

LMD-100 MONITORING SOFTWARE

SWM-LMD01M

INSTRUCTION MANUAL

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Shinko

About this manual

LMD-100 monitoring software "SWM-LMD01M" monitors controllers connected to the LMD-100.

This manual explains how to install SWM-LMD01M monitoring software.

In this manual, Windows XP is used for purposes of explanation, however, other operating systems (Windows 98/Me/NT4.0/2000) are applicable as well.

Notice when using SWM-LMD01M

Shinko software: Terms of use

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Please read carefully these Terms of Use before using this software.

(2) You may not reverse engineer, decompile or disassemble the software.

2. Copyright

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About the CD-ROM

- In the CD-ROM, the following files are included.

The information on the installation method of SWM-LMD01M monitoring software is contained in the following file.

Install_E.txt/Install_J.txt

The information on usage license and copyright of SWM-LMD01M monitoring software is contained in the following file.

Readme_E.txt/Readme_J.txt

The following is the file for installing SWM-LMD01M monitoring software.

For Windows 2000/XP, use this file.

SWM-LMD01M_Vxxx.msi [in Windows2000_XP folder]

The following is the file for installing SWM-LMD01M monitoring software.

If the software cannot be installed using the file mentioned above (SWM-LMD01M_Vxxx.msi), use this file. For Windows NT4.0, use this file as well.

setup.exe [in WindowsNT4.0 folder]

- Windows NT4.0/2000/XP are registered trademarks of Microsoft Corporation.

1. Preparation before starting the SWM-LMD01M

1.1 Operating environment



Notice

LMD-100 monitoring software "SWM-LMD01M" will run under Windows NT4.0/2000/XP, but not Windows 98/Me. (Installing the software is possible, however it will not start.)

LMD-100 monitoring software "SWM-LMD01M" will run under the following system requirements.

• Personal computer

Personal computer running Windows 98/Me/NT4.0/2000/XP

- CPU Pentium4 800MHz or more
- Main memory Windows NT4.0 : 128MByte or more
Windows 2000 : 256MByte or more
Windows XP : 512MByte or more
- Hard disk 50 Megabytes or more of space available
- RS-232C interface equipment (COM1 to COM8)
- CD-ROM drive equipped

• Operating system

Windows XP Home Edition (English)
Windows XP Professional (English)
Windows 2000 Professional (English)
Windows NT4.0 (English)

• Display

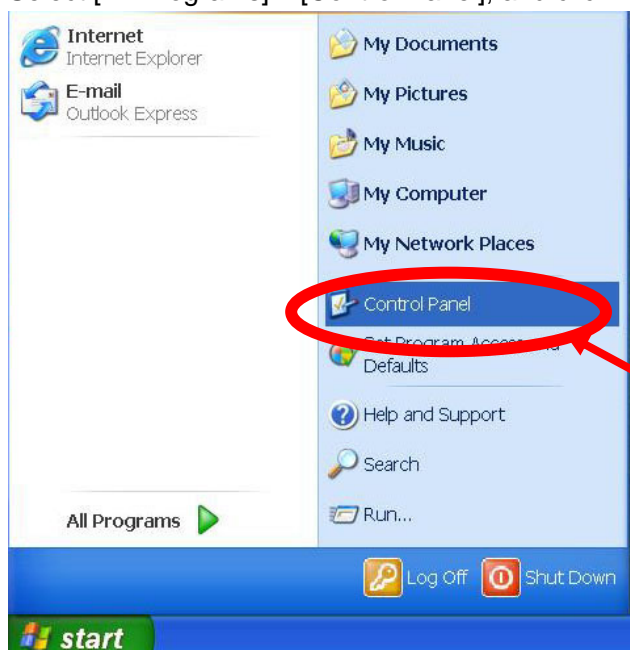
Resolution, 1024 x 768 dots or more, 256 colors or more
Use "Normal fonts".
To set up the font, refer to pages 3 to 6.

● How to set up the font size

To change the font from large to normal, follow the procedures below.

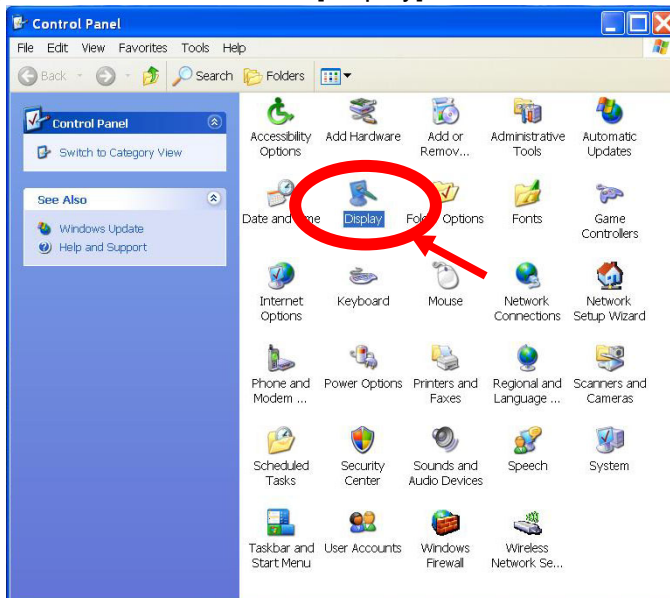
(1) Close all applications which are running.

Select [All Programs] – [Control Panel], and click.



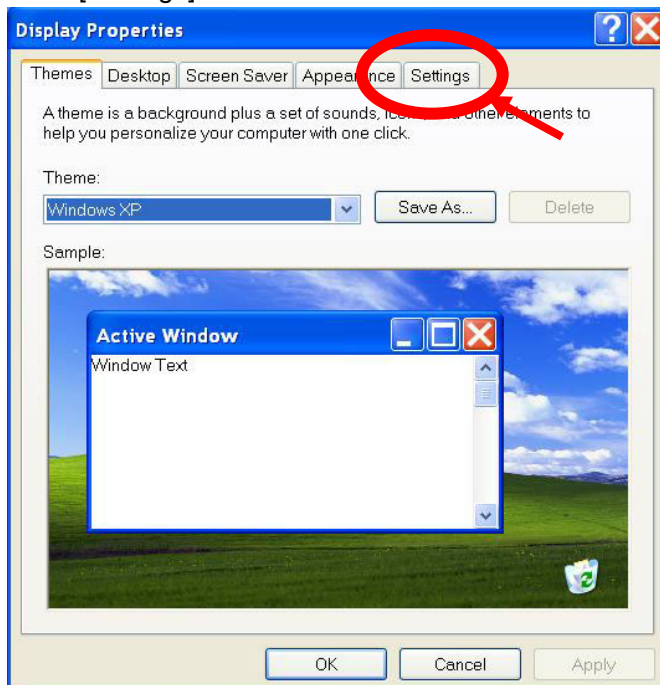
(Fig. 1.1-1)

(2) Double click on the icon [Display].



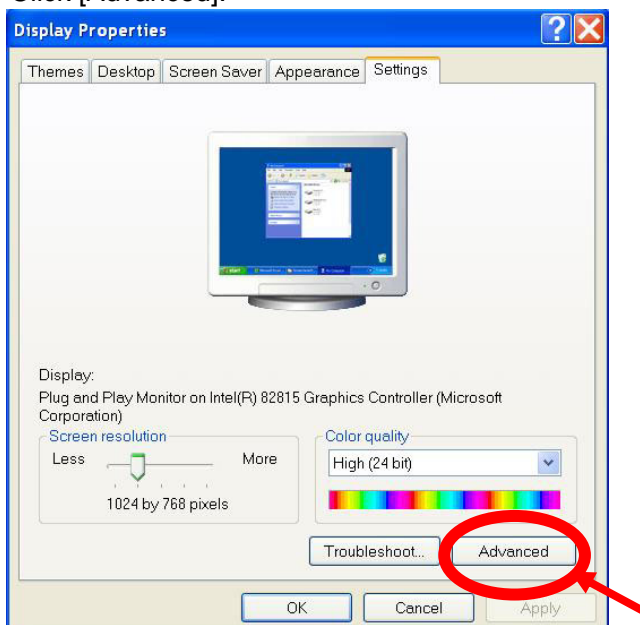
(Fig. 1.1-2)

(3) Click [Settings].



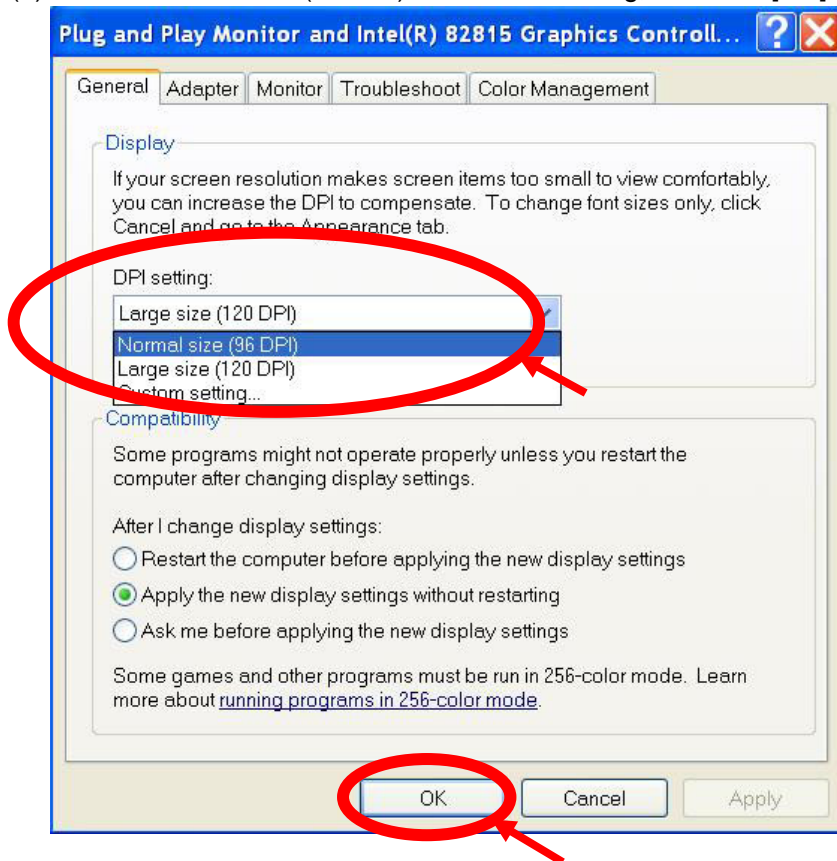
(Fig. 1.1-3)

(4) Click [Advanced].



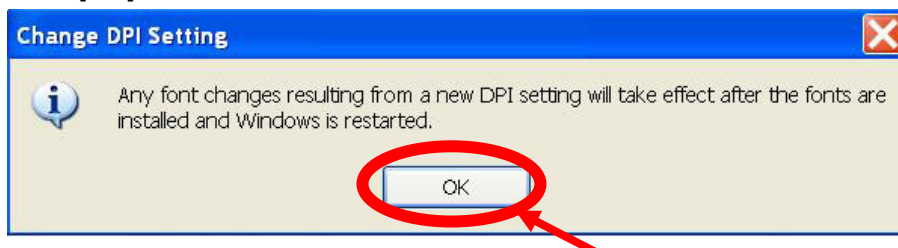
(Fig. 1.1-4)

(5) Select “Normal size (96 DPI)” of the DPI setting, and click [OK].



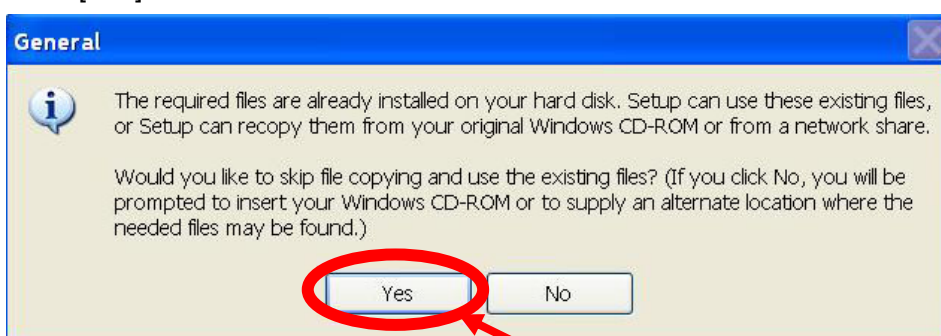
(Fig. 1.1-5)

(6) Click [OK].



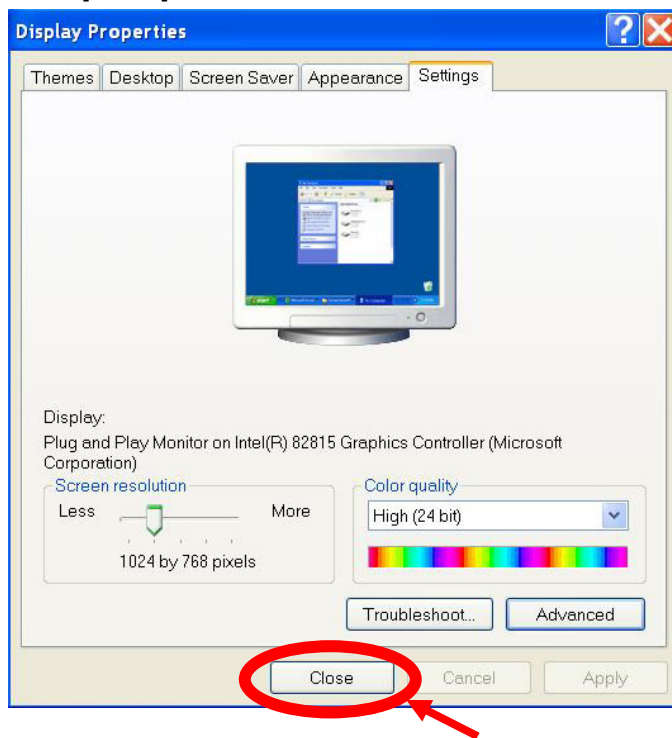
(Fig. 1.1-6)

(7) Click [Yes].



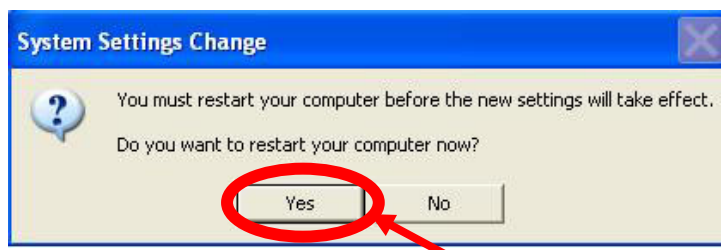
(Fig. 1.1-7)

(8) Click [Close].



(Fig. 1.1-8)

(9) Click [Yes].



(Fig. 1.1-9)

After restarting the system, the font will be set to "Normal size".

1.2 Installing the SWM-LMD01M



Notice

**Before installing, close all applications which are running.
Set the font to “Normal size”. (See pages 3 to 6)**

For the installation of SWM-LMD01M, it is assumed that the installation file has been successfully downloaded and decompressed into the **D drive**.

The personal computer used here has the following drive configuration.

Designate a drive in accordance with your operating environment.

A drive : Floppy disk

C drive : Hard disk

D drive : Hard disk

E drive : CD-ROM

In the downloaded folder, 2 installation files are included as shown below.

The following is the file for installing SWM-LMD01M.

- **SWM-LMD01M_Vxxx.msi** [in Windows2000_XP folder]

For Windows 2000/XP, use this file.

For installation, see pages 7 to 11.

The following is the file for installing SWM-LMD01M.

- **setup.exe** [in WindowsNT4.0 folder]

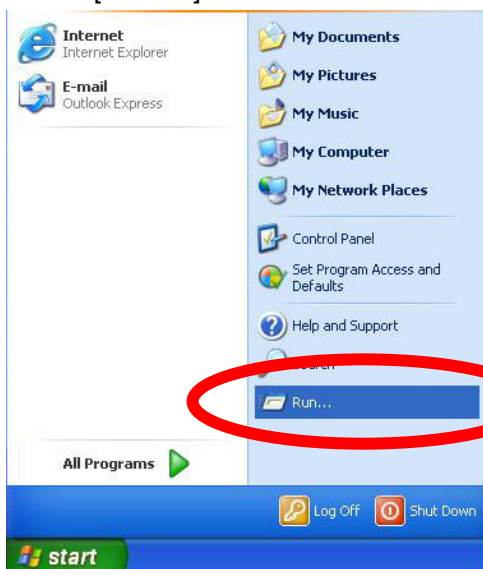
For Windows NT4.0, use this file.

This file is also used when it is impossible to install SWM-LMD01M with the file **SWM-LMD01M_Vxxx.msi** above.

For installation, see pages 12 to 13.

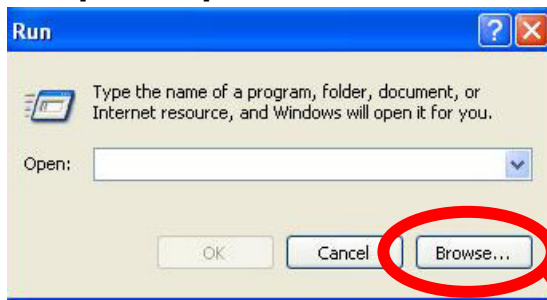
When the computer is running Windows 2000/XP

- (1) Select [RUN...] on the start menu and click on it.



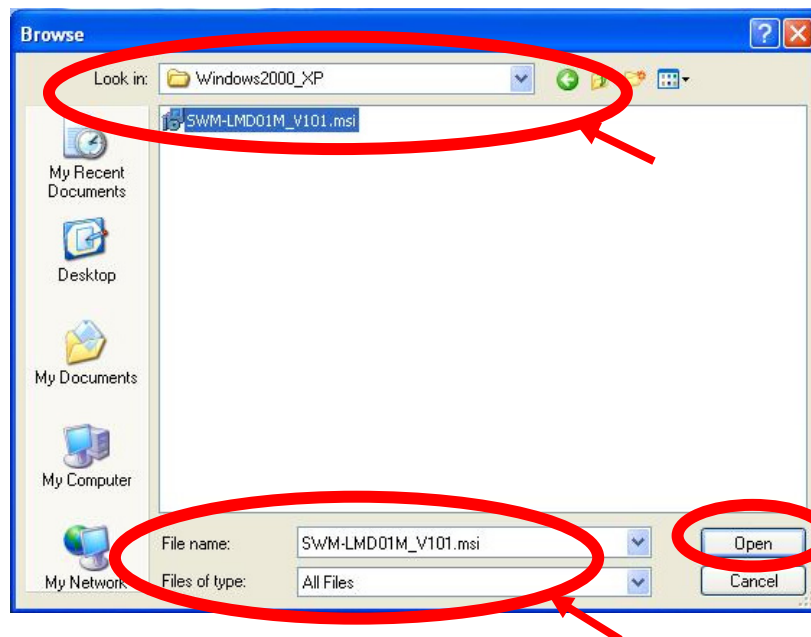
(Fig. 1.2-1)

(2) Click [Browse...].



(Fig. 1.2-2)

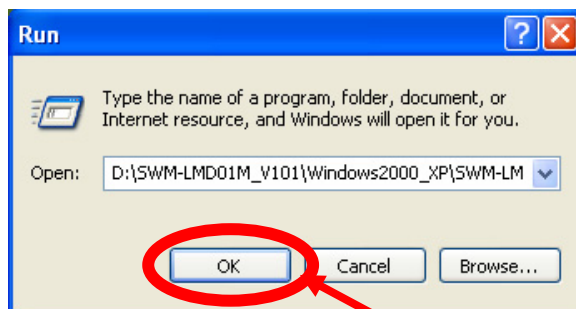
(3) Select "D:" drive and "SWM-LMD01M_Vxxx.msi" – "Windows2000_XP" from [Look in].
Select "All Files" from Files of type.
Select SWM-LMD01M_Vxxx.msi file, and click [Open].



(Fig. 1.2-3)

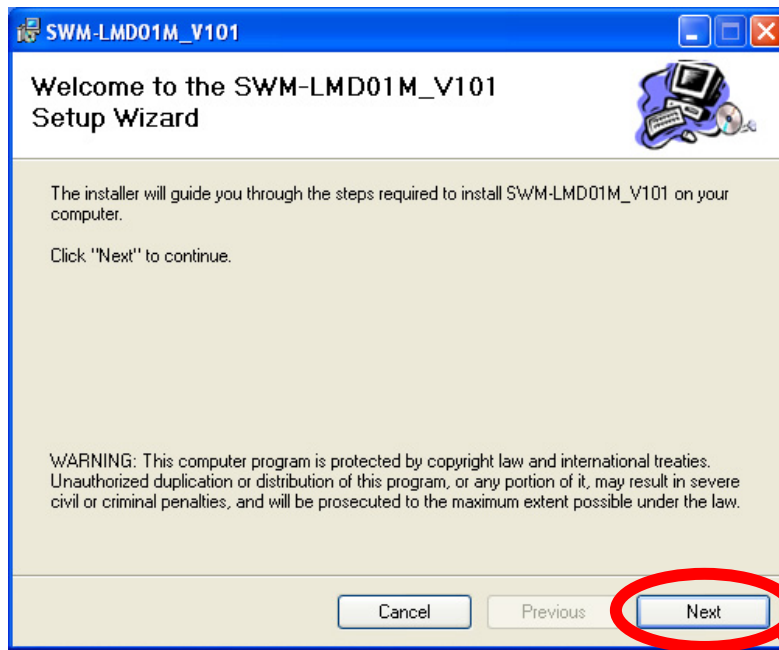
(4) Click [OK].

SWM-LMD01M_Vxxx setup wizard appears.



(Fig. 1.2-4)

- (5) Click [Next].
To cancel installation, click [Cancel].



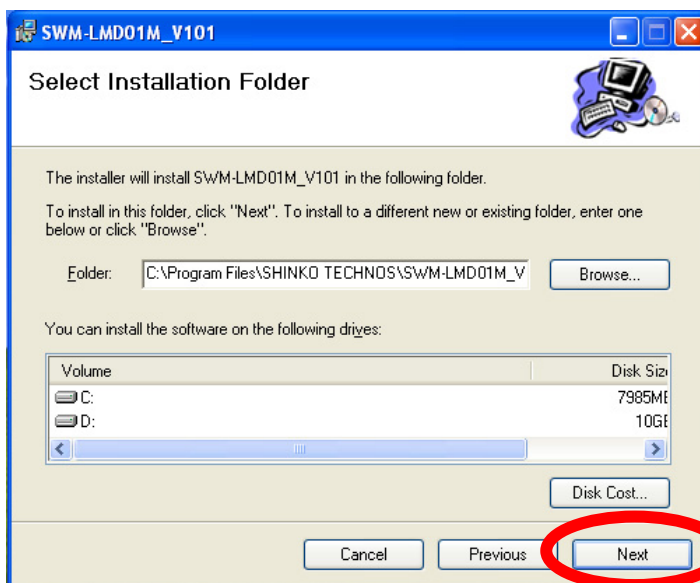
(Fig. 1.2-5)

- (6) Confirm the name of the drive and folder (directory) for installation destination.
“C:\Program Files\SHINKO TECHNOS\SWM-LMD01M_Vxxx\” has been already designated for installation as default.

If this designation is OK, click [Next].

To cancel the installation, click [Cancel].

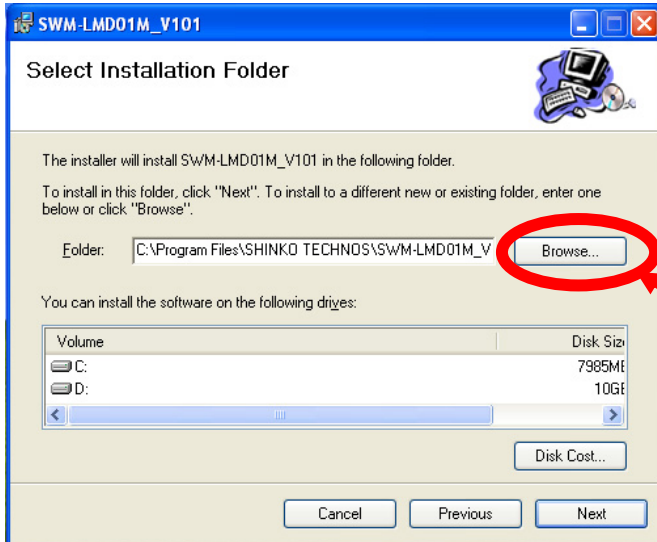
To return to the previous screen, click [Previous].



(Fig. 1.2-6)

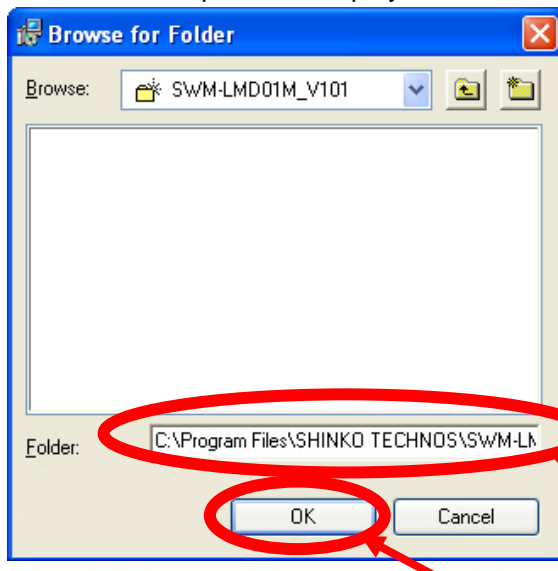
Displays for changing the installation destination

To change the installation destination, click [Browse].



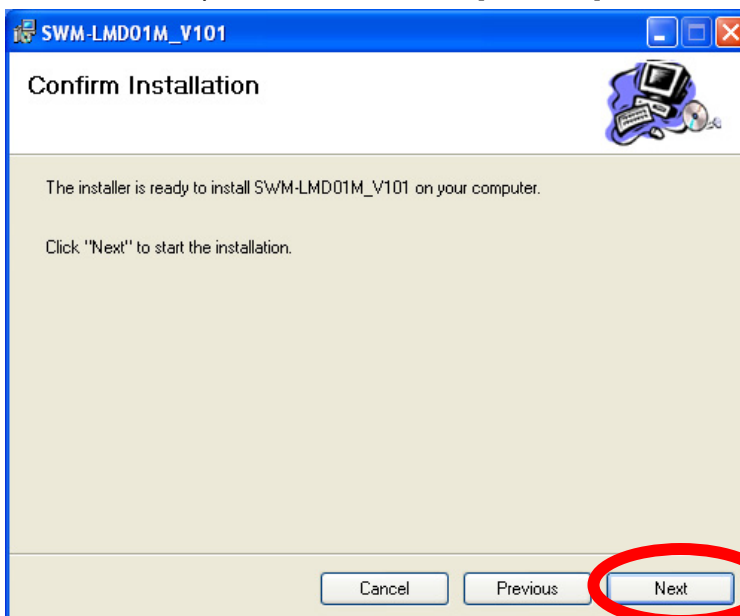
(Fig. 1.2-7)

Designate the name of the drive and folder (directory), and click [OK].
To revert to the previous display without selecting, click [Cancel].



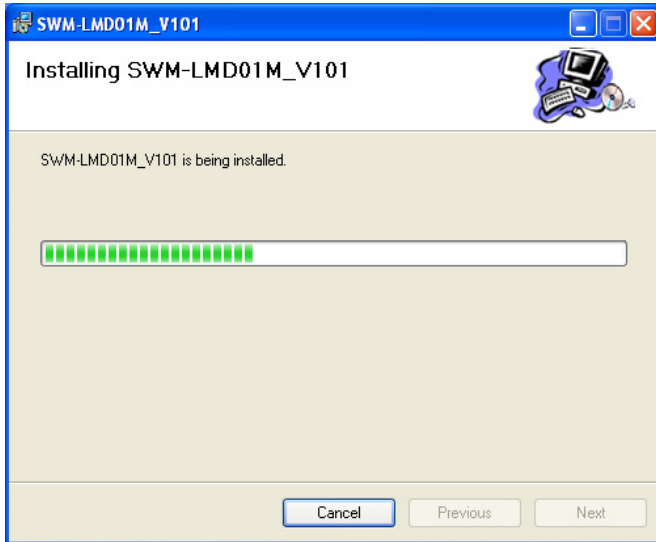
(Fig. 1.2-8)

- (7) The screen for confirming installation appears.
Click [Next].
To cancel installation, click [Cancel].
To revert to the previous screen, click [Previous].



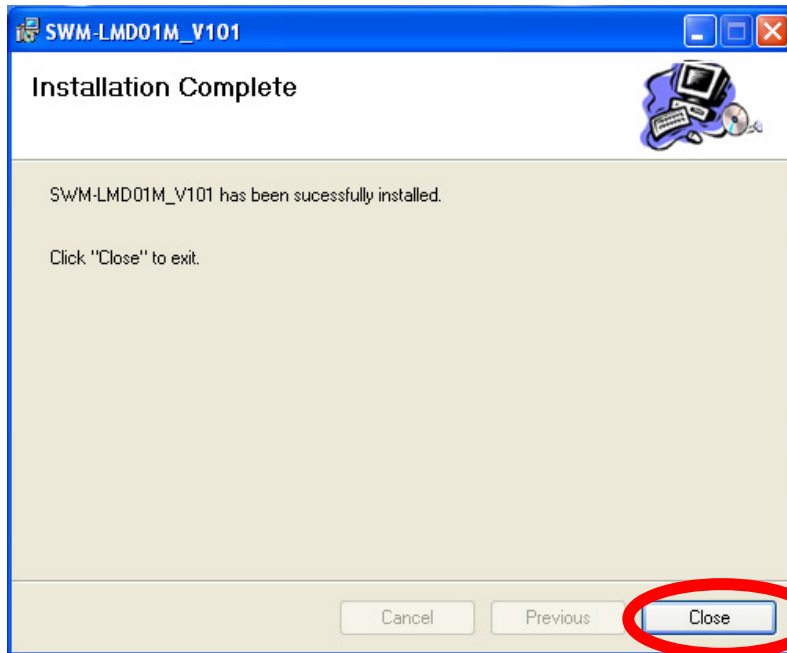
(Fig. 1.2-9)

- (8) The file copying status will be indicated with a bar.
To cancel installation, click [Cancel].



(Fig. 1.2-10)

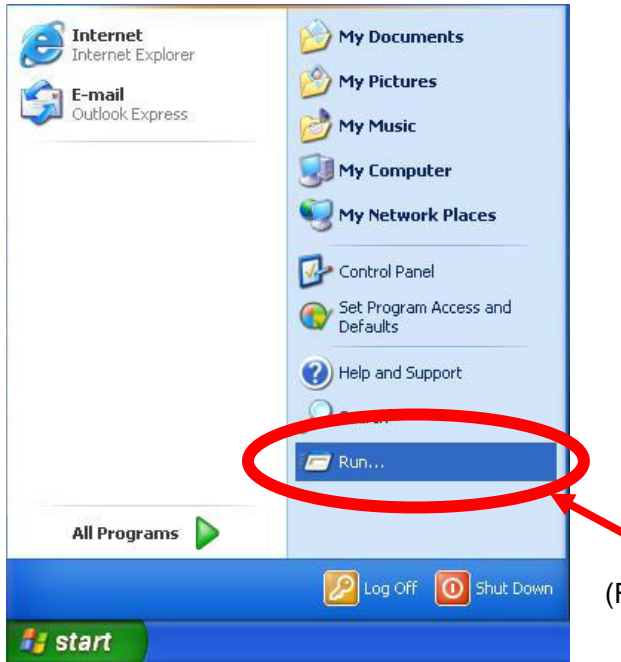
- (9) When installation is complete, the following display will appear.
Click [Close].



(Fig. 1.2-11)

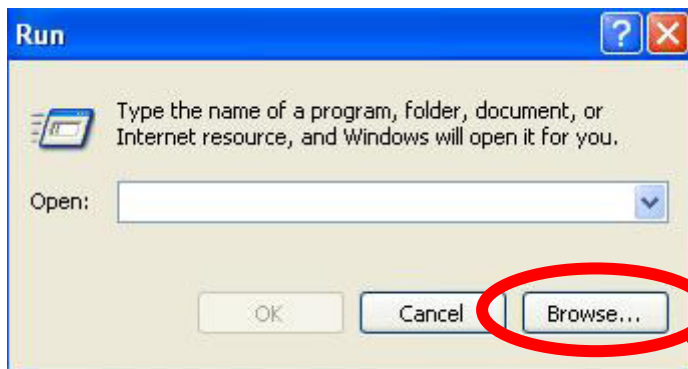
When the computer is running Windows NT4.0

- (1) Select [Run...] and click on it.



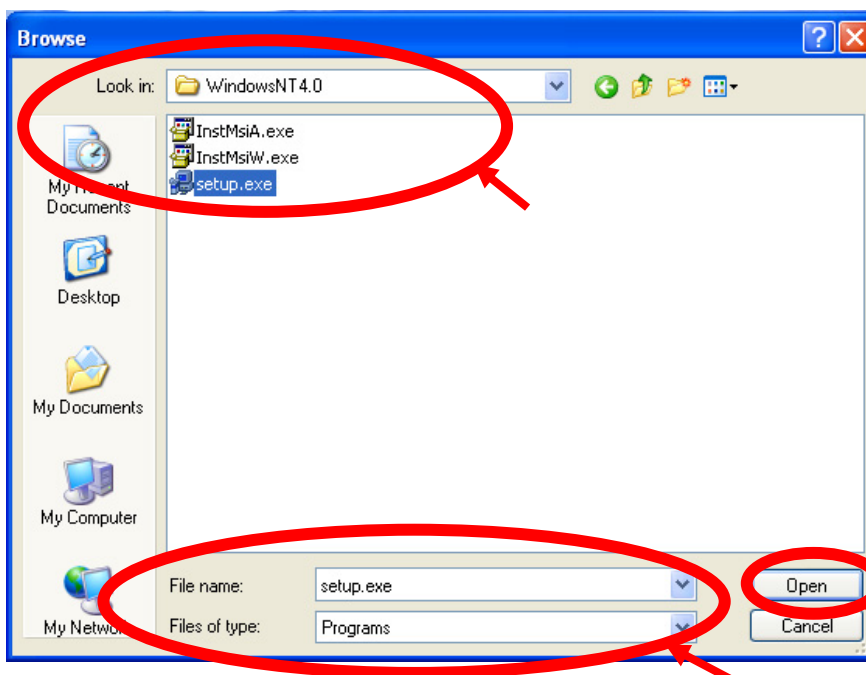
(Fig. 1.2-12)

- (2) Click [Browse...].



(Fig. 1.2-13)

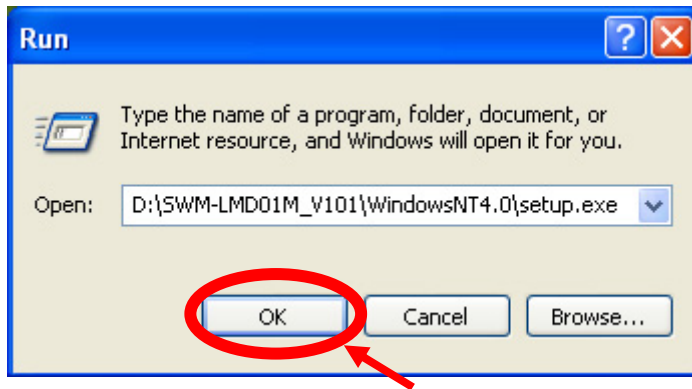
- (3) Select "D" drive and "SWM-LMD01M_Vxxx" – "Win98" folder from [Look in]. Select the setup file "setup.exe", and click [Open].



(Fig. 1.2-14)

(4) Click [OK].

SWM-LMD01M_Vxxx setup wizard appears.



(Fig. 1.2-15)

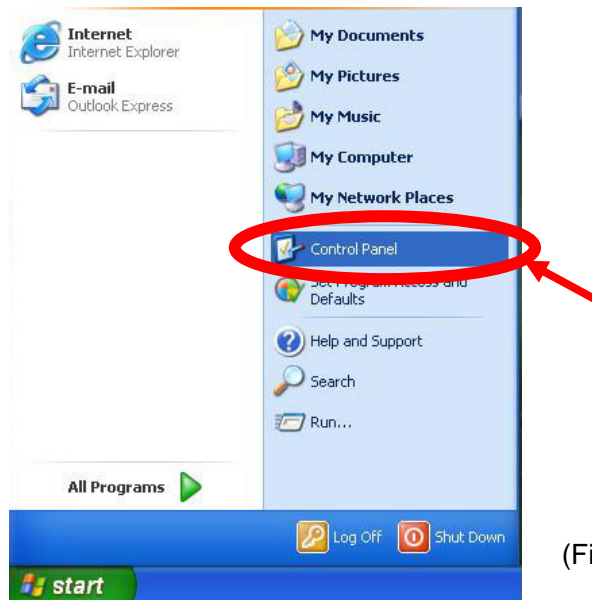
(5) Installation method is the same as that of Windows 2000/XP.

Install the software, referring to steps from (5) of Windows 2000/XP. (See pages 9 to 11.)

1.3 Uninstalling the SWM-LMD01M

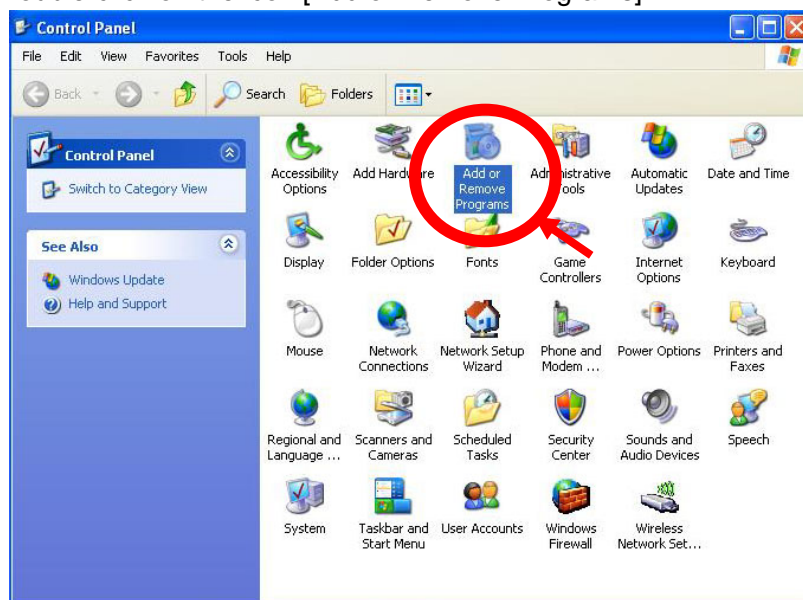
The procedures to uninstall the related files of the SWM-LMD01M from the hard disk are described as follows.

(1) Select [All Programs] on the start menu – [Control Panel], and click.



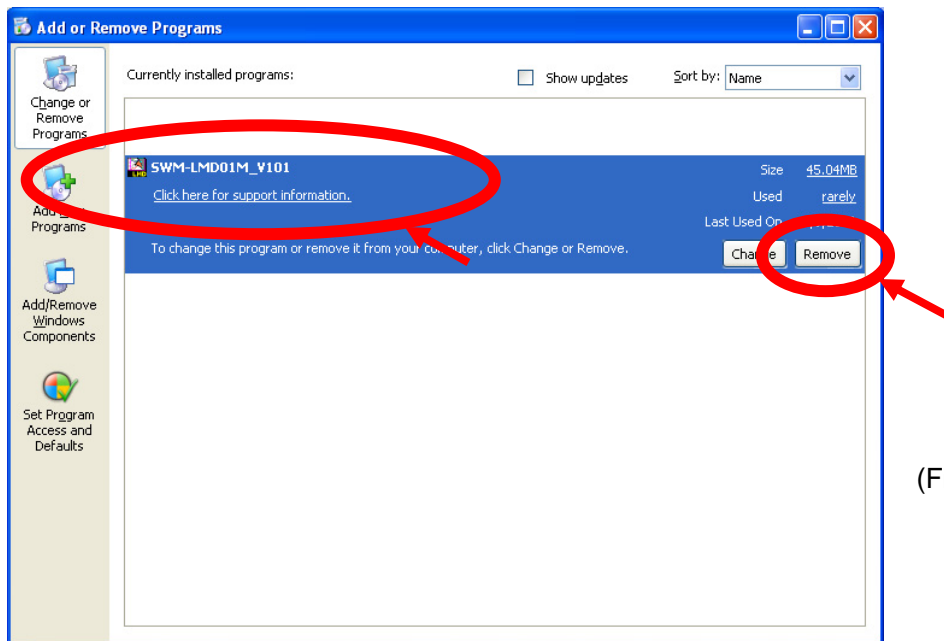
(Fig. 1.3-1)

(2) Double-click on the icon [Add or Remove Programs].



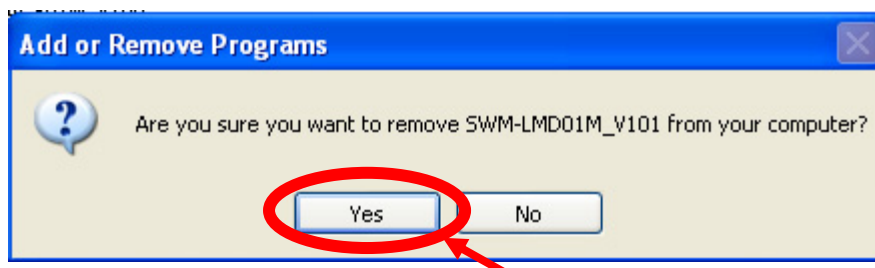
(Fig. 1.3-2)

(3) Click or select “SWM-LMD01M_Vxxx” in the application list, and click [Remove].



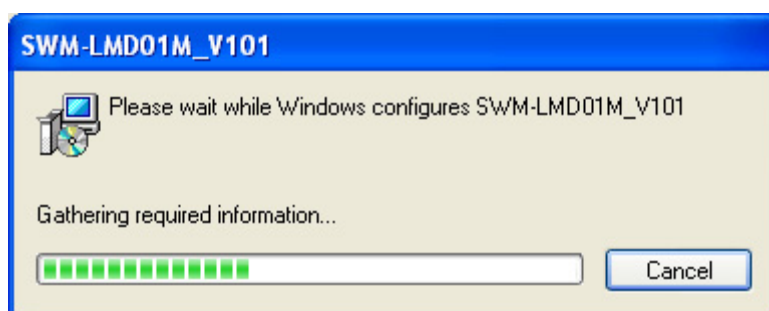
(Fig. 1.3-3)

(4) The dialog box to confirm the removal will appear.
Click [Yes].



(Fig. 1.3-4)

(5) The file uninstalling status will be indicated with a bar.
To cancel uninstalling the software, click [Cancel].



(Fig. 1.3-5)

(6) Confirm that “SWM-LMD01M_Vxxx” has been removed from the application list (Fig.1.3-3).

2. Starting and terminating the SWM-LMD01M

2.1 Example wiring between a host computer and LMD-100



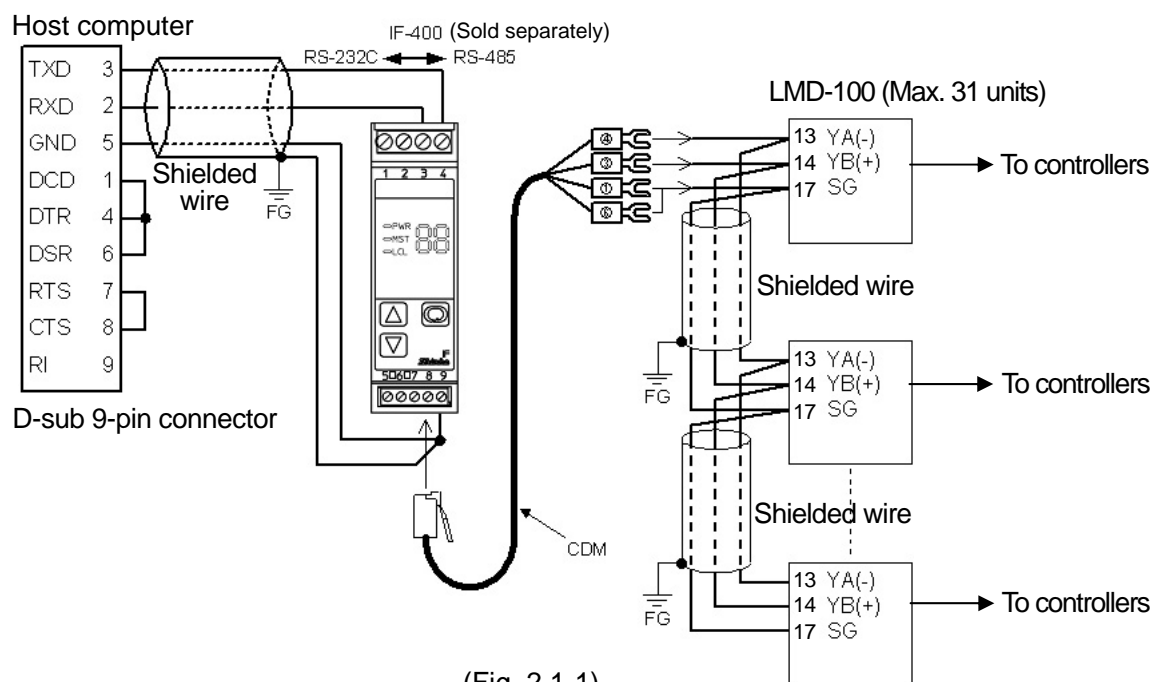
Notice

Wire the D-sub connector as shown below. Communication is impossible without wiring.

- D-sub 9-pin connector : Connect between terminals 1-4-6, between terminals 7-8.
- D-sub 25-pin connector : Connect between terminals 4-5, between terminals 6-8-20.

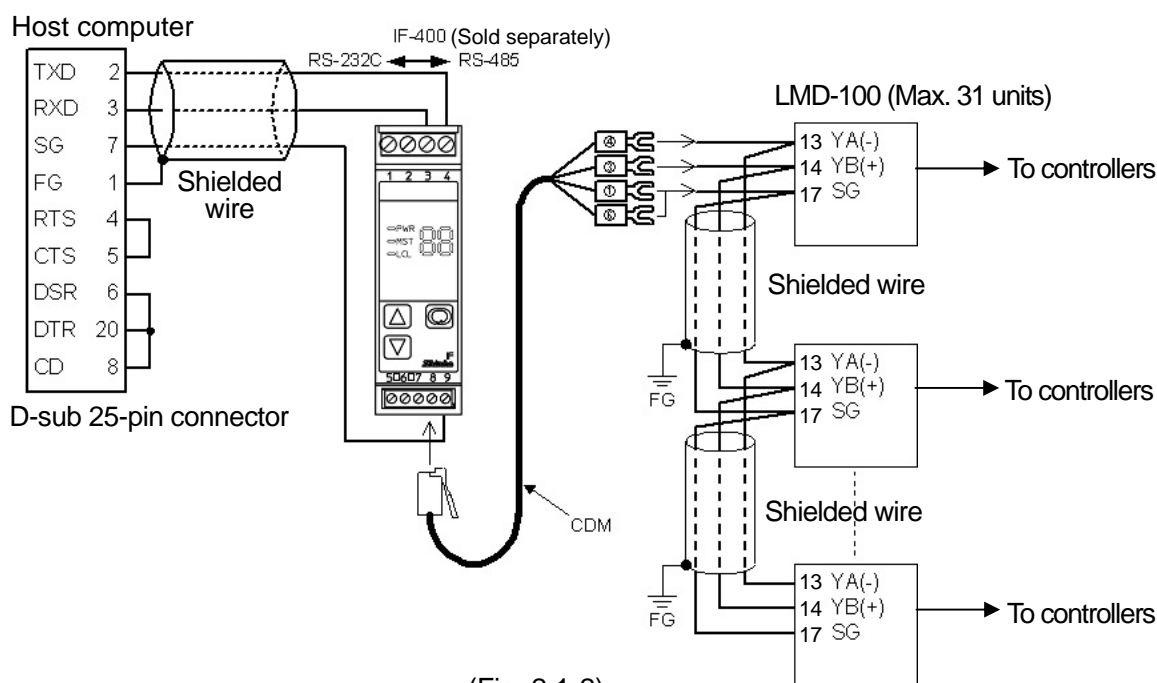
[When using communication converter IF-400 (sold separately)]

[D-sub 9-pin connector]



(Fig. 2.1-1)

[D-sub 25-pin connector]



(Fig. 2.1-2)

Shielded wire

Connect only one side of the shielded wire to the FG terminal so that current cannot flow to the shielded wire.

If both sides of the shielded wire are connected to the FG terminal, the circuit will be closed between the shielded wire and the ground. As a result, current will run through the shielded wire, and this may cause noise.

Be sure to ground FG terminal.

Recommended cable: OTSC-VB 2PX0.5SQ (made by Onamba Co., Ltd.) or equivalent (Use a twisted pair cable.)

Terminator (Terminal resistor)

The terminator is mounted at the end of the wire when connecting a personal computer with multiple peripheral devices. The terminator prevents signal reflection and disturbance.

Do not connect terminator with the communication line because each LMD-100 has built-in pull-up and pull-down resistors instead of a terminator.

When the PC does not have communication ports:

If the PC does not have communication ports, use commercially available serial cables for USB connection.

We have confirmed that the following cables are applicable.

USB to Serial cable (Model: UC-SGT) made by Elecom Co., Ltd.

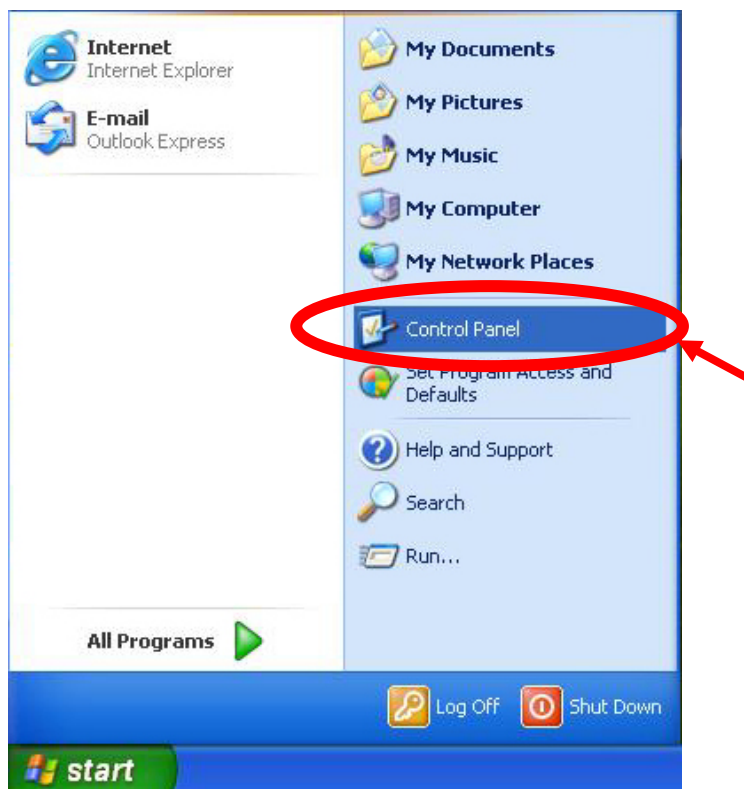
USB - Serial conversion cable (Model: BHC-US01/GP) made by Buffalo INC.

For connection and driver installation method, refer to the Instruction manual for the respective cables.

How to confirm the COM port number

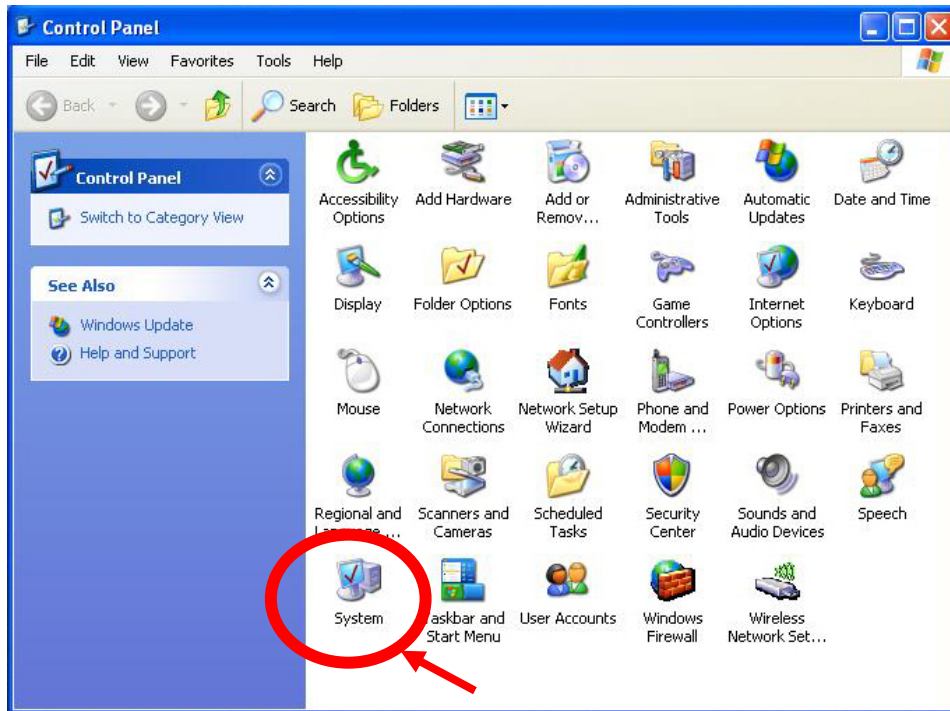
The following shows how to confirm a COM port number.

(1) Select [Control panel] and click.



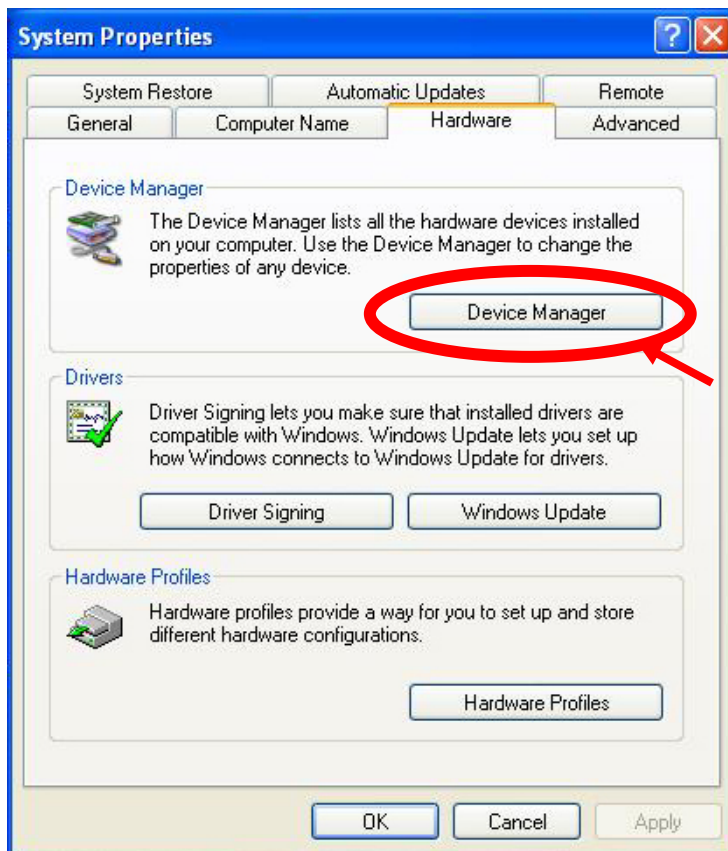
(Fig. 2.1-3)

- (2) Double-click the [System] icon.
System properties display appears.



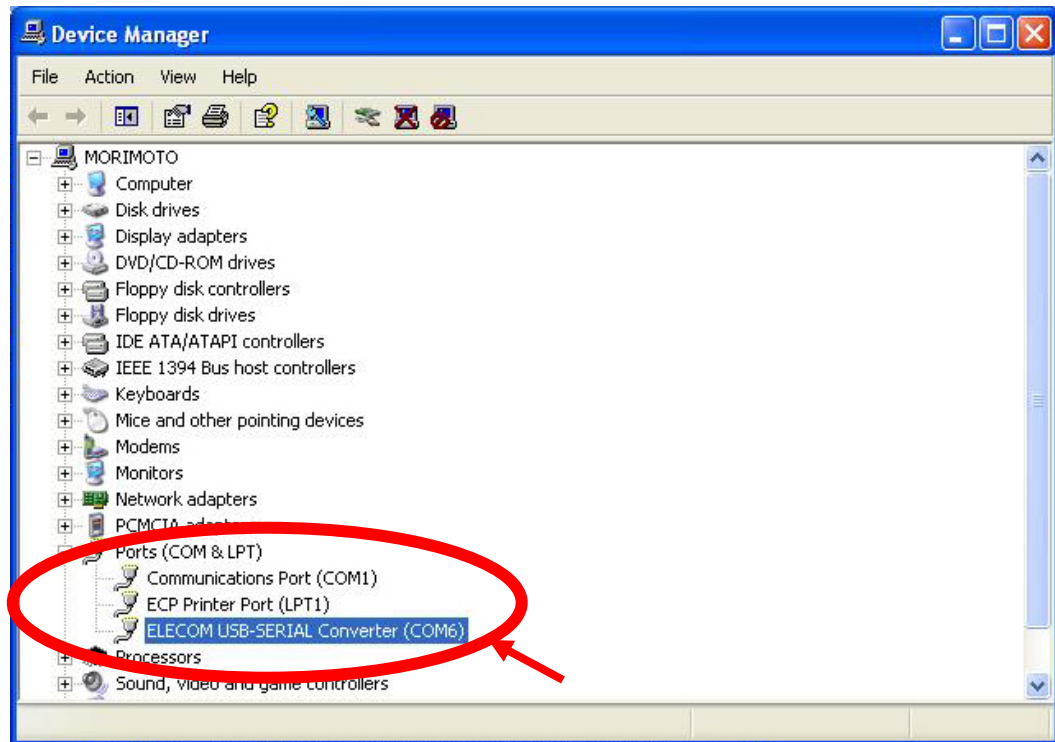
(Fig. 2.1-4)

- (3) Click [Hardware] - [Device Manager].



(Fig. 2.1-5)

- (4) If "ELECOM USB-SERIAL CONVERTER(COM6)" is indicated below Ports (COM and LPT), COM port 6 has been allotted (Fig 2.1-6)
(e.g.) ELECOM USB to Serial cable (model: UC-SGT)



(Fig. 2.1-6)

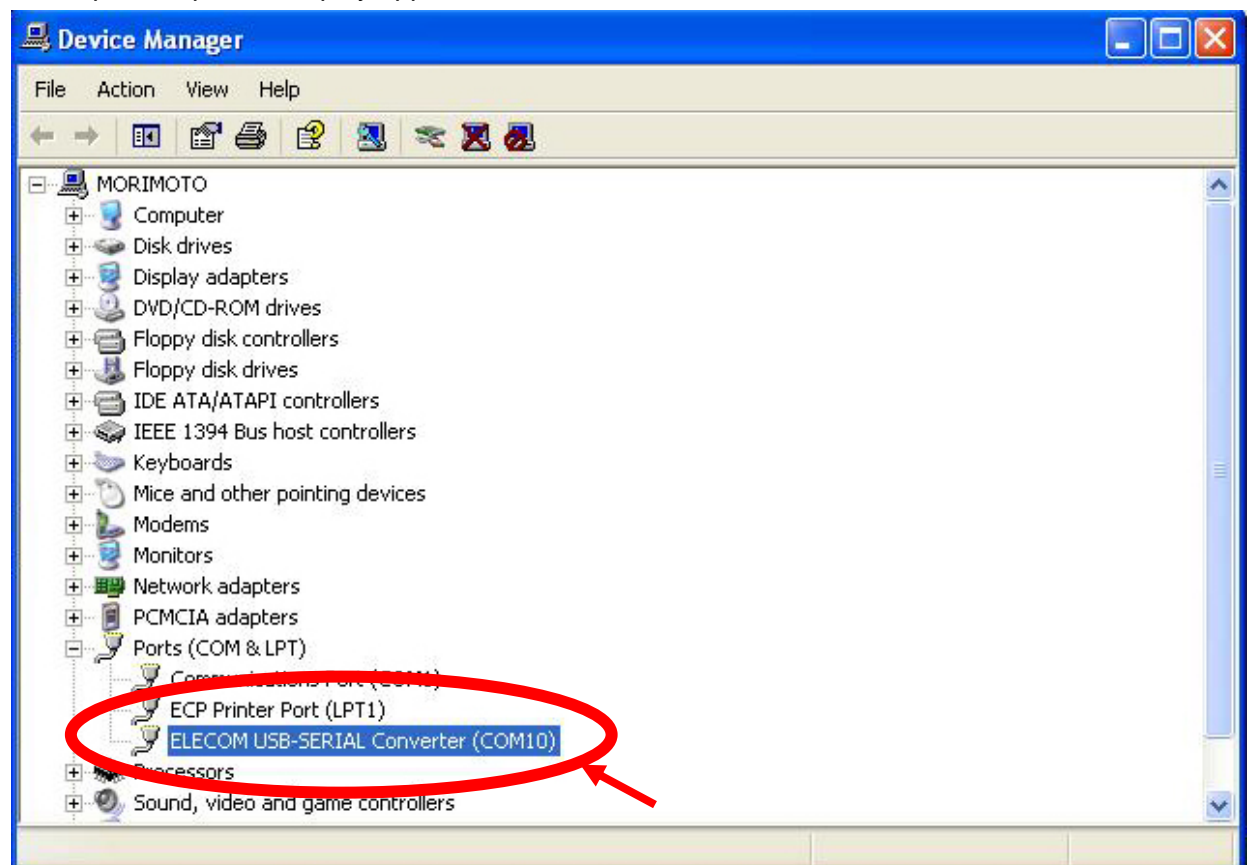
How to change the COM port number

Communication ports from COM1 to COM8 can be selected for this Monitoring software.

Change the COM port number if it has been set to numbers other than COM1 to COM8 (e.g. COM10), following the procedures below.

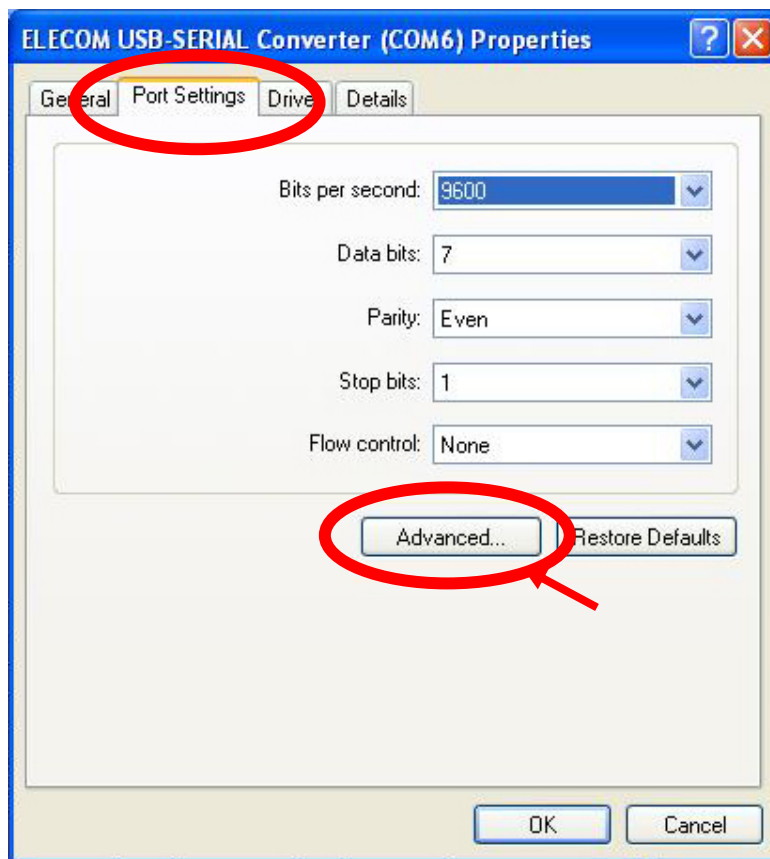
- (1) Double-click the desired port number to be changed.

USB port Properties display appears.



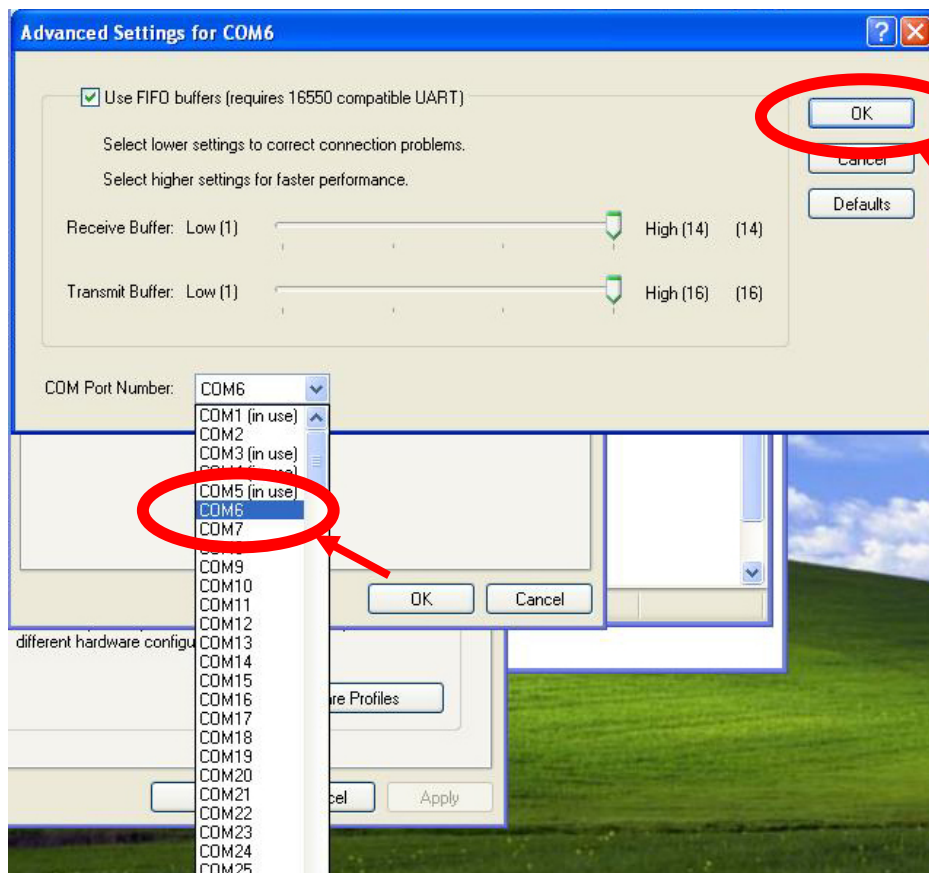
(Fig. 2.1-7)

(2) Click [Port Settings] – [Advanced].



(Fig. 2.1-8)

(3) Select a COM port number (COM1 to COM8) (e.g. COM6), and click [OK].



(Fig. 2.1-9)

(4) Close displays of [USB port Properties], [Device manager], [System properties] and [Control panel].

2.2 Example wiring between LMD-100 and controllers

(1) DCL-33A (Fig. 2.2-1)

Connection between LMD-100 and DCL-33A

Use CDM communication cable (sold separately).

Connect CDM modular plug to DCL-33A modular jack.

For CDM "Y" terminal connection, refer to the following.

CDM "Y" terminal number	LMD-100 terminal number
4	15 YA (-)
3	16 YB (+)
1, 6	17 SG

CDM cable length: 3m (Can be extended in units of 1m fixed length)

Connection between DCL-33A units

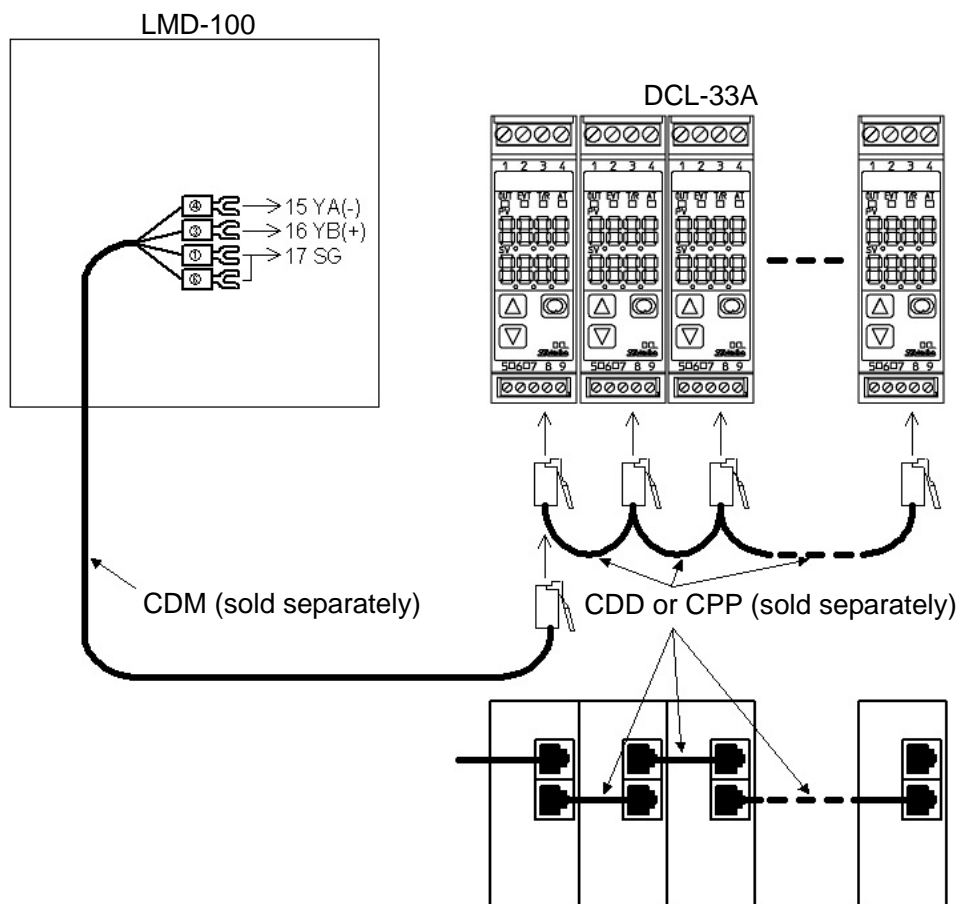
Use communication cable CDD or CPP (sold separately), and plug into the modular jack.

Cable length of CDD: 60mm. For distances larger than 60mm, use the CPP cable.

Cable length of CPP: 500mm.

(For distances larger than 500mm, the CPP can be extended in units of 500mm fixed length.

For distances less than 500mm, the CPP can be cut down in units of 100mm fixed length.)



(Fig. 2.2-1)

(2) ACS-13A, JCL-33A, JCS-33A, JCM-33A, JCR-33A, JCD-33A (Fig. 2.2-2)

Connection between LMD-100 and controllers (ACS-13A/JCL-33A/JCS-33A/JCM-33A/JCR-33A/JCD-33A)

Connection between controllers (ACS-13A/JCL-33A/JCS-33A/JCM-33A/JCR-33A/JCD-33A)

Connect YA (-) to YA (-), YB (+) to YB (+) and SG to SG respectively, using a shielded wire.

Connect only one side of the shielded wire to the FG terminal so that current cannot flow to the shielded wire.

If both sides of the shielded wire are connected to the FG terminal, the circuit will be closed between the shielded wire and the ground. As a result, current will run through the shielded wire, and this may cause noise.

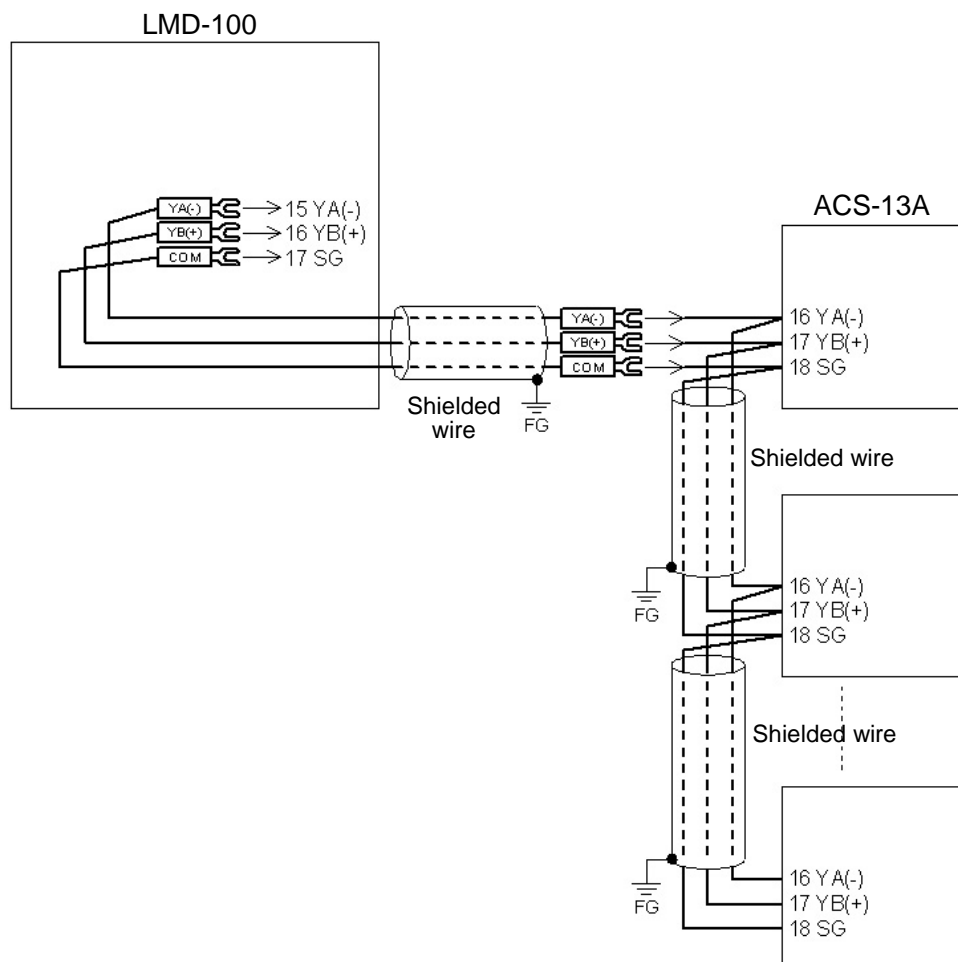
Be sure to ground the FG terminal.

Recommended cable: OTSC-VB 2PX0.5SQ (made by Onamba Co., Ltd.) or equivalent
(Use a twisted pair cable.)

Wiring example between LMD-100 and ACS-13A (Fig. 2.2-2)

Terminal numbers for connection differ depending on the controller model as follows.

LMD-100	JCL-33A	JCS-33A	JCM-33A	JCR-33A	JCD-33A
15 YA (-)	10 YA (-)	13 YA (-)	10 YA (-)	11 YA (-)	11 YA (-)
16 YB (+)	11 YB (+)	14 YB (+)	13 YB (+)	14 YB (+)	14 YB (+)
17 SG	12 SG	15 SG	14 SG	17 SG	17 SG



(Fig. 2.2-2)

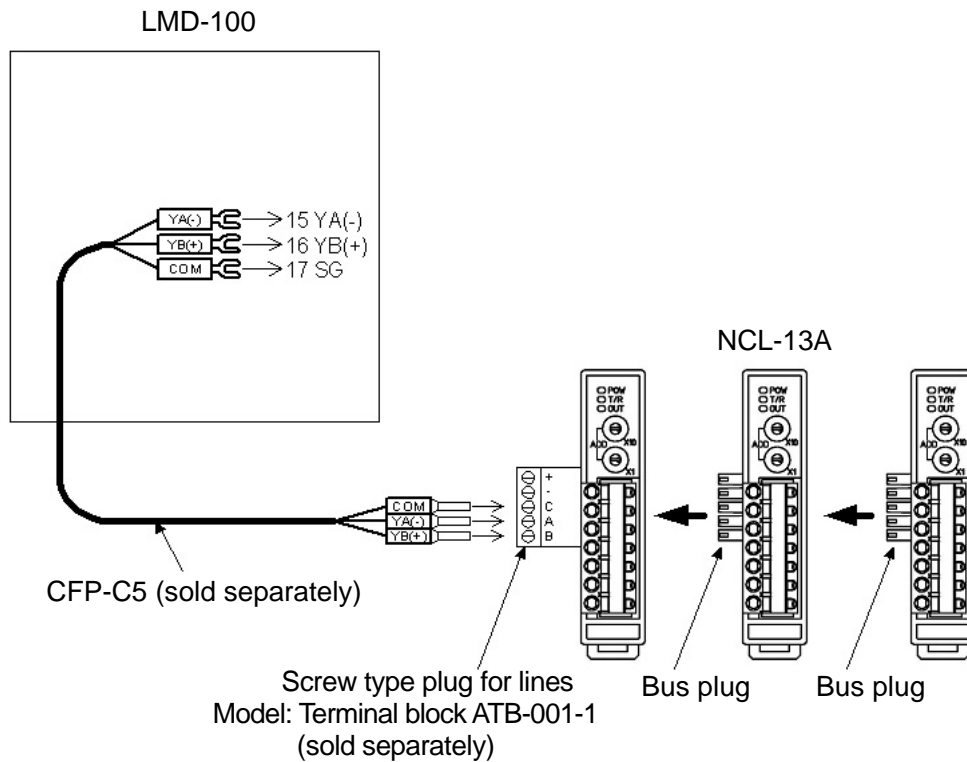
(3) NCL-13A (Fig. 2.2-3)

Connection between LMD-100 and NCL-13A

Connect YA (-) to YA (-), YB (+) to YB (+) and SG to SG respectively, using the communication cable CFP-C5 (sold separately).

Connection between NCL-13A units

Connect bus plug to bus plug.



(Fig. 2.2-3)

2.3 Starting the SWM-LMD01M

Notice

Before starting the Monitoring software, check the following points.

1. Controller setting

Set communication parameters of the controller, using the controller's front keypad.
(Refer to the Instruction manual for each controller.)

(1) Communication protocol selection: **Shinko protocol**

(2) Instrument number setting: Set the number **from 1 (one)** in numerical order (1 to 16).

Controller instrument number 1: Ch01 (Channel number 1)

Controller instrument number 2: Ch02 (Channel number 2)

⋮

Controller instrument number 16: CH16 (Channel number 16)

(3) Communication speed selection: **19200bps**

2. LMD-100 setting

Check the following points. Refer to “Logging condition setting mode” of the Instruction manual, and “Communication parameters setting” of the Communication instruction manual for the LMD-100.

(1) Instrument number setting: Set the number **from 0 (zero)** in numerical order.

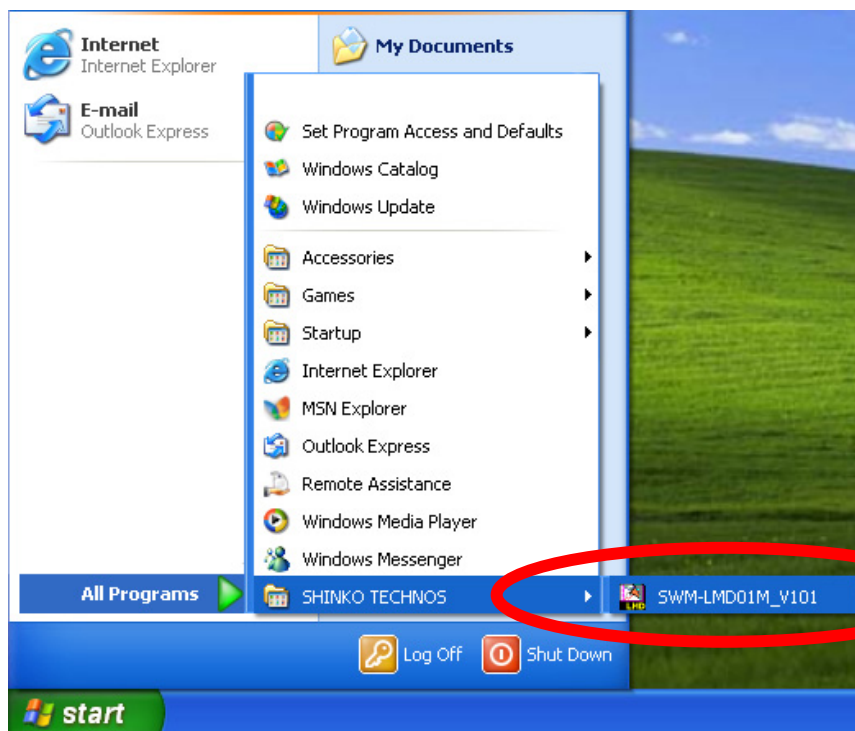
The instrument numbers of the LMD-100 must begin from “0”. If not, the software cannot start.

(2) Communication speed selection: Set the communication speed in accordance with the personal computer and communication converter (19200bps is recommended).

This monitoring software is not usable for the programmable control function of the JCL-33A.

(1) Confirm that the communication cable has been connected to a communication port of the personal computer.

Select [All programs] on the start menu – [SHINKO TECHNOS] – [SWM-LMD01M_Vxxx], and click.



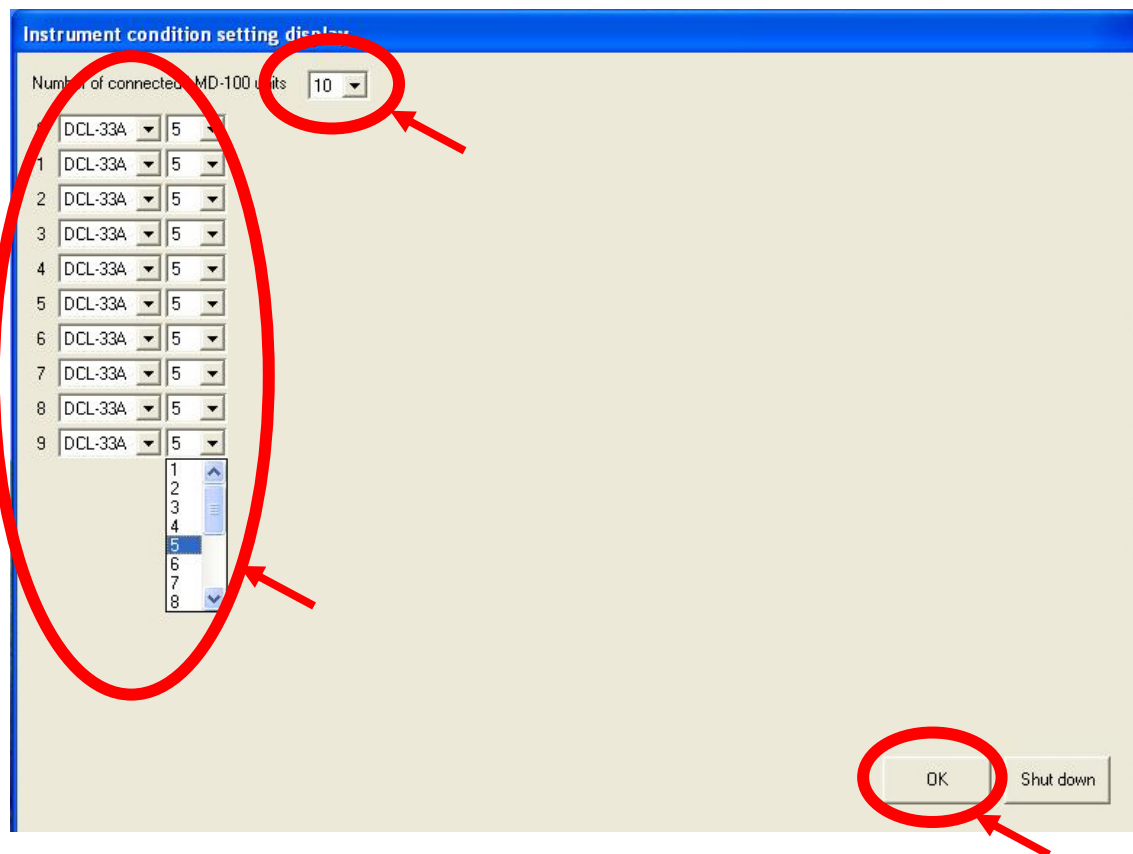
(Fig. 2.3-1)

(2) Instrument condition setting display appears (Fig. 2.3-2).

Select the following, and click [OK].

- Number of connected LMD-100 units (1 to 95)
- Controller model (DCL-33A/JCx-33A/NCL-13A/JCL-33A/ACS-13A)
- Number of connected controllers (1 to 16)

[Shut down]: Clicking this button terminates the monitoring software.



(Fig. 2.3-2)

(3) Communication condition setting display appears.

Select the following, and click [OK].

- Communication port: COM1 to COM8
- Communication speed: 9600bps, 19200bps (19200bps is recommended).
- Number of retries: 1 to 5

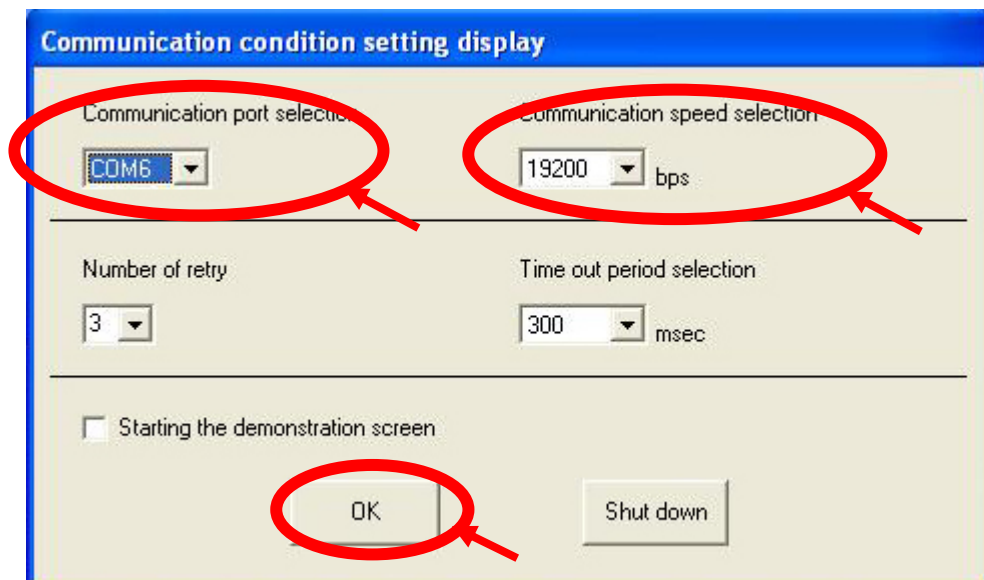
In case a communication error has occurred, repeatedly sending the communication command is the retry number.

- Timeout period: 100msec to 4000msec (Default value: 300msec)

In case the LMD-100 does not respond after receiving commands from this software, the maximum waiting time of response is the Timeout period.

- If ☐ Starting the demonstration screen is clicked ☒, the demonstration screen will start even though the LMD-100 is not connected.

[Shut down]: Clicking this button terminates the monitoring software.



(Fig.2.3-3)

- (4) The monitoring software opening display will appear, and the LMD-100 and controller data will be read.

Notice

When 16 units of controllers (DCL-33A) are connected to one LMD-100 unit, it will take approx. 40 seconds until the monitoring software starts.

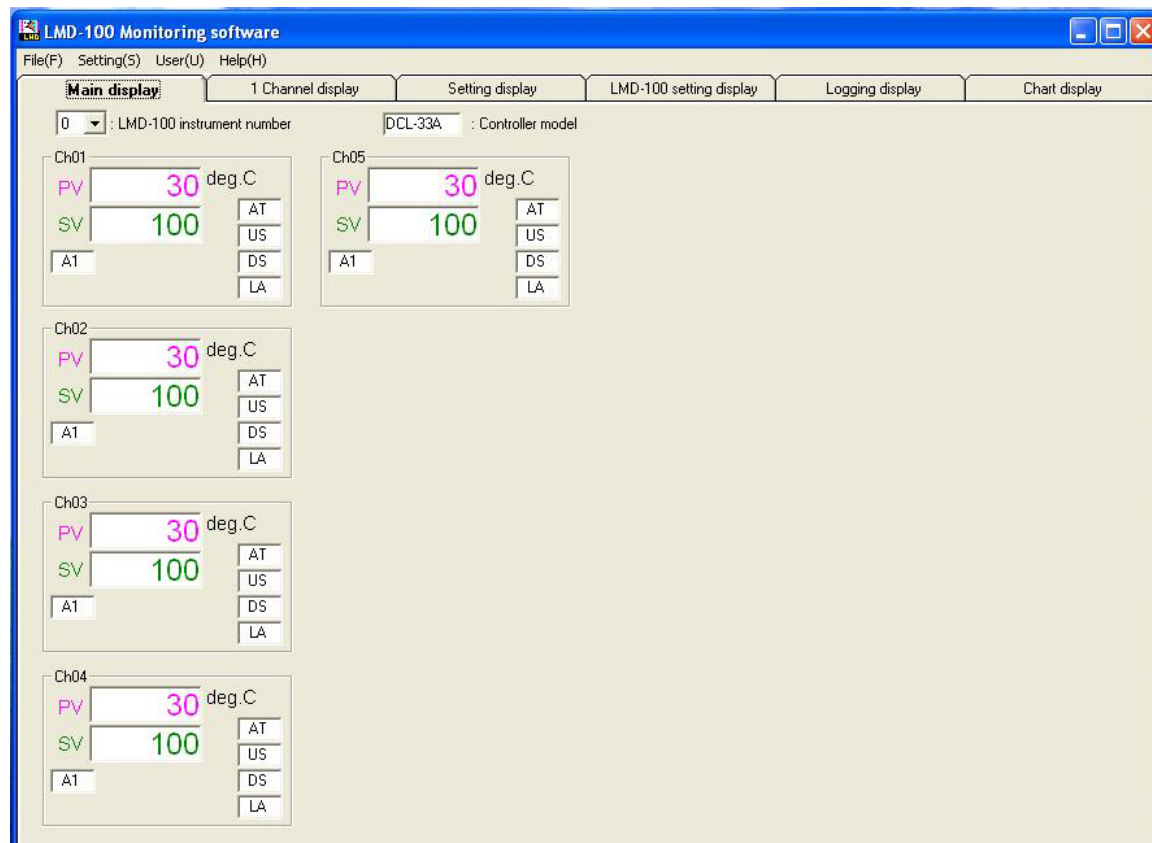
The more controllers connected, the longer it will take to start the software, and operation will be slower.



(Fig. 2.3-4)

- (5) The monitoring software will start.

Main display



(Fig. 2.3-5)

2.4 Displays and operation of the SWM-LMD01M

2.4.1 Displays

Displays can be switched by clicking the tab.

(1) Main display

PV, SV and Alarm status of up to 16 controllers connected to the LMD-100 can be monitored.

Only connected units are indicated.

Setting is impossible.

During Auto-tuning/Auto-reset, "AT" will be yellow.

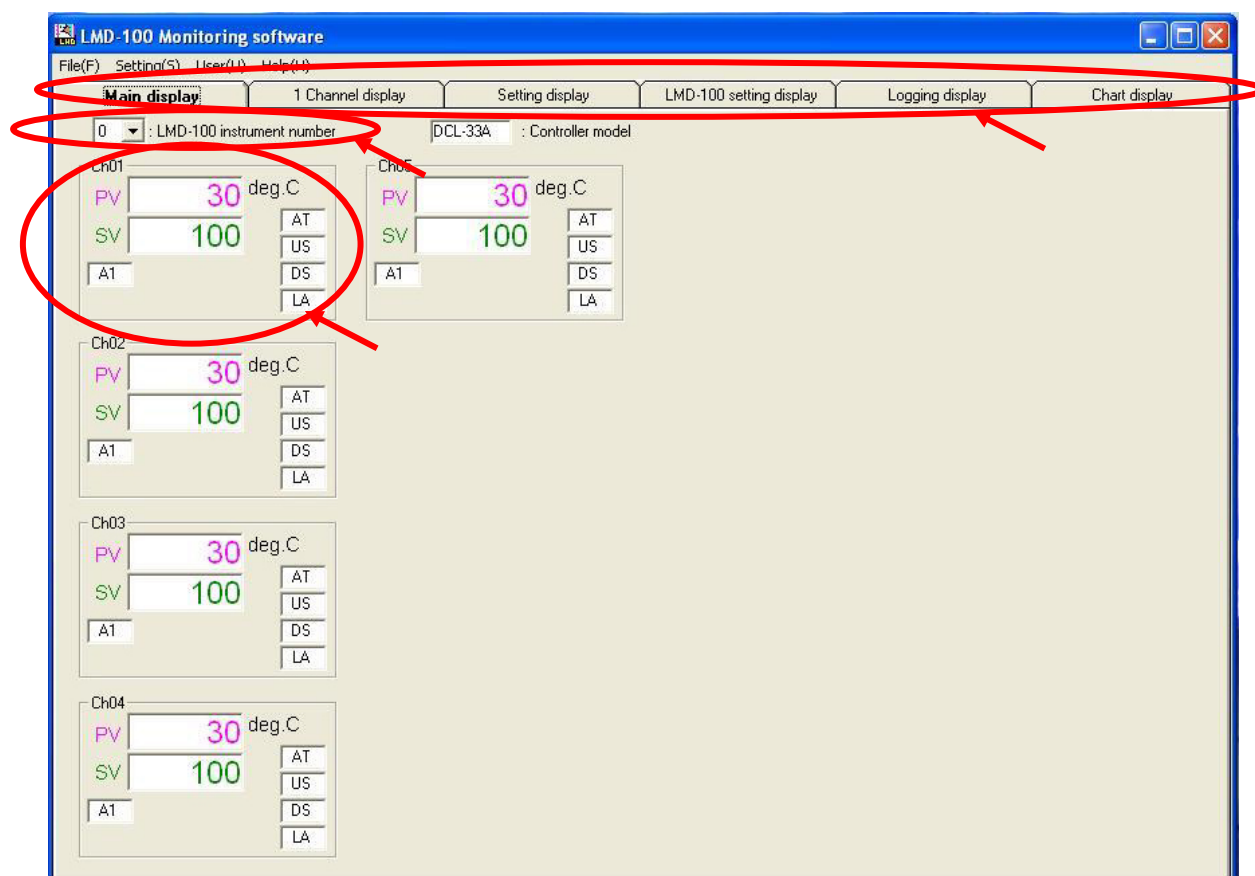
If Alarms 1 to 4 are activated, "A1", "A2", "A3" or "A4" will be the color set during Alarm color setting display (p.40).

If Heater burnout alarm 1 or 2 is activated, "HB1 (HB2)" will be red.

In case of upscale or downscale, "US", "DS" will be red.

If a communication error (no response) occurs to a channel, a "Communication error" message will be indicated next to the channel and at the bottom right of the display.

When a communication error (no response) is solved, the "Communication error" message will disappear.



(Fig. 2.4.1-1)

Operation explanation

[LMD-100 instrument number]: Select the instrument number of the LMD-100 connected to the controllers that you want to display, by clicking the ▼ button.

(2) 1 channel display

All items of one controller selected during LMD-100 instrument number and Channel name selection can be monitored.

Auto-tuning Perform/Cancel, SV, Alarm HOLD reset, Control output OUT/OFF can be selected.
(Alarm HOLD reset is available for NCL-13A.)

During auto-tuning/auto-reset, "AT" will be yellow.

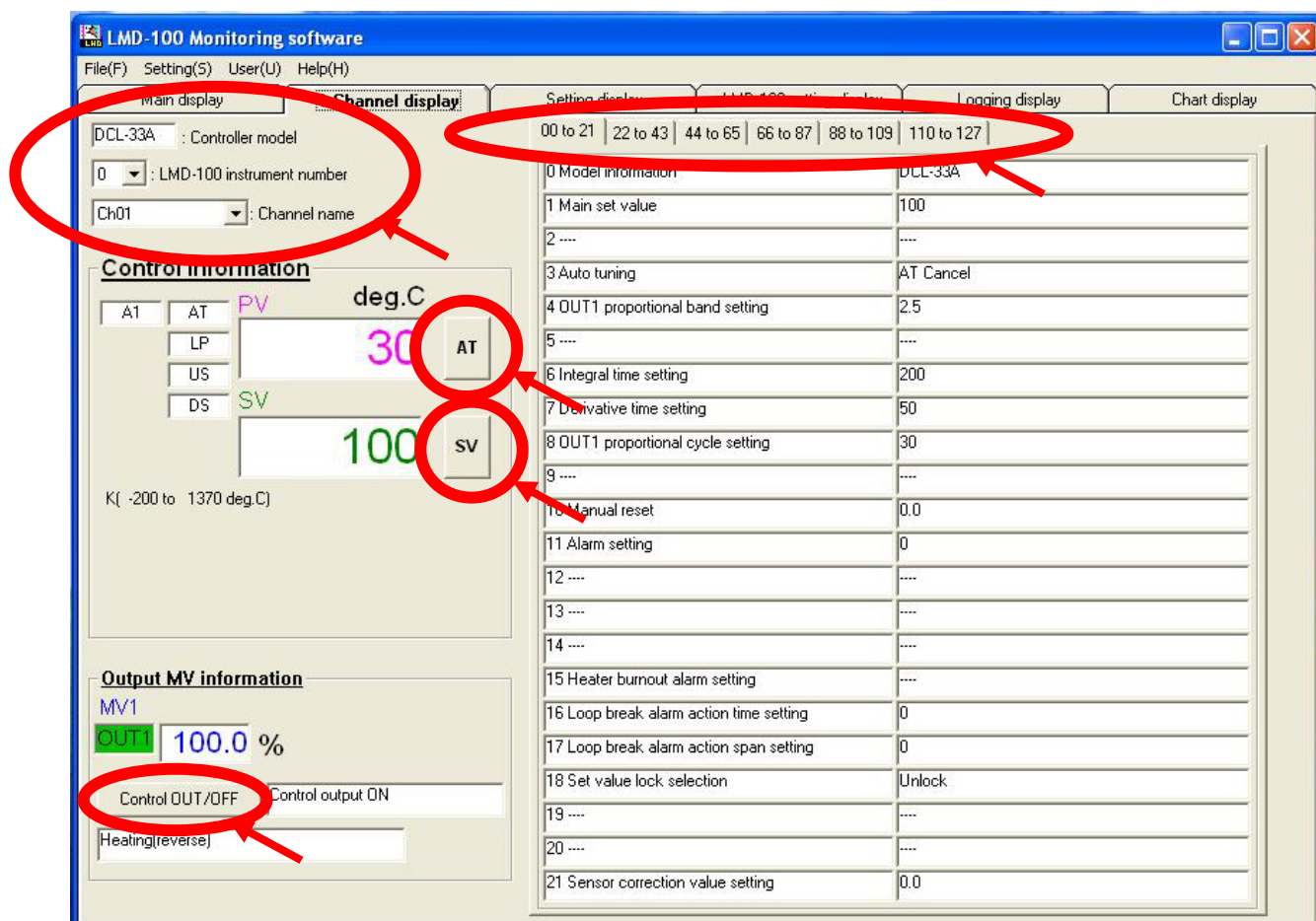
If Alarms 1 to 4 are activated, "A1", "A2", "A3" or "A4" will be the color set during Alarm color setting display (p.31).

If Heater burnout alarm 1 or 2 is activated, "HB1" or "HB2" will be red.

In case of upscale or downscale, "US" or "DS" will be red.

If a communication error (no response) occurs to a channel, a "Communication error" message will be indicated at the center and at the bottom right of the display.

When a communication error (no response) is solved, the "Communication error" message will disappear.



(Fig. 2.4.1-2)

Operation explanation

- [LMD-100 instrument number]: Select the instrument number of the LMD-100 connected to the controllers that you want to display, by clicking the ▼ button.
- [Channel name] : Select the desired channel by clicking the ▼ button.
- [AT] button : By clicking this button, auto-tuning starts.
Clicking this button again stops the auto-tuning.
- [SV] button : By clicking this button, the onscreen numerical keyboard appears.
Input SV, and click [OK].
- [Alarm reset 1 setting] : Available only for the NCL-13A.
When Alarm HOLD function is selected and alarm output is ON, Alarm status flag and Standby function will be reset if this key is clicked.

- [Alarm reset 2 setting] : Available only for the NCL-13A.
When Alarm HOLD function is selected and alarm output is ON, only the Alarm status flag will be reset if this key is clicked.
- [Control OUT/OFF] button : If this button is clicked while control is performing, control output OFF function will initiate, and all outputs will be turned OFF.
Clicking this button again releases the control output OFF function, and the controller returns to control performing status.
- [00 to 21], [22-43]... tab : Indicates information on Set value lock, P, I, D, ARW, Proportional cycle, etc.
Clicking the [22-43] [44-65], etc. tabs displays setting items other than the currently displayed information.

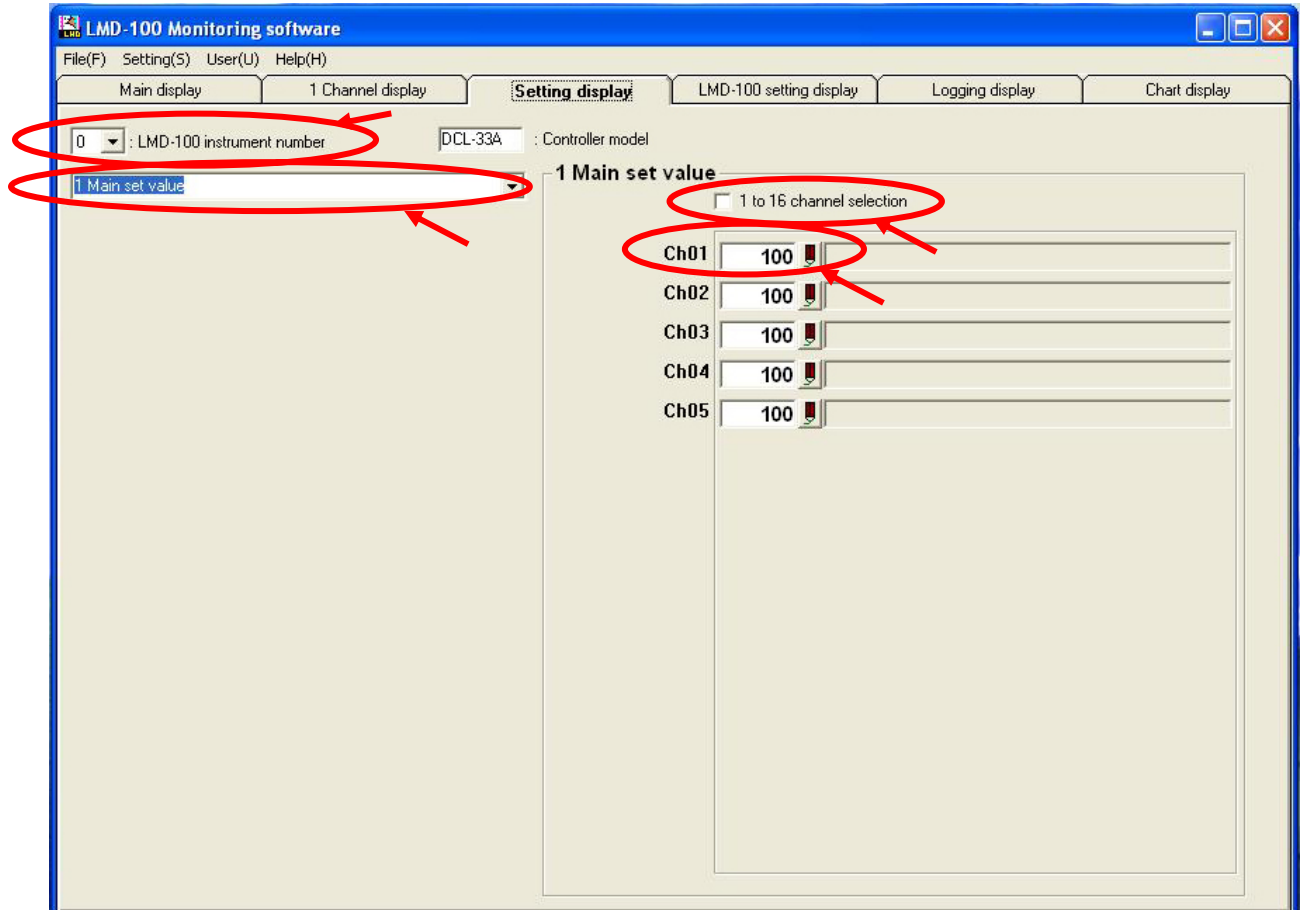
(3) Setting display

Setting items of the controllers connected to the LMD-100 can be set.

Only connected controllers are indicated.

If a communication error (no response) occurs, a "Communication error" message will be indicated at the bottom right of the display.

When a communication error (no response) is solved, the "Communication error" message will disappear.




(Fig. 2.4.1-3)

Operation explanation

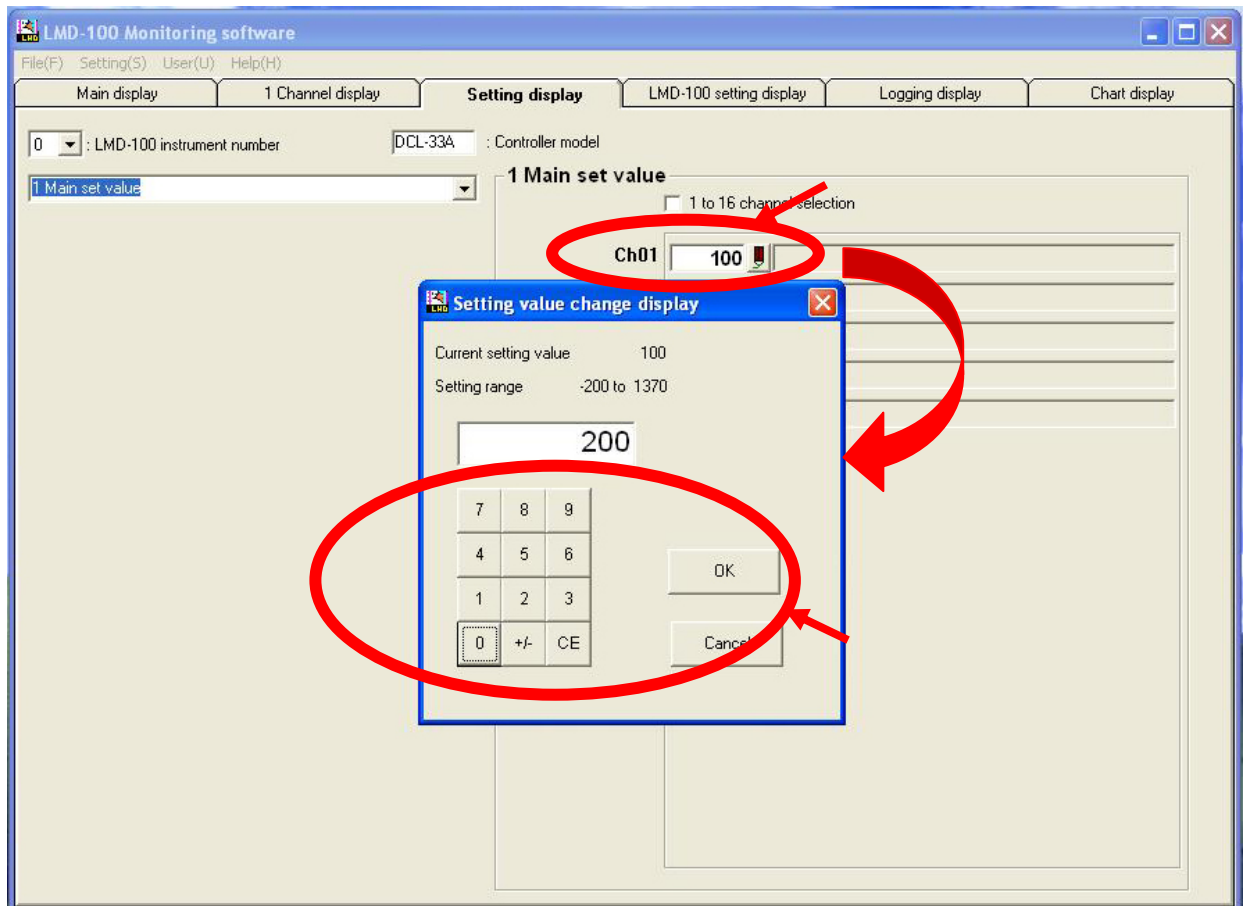
[LMD-100 instrument number] : Select the instrument number of the LMD-100 connected to the controllers that you want to display, by clicking the ▼ button.

[Setting item selection] : Selects the desired setting item to be set by clicking the ▼ button.

☐ [1 to 16 channel selection] : The same set value can be set to all 16 channels by clicking ☐ (☒).

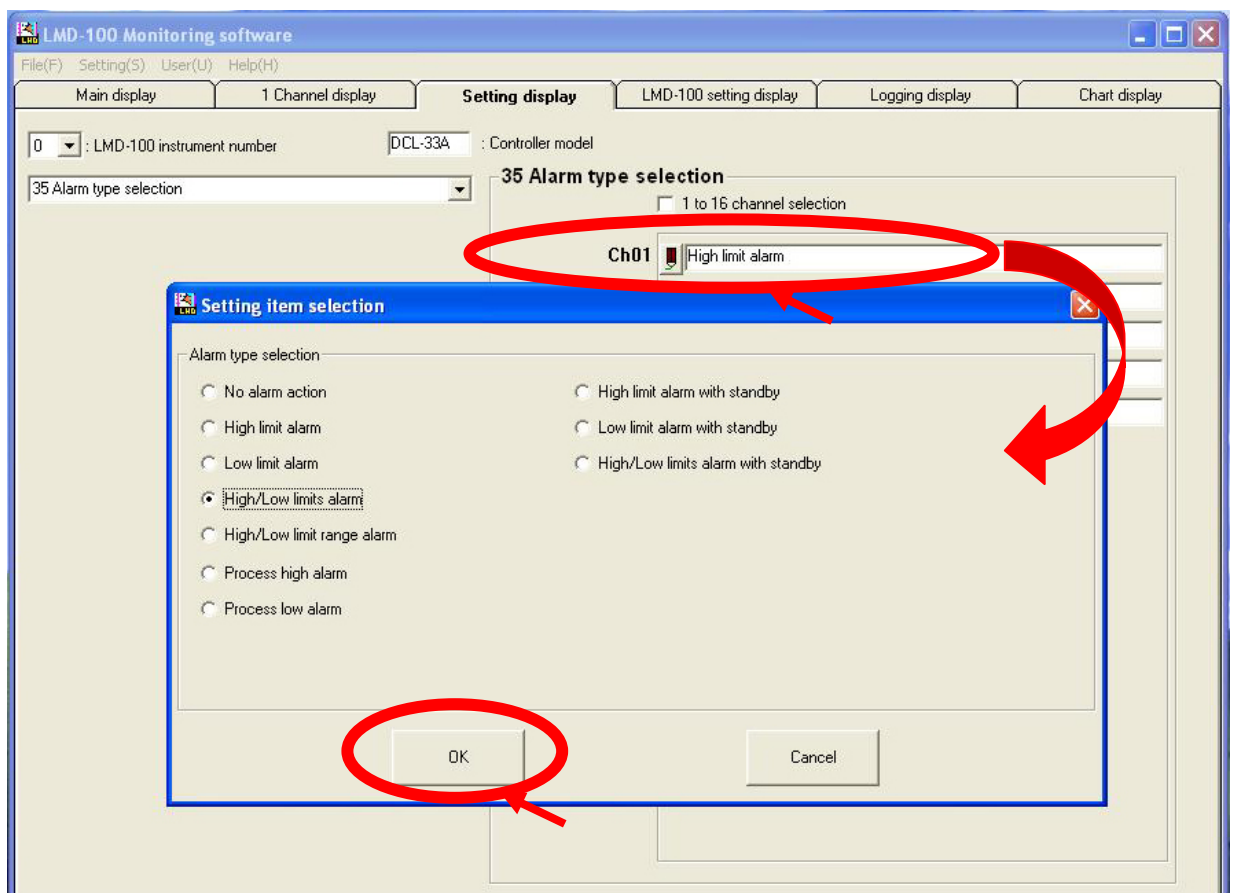
 [Setting] button : By clicking this button, the onscreen numerical keyboard or selection display appears.
Enter a value using the onscreen numerical keyboard, or make a selection, and click [OK].
Refer to (Fig. 2.4.1-4), (Fig. 2.4.1-5).

(e.g.) SV setting (onscreen numerical keyboard setting)



(Fig.2.4.1-4)

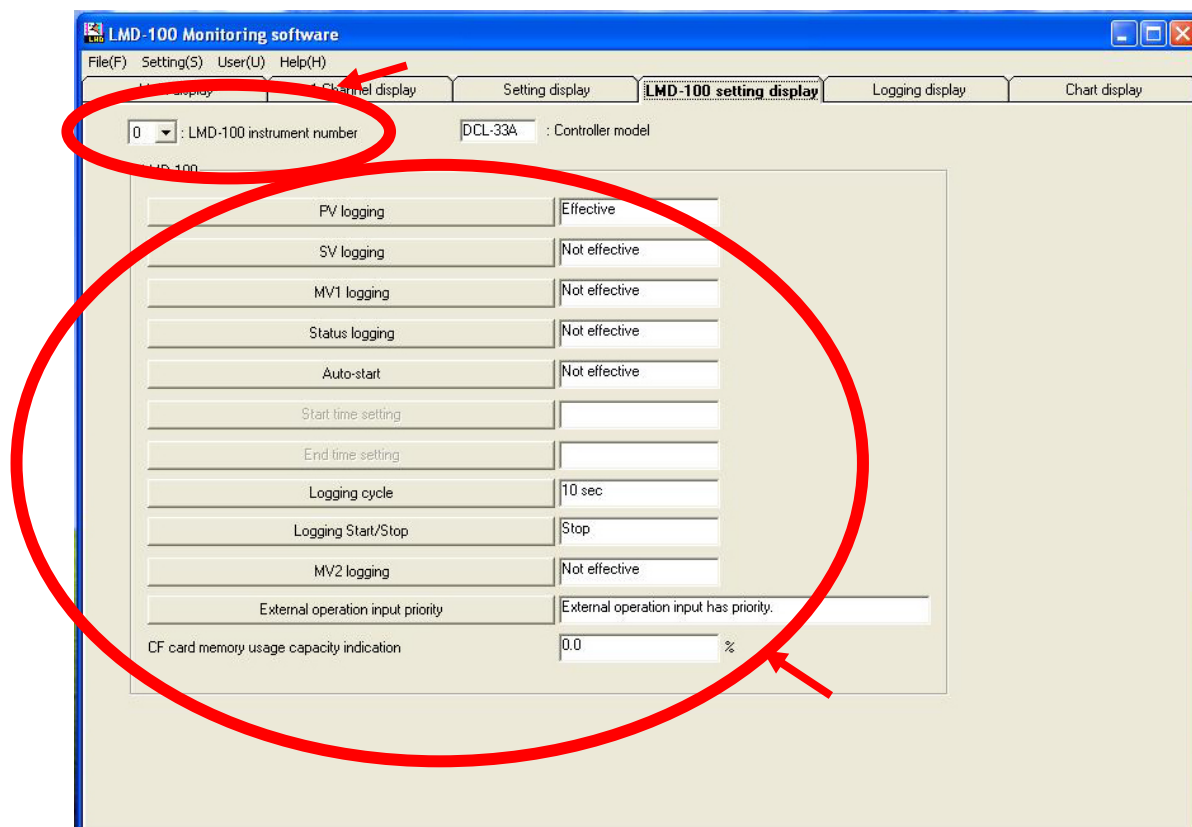
(e.g.) A1 type selection



(Fig.2.4.1-5)

(4) LMD-100 setting display

Sets logging conditions for the selected instrument number of the LMD-100.



(Fig. 2.4.1-6)

Operation explanation

[LMD-100 instrument number]: Select the instrument number of the LMD-100 connected to the controllers that you want to display, by clicking the ▼ button.

[PV logging] : Selects PV logging [Effective] or [Not effective]. Click [OK] after making a selection.

Refer to (Fig. 2.4.1-7).

[SV logging] : Selects SV logging.

[MV1 logging] : Selects OUT1 MV logging.

[MV2 logging] : Selects OUT2 MV logging.

[Status logging] : Selects Status logging.

[Auto-start] : Selects Auto-start [Effective] or [Not effective].

[Start time setting] : Sets Auto-start time.

[End time setting] : Sets Auto-start end time.

If Logging auto-start start and end time are the same, logging continues until power-off of the LMD-100 or until CF card capacity is exceeded.

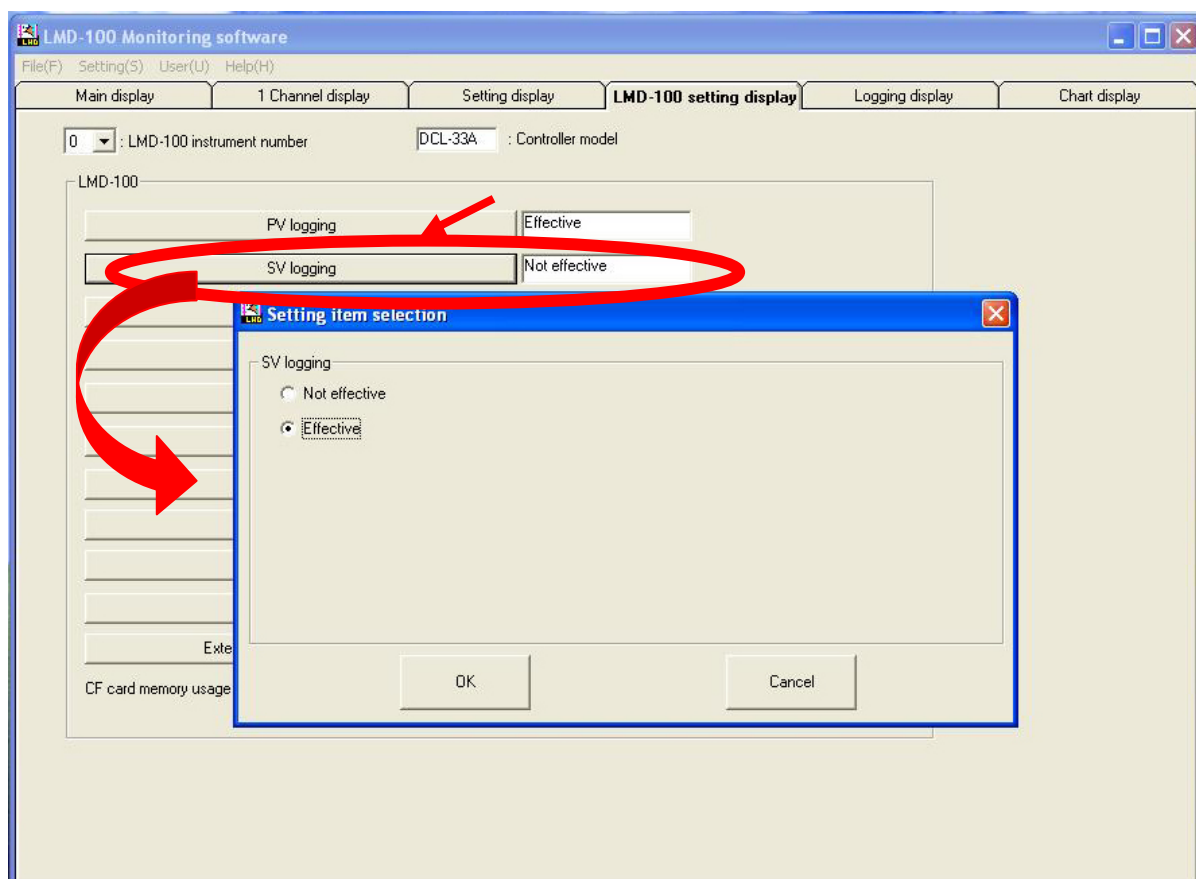
[Logging cycle] : Selects logging cycle.

[Logging Start/Stop]: Selects Logging Start or Stop.

[External operation input priority]: Selects whether priority is given to the external operation or to the LOG key.

[CF card memory usage capacity]: Used CF card memory is indicated as a percentage from 0.0 to 100.0%.

(e.g.) SV logging selection



(Fig. 2.4.1-7)

(5) Logging display

Sets data logging conditions.

Saves PV of the controllers connected to the LMD-100 selected.

Up to 5 units of the LMD-100 can be selected.

Procedures for data logging start

① **Select the instrument number of the LMD-100.**

Select the instrument number of the LMD-100 to which controller for data logging is connected.

② **Select the data logging time (interval).**

③ **Set the file name of save destination.**

Unless data logging save destination is specified, logging cannot be started.

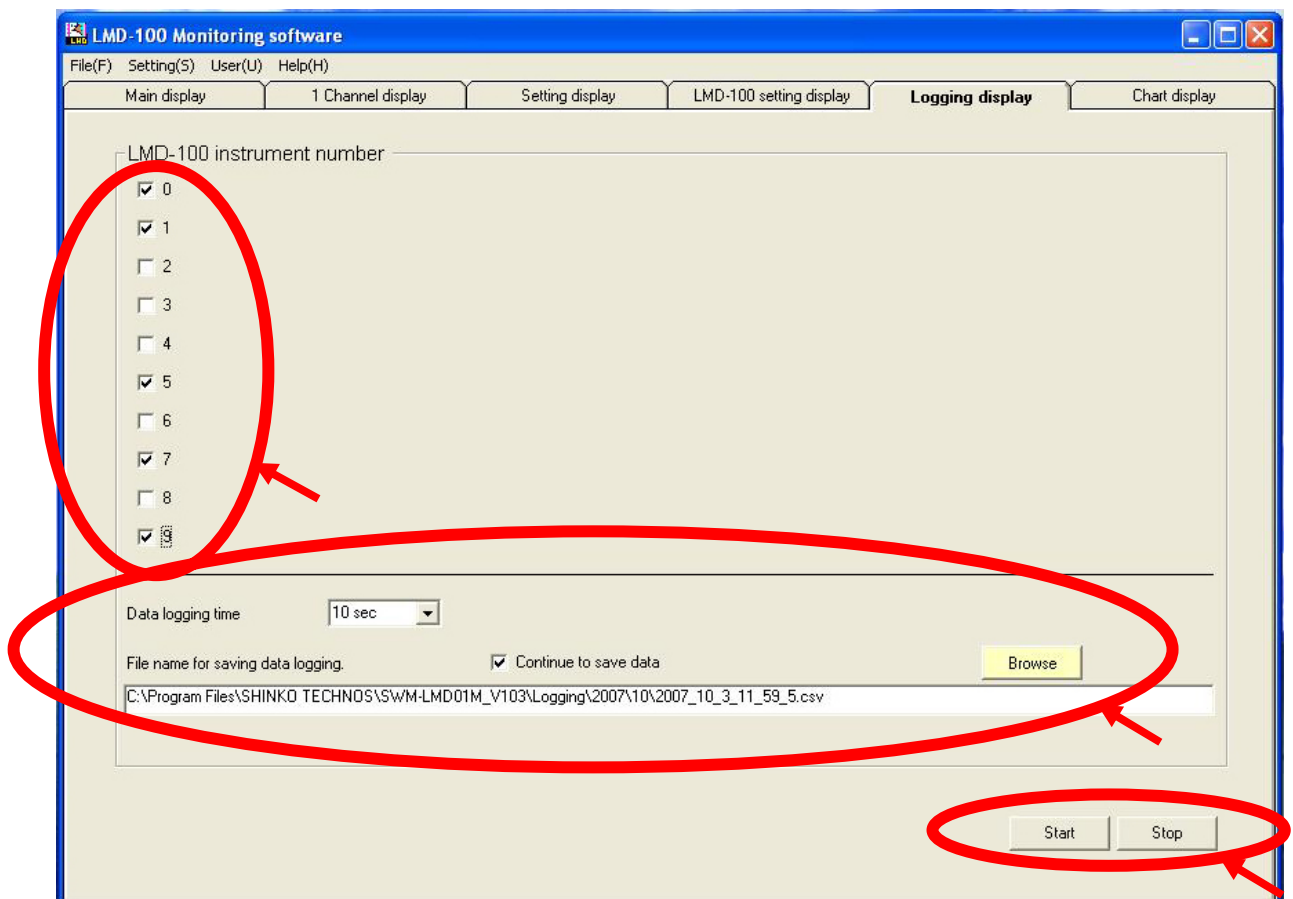
Press the "Browse" button, and enter a file name for saving data.

④ **Data logging starts with the "Start" button.**

By clicking the "Start" button, PV of the controller connected to the LMD-100 is saved in the file at intervals of data logging time.

The saved data can be edited on commercially available spreadsheet applications like Microsoft Excel.

If "Continue to save data" is checked even though the save destination is not set, a new file is automatically named by date and time (year_month_day_hour_minute_second.csv) of logging start, and data is saved in the "Logging/Year/Month" file in the installation folder.



(Fig. 2.4.1-8)

Operation explanation

[LMD-100 instrument number] selection item: Select a channel by checking the box ☐ before the instrument number.

[Data logging time] : Select a data logging interval by clicking the ▼ button.

☐ Continue to save data : If data logging starts with the box checked ☒, the data is saved in the same previous file continuously.
If data logging starts with the check of the box released ☐, the data is saved in a new file.

- | | |
|-----------------|--|
| [Browse] button | : To change the file name, click this button.
The dialog box [Open] is opened.
Select a file and click [Open]. |
| [Start] button | : Clicking this button starts data logging. |
| [Stop] button | : Clicking this button stops data logging. |

Logging auto-start when starting the monitoring software

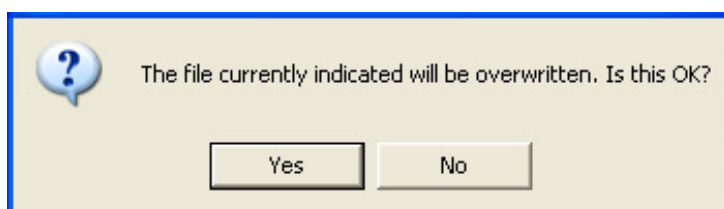
If the monitoring software is closed during data logging, logging starts automatically when the software starts. However, saving method in file differs depending on whether [Continue to save data] is checked or not.

When [Continue to save data] is checked

Data is saved in the same previous file continuously.

When [Continue to save data] is not checked

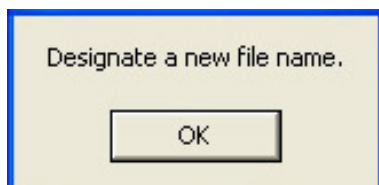
The following display will appear.



(Fig. 2.4.1-9)

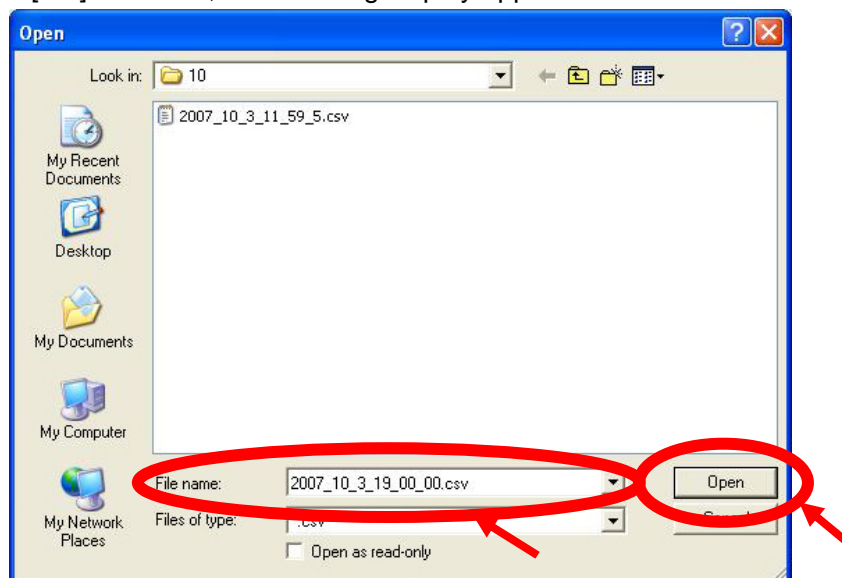
If [Yes] is clicked, the same file as in the previous session will be overwritten with the new logging data.

If [No] is clicked, the following display appears.



(Fig. 2.4.1-10)

If [OK] is clicked, the following display appears.



(Fig. 2.4.1-11)

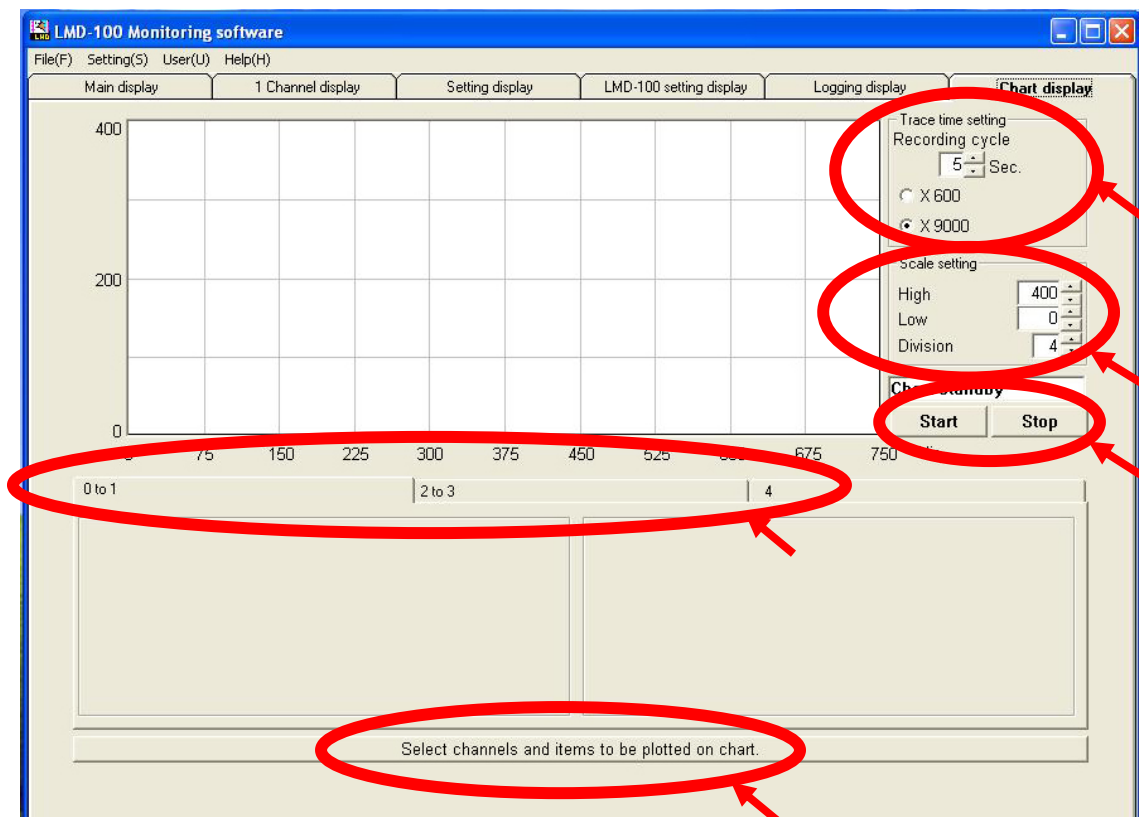
Enter a new file name and Click [Open]. The data will be saved in the new file.

(6) Chart display

The PV (process variable) of the controllers connected to the LMD-100 can be chart-plotted.

(The LMD is selected during LMD instrument number selection on the Chart plot condition setting display on p.36)

Up to 5 units of the LMD-100 can be selected.



(Fig. 2.4.1-12)

Operation explanation

[Trace time setting]: Select the number of samples, and set the recording cycle (1 to 60 sec.).

(e.g.) The number of samples: 600 } 3000 seconds
Recording cycle: 5 sec.

X axis indication: 0 to 50 minutes.

[Scale setting]: Set upper limit and lower limit values of chart indication and Y axis division.

[Start] button : Clicking this button starts chart indication.

[Stop] button : Clicking this button stops chart indication.

[0 to 1] tab : Indicates PV of the controllers connected to the 1st and 2nd LMD-100 (from 5 LMD units) in numeric order.

[2 to 3] tab : Indicates PV of the controllers connected to the 3rd and 4th LMD-100 (from 5 LMD units) in numeric order.

[4] tab : Indicates PV of the controller connected to the 5th LMD-100 (from 5 LMD units) in numeric order.

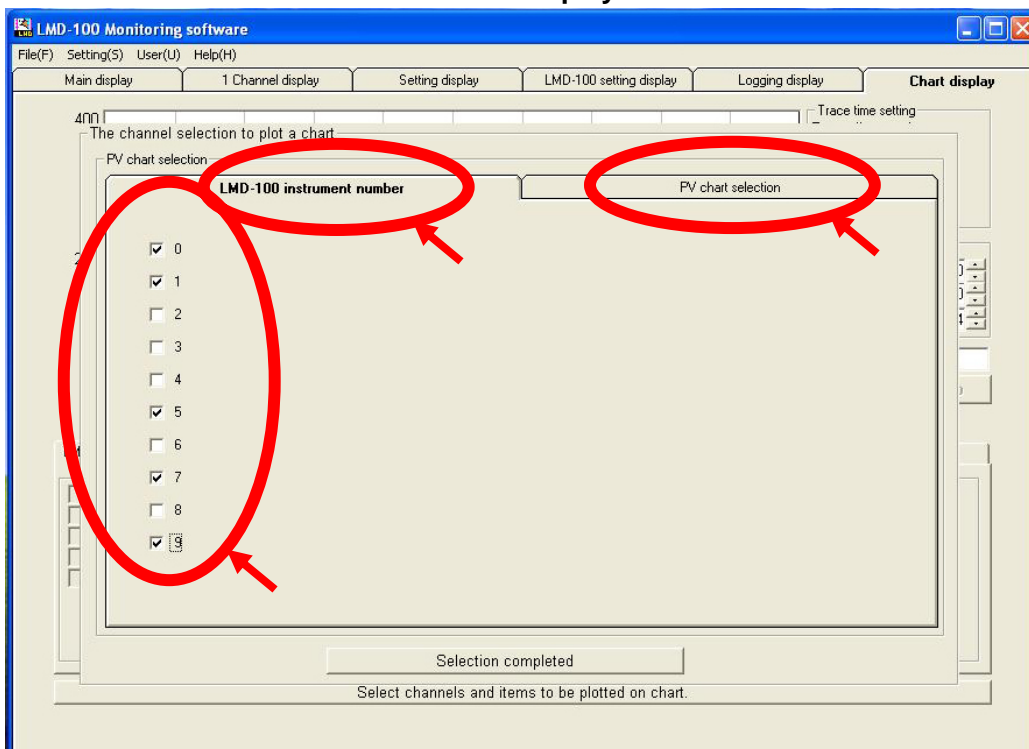
[Select channels and items to be plotted on chart] button: Clicking this button proceeds to the Chart plot condition setting display.

Unless chart plot conditions are set, chart plotting cannot be started.

Press [Select channels and items to be plotted on chart] button to set chart plot conditions.

Chart plot condition setting display will appear.

LMD-100 instrument number selection display



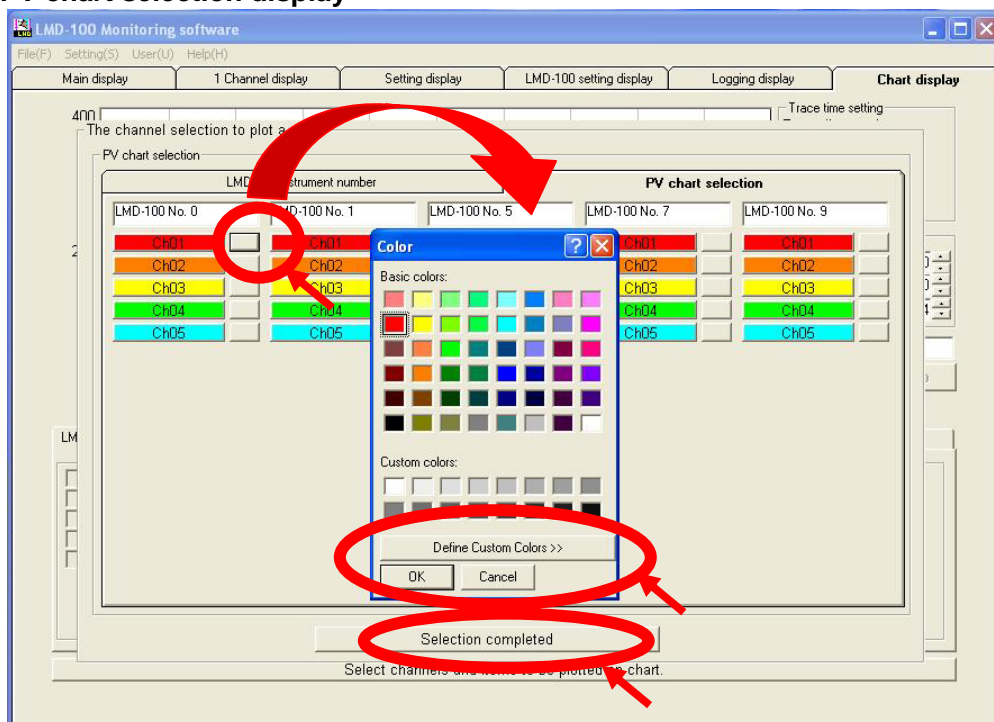
(Fig. 2.4.1-13)

Operation explanation

[LMD-100 instrument number]: By checking the box ☒ , select the LMD-100 instrument number to which the desired controllers to be plotted are connected.

[PV chart selection]: Select a plotting chart color.

PV chart selection display



(Fig. 2.4.1-14)

Operation explanation

[Color] button : Indicates the Color display.

[Selection completed] button: If this button is clicked, the chart plot condition setting is completed, and the display reverts to the Chart display.

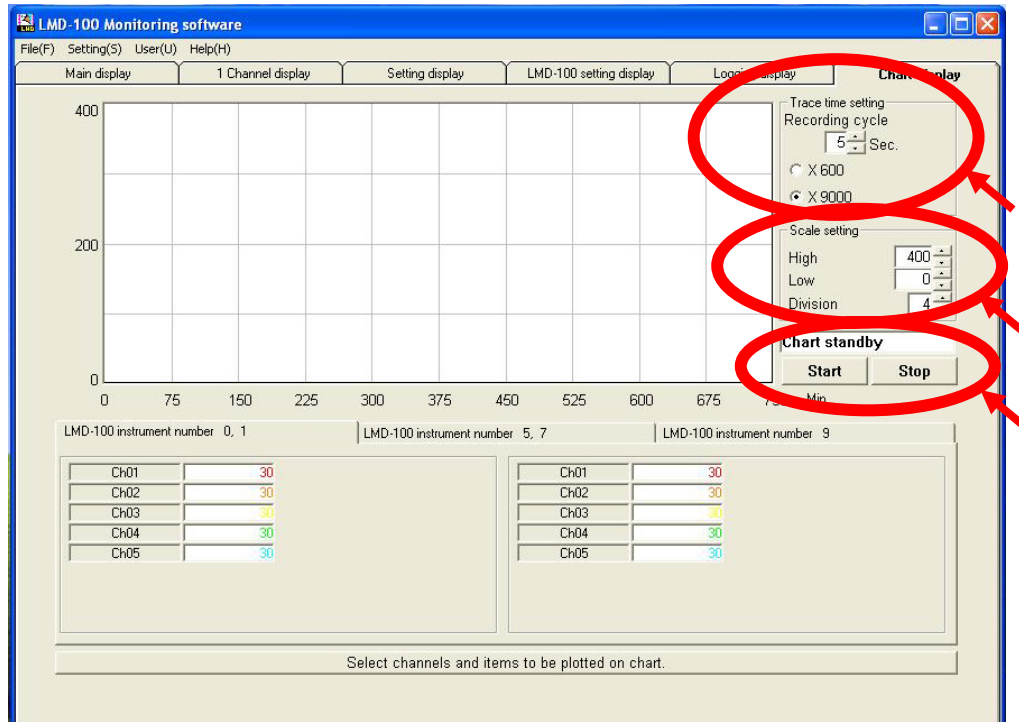
Color display

[Define Custom Colors]: User's own colors can be created and added by clicking this button.

[OK] : Clicking this button sets the colors and closes the display.

[Cancel] : This button closes the display without setting colors.

Chart display



(Fig. 2.4.1-15)

Operation explanation

[Trace time setting]: Select the number of samples, and set the recording cycle (1 to 60 sec.).

(e.g.) The number of samples: 600
Recording cycle: 5 sec. } 3000 seconds

X axis indication: 0 to 50 minutes.

[Scale setting]: Set high limit and low limit values of chart indication and Y axis division.

[Start] button : Clicking this button starts chart indication.

[Stop] button : Clicking this button stops chart indication.

[LMD-100 instrument number 0 to 1] tab: Indicates PV of the controllers connected to the 1st and 2nd LMD-100 (from 5 LMD units) in numeric order.

[LMD-100 instrument number 5 to 7] tab: Indicates PV of the controllers connected to the 3rd and 4th LMD-100 (from 5 LMD units) in numeric order.

[LMD-100 instrument number 9] tab : Indicates PV of the controller connected to the 5th LMD-100 (from 5 LMD units) in numeric order.

[Select channels and items to be plotted on chart] button: Clicking this button proceeds to the Chart plot condition setting display.

The following window will appear after chart plotting is finished.



(Fig. 2.4.1-16)

If chart plotting starts again after it is cancelled, the chart screen is cleared, and the new chart is plotted again.

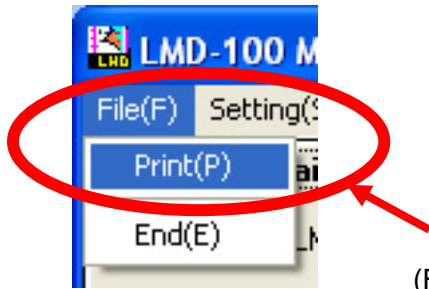
If the monitoring software is closed during chart plotting, the new chart is automatically plotted the next time the monitoring software starts.

2.4.2 Menu bar operation

(1) Printing

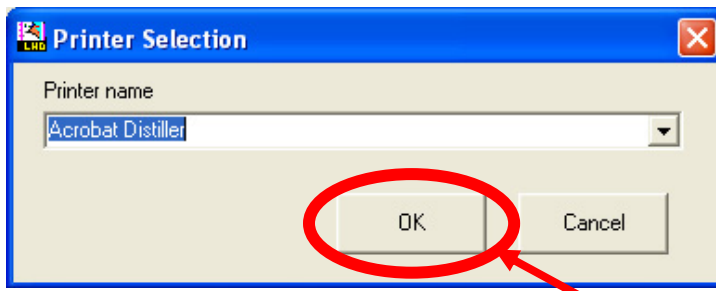
The monitoring software display can be printed.

- ① Select [File(F)] on the menu bar – [Print(P)], and click.



(Fig. 2.4.2-1)

- ② Printer selection display appears.
Select a printer and click [OK].



(Fig. 2.4.2-2)

- ③ The software display will be printed.

(2) Terminating the SWM-LMD01M

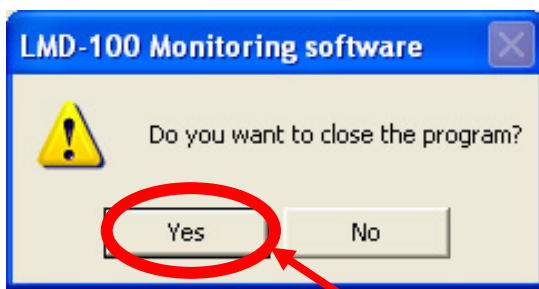
Terminate the monitoring software as follows.

- ① Select [File(F)] on the menu bar – [End(E)], and click.



(Fig. 2.4.2-3)

- ② Termination confirming screen appears.
Clicking [Yes] terminates the screen, and clicking [No] cancels termination.



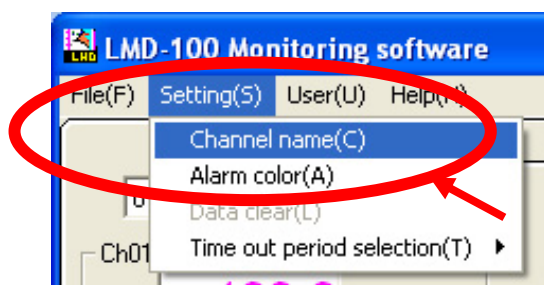
(Fig. 2.4.2-4)

(3) Channel name registration

Channel name indicated on the screen can be registered as follows.

The registered channel name is indicated on the screen and in the selection list.

- ① Select [Setting(S)] on the menu bar – [Channel name(C)] and click.



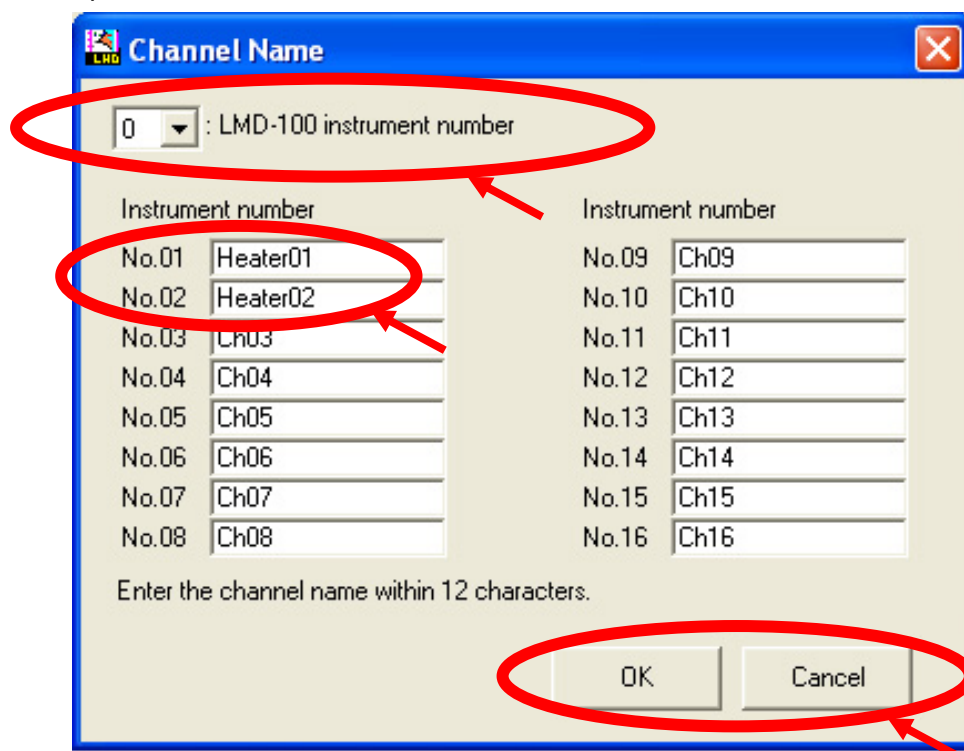
(Fig. 2.4.2-5)

- ② Channel name registration display appears.

Select the instrument number of the LMD-100 (to which controller is connected) by clicking the ▼ button.

Enter a controller channel name, and click [OK].

Up to 12 characters are available for the name.



(Fig. 2.4.2-6)

- ③ The following display for confirmation of registering channel name will appear. Click [OK].

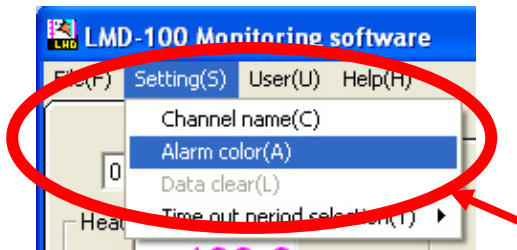


(Fig. 2.4.2-7)

(4) Alarm color setting

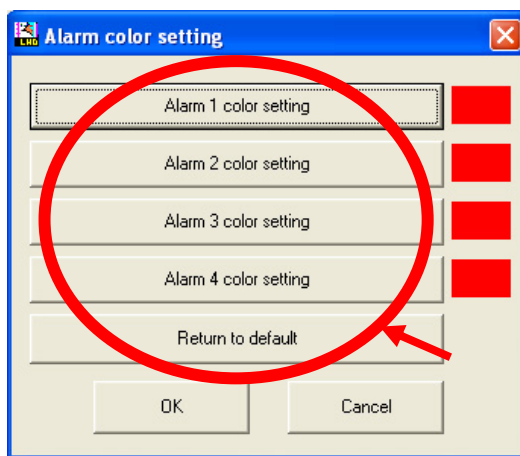
The color for Alarms 1 to 4 can be set.
Default value for all alarm colors is red.

- ① Select [Setting(S)] on the menu bar – [Alarm color(A)], and click.



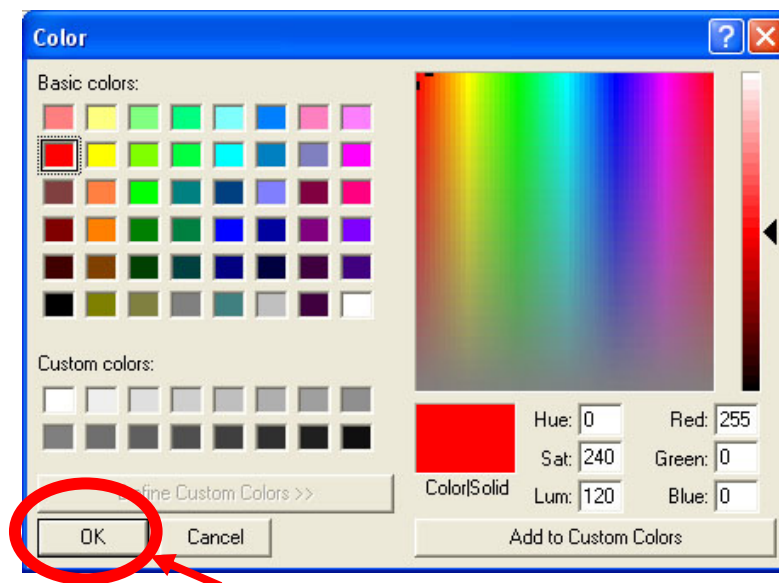
(Fig. 2.4.2-8)

- ② Alarm color setting display appears.
Click the button to be changed.
Clicking the [Return to default] reverts all alarm colors to red.



(Fig. 2.4.2-9)

- ③ "Color" screen will appear.
Set a color, and click [OK].



(Fig. 2.4.2-10)

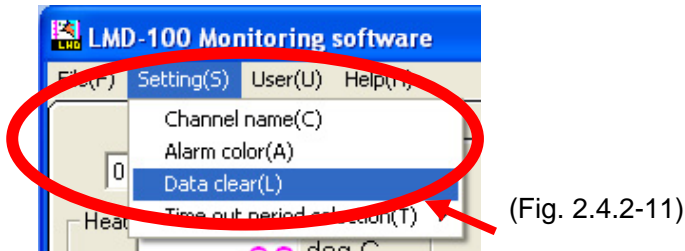
- ④ The display will revert to the Alarm color setting screen. (Fig. 2.4.2-9)
By clicking [OK] on the Alarm color setting display, the alarm color on the monitoring software will turn to the set color.
Clicking the [Cancel] button cancels the color setting.

(5) Data clearing

Notice

This function is available only for the NCL-13A when the NCL-13A is connected to the LMD-100. Once data clearing is performed, All set values (except Input type, OUT1 proportional cycle, OUT2 proportional cycle) of the NCL-13A revert to the default value. If you don't want to lose data on the display, be sure to save data following procedures "(7) Set value Save/Load per channel" or "(8) Set value Save/Load for all channels", before clearing data.

All set values (except Input type, OUT1 proportional cycle, OUT2 proportional cycle) of the NCL-13A revert to the default value. To clear data, select [Setting(S)] - [Data clear(L)], and click.



(6) Timeout period selection

Notice

The longer the timeout period set, the longer it will take to start the monitoring software. Please use this software with 300msec (default) of Timeout period for ordinary usage.

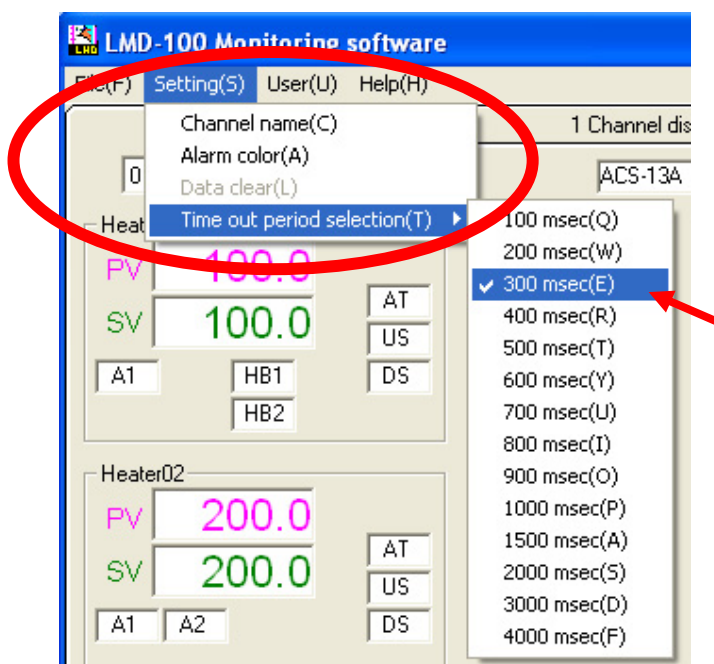
Selects Timeout period of the monitoring software.

In case the LMD-100 does not respond after receiving commands from this software, the maximum waiting time of response is the Timeout period.

Default value: 300msec

If a communication error occurs frequently, set a longer Timeout period.

Select [Setting(S)] on the menu bar – [Timeout period selection(T)] – [Desired period], and click.

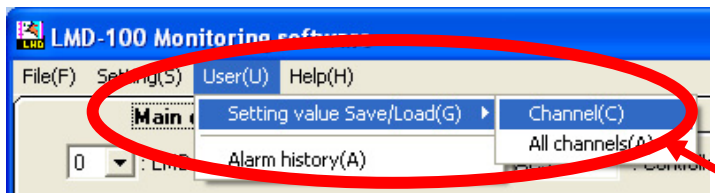


(Fig. 2.4.2-12)

(7) Set value Save/Load per channel

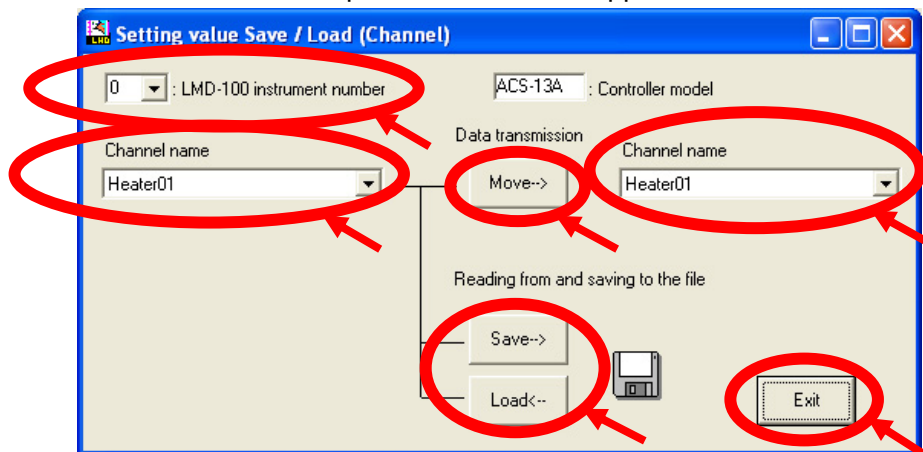
The set values on the display can be saved in a file or loaded (read) from files per channel. Data transmission between channels can be carried out.

- ① Select [User(U)] on the menu bar – [Set value Save/Load(G)] – [Channel(C)], and click.



(Fig. 2.4.2-13)

- ② Set value Save/Load per channel screen appears.



(Fig. 2.4.2-14)

Operation explanation

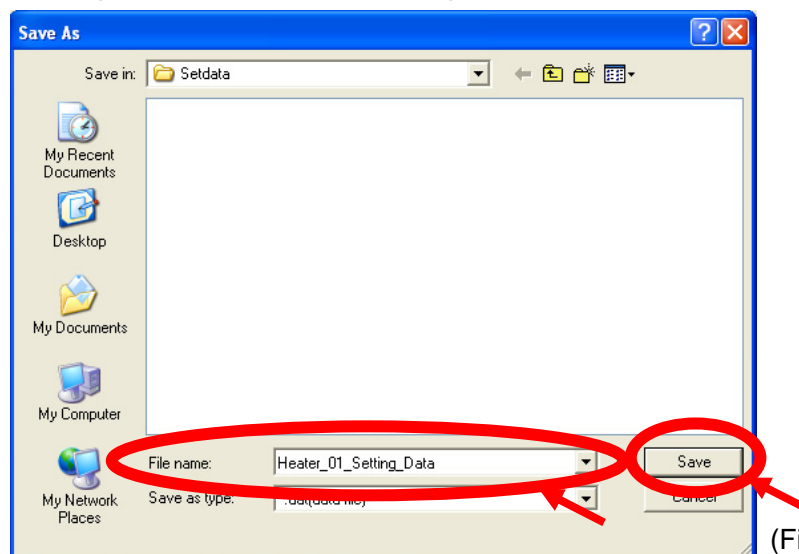
[LMD-100 instrument number]: Select controllers to save/load data by selecting the instrument number of the LMD-100 with the ▼ button

[Channel name] : Select a channel name to save or to load.

To transmit data, select the channel name for transmission destination as well.

[Move-->] button : By clicking this button, the set value is transmitted from the channel origin to the channel destination.

[Save-->] button : Clicking this button opens the dialog box "Save As".

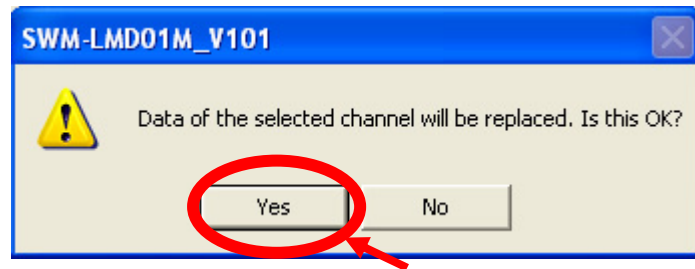


(Fig. 2.4.2-15)

Enter a file name and click [Save].

The set values of the selected channel is saved in a file of the "Setdata" folder in the installation folder.

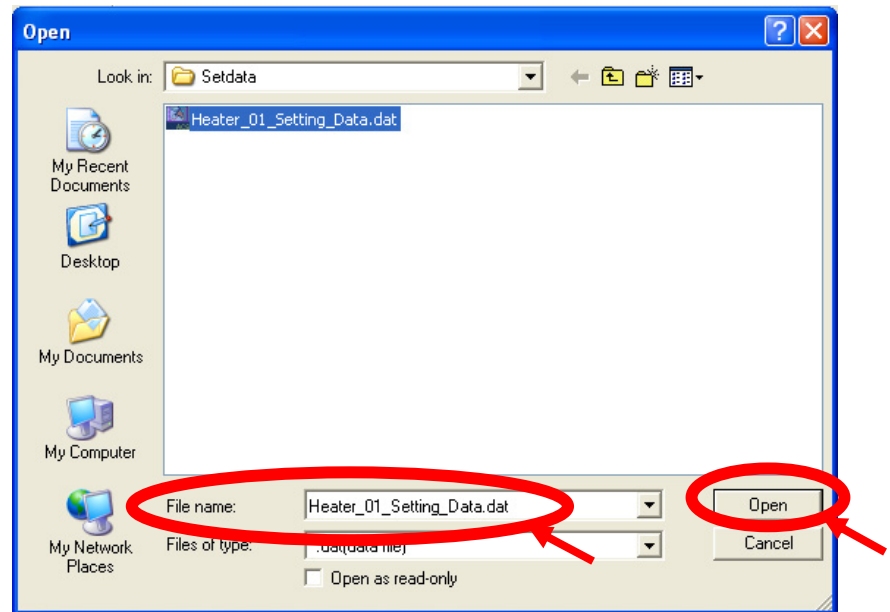
[Load<--] button : If this button is clicked, the following window appears.



(Fig. 2.4.2-16)

Clicking [Yes] opens the dialogue box "Open".

Clicking [No] closes the above screen.



(Fig. 2.4.2-17)

Select a file and click [Open].

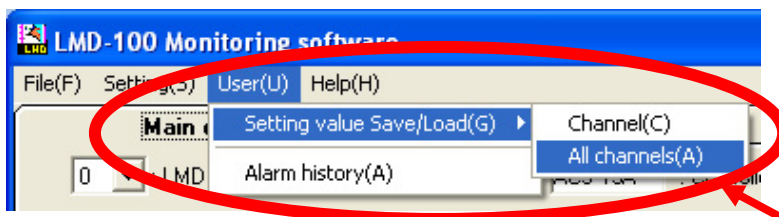
The data is loaded (read) from the file and the set values of the selected channel are updated.

[Exit] button : Clicking this button on (Fig.2.4.2-14) closes the display of Set value Save/Load per channel.

(8) Set value Save/Load for all channels

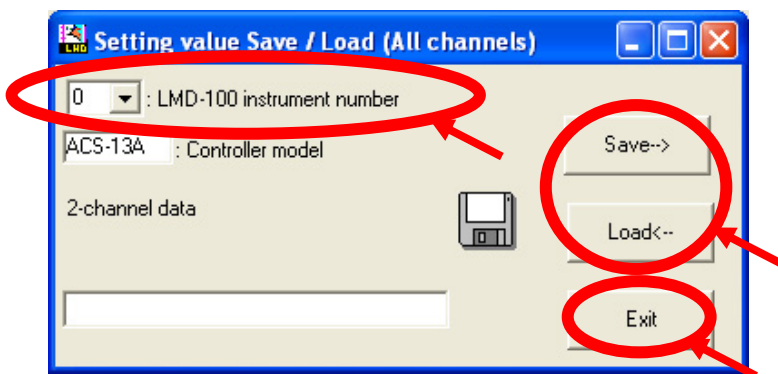
The set values of all channels can be saved in a file and loaded (read) from a file.

- ① Select [User(U)] on the menu bar – [Set value Save/Load(G)] – [All channels(A)], and click.



(Fig. 2.4.2-18)

- ② Set value Save/Load for all channels screen appears.

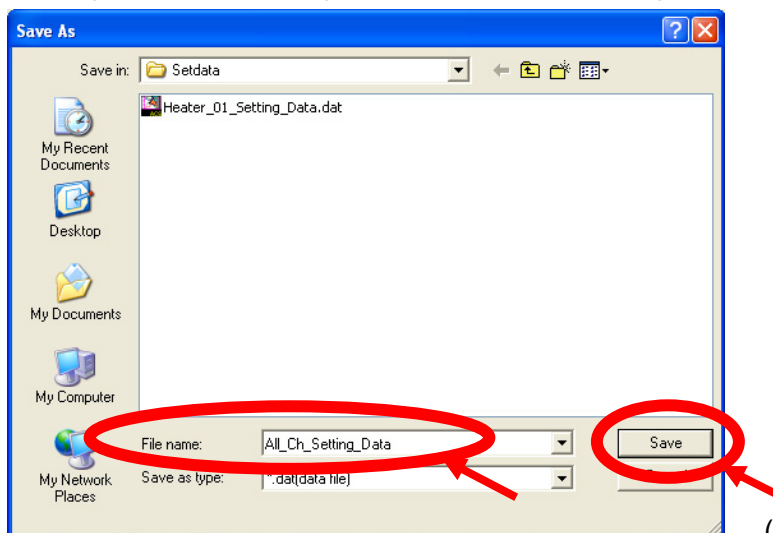


(Fig. 2.4.2-19)

Operation explanation

[LMD-100 instrument number]: Select controllers to save/load data by selecting the instrument number of the LMD-100 with the ▼ button

[Save-->] button : Clicking this button on (Fig.2.4.2-19) opens the dialog box “Save As”.

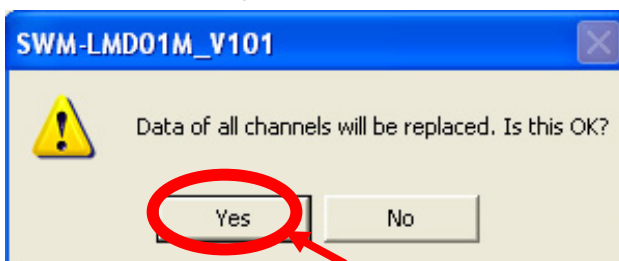


(Fig. 2.4.2-20)

Enter a file name, and click [Save].

The set values of all channels are saved in the file of “Setdata” folder in the installation folder.

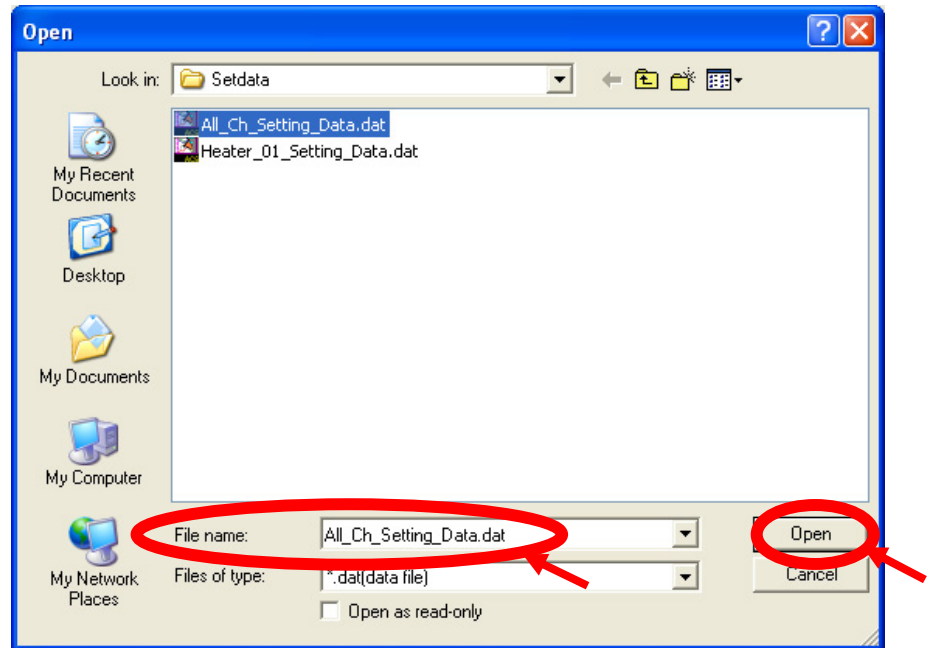
[Load<--] button : If this button on (Fig.2.3.2-19) is clicked, the following window appears.



(Fig. 2.4.2-21)

Clicking [Yes] opens a dialogue box “Open”.

Clicking [No] closes the above screen.



(Fig. 2.4.2-22)

Select a file, and click [Open].

The data is loaded (read) from the file and the values of all channels are updated.

[Exit] button

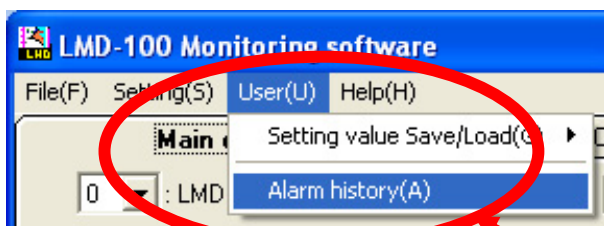
: Clicking this button on (Fig.2.4.2-19) closes Set value Save/Load for all channels screen.

(9) Alarm history display

During monitoring controllers, if Alarms 1 to 4, Heater burnout alarm 1, Heater burnout alarm 2, Loop break alarm, overscale or underscale has occurred or if they have been restored, the channel name, date and time are indicated.

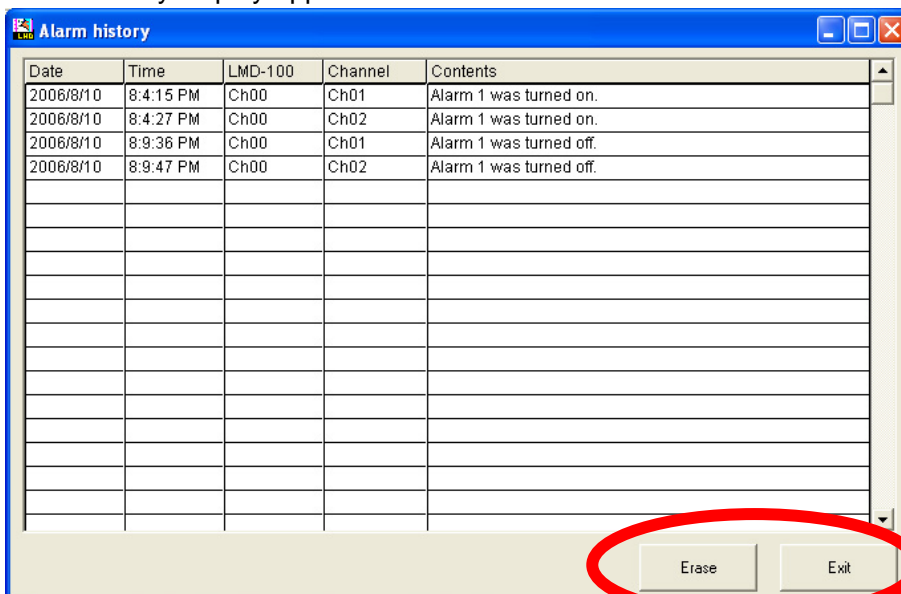
These are saved in the history folder with "txt" extension (His_Year_Month_Day_Hour_Minute.txt). The file is automatically named by date and time when the monitoring software starts.

- ① Select [User(U)] on the menu bar – [Alarm history(A)], and click.



(Fig. 2.4.2-23)

- ② Alarm history display appears.



(Fig. 2.4.2-24)

Operation explanation

[Erase] button : Clicking this button clears the history data on the screen.

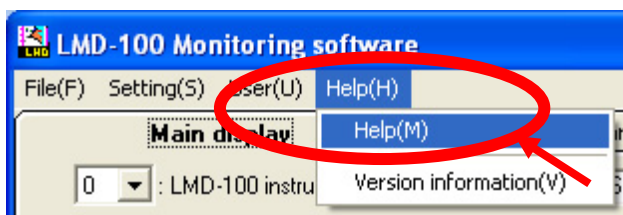
[Exit] button : Clicking this button closes the Alarm history display.

Selecting [File (F)] on the menu bar – [Print (P)] prints the Alarm history display.

(10) Help display

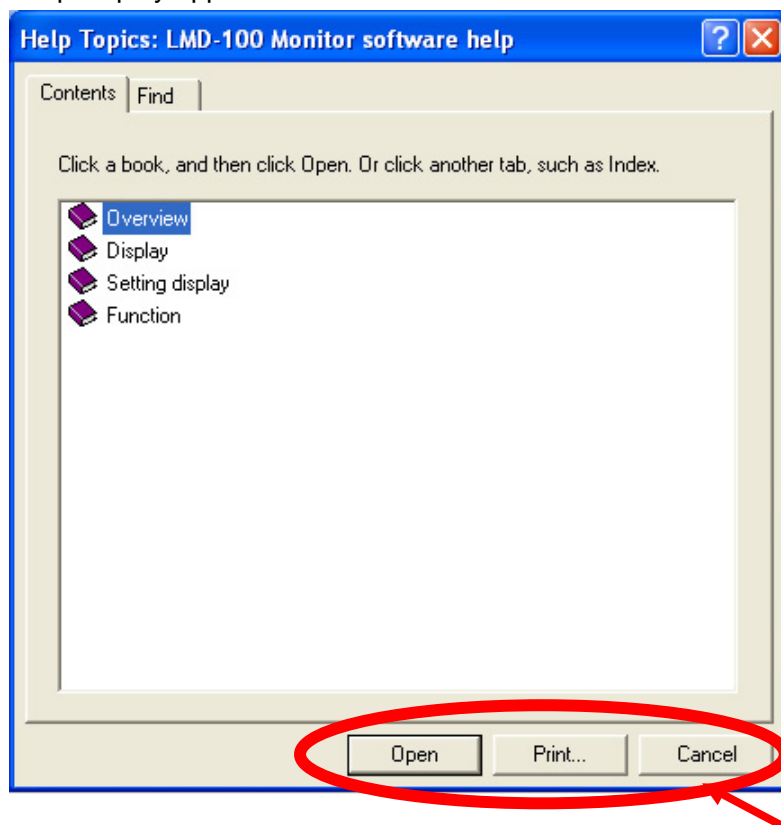
Each screen and operation method are explained.

- ① Select [Help(H)] on the menu bar – [Help(M)], and click.



(Fig. 2.4.2-25)

- ② Help display appears.



(Fig. 2.4.2-26)

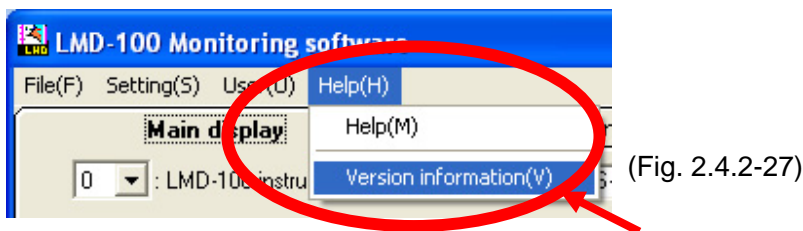
Operation explanation

- [Open] button : Clicking this button opens the selected Help contents.
 - If the closed book icon is selected, the book will be opened.
 - If the opened book icon is selected, the book will be closed.
- [Print...] button : Clicking this button prints the selected Help contents.
 - If the book icon is selected, all contents in the book will be printed.
- [Cancel] button: Clicking this button closes the Help display.

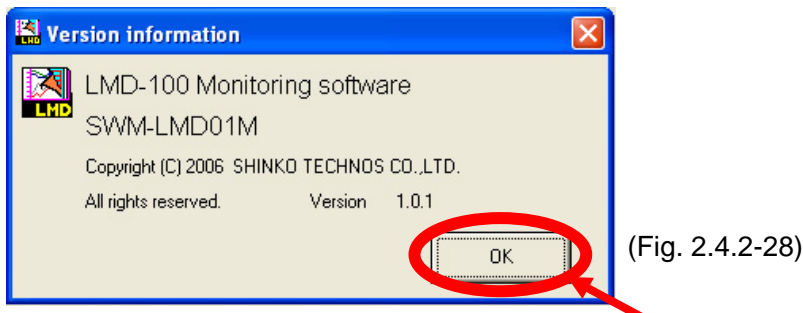
(11) Version information display

Version information on the monitoring software is described.

- ① Select [Help(H)] on the menu bar – [Version information(V)], and click.



- ② Version information display appears.



Operation explanation

[OK] button: Clicking this button closes Version information display.

***** Inquiry *****

For any inquiries about this software, please contact the shop where you purchased the software or our agency. Please let us know the details of malfunction, if any, and the operating conditions.

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