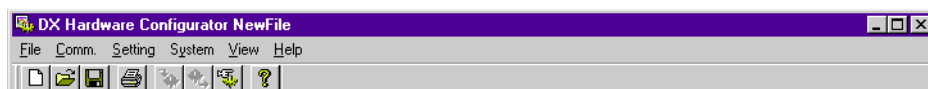
2. A message asking you whether to send the data or not will appear, so click [OK]. All the created setup data will be sent to the DX100/DX200.

3.59 Saving the Setup Data

This section explains how to save the setup data created by Hardware Configurator.

Operating Method

1. From the menu bar, select [File] - [Save] or [Save As].

When [Save] is selected:
The existing file will be overwritten by the setup data. Clicking the Save button will have the same result.

When [Save As] is selected:
The [Save As] dialog will appear.
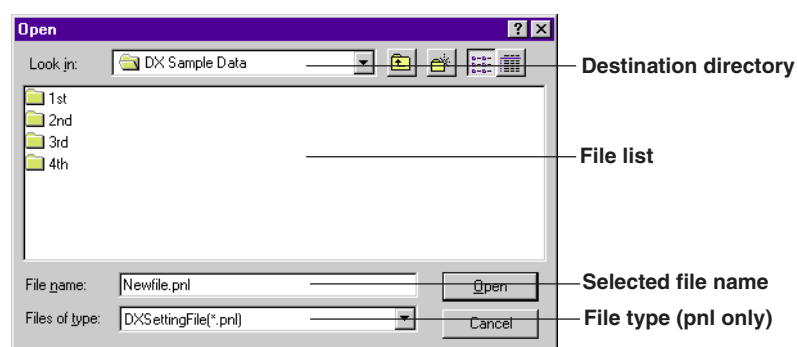
2. Select the destination directory and desired file name, and then click [Save]. The setup data will be saved.

3.60 Printing the Setup Data

This section explains how to print the currently edited setup data.

Operating Method

Setting the printer

1. From the menu bar, select [File] - [Print Setting].
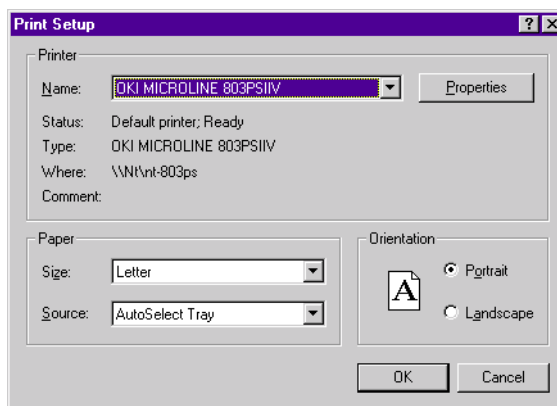
2. Select the printer to be used, paper and print direction.

Showing a print preview

Before starting print, it is possible to view how the data will be printed.

1. Select [File] - [Preview].
The [Preview] window will appear.

Starting Print

1. Click the Print button or select [File] - [Print].
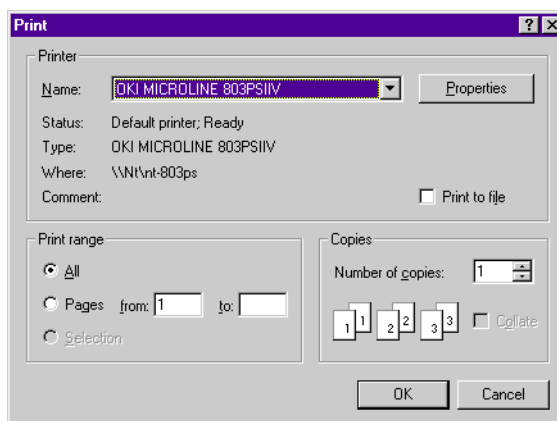
2. Select the printer to be used, page range and number of copies, then click [OK].

3.61 Writing Measured Data and Performing Math

The DX100/DX200 can be controlled from Hardware Configurator to start and stop writing of measured data and math function.

Operating Method

Starting

1. From the menu bar, select [Comm] - [Action] - [Memory & Math] - [Start].
Writing the measured data to the memory and math will start.

Stopping

1. From the menu bar, select [Comm] - [Action] - [Memory & Math] - [Stop].
The measured data will be written to the memory and math will start.
Writing the measured data to the memory and math will stop.

3.62 Usable Characters

The following characters can be used for group names, view group names, messages, comments for file header, name of the directory where files are to be saved, password for key lock function, user name, user ID and password for login.

SP	#	%	(	)	*	+	-	.	/
0	1	2	3	4	5	6	7	8	9
A	B	C	D	E	F	G	H	I	J
K	L	M	N	O	P	Q	R	S	T
U	V	W	X	Y	Z				
A	B	c	D	E	F	g	H	I	j
K	L	m	N	O	P	q	R	s	t
U	V	w	X	Y	Z				
_	^	"	ß	@					

Note

- " ° " is used instead of "^" for the DX100/DX200, and "^" is used instead of " ° " for Hardware Configurator.
- (") and (°) cannot be used for the following.
  Password for key lock
  User ID for login
  DNS host name for TCP/IP
  DNS domain name for TCP/IP
  DNS domain suffix 1 for TCP/IP
  DNS domain suffix 2 for TCP/IP
  Password for FTP
- (*), (+), (.), (/), (") and (°) cannot be used for the name of the directory where files are to be saved.

3.63 Displaying the Version Information

To find the version of the Hardware Configurator, display the [About] dialog box.

Operating Method

1. Click the Version Display button, or select [Help] - [About].
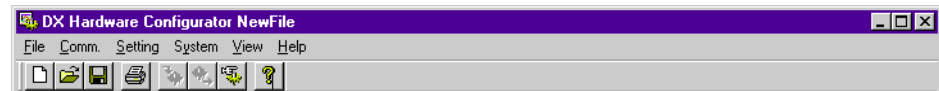
Version Display button

The [About] dialog box will appear.
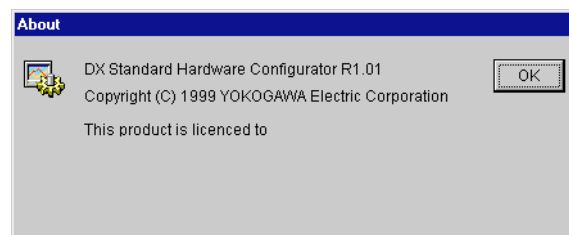
2. To close the dialog box, click [OK].

4.1   Troubleshooting

Launcher

Message	Corrective Action	Reference Pages
Check communication settings.	Open the [Network] dialog box and check the settings.	2-3

Hardware Configurator

Warning Message List

Message	Reference Pages
System settings have been changed. Input configuration and data will be initialized. Do you want to proceed?	3-4
Data created in 2038 or later cannot be handled.	–
Some A/D converters are faulty. Some items cannot be set.	–
Some information cannot be set. Do you still want to continue?	–
Settings may not be made correctly since the configuration does not match the connected DX. Do you still want to send?	3-65
The current setup data will be initialized.	3-64
Setup data will be received from the DX.	3-2
The setup data will be sent.	3-65
Memory sampling will be stopped.	3-68
Memory sampling will be started.	3-68

Error List

Message	Corrective Action	Reference Pages
Illegal file to load	Select another file.	3-2
Failed to load the file.	Try to load the file again. If still not possible, the file may be damaged. Select another file.	3-2
Failed to create a file.	Check the free space in the directory.	–
Memory sampling in progress Stop sending.	Send after data has been written to the internal memory of the DX.	3-65
Math in progress Stop sending.	Send after math is completed.	3-65
Memory sampling & math in progress Stop sending.	Send after data has been written to the internal memory of the DX and math is completed.	3-65
Saving to the media. Re-send later.	Send after data has been saved to the external media.	3-65
Communication error	Check the communication settings.	2-3
Time out	Traffic may be busy. Retry later.	–
Illegal user information	Check whether the user name is correct.	3-50
Failed to connect.	Check the communication settings. Check whether the DX is powered ON.	2-3
Communication busy	Retry later.	–
Memory error	Exit other programs then restart, or reboot the OS then restart.	–
User level error	No right is given to the login user ID	–

4

Troubleshooting

Message

Message

Message
Data has been sent.
Data has been received.
Some information has not been sent.
Not allowed.
A password is required.
A user name is required.
Some information requires attention.

Data Viewer

Message	Corrective Action	Reference Pages
Insufficient memory. Exit immediately.	Exit other programs then restart, or reboot the OS then restart.	Refer to IM 04L01B02-62E
Cannot write to the file.	Check the free space in the directory. The file may be currently used by another program, so check it.	Refer to IM 04L01B02-62E
Cannot load the file.	Check whether the file exists. Also check whether the file system is correct.	Refer to IM 04L01B02-62E
Cannot open the file.	Check whether the file exists. Also check whether the file system is correct.	Refer to IM 04L01B02-62E
Illegal file	Select another file.	Refer to IM 04L01B02-62E
The number of data sets is "0".	Select another file.	Refer to IM 04L01B02-62E
The number of channels is "0".	Select another file.	Refer to IM 04L01B02-62E
Some files may be overwritten. Do you still want to continue?	Continue if OK. If not, change the file names.	Refer to IM 04L01B02-62E

Index