

Samwontech Integrated Monitoring System

User Manual



Introduction

Thank you very much for purchasing the product of our company.

This manual describes the methods of real time monitoring and remote monitoring of the our company products using SIMS software

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Revisions

January 2014 1st Edition

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Products on which the Software Manual Applies

- TEMI Series : Temperature-Humidity programmable controller
- TEMP Series : Programmable controller
- TEMP2000M Series : Multiple channel programmable controller
- TEMP2000S Series : Thermal shock tester controller
- SDR100 Series : Digital Recorder

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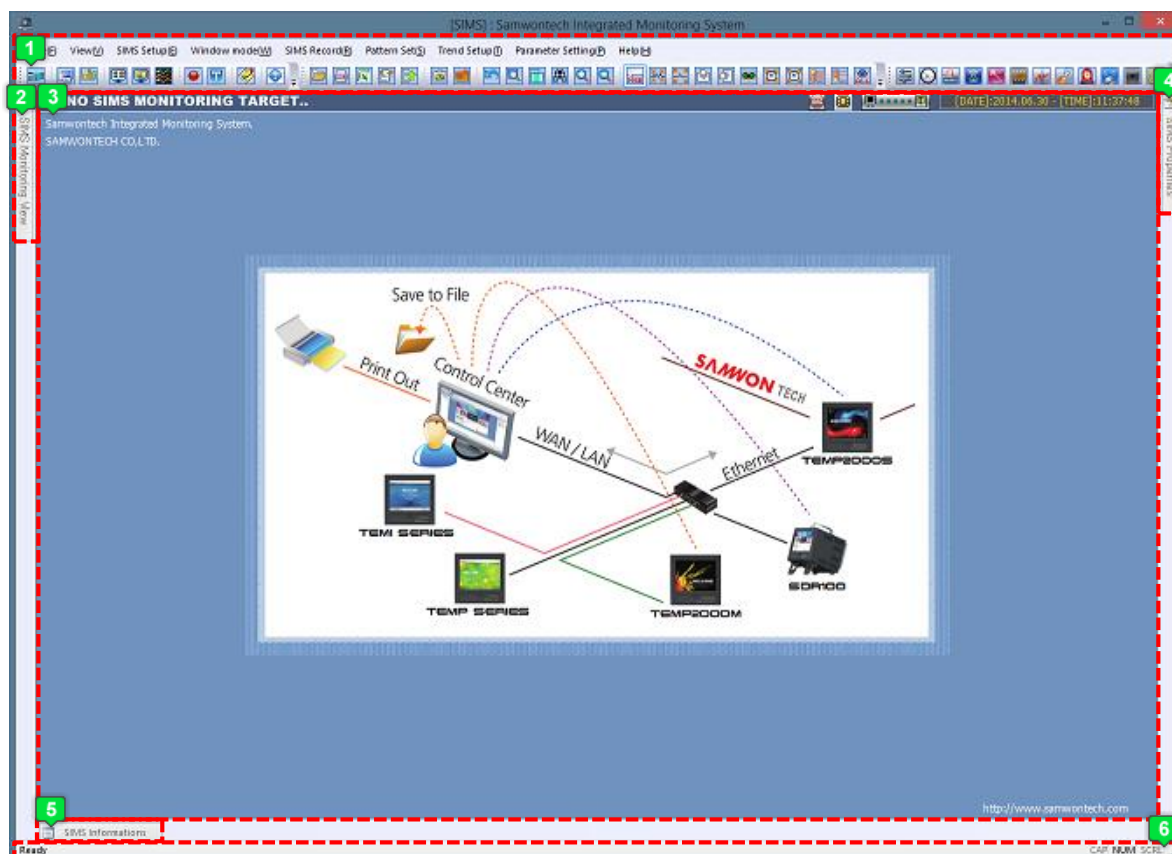
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Chapter 1. Introduction

1. 1. Main Screen and Menu of the Program

1. 1. 1 Main Screen


The main screen of this program consists of the data output screen, where the data from connected device is viewed, monitoring view, which shows list of devices, status window, which provides various information, property window, where you can change properties of each channel, and the user command menu.

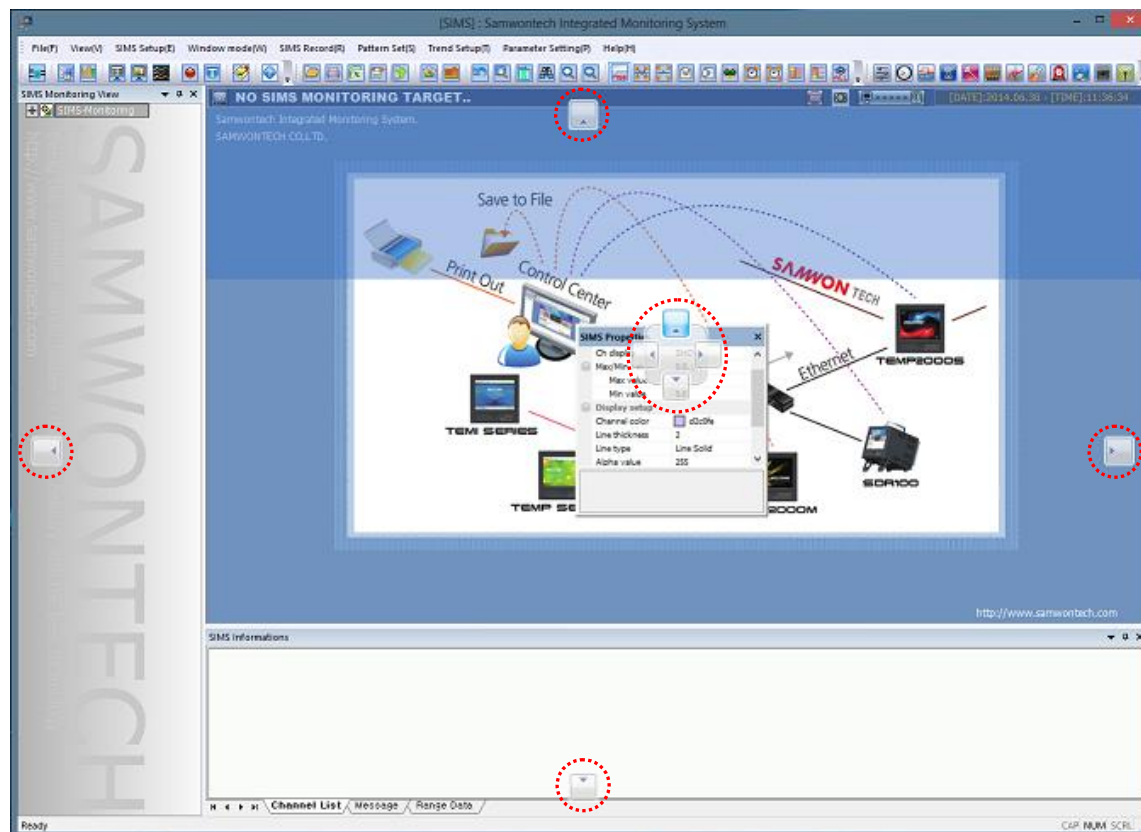


[Diagram 1 – 1] Initial Screen

1	Main menu and tool bar
2	SIMS Monitoring View
3	Data Output Screen
4	SIMS Property
5	SIMS Information
6	Status Bar

User Interface

You can freely move among each view and also fix at one of them. You can fix the screen by dragging a window towards the  icon.










[Diagram 1 – 2] Free Translation of View Window

1. 1. 2 Main Menu and Tool Bar

The program consists of the main menu at the top of the screen, the sub menus that belong to each relevant main menu and a tool bar that allows quick application of each function. The following describes each menu and tool bar.





File

Menu	Tool Bar	Function
Open		Open a saved file
Save text file		Save as text file
Save excel file		Save as excel file
Data upload		Upload data saved in internal memory
Screen capture		Save current page as image file
File information		View information on selected SIMS
Print		Print data output
Print preview	•	Preview page to be printed
Print setup	•	Set options for printer and printing
Exit	•	Exit program



View

Menu	Tool Bar	Function
Docking Window	•	Show / Hide each docking window
Program theme	•	Change program theme
Status bar	•	Show / Hide status bar



SIMS Setting

Menu	Tool Bar	Function
SIMS Connect		Connect Communication
SIMS Disconnect		Disconnect communicate
Connection setup		Communication connection setting
Display setup		Screen setting

Window mode

Menu	Tool Bar	Function
SIMS whole view		View all connected devices
SIMS split view		View details of selected device
SIMS trend view		Trend view selected device














SIMS Record

Menu	Tool Bar	Function
Recording On/OFF		Start / Stop recording data
Tracking mode On/Off		Turn tracking mode on / off













Pattern Setting

Menu	Tool Bar	Function
.		Set SIMS pattern


Trend Setting

Menu	Tool Bar	Function
Trend message On/Off		Show / hide message
Trend data search		Search data section
View all channel On/Off		View max. / min. values for all / selected channels
Set trend data area		Select a data section on graph
Set time bar Abs/Inc		View absolute / comparative time
Trend view mode	Trend horizontal	 View graph horizontally
	Trend vertical view	 View graph vertically
Time dense Inc/Dec	Time dense Inc	 Expand time bar grid
	Time dense Dec	 Reduce time bar grid
Range dense Inc/Dec	Range dense Inc	 Expand min / max value of data
	Range dense Dec	 Reduce min / max value of data
Trend data view mode	View all data area	 View full graph
	View data section	 View a part of graph
Zoom in / out	Zoom in	 Zoom in graph
	Zoom out	 Zoom out graph
	Zoom fit	 Zoom in a selected interval
	Zoom fit undo	 Cancel zoom in a selected interval

Parameter Setting

Menu	Tool Bar	Function
Function Set		Setting for additional function and operation method
Reserve Set		Setting for current time, programmed operation time
Time Signal set		Setting for time signal
Wait Set		Setting for waiting motion
Input Set		Setting for input sensor type and sensor input
Output Set		Setting for output type and output
Inner Signal setting		Setting for inner signal
ON/OFF Signal setting		Setting for ON/OFF signal
Alarm Signal Setting		Setting for alarm signal
PID Group Set		Setting for PID
DO Config Set		Setting for I/O board relay output signal
DI Config Set		Setting for user BMP screen








Help

Menu	Tool Bar	Function
SIMS Information		SIMS Information

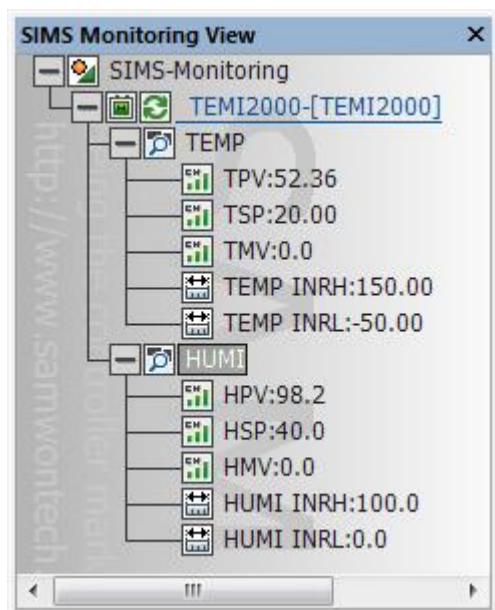
1. 1. 3 SIMS Monitoring View

You can view the list of connected devices. You can check if there are any problems with communicating with devices and also see the command values and channel information. When you click on a device that is connected to view, the data output screen will show the details.

Icon Descriptions for Monitoring View

Icon	Description
	Show when a TEMP Series is connected.
	Show when a TEMI Series is connected
	Show when a TEMP2000M Series is connected
	Show when a TEMP2000S Series is connected
	Show when a SDR 100 Series is connected
	Show on normal Communication status
	Show when the Communication is not normal or in case of file data.

TEMI Series



[Diagram 1 - 2] TEMI Series

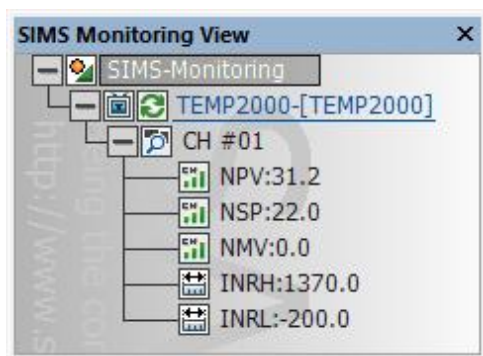
TEMP

TPV : Current temperature data
TSP : Set temperature data
TMV : Current output amount
TEMP INRH : Upper limit of data value
TEMP INRL : Lower limit of data value

HUMI

HPV : Current humidity data
HSP : Set humidity data
HMV : Current output amount
HUMI INRH : Upper limit of data value
HUMI INRL : Lower limit of data value

TEMP Series

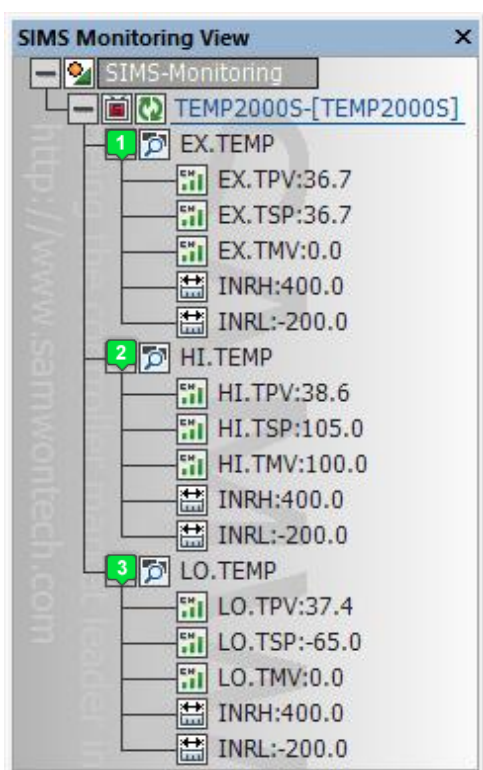


[Diagram 1 - 3] TEMP Series

NPV	: Current temperature data
NSP	: Set temperature data
NMV	: Current output amount
INRH	: Upper limit of data value
INRL	: Lower limit of data value

※ Two channels are given for TEMP2020 Series

TEMP2000S Series



[Diagram 1 - 4] TEMP2000S Series

1 EX.TEMP

EX.TPV	: Current experimental temperature data
EX.TSP	: Set experimental temperature data
EX.TMV	: Current experimental output amount
INRH	: Upper limit of data value
INRL	: Lower limit of data value

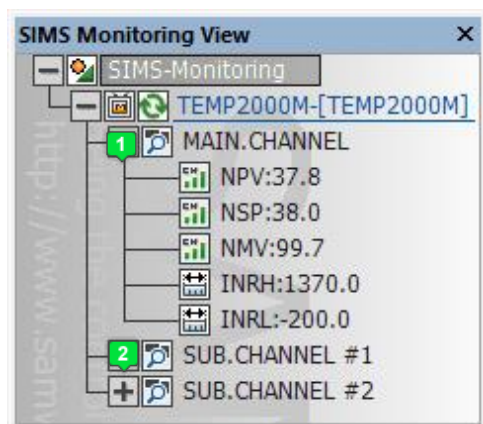
2 HI.TEMP

HI.TPV	: Current high-temp. temperature data
HI.TSP	: Set high-temp. temperature data
HI.TMV	: Current high-temp. output amount
INRH	: Upper limit of data value
INRL	: Lower limit of data value

3 LO.TEMP

LO.TPV	: Current low-temp. temperature data
LO.TSP	: Set low-temp. temperature data
LO.TMV	: Current low-temp. output amount
INRH	: Upper limit of data value
INRL	: Lower limit of data value

TEMP2000M Series



1 Main Channel

2 Sub Channel

NPV : Current temperature data

NSP : Set temperature data

NMV : Current output amount

INRH : Upper limit of data value

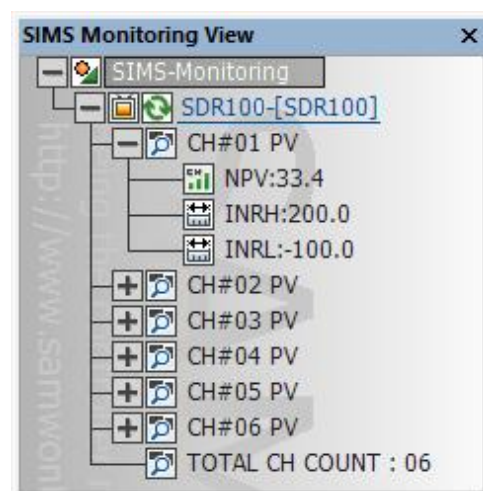
INRL : Lower limit of data value

※ Sub channel group and the main channel are the same

※ Number of channels may vary depending on the device

[Diagram 1 - 5] TEMP2000M Series

SDR100 Series



NPV : Current temperature data

INRH : Upper limit of data value

INRL : Lower limit of data value

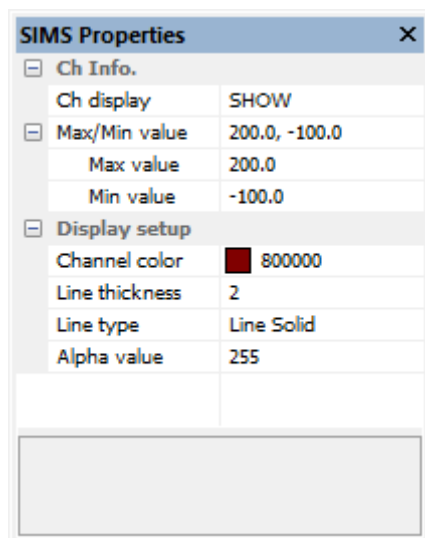
TOTAL CH COUNT : Total number of channels

※ Number of channels may vary depending on the device

[Diagram 1 - 6] SDR100 Series

1. 1. 4 SIMS Properties

You may change the view setting for each channel, upper and lower limit values, channel colors in trend view, line thickness, line type and transparency of each connected devices.



Ch Info

Ch display : Show / Hide channel

Max/Min value

Max value : Set upper limit for data value

Min value : Set lower limit for data value

Display setup

Channel color : Change Channel color (graph)

Line thickness : Change thickness of graph line

Line type : Change type of graph line

Alpha value : Change transparency of graph line

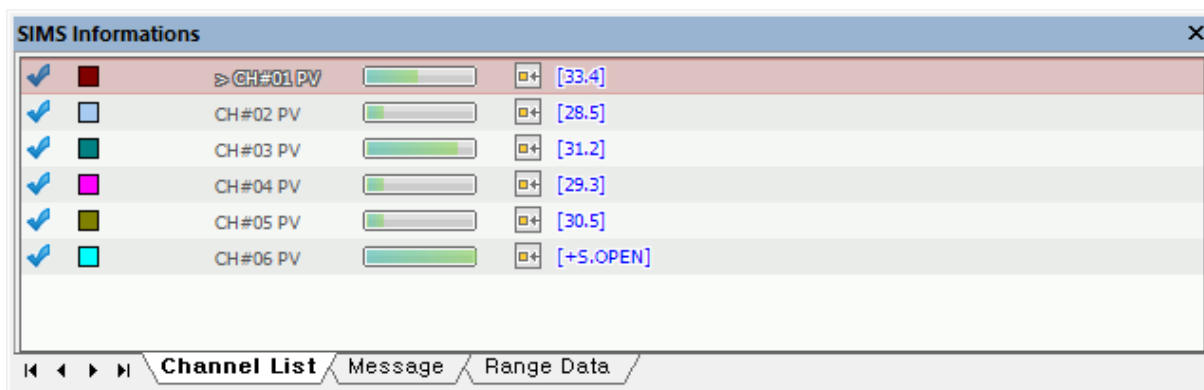
[Diagram 1 - 7] SIMS properties

1. 1. 5 SIMS Information

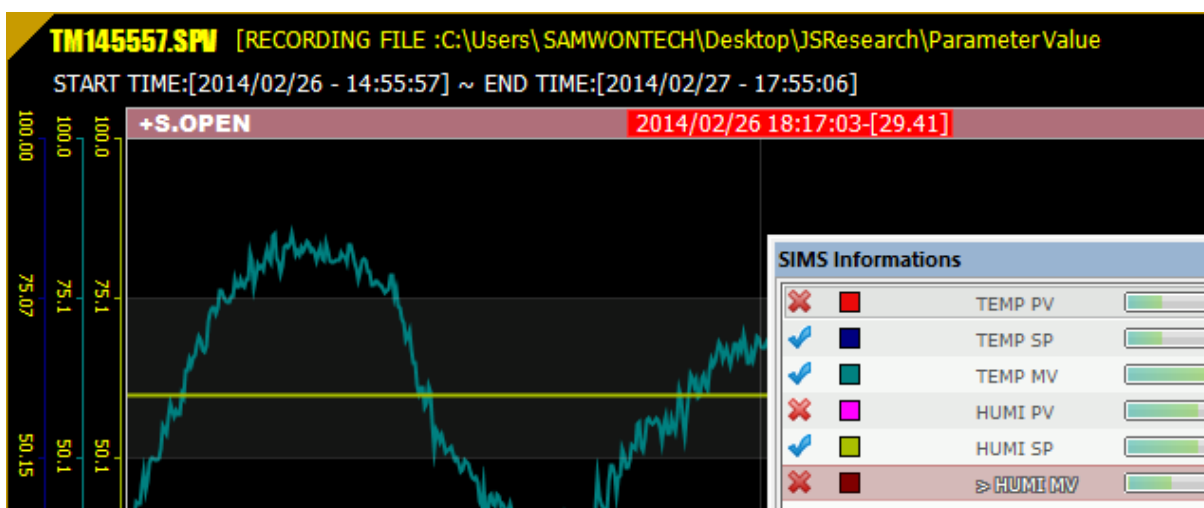
It gives information on each channel and show data or selected section and messages.

Channel List

You can select channels and use [✓] or [✗] to hide or show the graph of each selected channel.



[Diagram 1 - 8] SIMS Channel List



[Diagram 1 - 9] Select channels to show

Message

Shows message alerts during monitoring and you can move to the point where the message occurred in trend view by clicking on the message.

SIMS Informations		
Message Index	Date - Time	Message
M.0001	[DATE]2014/03/24 - [TIME]14:52:05	RECORD ON
M.0002	[DATE]2014/03/24 - [TIME]14:52:05	SD CARD INSERT
M.0003	[DATE]2014/03/25 - [TIME]13:11:32	RECORD ON
M.0004	[DATE]2014/03/25 - [TIME]13:11:32	SD CARD INSERT

[Diagram 1 - 10] Message

Range data

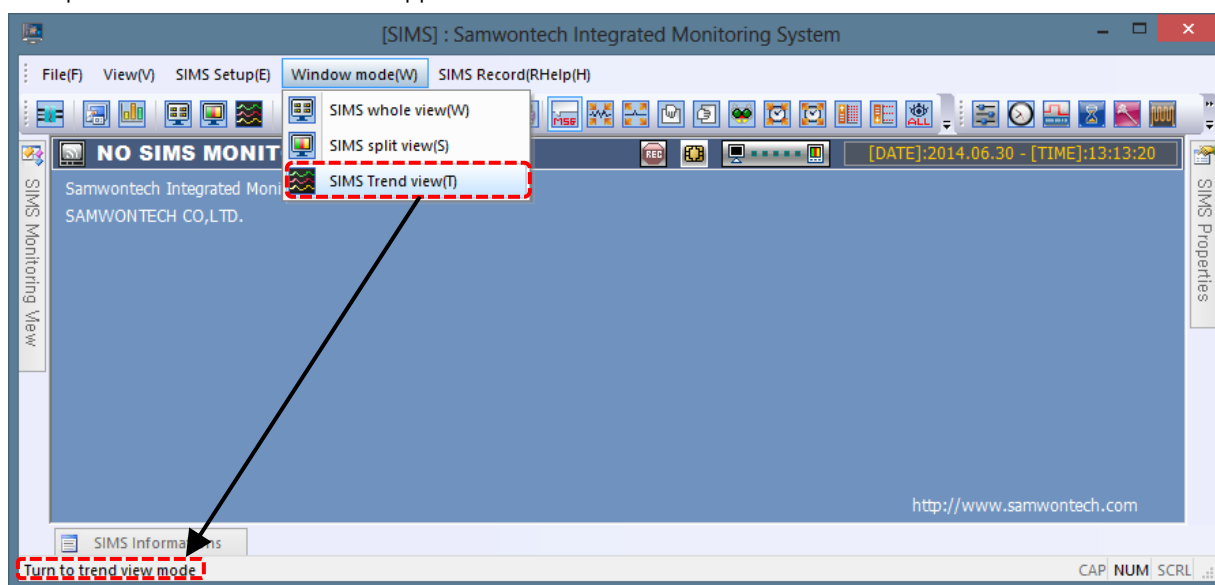
Use the function of [5. 2. 4 View selected interval] to view the data in selected interval.

SIMS Informations							
Total data count : 50		Total time range : 2014/03/18 [15:22:44] ~ 2014/03/18 [15:23:34]					Loading: <div></div>
No.	Time	CH#01 PV	CH#02 PV	CH#03 PV	CH#04 PV	CH#05 PV	CH#06 PV
Index. 11	2014/03/18 - 15:22:44	33.4	28.5	31.2	29.3	30.5	+S.OPEN
Index. 12	2014/03/18 - 15:22:45	33.4	28.5	31.2	29.3	30.5	+S.OPEN
Index. 13	2014/03/18 - 15:22:46	33.4	28.5	31.2	29.3	30.5	+S.OPEN
Index. 14	2014/03/18 - 15:22:47	33.4	28.5	31.2	29.3	30.5	+S.OPEN
Index. 15	2014/03/18 - 15:22:48	33.4	28.5	31.2	29.3	30.5	+S.OPEN
Index. 16	2014/03/18 - 15:22:49	33.4	28.5	31.2	29.3	30.5	+S.OPEN
Index. 17	2014/03/18 - 15:22:50	33.4	28.5	31.2	29.3	30.5	+S.OPEN

[Diagram 1 - 11] Range data

1. 1. 6 Status Bar

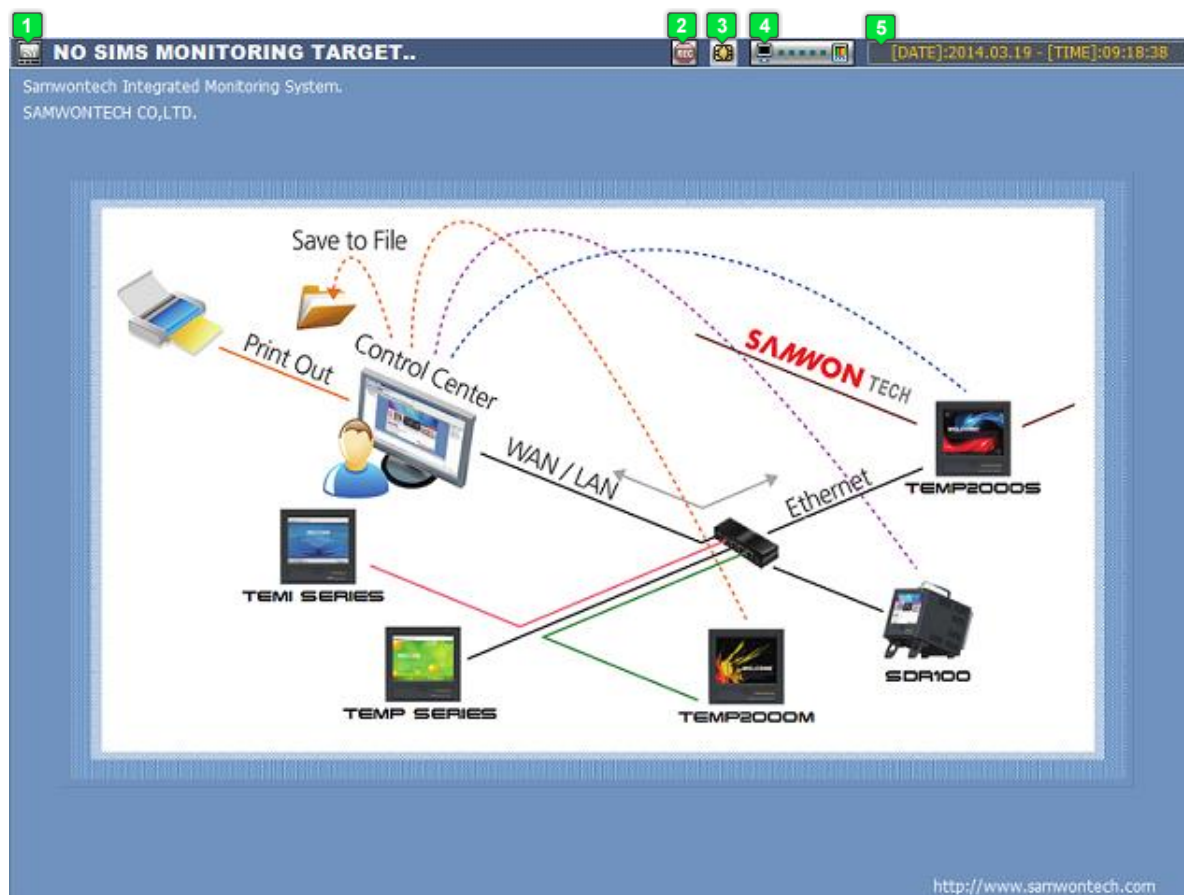
It provides brief descriptions on each menu and functions of tool bar. As in [Diagram 1 - 12], the descriptions on menu and tool bar appear on the status bar.



[Diagram 1 - 12] Status Bar

1. 1. 7 Data Monitoring Screen

It is a screen for showing data of connected device or saved data.



[Diagram 1 – 13] Data monitoring screen

1	Shows name of the currently connected device or opened file
2	Shows the recording status of currently connected device
3	Shows whether memory card is inserted on currently connected device
4	Shows the connection state of currently connected device
5	Shows current date and time

1. 2. Hardware Preparation

1. 2. 1 Preparation for Operation

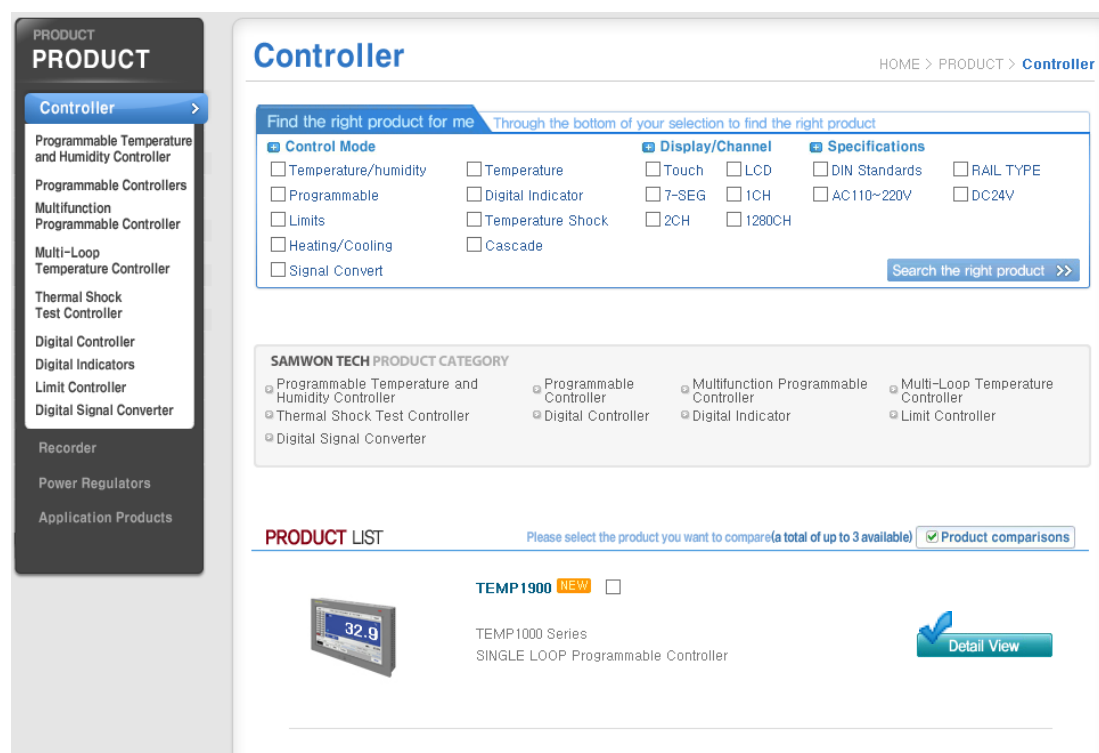
This program is software for PC for a real time monitoring on a product of Samwon Tech Inc. The monitoring of a device is operated through a Communication with the device, so for a proper monitoring, setting for cable and other environment for Communication are required in advance.

Installing Program

Download the latest version of the program from the website (www.samwontech.com) and start installation

Select a file and install the program.

☞ Homepage -> Product -> Controller



The screenshot displays the Samwon Tech website's product selection interface. On the left, a vertical navigation menu lists various product categories under the heading 'PRODUCT'. The 'Controller' category is highlighted. The main content area is titled 'Controller' and includes a breadcrumb trail 'HOME > PRODUCT > Controller'. Below the title, there is a search bar and a section for finding the right product based on specifications. This section is divided into three columns: 'Control Mode', 'Display/Channel', and 'Specifications'. Each column contains several checkboxes for selection. A 'Search the right product' button is located at the bottom right of this section. Below the search section, there is a 'SAMWON TECH PRODUCT CATEGORY' section with a grid of product categories. At the bottom, a 'PRODUCT LIST' section shows a single product, the 'TEMP1900', with a 'Detail View' button.

PRODUCT

Controller

PROGRAMMABLE Temperature and Humidity Controller

PROGRAMMABLE Controllers

Multifunction Programmable Controller

Multi-Loop Temperature Controller

Thermal Shock Test Controller

Digital Controller

Digital Indicators

Limit Controller

Digital Signal Converter

Recorder

Power Regulators

Application Products

Controller

HOME > PRODUCT > Controller

Find the right product for me Through the bottom of your selection to find the right product

Control Mode

☐ Temperature/humidity ☐ Temperature ☐ Digital Indicator ☐ Limits ☐ Heating/Cooling ☐ Signal Convert

Display/Channel

☐ Touch ☐ LCD ☐ 7-SEG ☐ 1CH ☐ 2CH ☐ 1280CH

Specifications

☐ DIN Standards ☐ RAIL TYPE ☐ AC110~220V ☐ DC24V

Search the right product >>

SAMWON TECH PRODUCT CATEGORY

☐ Programmable Temperature and Humidity Controller ☐ Programmable Controller ☐ Multifunction Programmable Controller ☐ Multi-Loop Temperature Controller


☐ Thermal Shock Test Controller ☐ Digital Controller ☐ Digital Indicator ☐ Limit Controller

☐ Digital Signal Converter


PRODUCT LIST

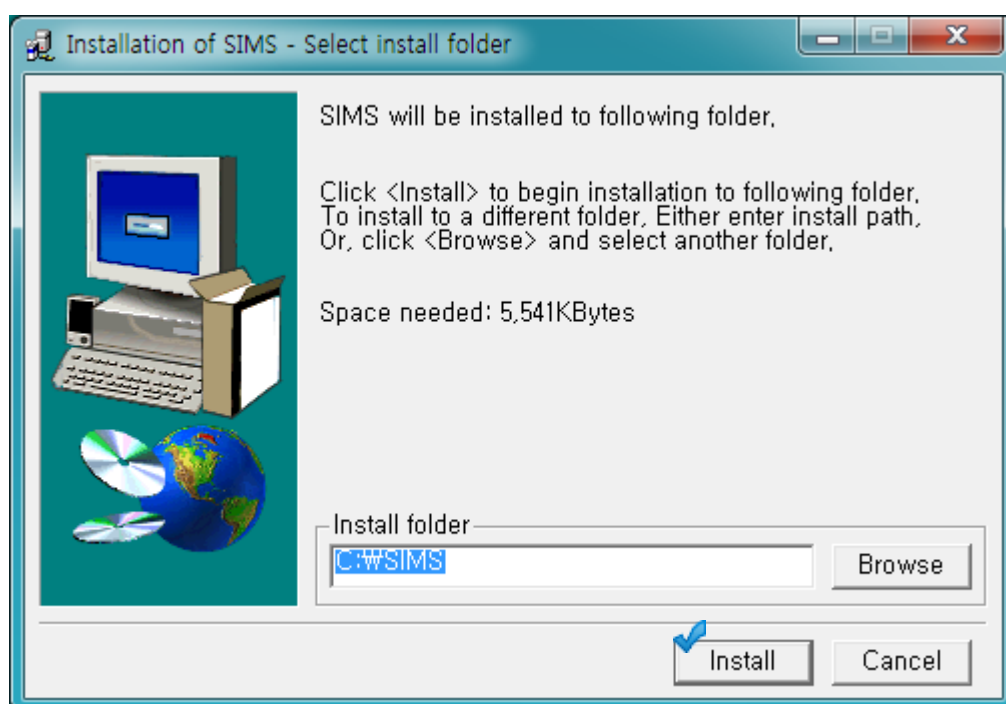
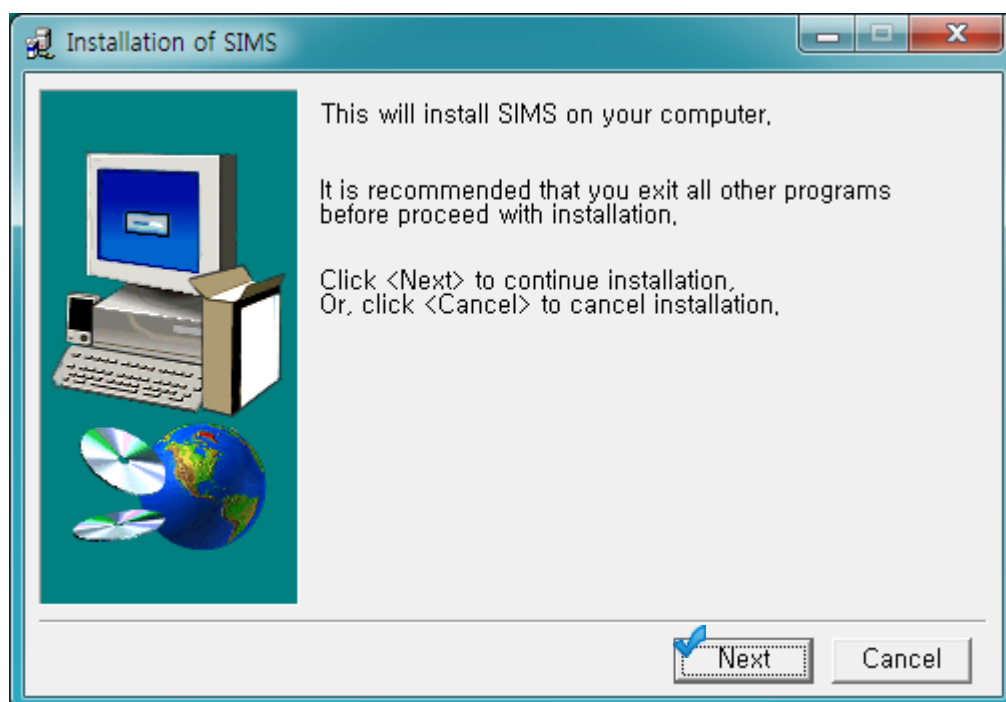
Please select the product you want to compare (a total of up to 3 available) ☒ Product comparisons

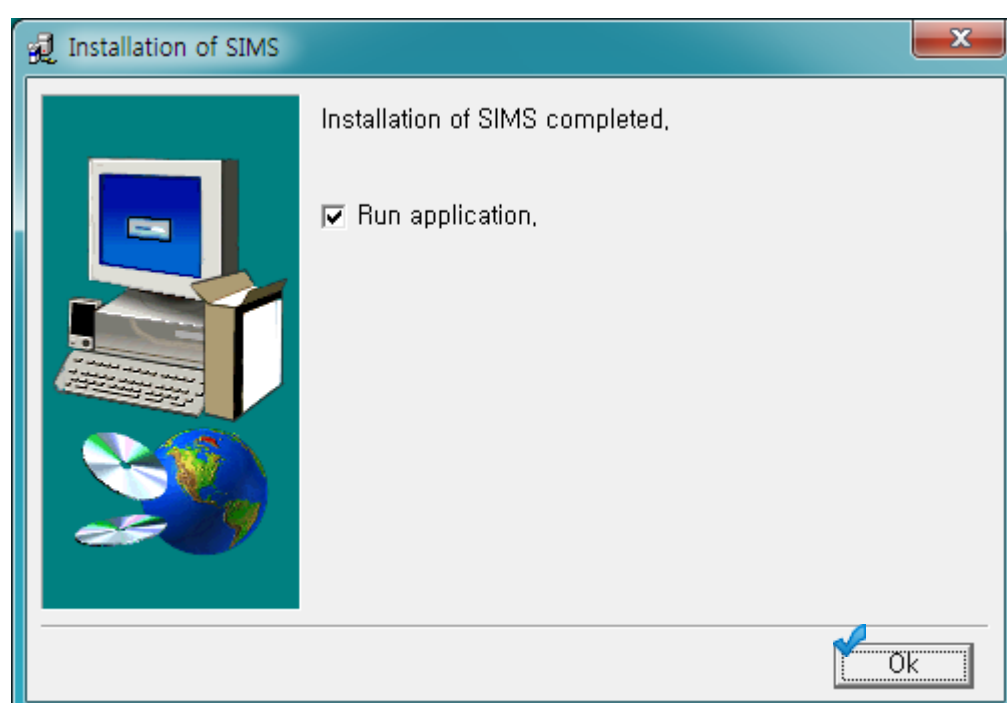
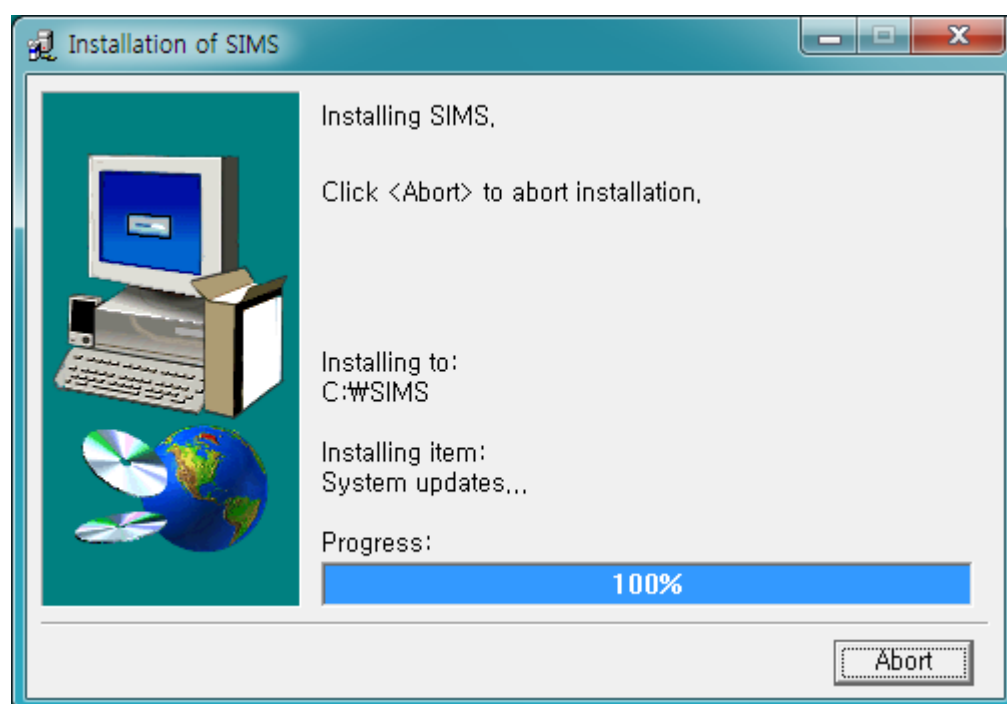
TEMP1900 NEW ☐



TEMP1000 Series
SINGLE LOOP Programmable Controller



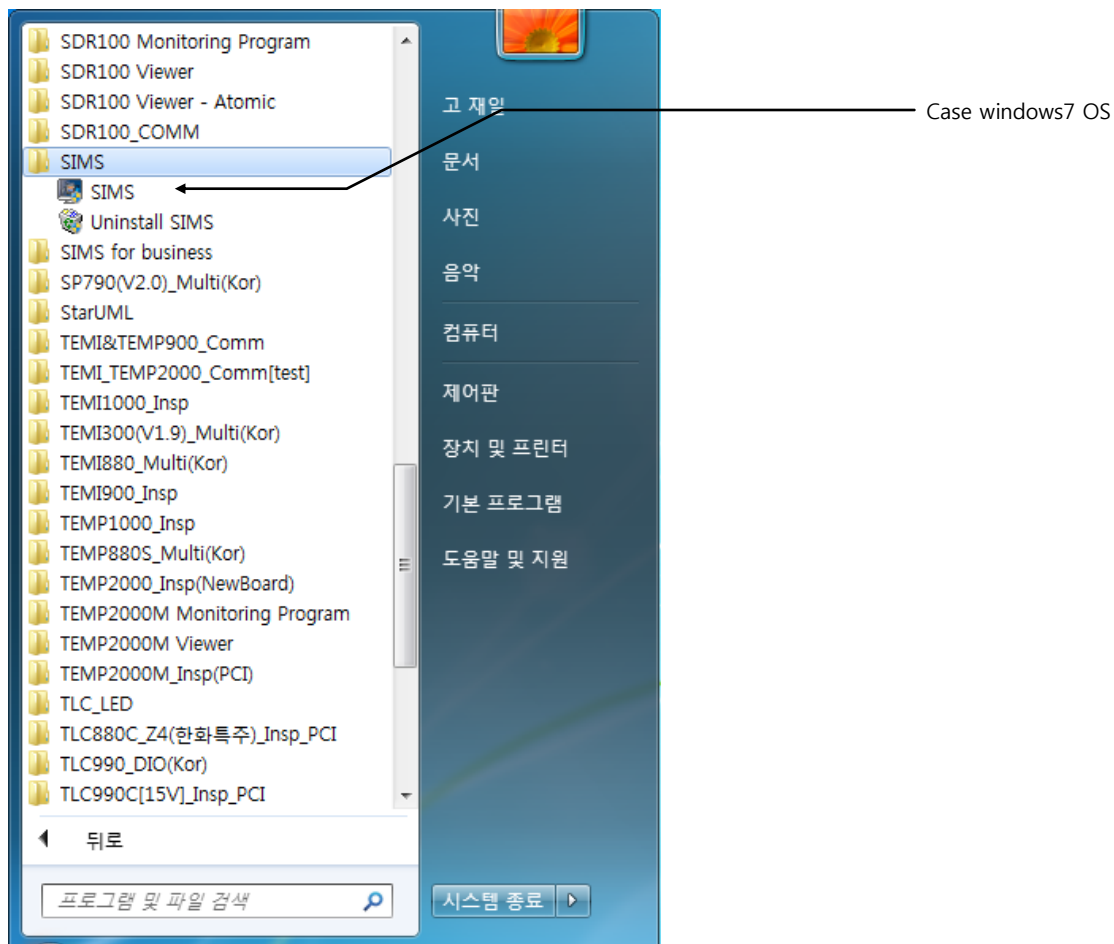




Execution of the Program

Once the program is successfully installed, open "window start" and click on "SIMS" file under folder named "SIMS" to start running the program.

☞ Window Start → Program → Run SIMS

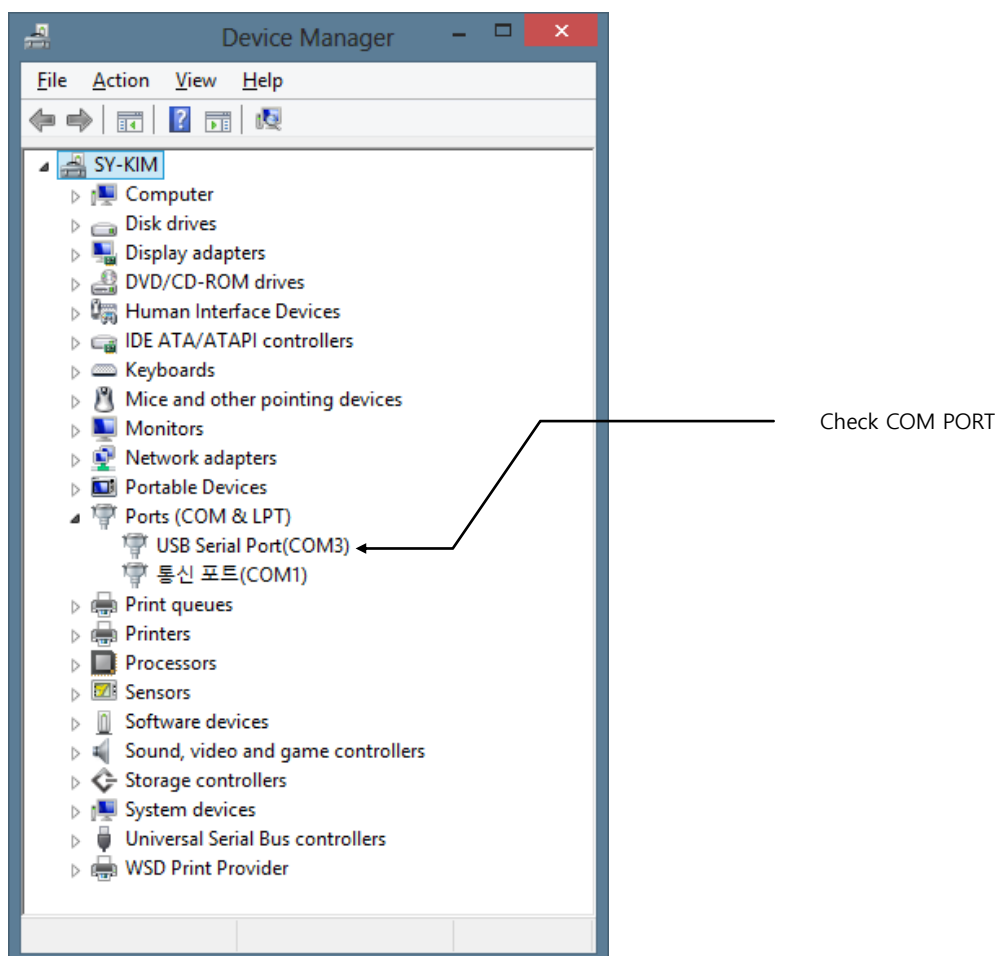


1. 2. 2 Communication Environment Setting

The program supports Serial (RS232) and Ethernet Communication for connecting with devices. For the method of connecting PC and a device using cables, please refer to "product installation manual" included in the product package.

Serial Communication Environment Setting

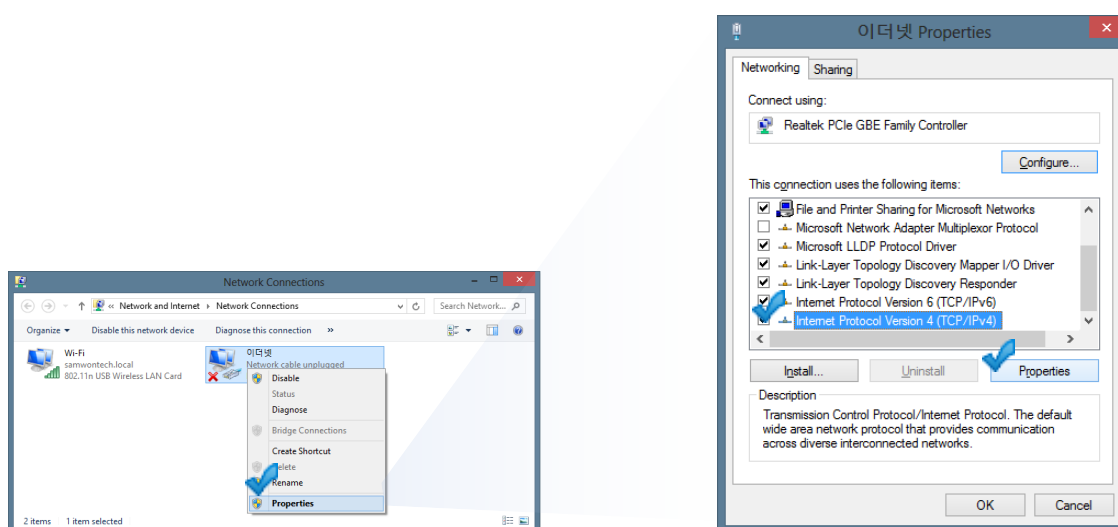
- 1 Check the Communication environment setting of the device (refer to the device installation manual)
- 2 Check the serial port (COM PORT) of user's PC
 - "Control Panel" → "Device Manager" → Check the Communication port number on "Port (COM & LPT)"
 - In case of using "USB to Serial Cable" name of the device may appear instead.



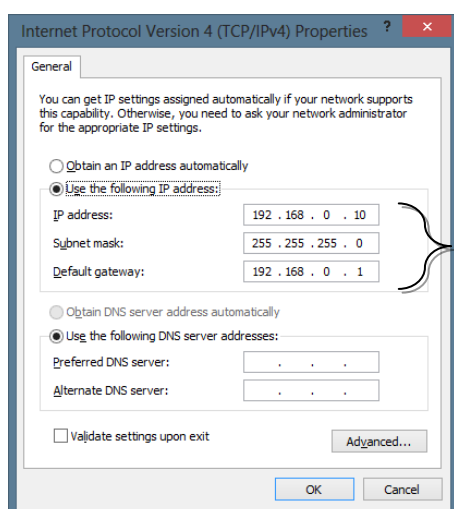
Ethernet Communication Environment Setting

In using the Ethernet Communication, you must check in advance whether the device supports it or not. Depending on the specification of the device provided from the company, the Ethernet Communication may not be supported.

- 1 Check the Communication environment setting of the device (refer to device installation manual)
- 2 Ethernet Network setting on user's PC
 - "Control panel" → "Network and internet" → "change adapter setting"
 - Select "Ethernet properties" under network adaptor
 - Select "TCP/IP v4" in the list and click on "Properties"



- 3 Ethernet network environment setting
 - Check "use the following IP address" button
 - Enter "IP address", "subnet mask", "basic gateway"
 - The value of subnet mask and basic gateway are the same as the ones for device.



Ethernet IP Setting

- 4 Complete and accept network setting
 - Check the device IP address setting
 - "Start" → "Search" → run "CMD"
 - Enter "ping device IP address" and press enter to view the result and response

Chapter 2. Communication Setting and Connection

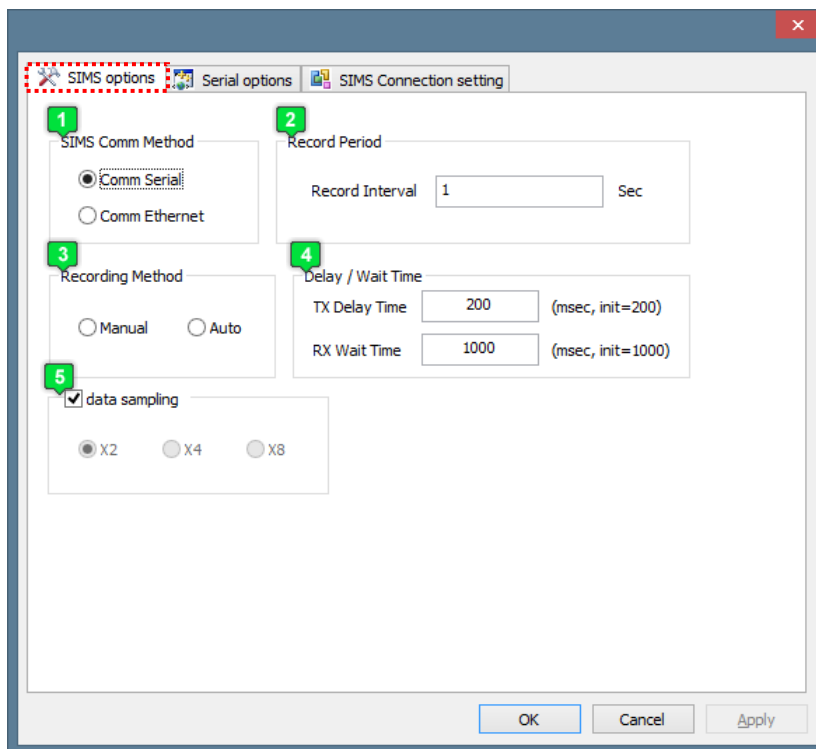
2. 1. Communication Setup

2. 1. 1 SIMS options






It is a general setting for communication connections.

Select **[SIMS setup -> Connection setup]** on menu or select  on tool bar.

※ **Maximum of 30 devices can be connected at once.**

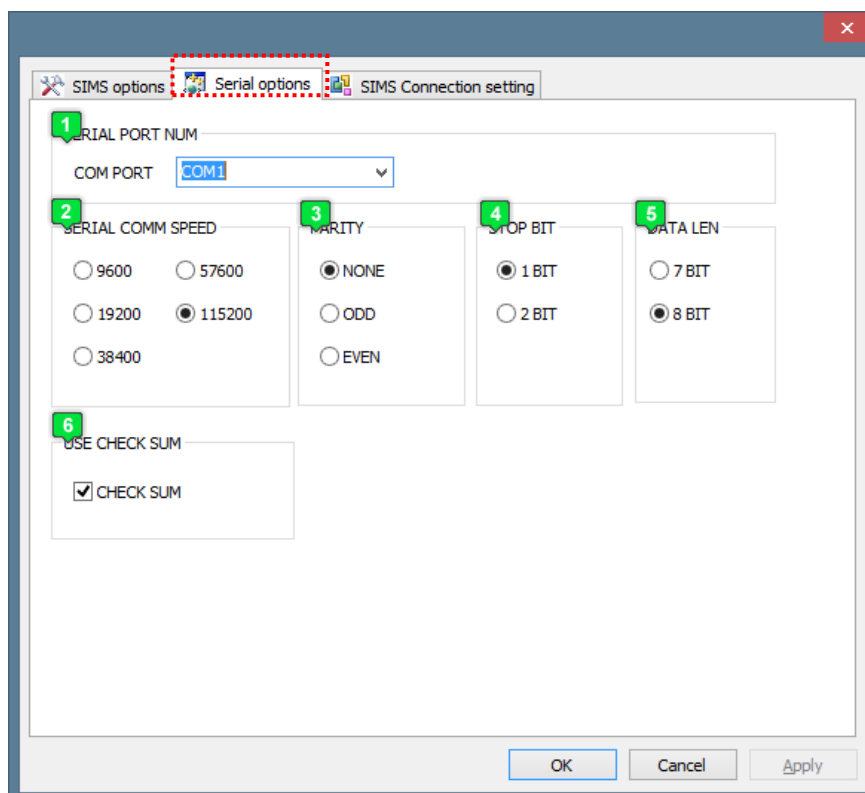


[Diagram 2 - 1] SIMS Communication environment setting

	Select communication method : Select method of communication according to the device option
	Set interval between data records : Set the time interval between data record savings
	Method of saving : Select means of data record
	Set delay / waiting time : Set the delay time and signal waiting time in communication
	Set data file sampling : Set sampling option for saved data file

2. 1. 2 Serial options

It is a setting for the serial communication environment. If the device has serial communication option, set the communication setting the same as that of the device.



[Diagram 2 - 2] Serial Communication Environment Setting

1	Enter serial port
2	Select communication speed
3	Select parity type
4	Select Stop bit
5	Select data length
6	Activate CHECK SUM

※ Check List before Connecting for Communication

Port Setting

Set the port as it is checked from serial communication environment setting in [1. 2. 2 communication environment setting].

Setting for communication speed, parity, stop bit and data length

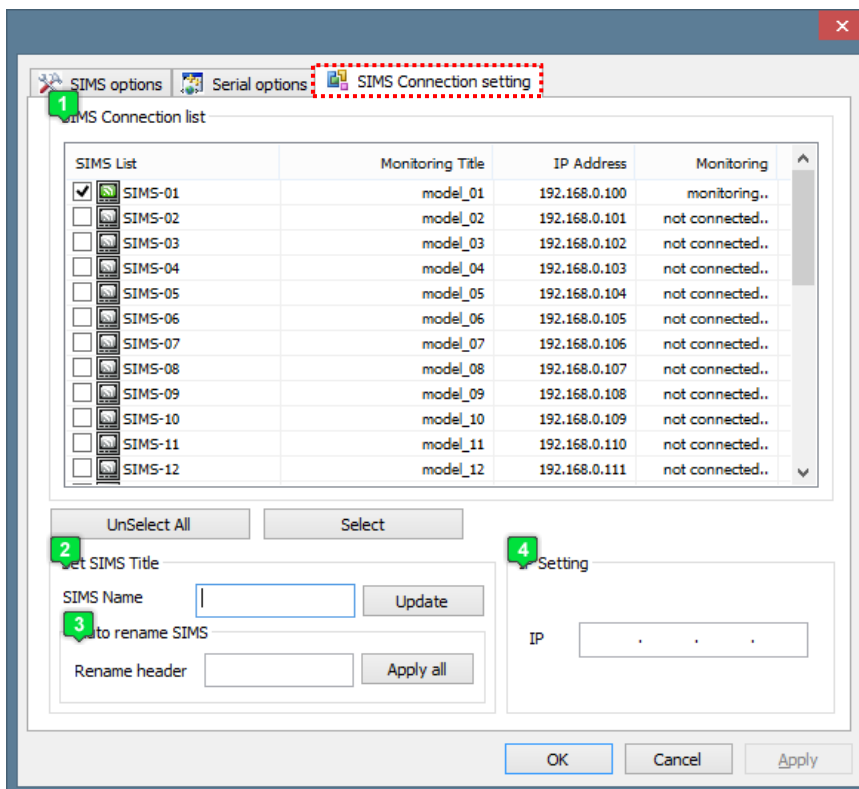
Check and make sure the options of device and of PC for communication environment setting are the same.

Set CHECK SUM Option

Activate or deactivate the CHECK SUM according to the protocol setting of the device.

2. 1. 3 SIMS Connection Setting

You can set address for serial communication and IP address for ethernet communication and also change the name of connected device.



[Diagram 2 - 3] SIMS Connection Setting

1	SIMS Connection List
2	Change Monitoring Title of SIMS
3	Change all Monitoring Titles of SIMS
4	Change IP address of SIMS

※ Check List before Connecting Communication

Connection setting for serial communication

Check on the connection list according to the address of device to be connected.

Connection setting for ethernet communication

Enter the IP address of device to be connected on the connection list.

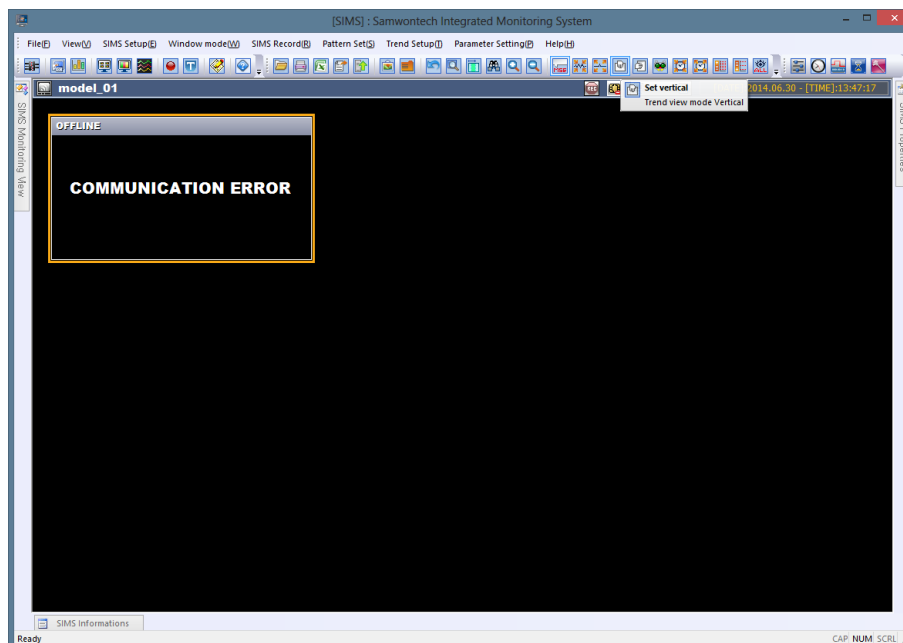
2. 1. 4 Connection

Start monitoring through communication connection with a device.

Select **[SIMS Setting → SIMS connect/disconnect]** from the menu or  from tool bar.

COMMUNICATION ERROR

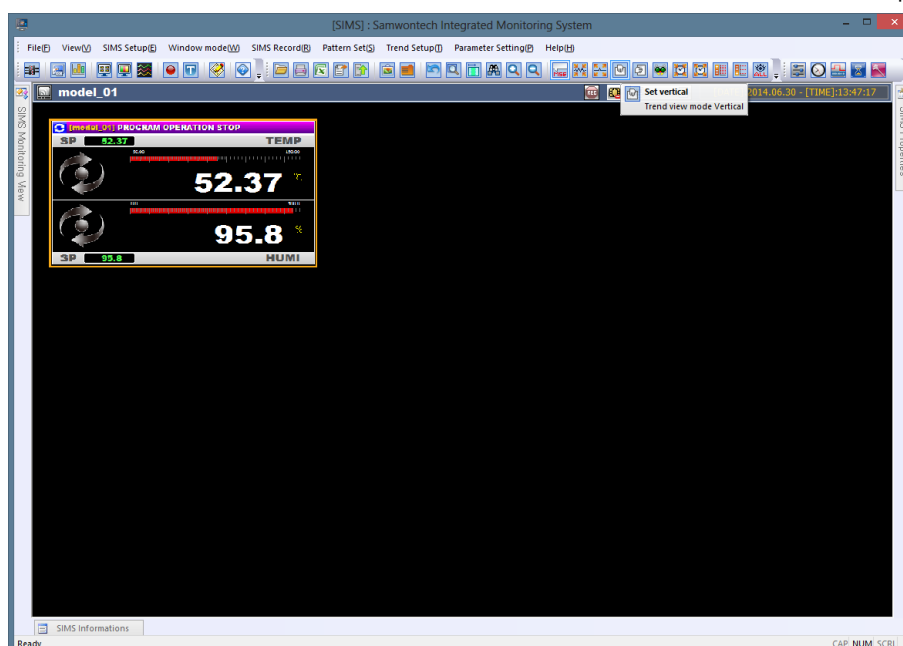
If it fails to properly connect with the device, it will show a communication error message. Please recheck the communication environment and the cables.



[Diagram 2 - 4] COMMUNICATION ERROR

Successful Connection

If the connection with device was successful, the data from connected device will appear.




[Diagram 2 - 5] Screen for successful connection

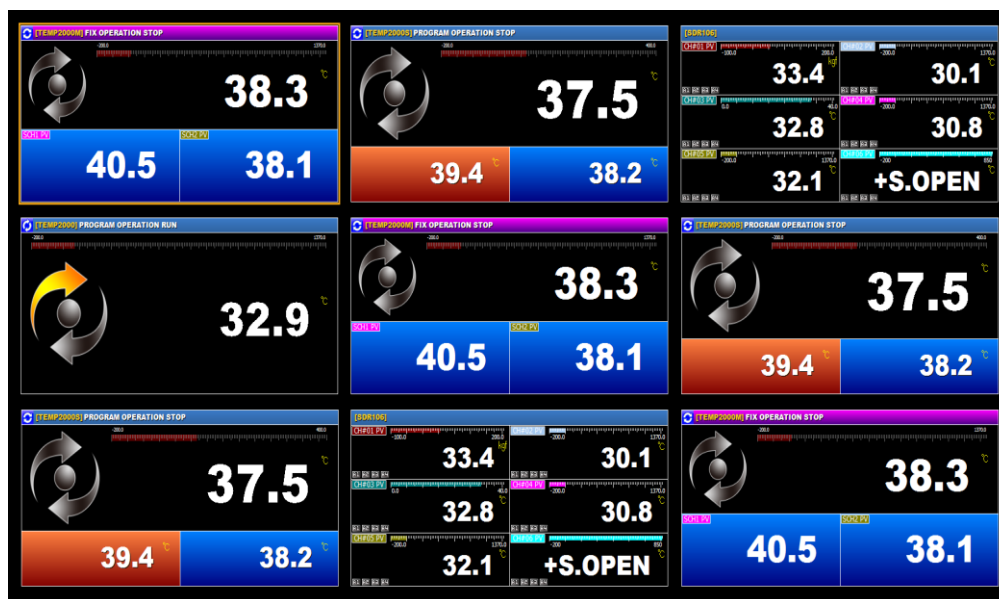
Chapter 3. Monitoring and Control

3. 1. Monitoring Screen

This chapter will describe the arrangement of screen during monitoring.

3. 1. 1 SIMS whole view

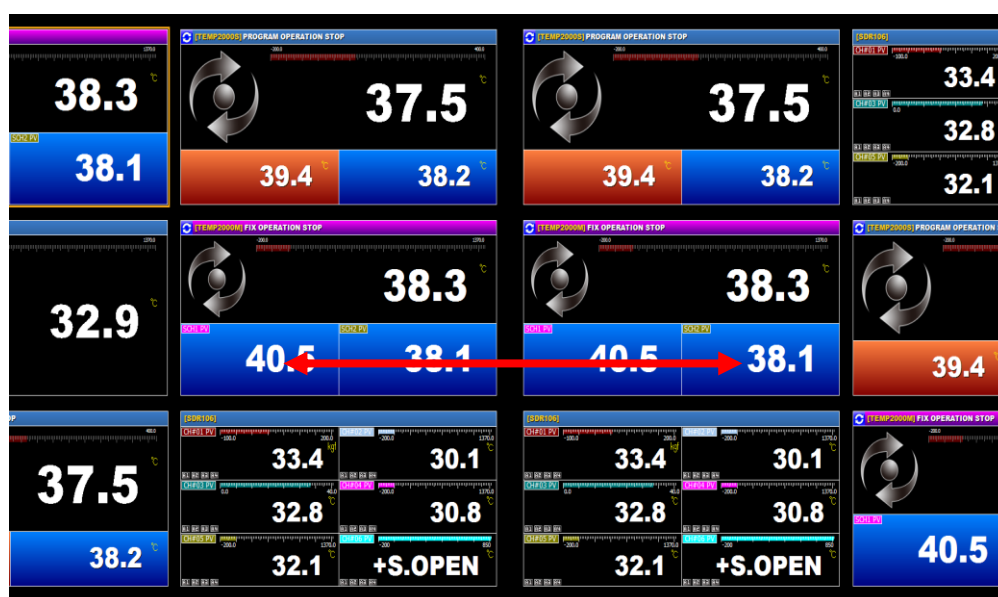
Show all connected devices on the screen. Select **[Window mode → SIMS whole view]** from menu or  from tool bar.



[Diagram 3 - 1] SIMS View All

Screen Translation on View All mode

If more than one devices are connected, you can monitor the devices using mouse drag or direction keys on keyboard as shown in the diagram.



[Diagram 3 - 2] Screen translation in SIMS view all mode

3. 1. 2 SIMS split view

- View digital view, bar graph view and trend view on the screen at the same time.
- Select [Window mode→ SIMS split view] from menu or from tool bar.

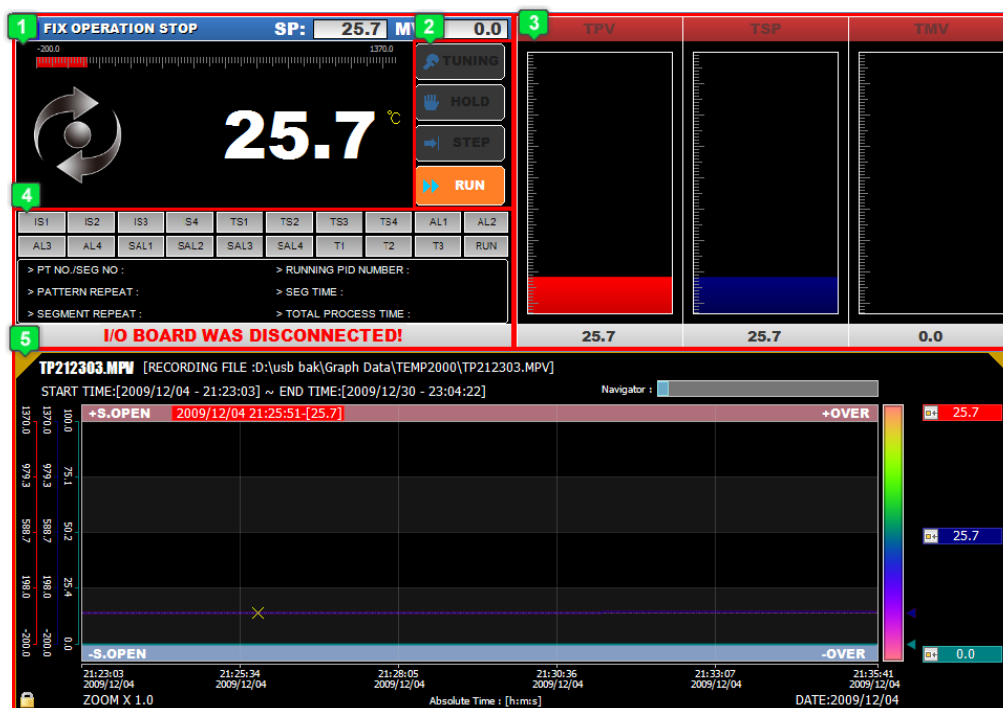
Split view for TEMI Series



[Diagram 3 – 3] View parts for TEMI Series

1	Present real time data on digital view.
2	<div>HOLD : Hold button</div> <div>STEP : Step button</div> <div>TEMP-AT : Auto tuning button for TEMP</div> <div>HUMI-AT : Auto tuning button for HUMI</div> <div>U-KEY : User-Key button</div> <div>RUN/STOP : Run and Stop button</div>
3	Bar graph view
4	Shows status lamp and information on driving and error
5	Trend view

Split view for TEMP Series



[Diagram 3 – 4] View parts for TEMP Series

1	Present real time data on digital view.
2	TUNNING : Auto tuning button
2	HOLD : HOLD button
2	STEP : STEP button
2	RUN/STOP : Run and Stop button
3	Bar graph view
4	Shows status lamp and information on driving and error
5	Trend view

Split view for TEMP2020 Series

In order to show two channels, TEMP2020 does not show bar graphs. Other screen features are the same.



[Diagram 3 – 5] View parts for TEMP2020 Series

Split view for TEMP2000S Series



[Diagram 3 – 6] View parts for TEMP2000S Series

1	Present real time data on digital view.
2	HOLD : Hold button
	STEP : Step button
	TEMP-AT : Auto tuning button
	U-KEY : User-Key button
3	RUN/STOP : Run and Stop button
4	Bar graph view
5	Shows status lamp and information on driving and error
6	Trend view

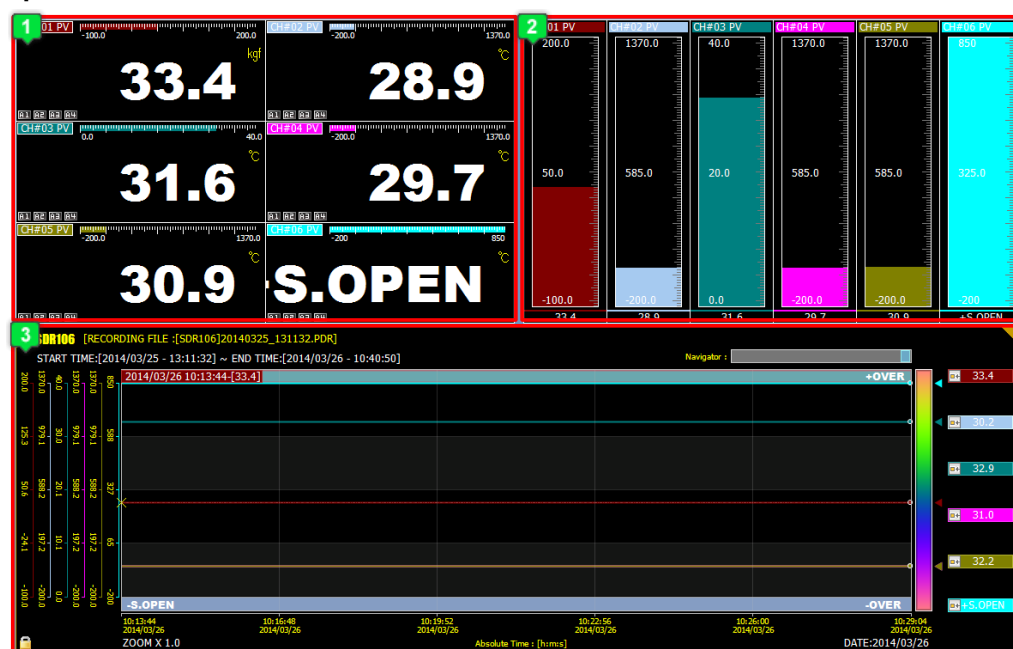
Split view for TEMP2000M Series



[Diagram 3 – 7] View Parts for TEMP2000M Series

1	Present real time data on digital view.
2	TUNNING : Auto tuning button
	HOLD : HOLD button
	STEP : STEP button
	U-KEY : User-Key button
3	RUN/STOP : Run and Stop button
	Bar graph view
4	Shows data for sub channels
5	Trend view

Split view for SDR100 Series



[Diagram 3 – 8] View Parts for SDR100 Series

1	Show real time data on digital view ✖ Channel sign varies depending on series.
2	Bar graph view
3	Trend view


Modify View Ratio

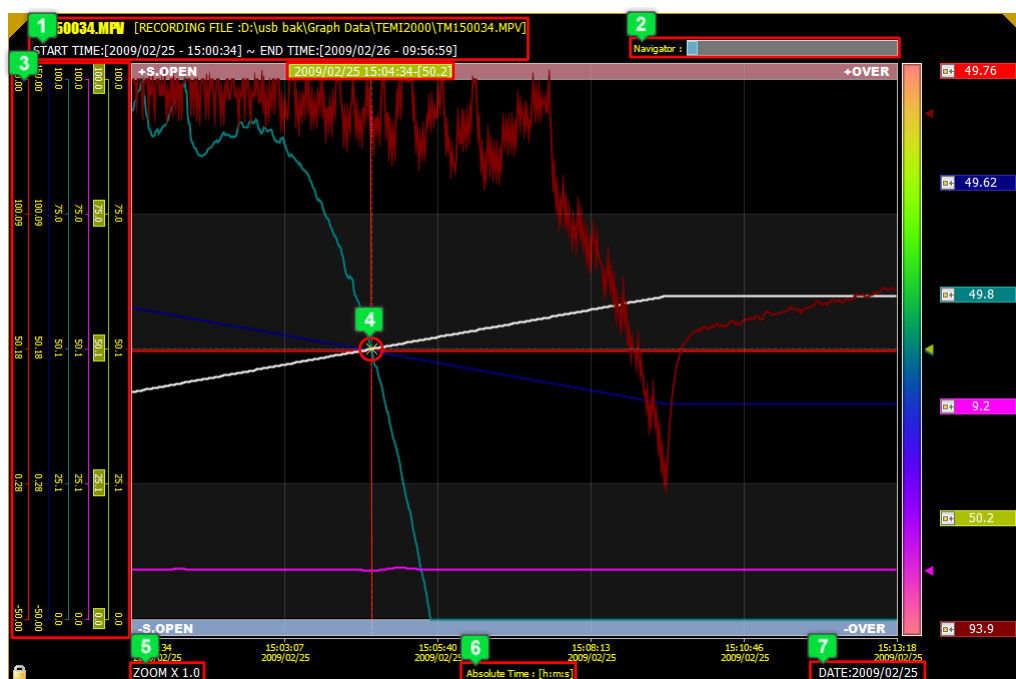
- You can modify ratios of each view parts like in **[Diagram 3 - 9]**
- The modified view screens return to the default sizes when the window size is changed.



[Diagram 3 - 9] Modifying view parts ratio

3. 1. 3 SIMS trend view

Show the data of selected device in trend view. Select [Window mode → SIMS trend view] from menu or  from tool bar.



[Diagram 3 - 10] SIMS Trend View

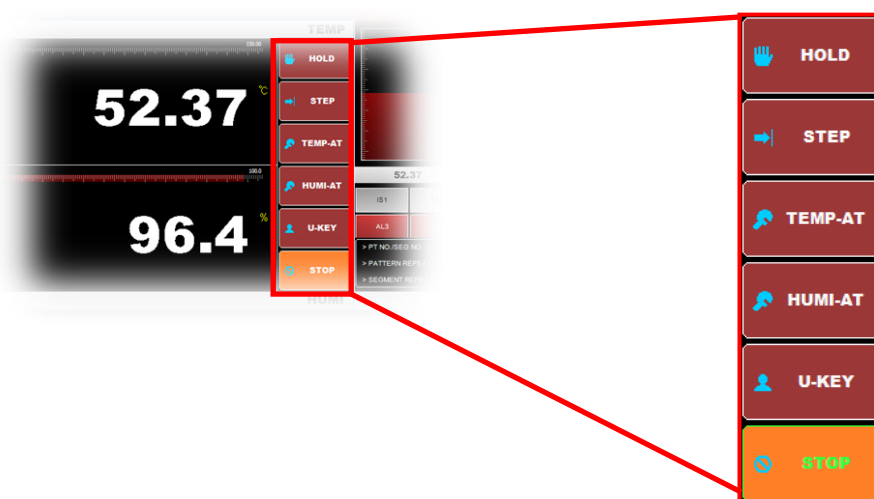
1	Show file information
2	Graph investigation navigator
3	Upper / lower limit of grid value for each channel graph
4	Real time data output
5	Zoom in / out ratio of graph
6	Indicate absolute or comparative time
7	Date of data record

3. 2. Control and Setting

During a proper monitoring with a device, you can control and change settings of the connected device. This chapter will describe how to control and change settings of a device.

3. 2. 1 Operation motion Control

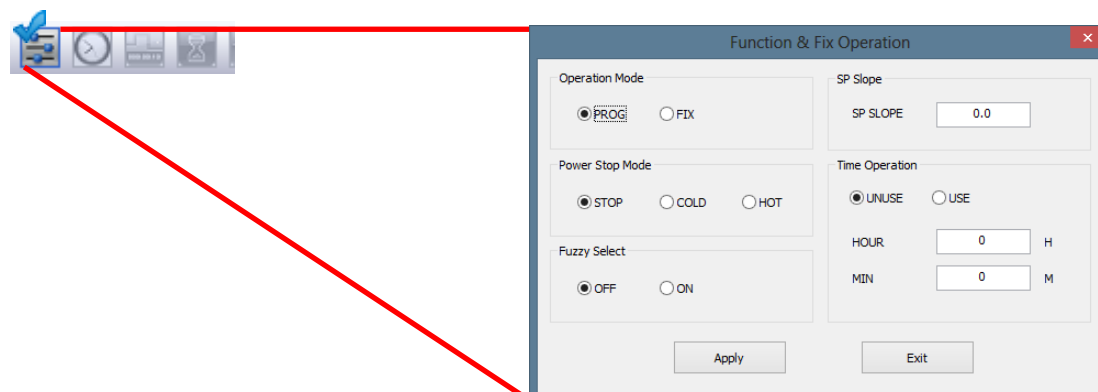
- You can control the driving action of the device you are monitoring.
- using the control button on view parts screen, as in [3. 1. 2 SIMS split view], you can control the action of run, stop, hold, step, auto tuning and user key.




3. 2. 2 Parameter Setting

- You can set or change the internal parameter of the device you are monitoring.
- Click on the parameter by groups button on tool bar to open the parameter editing window.

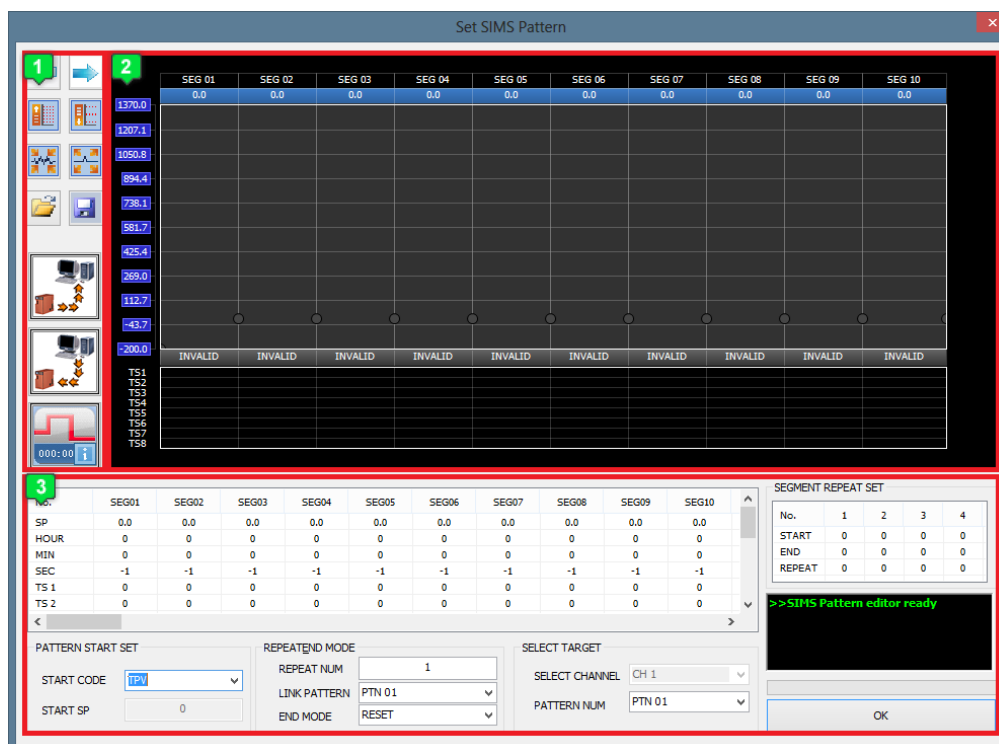
※ TEMI/TEMP1000 Series requires PME to change parameters.






3. 2. 3 Set Pattern

- You can edit / save pattern of a device by uploading or create a new pattern and download on the device.
- Select  from tool bar.









■ Pattern Setting Screen



[Diagram 3 - 11] Pattern Setting Window

	Tool Bar
	Indicates pattern graph and time signal status
	Enter pattern setting data

■ Tool Bar

Button	Function
	Explore forward and backward through segment
	Increase / decrease upper / lower limit value for data grid
	Expand / Reduce segment grid
	Open pattern file
	Save pattern
	Upload pattern PC
	Download pattern on connected device
	View information on current time signal

■ Pattern Graph and Time Signal



[Diagram 3 - 12] Pattern Graph

1	Pattern graph
2	Delete / copy segment
3	Show time signal status
4	Show time signal information

- 1
 - Shows the designated pattern and time signal
 - Use mouse to set a pattern value
 - ※ **You can use mouse wheel for more delicate control**
 - Use **[mouse drag]** to explore through segment in sideways
 - ※ **Use direction keys on keyboard to explore through segment similarly.**
- 2
 - Select a segment to copy or delete.
 - Select segment title and right click on it to show pop-up menu
 - You may delete or copy a segment using pop-up menu
 - ※ **You can use Delete key and Insert key on keyboard to delete or copy a segment**
- 3
 - In time signal state, you can view the time signal information occurring in a segment
- 4
 - Place mouse cursor over the time signal bar to show time signal information

Entering Pattern Setting

Enter the values required for pattern setting

[Diagram 3 - 13] Enter pattern

Pattern Entering Screen

	TEMI Series	TEMP Series/2000M Series
TEMP(SP)	Temperature Setting	
HUMI	Humidity Setting	•
HOUR	Driving Time (hour)	
MIN	Driving Time (minute)	
SEC	Driving Time (second)	
TS	Set Time Signal	
SA1~SA4	•	Segment alarm option
WAIT USE	Waiting mode option	•
SEG PID	•	Segment PID option

PATTERN START SET

START CODE : Select a condition for starting pattern
 START SP : Set a value for pattern start condition

REPEAT&END MODE

REPEAT NUM : Set the number of repetition of pattern
 LINK PATTERN : Set the pattern to be continued after a repetition
 END MODE : Set the state after a repetition ends

SELECT TARGET

SELECT CHANNEL : Select a channel to set pattern
 PATTERN NUM : Select pattern number

SEGMENT REPEAT SET

START : Enter start segment
 END : Enter end segment
 REPEAT : Enter number of repetition


Status Screen

: Indicates the up / download status of pattern


■ Pattern Up / Download

Upload a pattern saved in connected device to PC or download pattern written in PC to device.



• Upload

- ① Select a channel and pattern to be uploaded from **[Channel & Pattern Number Setting]** in **[Diagram 3 - 13]**.
- ② Select  **(Upload)** from tool bar in **[Diagram 3 - 11]**.
- ③ View upload status on the status indication screen in **[Diagram 3 - 13]**.

• Download

- ① Write pattern on the pattern setting window in **[Diagram 3 - 11]**.
- ② Select a channel and pattern to be uploaded from **[Channel & Pattern Number Setting]** in **[Diagram 3 - 13]**.
- ③ Select  **(Download)** from tool bar in **[Diagram 3 - 11]**.
- ④ View download status on the status indication screen in **[Diagram 3 - 13]**.

• Save / Open Pattern

- To apply the same pattern on more than one devices, you may simply do so by downloading a saved pattern on the devices.
- If you want to save a created pattern or uploaded pattern from SIMS, select  from tool bar as in **[Diagram 3 - 11]**.
- To open a pattern, select  from toll bar as in **[Diagram 3 - 11]**.

3. 2. 4 Pattern Setting Screen for TEMP2000S Series

[Diagram 3 - 14] Pattern Setting Screen

1 REPEAT CYCLE SET

REPEAT CYCLE : Set number of pattern repetition

2 END MODE SET

RESET : Stop operation after a pattern ends

HOLD : Hold operation after a pattern ends

DEFROST : Run defrosting operation after a pattern ends

3 PATTERN NUMBER SET

PATTERN NO. : Set a pattern number. (PTN1 ~ PTN120)

4 PATTERN TYPE SET



: Hi-temp. -> Low-temp.

: Low-temp. -> Hi-temp.

: Room-temp. -> Hi-temp. -> Room-temp. -> Low-temp.

: Room-temp. -> Low-temp. -> Room-temp. -> Hi-temp.

: Hi-temp.-> Room-temp. -> Low-temp. -> Room-temp.

: Low-temp. -> Room-temp. -> Hi-temp. -> Room-temp.

5 READY SET

USE : Set preparation action in hi-temp. and low-temp. rooms.

UNUSE : Unset preparation action in hi-temp. and low-temp. rooms.

6 DEFROST SET

DEFROST CYCLE : Enter the period of pattern in defrosting operation.

DEFROST TIME : Set time of defrosting operation.

DEPFROST SP : Set temperature of defrosting operation.

Enter Pattern Setting

- TARGET SP : Set desired temperature of each lab
- TIME : Set run time of lab
- PRE H/C SP : Set temperatures when heating and cooling lab
- TIME SIGNAL : Set time signal


Up/Download Pattern

- Upload : Upload value of pattern setting on PC
- Download : Download entered value of pattern setting on device


Up/Download Pattern

Upload pattern saved in TEMP2000S to PC or download pattern created on PC to TEMP2000S.

• Upload

- ① Select a channel and pattern to be uploaded from **[Pattern Number Setting]** in **[Diagram 3 - 14]** and select  (**Upload**) from tool bar.
- ② View download status on the status indication screen in **[Diagram 3 - 14] Pattern Setting Screen**.



• Download

- ① Create a pattern on the **[Diagram 3 - 14] Pattern Setting Screen**.
- ② Select a pattern to be downloaded from **[Pattern Number Setting]** in **[Diagram 3 - 14]**.
- ③ Select  (**Download**) from tool bar in **[Diagram 3 - 14]**.
- ④ View download status on the device.

Chapter 4. Save and Convert Data

4. 1. Data Record

4. 1. 1 Recording On/Off

- Start or stop recording data while monitoring.
- Select **[SIMS Record → Recording On/Off]** from menu or select  from tool bar.
- Enter the file name and click on **[Save]** button to start recording data.
- Once the recording starts, the real time graph is presented.
- Click on **[Recording On/Off]** or  to finish recording.


※ If the type of saving in [2. 1. 1 SIMS communication environment setting] is automatic the recorded data will automatically saved depending on the operation status of device.



[Diagram 4 - 1] SIMS Trend View

4. 2. Open Data

4. 2. 1 Open

- It allows to you open a saved file.
- Select [File → Open] form menu or  from tool bar.
- Select a SIMS data file to open and click on [Open] button.

▣ TEMI Series



[Diagram 4 - 2] Open files on TEMI Series

▣ TEMP Series



[Diagram 4 - 3] Open files on TEMP Series

TEMP2020 Series



[Diagram 4 - 4] Open files on TEMP2020 Series

TEMP2000S Series



[Diagram 4 - 5] Open files on TEMP2000S Series

TEMP2000M Series



[Diagram 4 - 6] Open files on TEMP2000M Series


SDR100 Series

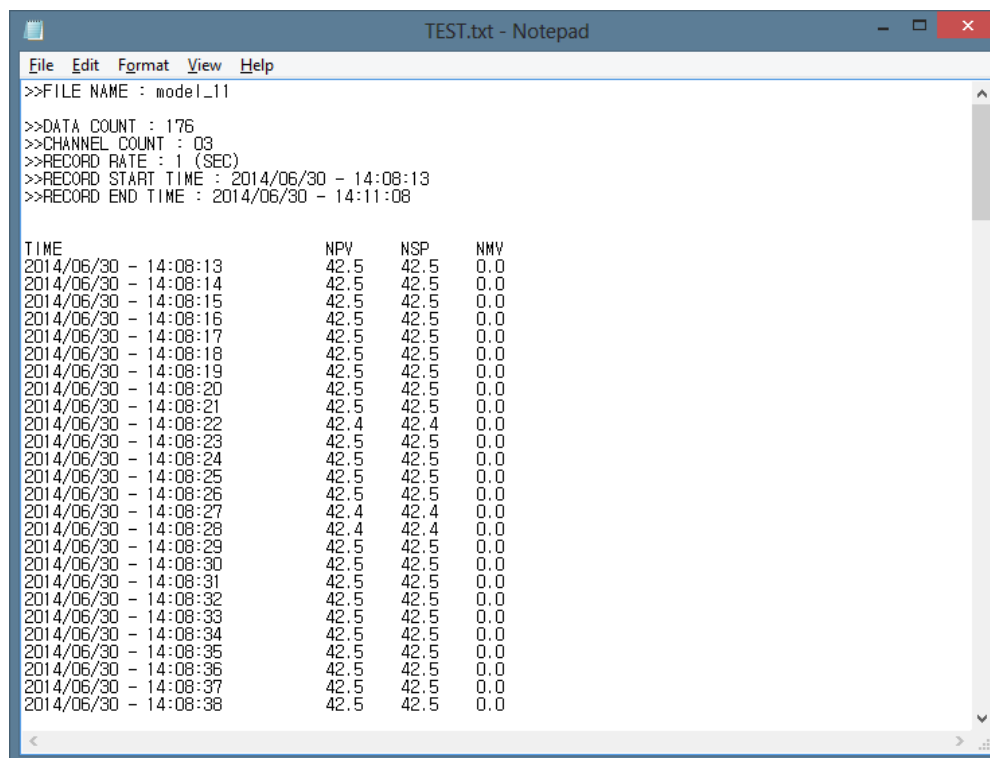


[Diagram 4 - 7] Open files SDR100 Series

4. 3. Convert Data


4. 3. 1 Save Text file

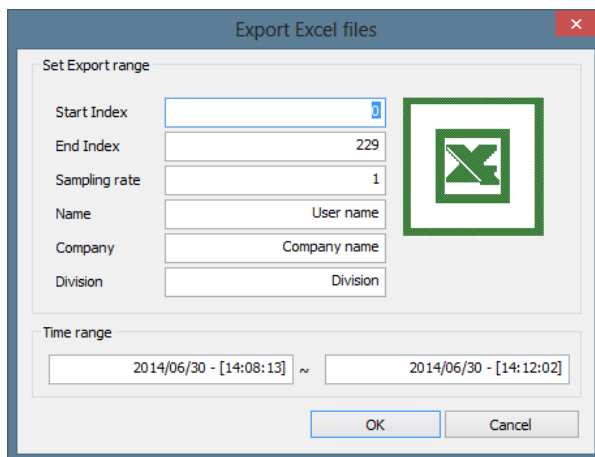
- Save a recorded data or opened data as a text file.
- Select [**File** → **Save Text file**] from menu or  from tool bar.
- Enter saving route and file name and click on [**Save**].



[Diagram 4 - 8] Convert to Text File

4. 3. 2 Save Excel file

- Save a recorded SIMS data or opened data as excel file.
- Select a device or data to be converted in [1. 1. 3 SIMS Monitoring View].
- Select [File → Save Excel file] from menu or  from tool bar.
- Enter contents in [Diagram 4 - 9] and click on [Apply].

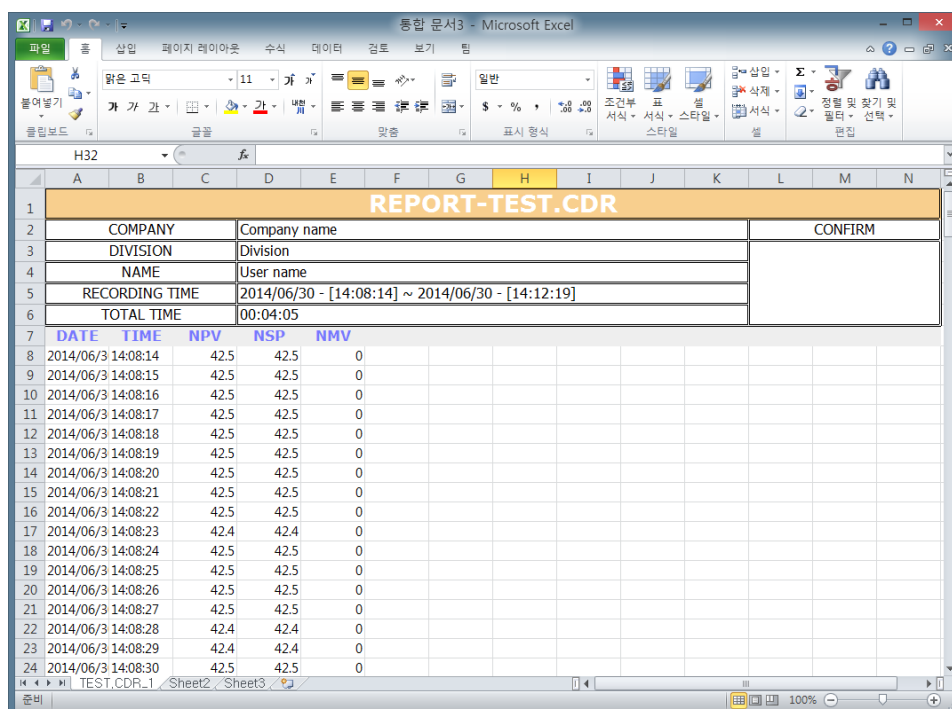


The dialog box titled "Export Excel files" contains the following fields:

- Set Export range:**
 - Start Index:
 - End Index:
 - Sampling rate:
 - Name:
 - Company:
 - Division:
- Time range:**
 - ~
- Buttons: OK, Cancel

Start Index : Point to start saving
End Index : Point to end saving
Sampling rate : Set terms between savings
Name : Enter user name
Company : Enter company name
Division : Enter division name

[Diagram 4 - 9] Setting for save as excel file




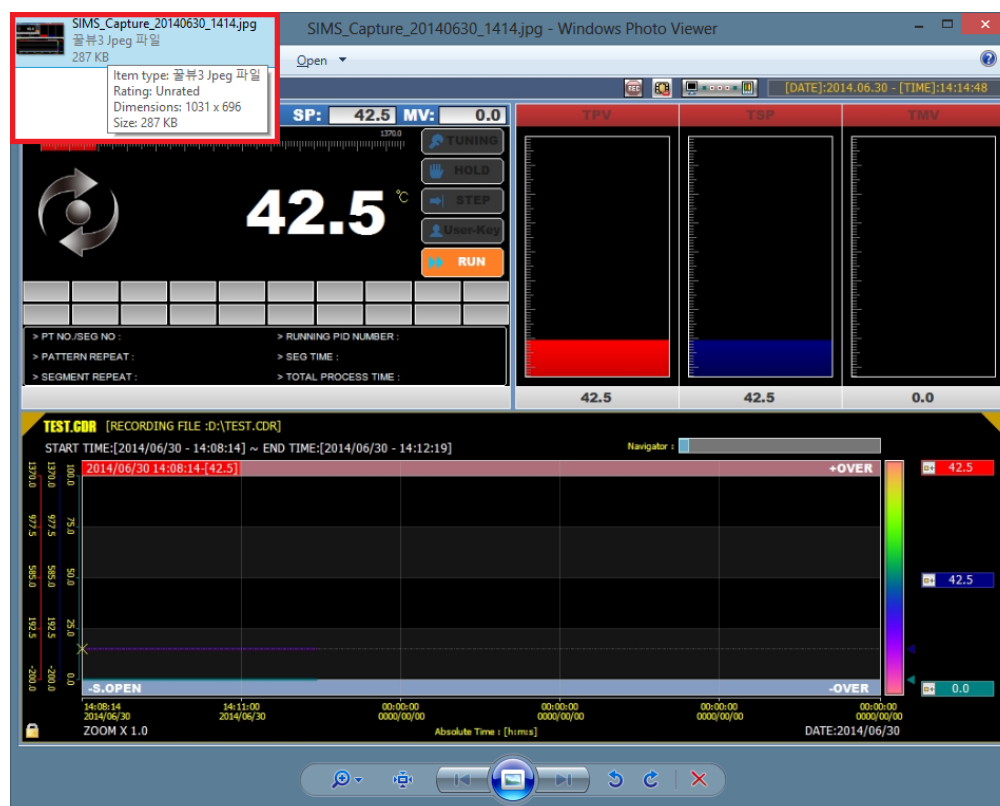
The screenshot shows a Microsoft Excel spreadsheet titled "통합 문서3 - Microsoft Excel". The data is organized as follows:

REPORT-TEST.CDR					
COMPANY	Company name				CONFIRM
DIVISION	Division				
NAME	User name				
RECORDING TIME	2014/06/30 - [14:08:14] ~ 2014/06/30 - [14:12:19]				
TOTAL TIME	00:04:05				
DATE	TIME	NPV	NSP	NMV	
2014/06/3	14:08:14	42.5	42.5	0	
2014/06/3	14:08:15	42.5	42.5	0	
2014/06/3	14:08:16	42.5	42.5	0	
2014/06/3	14:08:17	42.5	42.5	0	
2014/06/3	14:08:18	42.5	42.5	0	
2014/06/3	14:08:19	42.5	42.5	0	
2014/06/3	14:08:20	42.5	42.5	0	
2014/06/3	14:08:21	42.5	42.5	0	
2014/06/3	14:08:22	42.5	42.5	0	
2014/06/3	14:08:23	42.4	42.4	0	
2014/06/3	14:08:24	42.5	42.5	0	
2014/06/3	14:08:25	42.5	42.5	0	
2014/06/3	14:08:26	42.5	42.5	0	
2014/06/3	14:08:27	42.5	42.5	0	
2014/06/3	14:08:28	42.4	42.4	0	
2014/06/3	14:08:29	42.4	42.4	0	
2014/06/3	14:08:30	42.5	42.5	0	

[Diagram 4 - 10] Data converted as an excel file

4. 3. 3 Screen Capture


- Save current page as an image file.
- Select [**File** → **Screen capture**] on menu or  on tool bar.
- Enter the file name and save image.

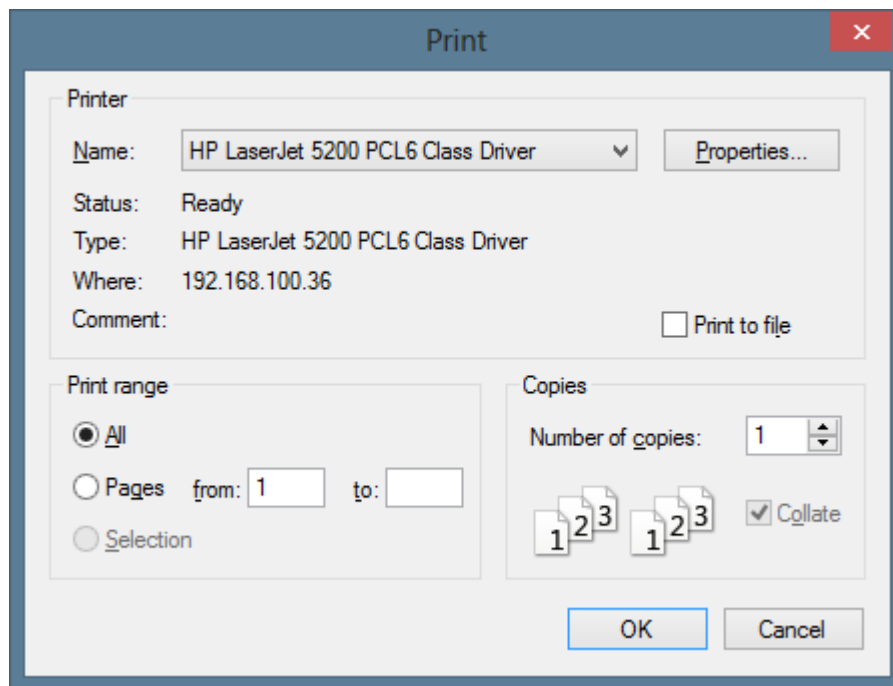


[Diagram 4 - 11] Captured image

4. 4. Print

4. 4. 1 Print

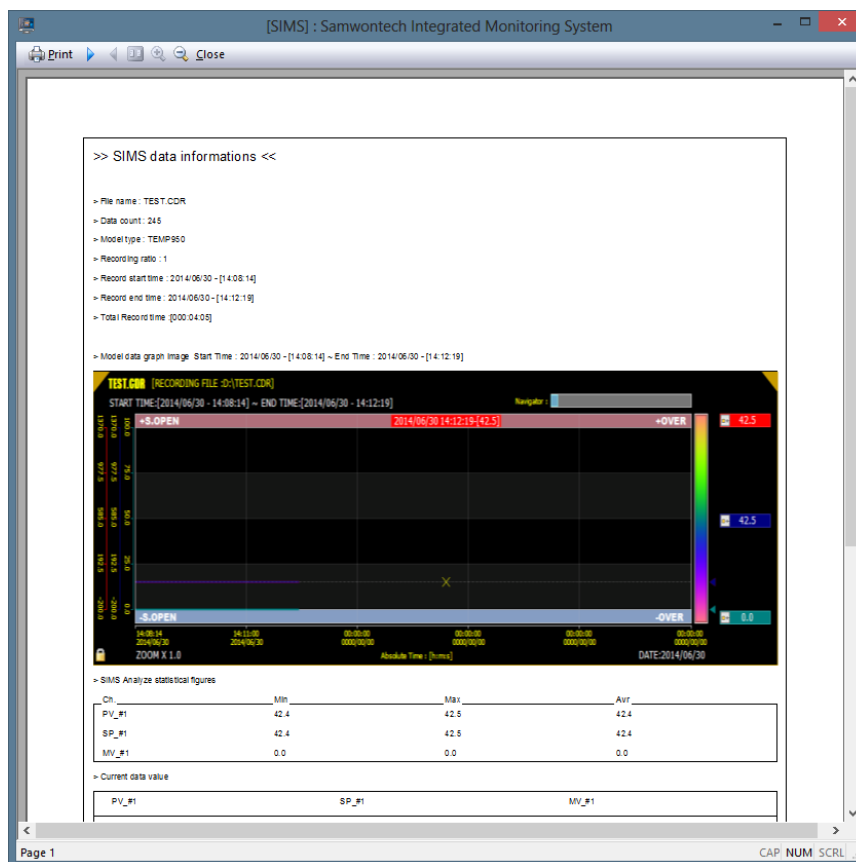
- Print the current graph screen and information of each channel.
- Select [**File** → **Print**] from menu or  from tool bar.
- Click on [**OK**] on print window to start printing.







[Diagram 4 – 12] Print window

4. 4. 2 Print Preview

- Check pages to be printed.
- Select [**File** → **Print Preview**] from menu.

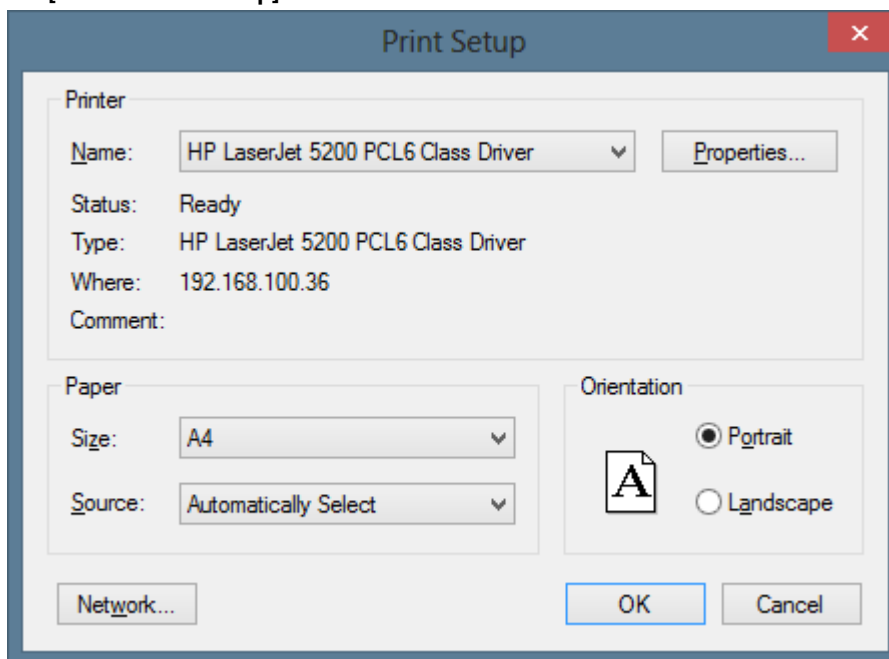


[Diagram 4 – 13] Print Preview

	인쇄	Print current page
		Move to previous or next page
		Change number of page indication
		Zoom in or out page

4. 4. 3 Print Setup


- Set print options.
- Select [**File** → **Print Setup**] from menu.



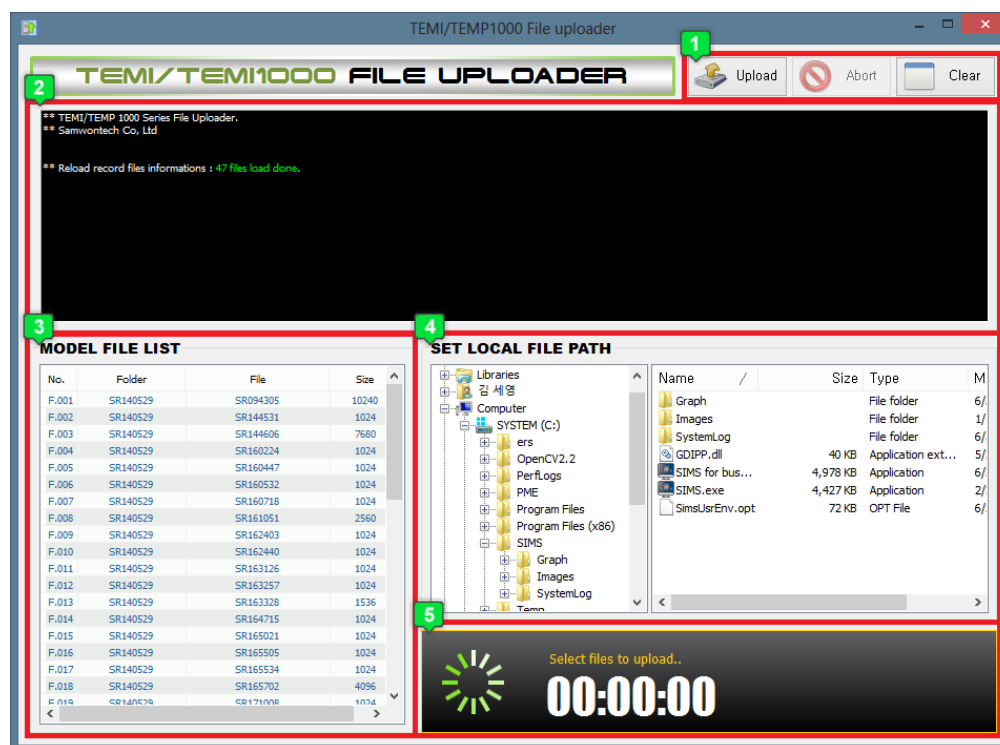
[Diagram 4 - 14] Print Setting Window

4. 5. Data Upload






4. 5. 1 Data Upload

- Upload recorded data saved in internal memory to PC.
- Select [File → Data Upload] from menu or  from tool bar.



※ This function is only for TEMI/TMEP1000 Series.



[Diagram 4 - 15] Initial screen of data uploader

	Button	Upload	Button to start uploading
		Abort	Button to stop uploading
		Clear	Button to clear upload status window
	Shows data upload status		
	List of internal memory data		
	Explore route to saving location		
	Expected time taken to complete upload		

Method of File Upload


- ① Select a file from [ File List].
 - ② Designate a [ Saving Location] and click on upload button to start uploading.
- ※ If the selected file already exists at the saving location you may continue uploading or overwrite.

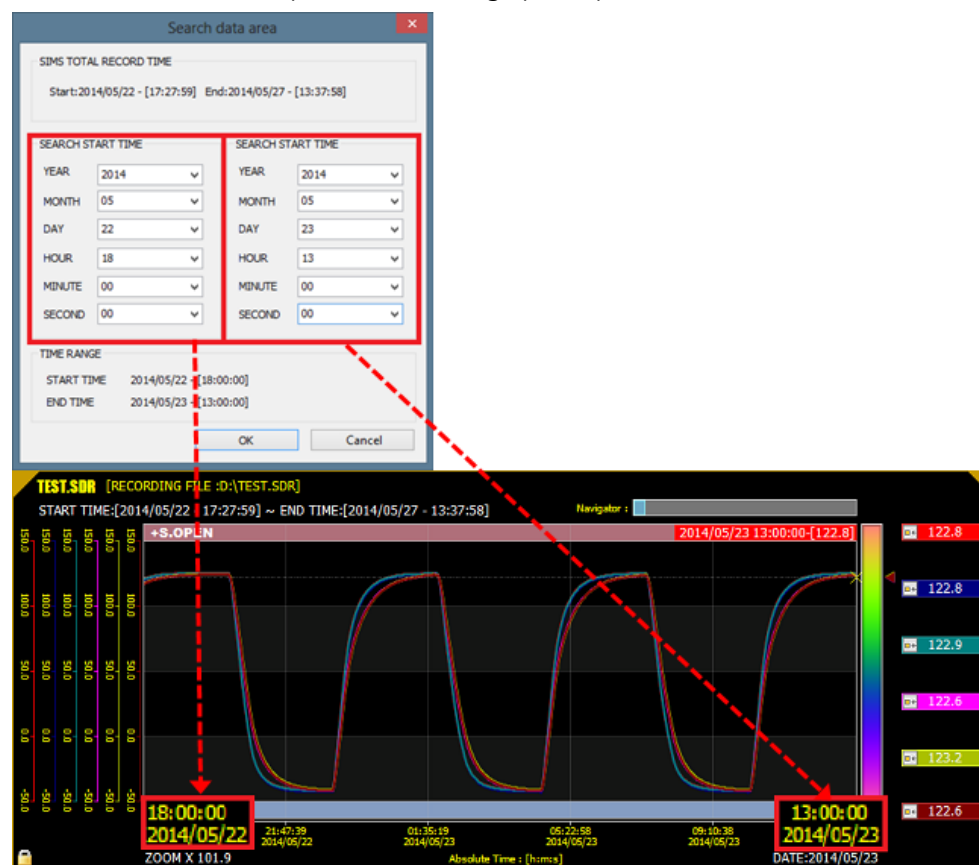
Chapter 5. Data Search

5. 1. Trend Data Search

Search for a desired data interval to present on graph screen.

5. 1. 1 Trend Data Search

- Select **[Trend Setup → Trend Data Search]** from menu or  from tool bar.
- Enter the time interval through which you wish to search.
- The selected interval is presented on the graph output screen.




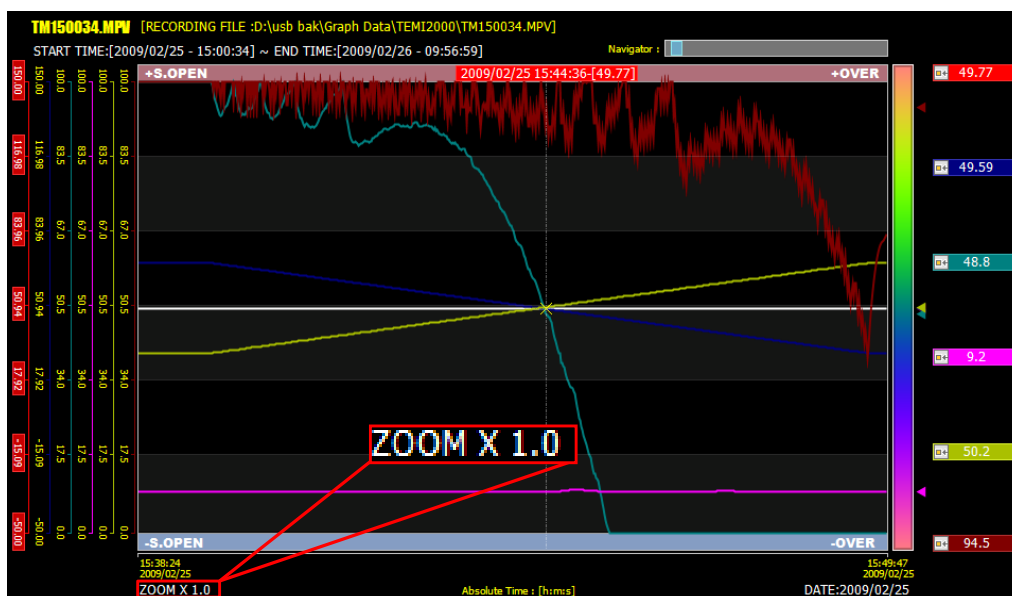
[Diagram 5 – 1] Setting and result of trend data search

5. 2. Zoom In and Zoom Out

You can zoom in or out the graph. You can zoom in a desired rectangular part of the graph using zoom in rectangular area.


5. 2. 1 Zoom In

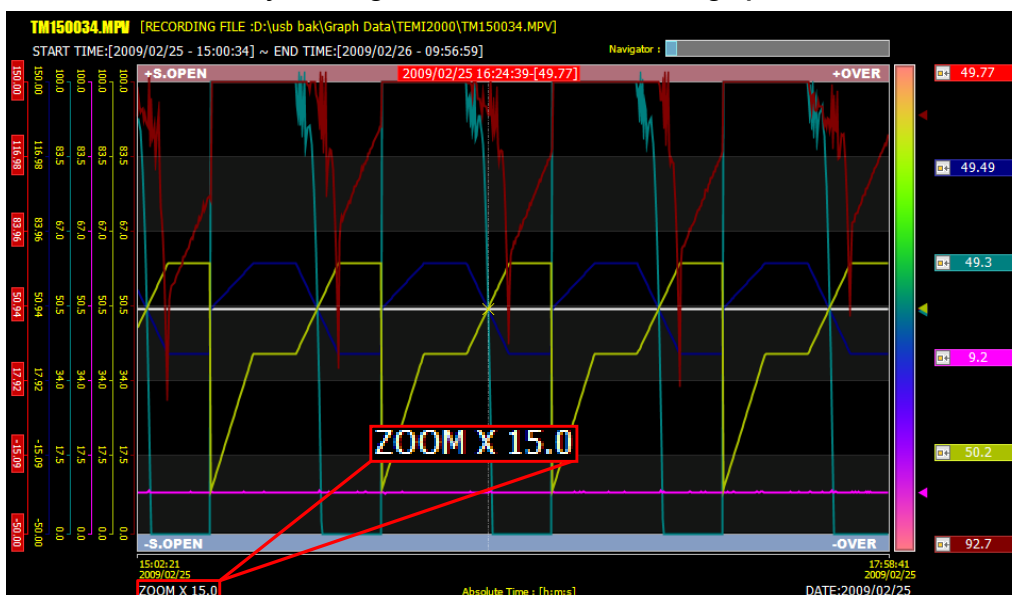
- Zoom in graph.
- Select [Trend Setting → Zoom in/out → Zoom in] from menu or  from tool bar.
- ※ You can zoom in by scrolling mouse wheel up on the graph



[Diagram 5 - 2] Graph zoom in

5. 2. 2 Zoom Out

- Zoom out graph.
- Select [Trend Setup → Zoom in/out → Zoom out] from menu or  from tool bar.
- ※ You can zoom out by scrolling mouse wheel down on the graph



[Diagram 5 - 3] Graph zoom out

5. 2. 3 Zoom fit

- Zoom in a selected section of graph.
- Select [Trend Setup → Zoom in/out → Zoom fit] from menu or from tool bar.
- Drag a section of graph to zoom in.

※ You can repeatedly zoom in a section.



[Diagram 5 - 4] Zoom in a section of graph

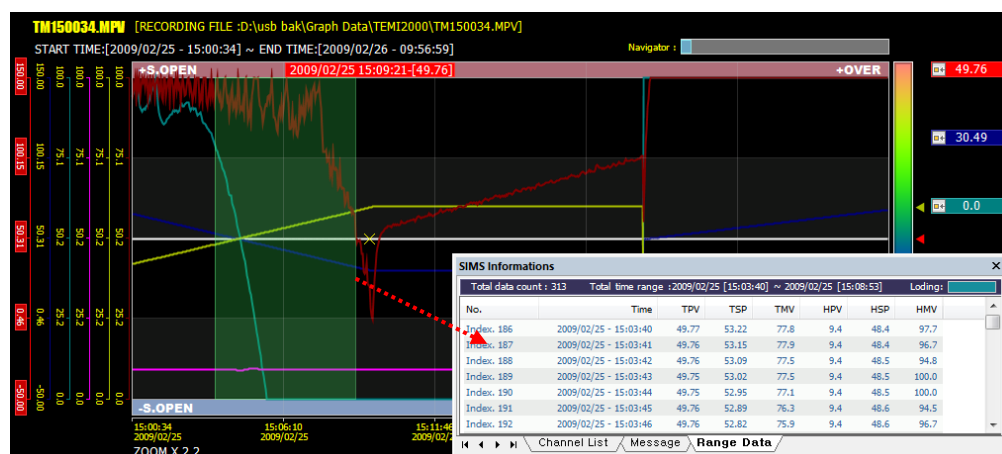
Zoom fit undo

- Undo section zoom in to a previous step.
- Select [Trend Setup → Zoom in/out → zoom fit undo] from menu or from tool bar.

※ You can undo the zoom in using [Esc] key on keyboard

5. 2. 4 Set trend data area

- Select a section of a graph and view numerical data.
- Select [Trend Setup → Set trend data area] from menu or from tool bar.
- Drag an interval of a graph on the graph screen.
- Present data on the Range Data of [1. 5 SIMS Information] Range data.




[Diagram 5 - 5] View data of selected section

5. 3. Graph Investigation

You can investigate a graph in a various ways.

※ You cannot investigate a graph when viewing the full graph

Navigator on Graph Screen

- Use [ **Graph Investigation Navigator**] from [Diagram 3 – 10] navigate through data in sideways.

Investigation Using Keyboard

- Use direction keys on keyboard in [Diagram 3 - 10] to investigate data.

Investigation Using Mouse

- Use mouse drag in [Diagram 3 – 10] to investigate data.

Chapter 6. Trend View and Screen Setting

6. 1. Trend Direction Setting

Set the direction of trend indication.

6. 1. 1 Trend horizontal

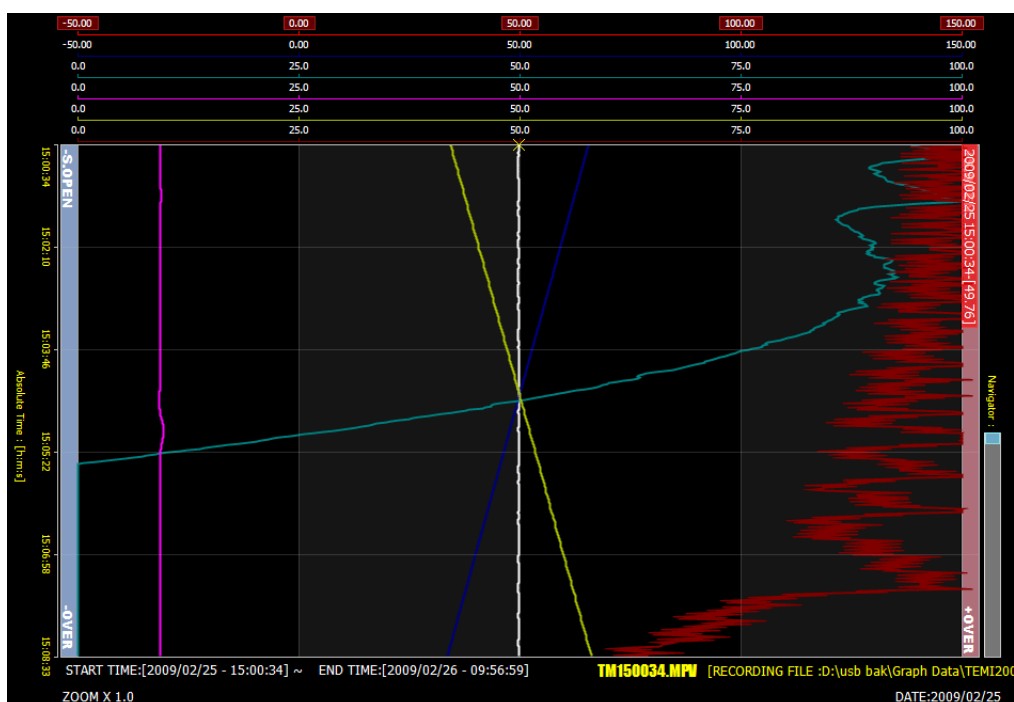
- Select [Trend Setup → Trend view Mode → Trend horizontal] from menu or  from tool bar.



[Diagram 6 - 1]Horizontal view of graph

6. 1. 2 Trend vertical

- Select [Trend Setup → Trend view Mode → Trend Vertical] from menu or  from tool bar.



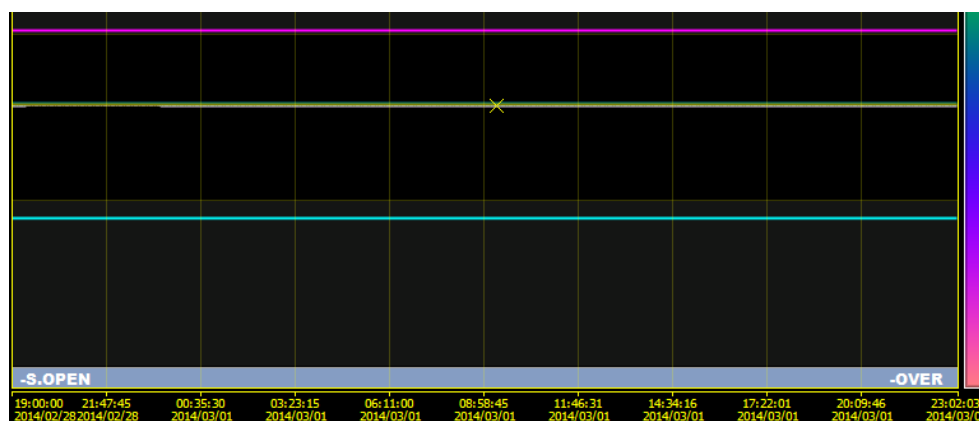
[Diagram 6 - 2]Vertical view of graph

6. 2. Time Bar Setting

Set the spacing between time interval grids on trend view.

6. 2. 1 Time dense Inc

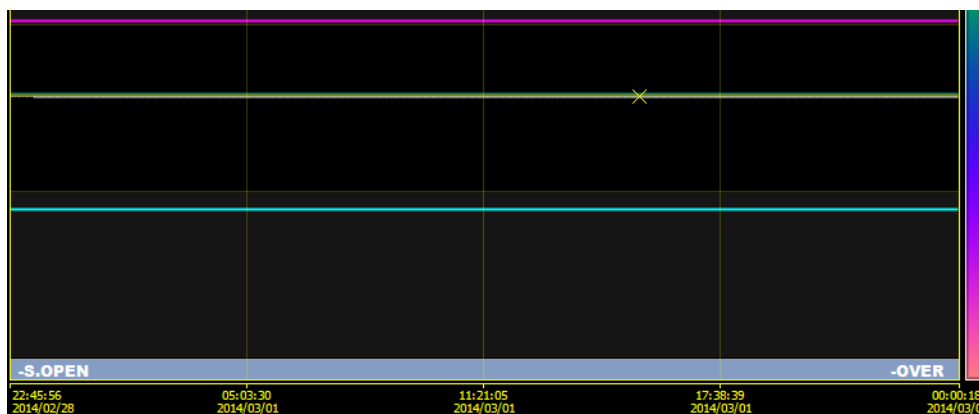
- Select [Trend Setup → Trend dense Inc/Dec → Time dense Inc] from menu or  from tool bar.



[Diagram 6 - 3] Expand Time Interval

6. 2. 2 Time dense Dec

- Select [Trend Setup → Trend dense Inc/Dec → Time dense Dec] from menu or  from tool bar.




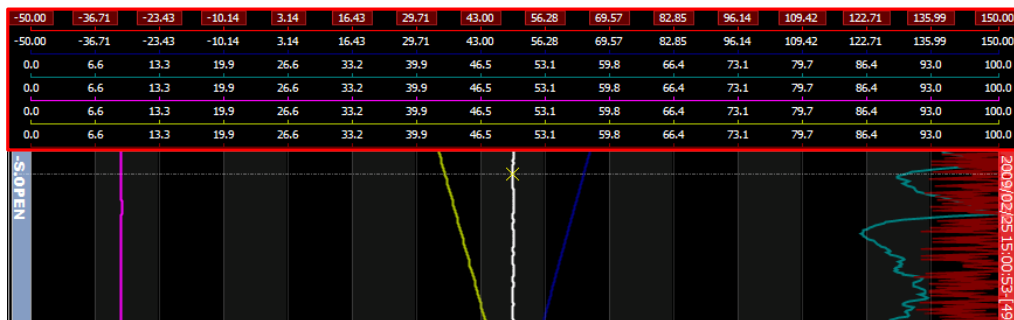
[Diagram 6 - 4] Reduce Time Interval

6. 3. Scale Bar Setting

Set the spacing between the data interval grids on trend view.


6. 3. 1 Range dense Inc

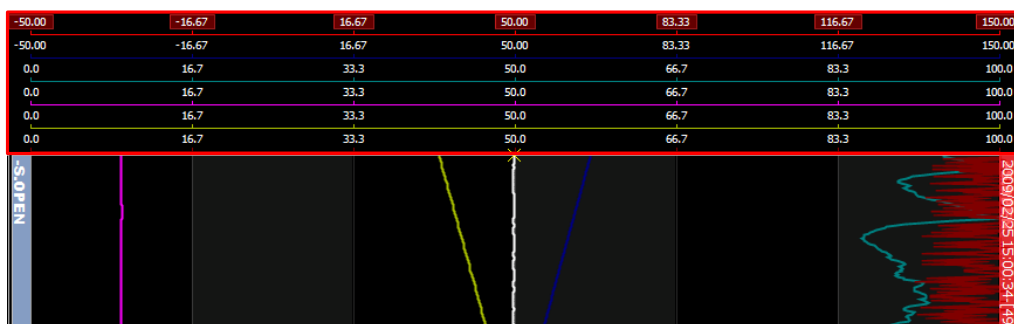
- Select [Trend Setup → Range dense Inc/Dec → Range Dense Inc] from menu or  from tool bar.



[Diagram 6 - 5] Expand data interval

6. 3. 2 Range dense Dec

- Select [Trend Setup → Range dense Inc/Dec → Range dense Dec] from menu or  from tool bar.




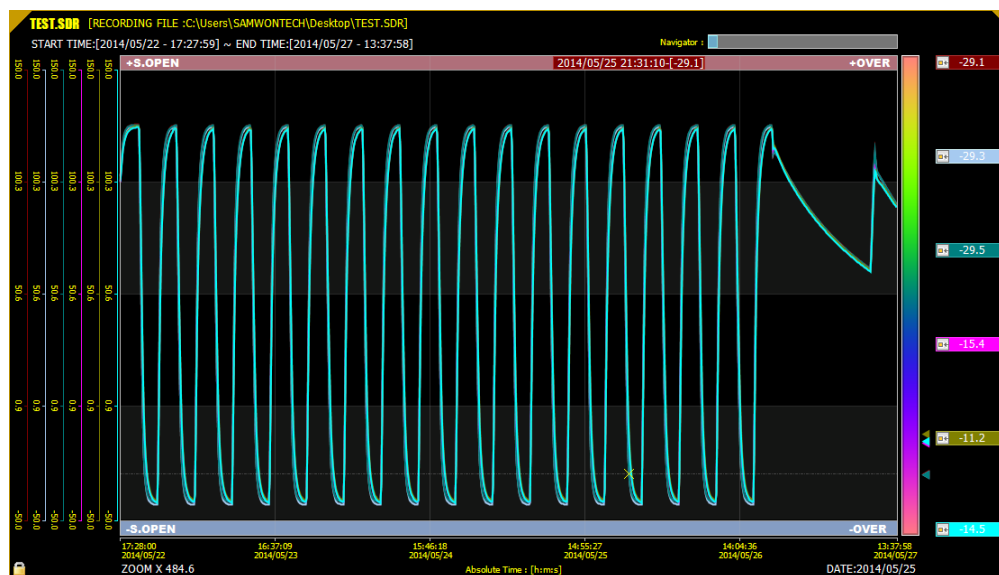
[Diagram 6 - 6] Reduce data interval

6. 4. Trend data view mode

Set the data output area on trend view.

6. 4. 1 View all data area

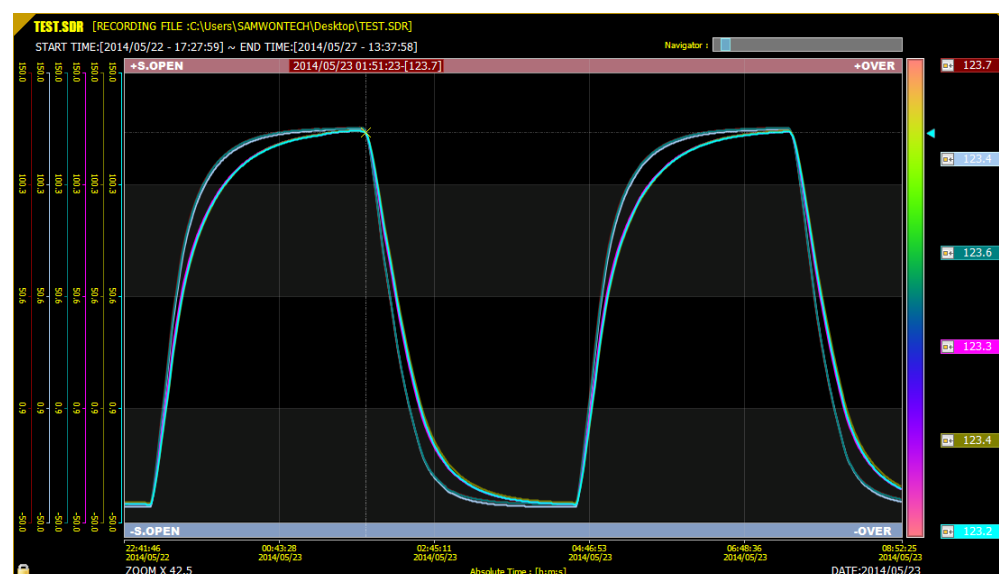
- Select [Trend Setup → Trend Data View Mode → View all data area] from menu or  from tool bar.



[Diagram 6 - 7] View all data area

6. 4. 2 View Data Section

- Select [Trend Setup → Trend Data View Mode → View Data Section] from menu or  from tool bar.

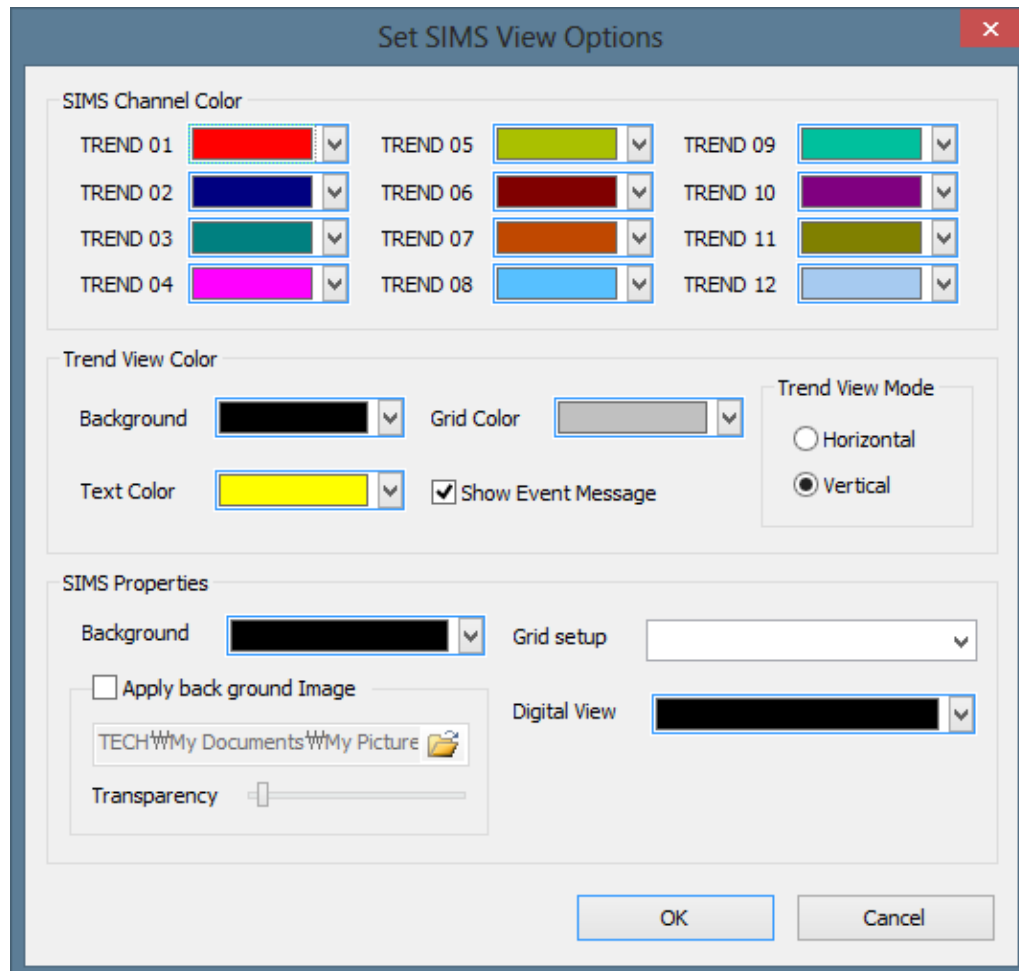


[Diagram 6 - 8] View data section

6. 5. Display setup

You can arrange the screen as you wish by changing display color and forms of SIMS.

Select **[SIMS Setup → Display Setup]** from menu or  from tool bar.



[Diagram 6 - 9] SIMS Display Setting

6. 5. 1 SIMS Channel Color

- Change colors for each channel.
- Change colors of each channel from [SIMS Channel Color] in [Diagram 6 – 9].



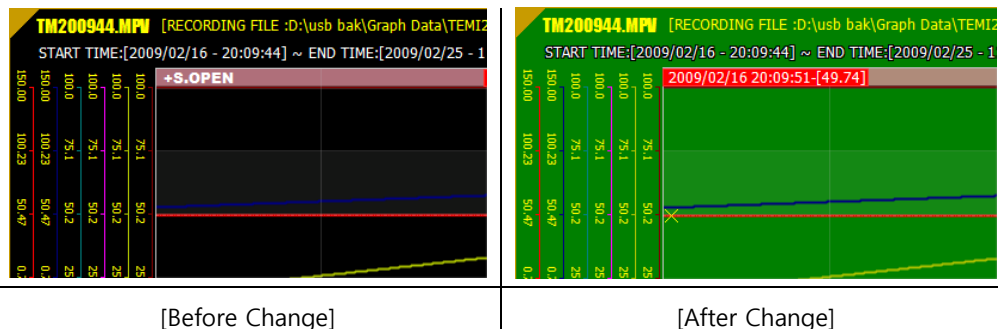
[Before Change]



[After Change]

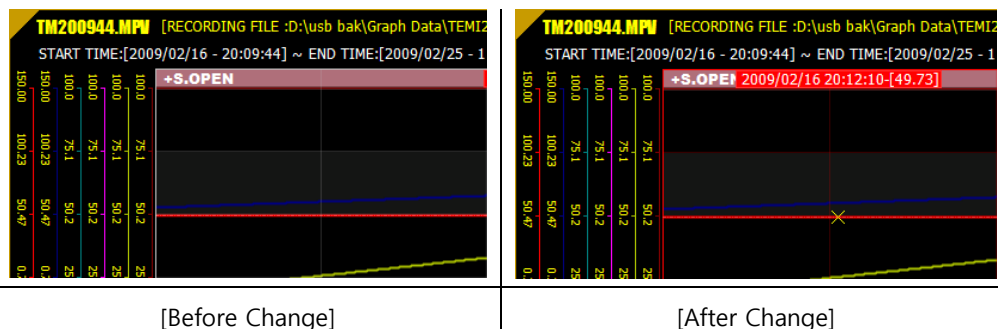
6. 5. 2 Background : Trend View Color

- Change the background color of graph screen.
- Change the background from [Trend View Color] in [Diagram 6 – 9].



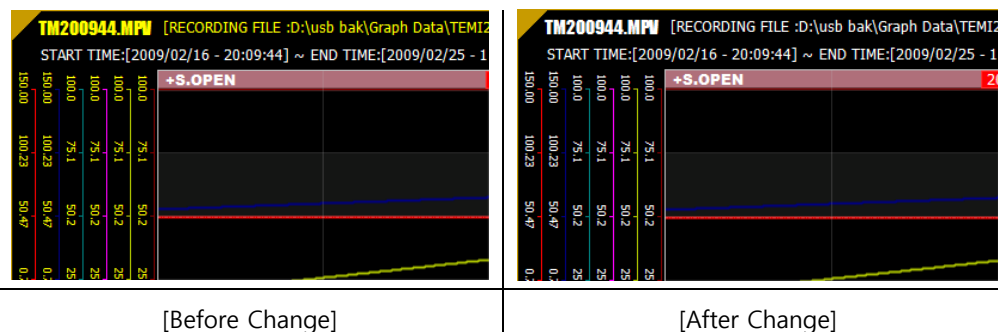
6. 5. 3 Grid Color

- Change the grid color on the graph screen.
- Change the grid color from [Trend View Color] in [Diagram 6 – 9].



6. 5. 4 Text Color

- Change the text color on graph screen.
- Change the text color from [Trend View Color] in [Diagram 6 – 9].




6. 5. 5 Trend View Mode

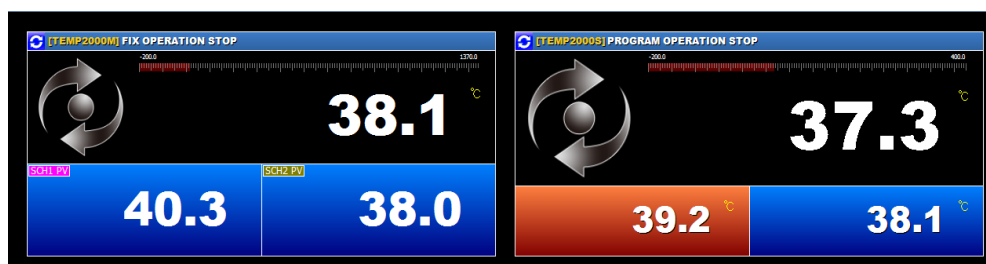
- Change the graph view mode
 - Select horizontal or vertical view from [Trend View Color → Trend View Mode] in [Diagram 6 – 9].
- ※ It is the same as the [6. 1 Trend Direction Setting] function.

6. 5. 6 Background : SIMS Properties

- Change the background color in SIMS view all mode.
- Change background color from [SIMS Properties] in [Diagram 6 – 9].

6. 5. 7 Apply Background Image

- You can change the background in SIMS view all mode to an image of your selection.
- Click on  to set a selected image.



[Before Change]



[After Change]

6. 5. 8 Transparency

- Change transparency of the data screen in SIMS view all mode.
- Set Transparency by setting the value of [Transparency] in [Diagram 6 – 9].



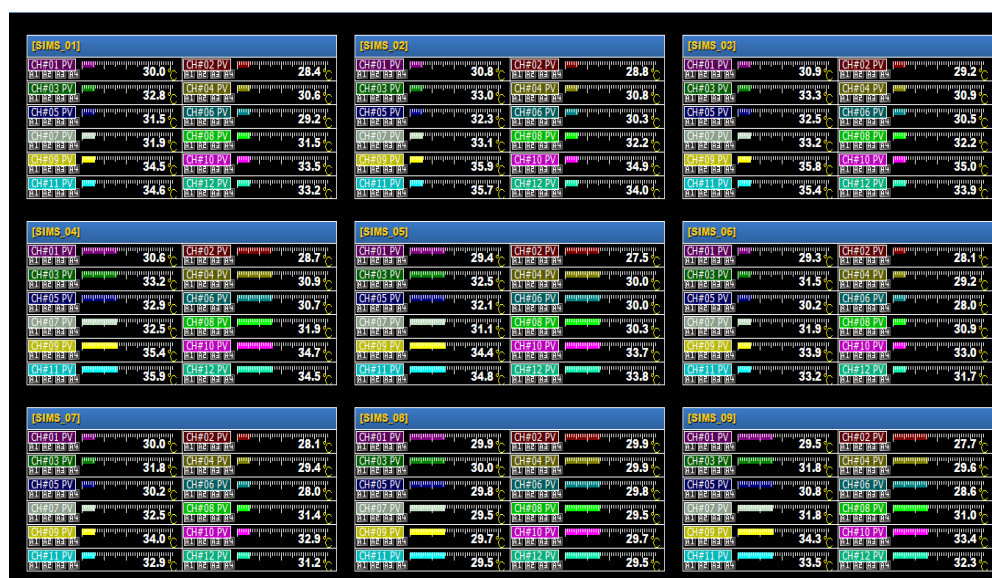
[When transparency value is high]



[When transparency value is low]

6. 5. 9 Grid setup

- Change the screen arrangement in SIMS view all mode.
- Change the Grid setup from [SIMS Properties] in [Diagram 6 – 9].



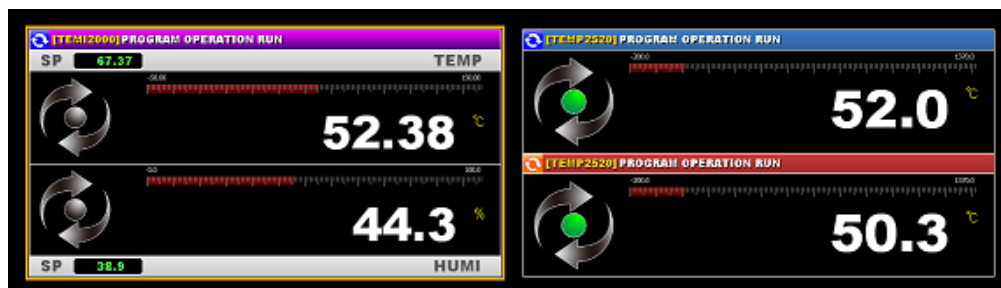
[3 X 3 Mode]



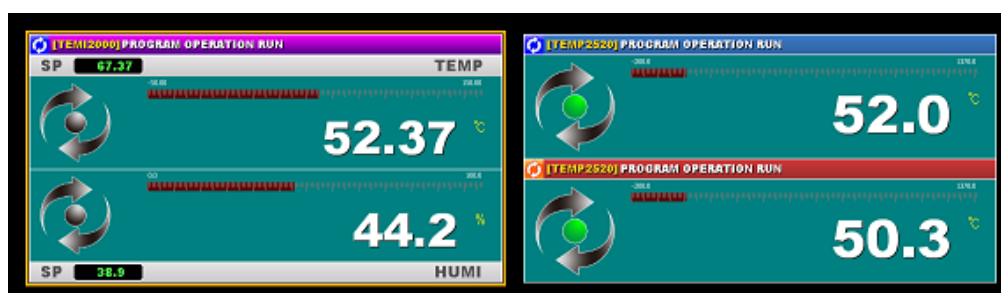
[5 X 5 Mode]

6. 5. 10 Digital View Background Color

- Change the background color in digital view.
- Change digital view background color from [SIMS Properties] in [Diagram 6 – 9].



[Before Change]



[After Change]

Chapter 7. Server & Client

7. 1. Introduction

A remote monitoring of a device at various environments is possible through a TCP/IP connection between a PC that controls multiple devices and the device.

Using the client account management function of the server it manages system control according to the identification and authority of a use. A non-authorized user is completely blocked from system access.

※ **The Server & Client is a charged service which can only be used when the software is purchased and a cost will be charged when purchasing.**

※ **Please contact the sales department of head office for detailed consultation inquiries.**

7. 2. Main Features

■ Remote Monitoring

A remote monitoring in local network or broadband network environment is possible.

■ Remote Management

According to a client's authority, control (Run, Stop, Set point, etc.) over devices is possible.

■ Block Non-authorized

A non-authorized user can be completely blocked from access through user setting and you can change settings for user authority on writing and reading data.

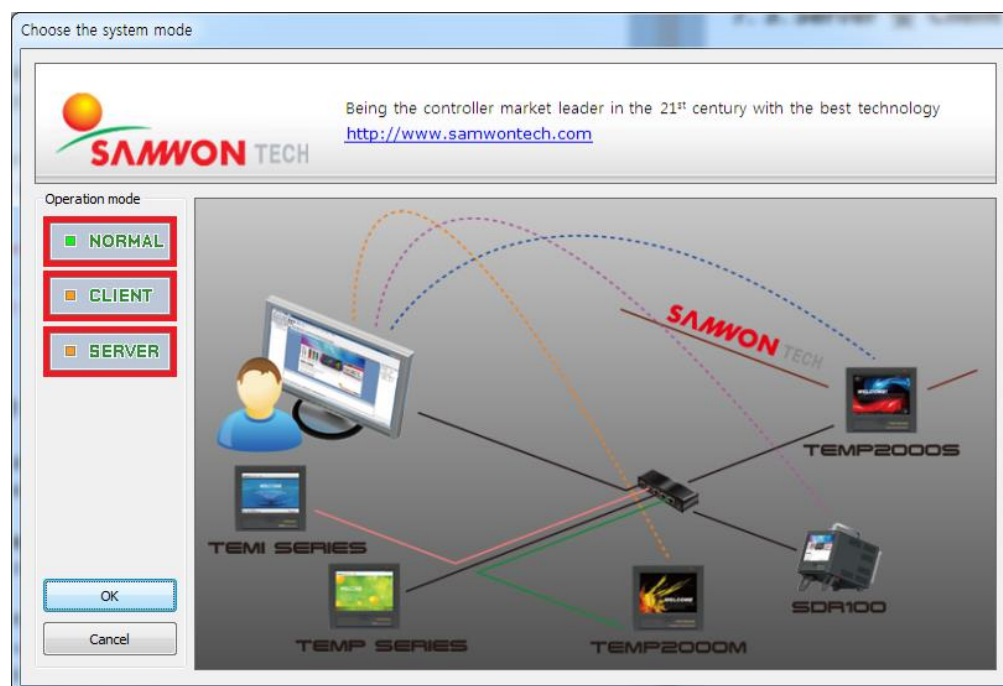
■ Recover Improper Communication

You can check the communication status with server in real time and an automatic recovery is possible when the connection is intermittently interrupted.

7. 3. Initial Screen and Functions of Server and Client

7. 3. 1 Server & Client Initial Screen

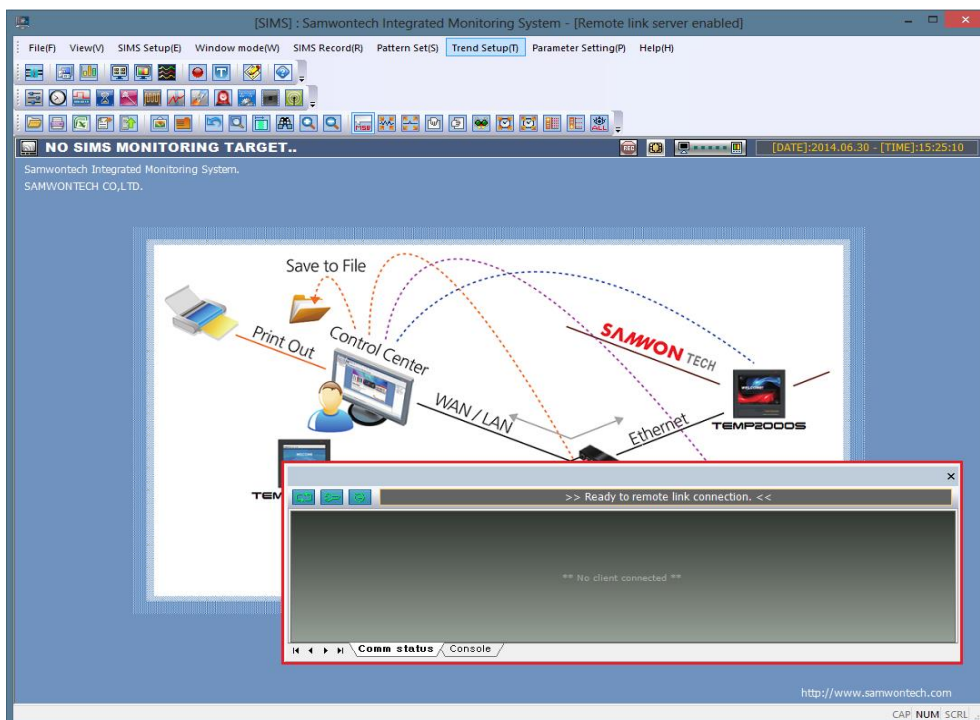
This is the initial screen of the Server & Client. You can operate the software by selecting a mode as in [Diagram 7 - 1].



[Diagram 7 - 1] SIMS Initial Screen

Server Mode Operation Screen

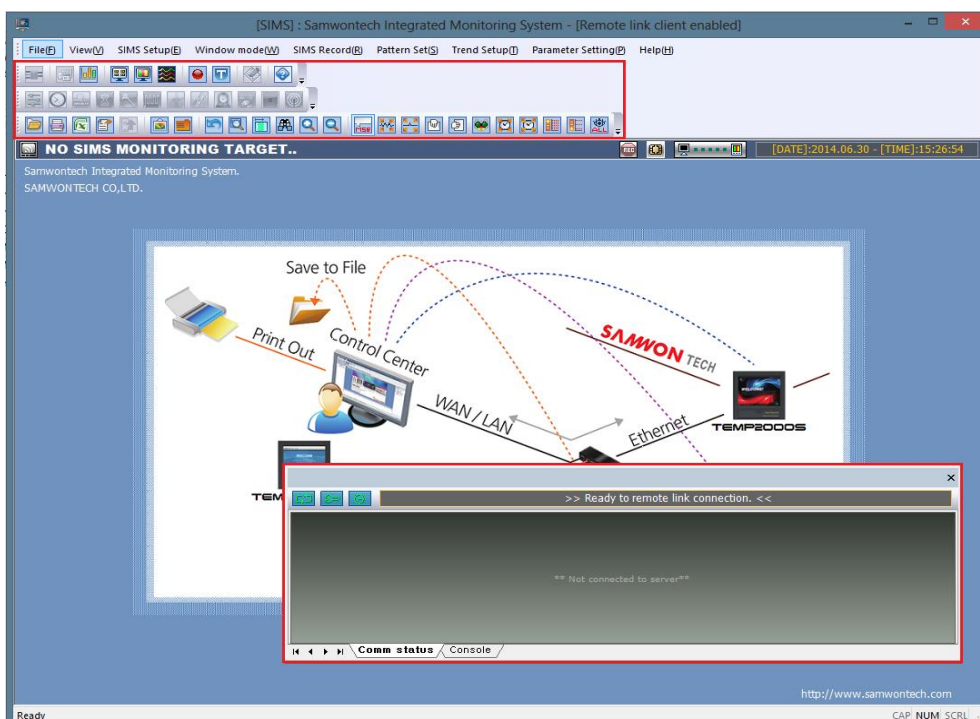
- This is the screen that appears when started with the Server mode.
- A link monitoring window, on which you can change server management settings, is added.



[Server mode]

Client Mode Operation Screen

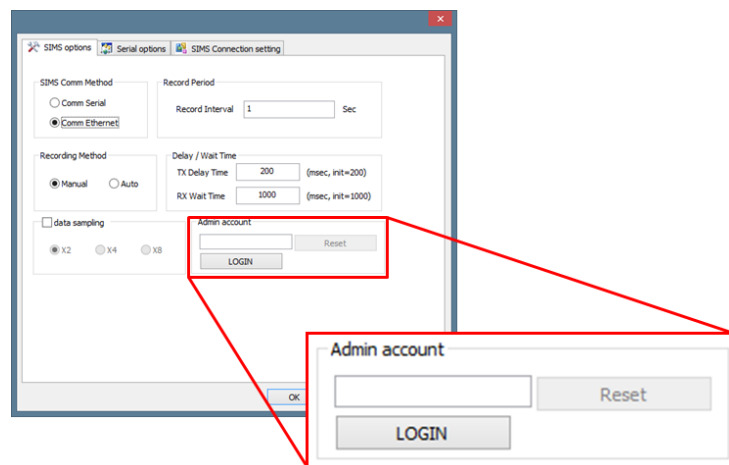
- This is the screen that appears when started with the Client mode.
- Monitoring functions including connection and communication are not available.
- A link monitoring window, on which you can change server management settings, is added.



[Client mode]

7. 3. 2 Communication Setting – Authorized Account Setting

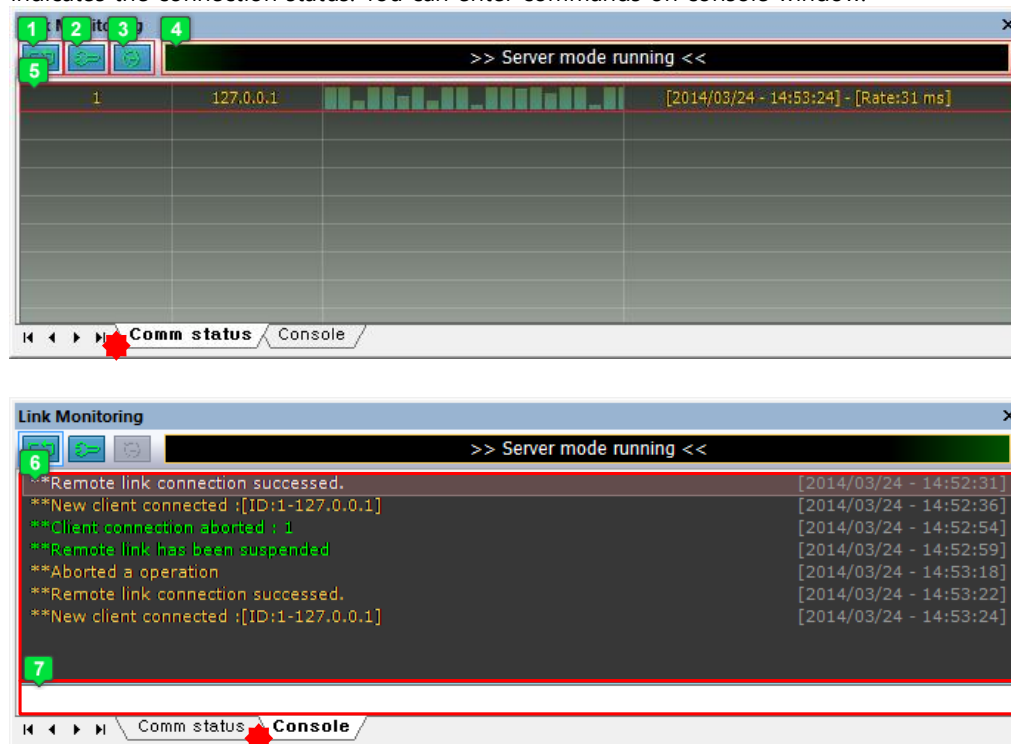
- Log-in with an authorized account
 - You can register users and change authority settings when logged-in with authorized account.
 - Enter password and log in at the authorized account setting in [2. 1. 1 Connection setup].
- ※ If you are successfully logged-in, a message will appear and the password change button will be activated.



[Diagram 7 - 2] Authorized Account Setting

7. 3. 3 Link Monitoring

- Link Monitoring window allows you to change connection settings of server and client and it indicates the connection status. You can enter commands on console window.



[Diagram 7 - 3] Link Monitoring

	Server	Client
1	Start server mode	Connect to server
2	User addition option	Server addition option
3	Option settings	
4	Shows operation status of each mode	
5	Shows message status between server and client	
6	Shows messages and commands occurred during connection	
7	Enter Commands	

■ Start Link

- For server, server mode starts with a state at which client is accessible with [Start Link].
- For client, a remote monitoring starts by connecting to a designated server with [Start Link].
- In [Diagram 7 - 3], click on [1] to start server mode or remote monitoring.

■ Add account

- In server mode, **[Add account]** allows adding a user account or changing authority setting.
- In client mode, **[Add account]** allows adding servers.
- In **[Diagram 7 - 3]** click on **[2]** to show setting windows for each mode.

Add User Account

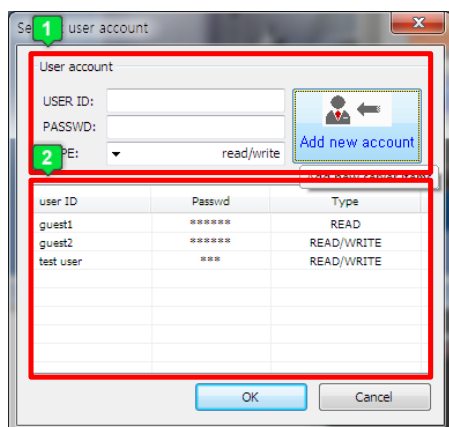
Add a user account with server access and change authority setting.

- ① Enter **User ID**, **Password** and **Type** for the **[1]** **User account** in **[Diagram 7 - 4]** and click on **[Add new account]**.
- ② You can check added **User ID** in **[2]** in **[Diagram 7 - 4]**.

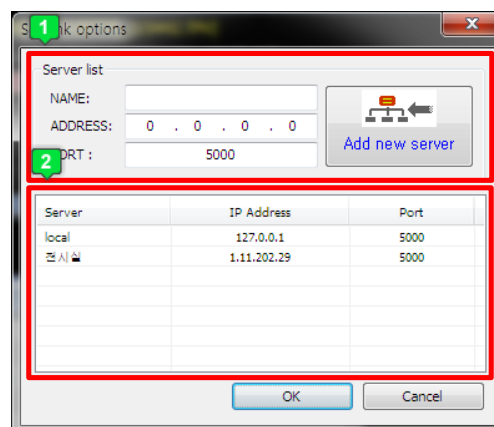
Add Server

Add a server for remote monitoring.

- ① In **[Diagram 7 - 5]**, enter **NAME**, **ADDRESS (IP)** and **PORT** in **[1]** **Server list** and click **[Add new server]**.
- ② In **[Diagram 7 - 5]**, you can check added **Server** in **[2]**.



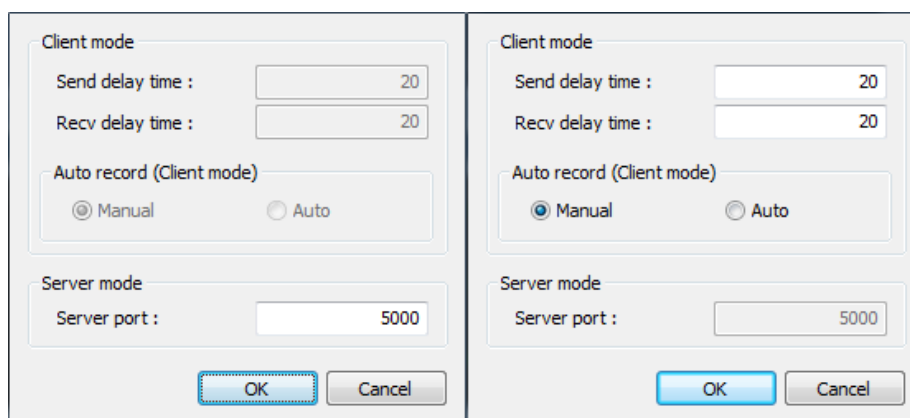
[Diagram 7 - 4] Add User Account



[Diagram 7 - 5] Add Server


Options

- In server mode, [Options] sets [Port Number] of server.
- In client mode, [Options] sets methods of recording and waiting time for sending and receiving.



[Diagram 7 - 6] Server Set link option (left) and client Set link option(RIGHT)

Entering User Command

- You can log-in and out with authorized account and arrange console windows with user command.
- In [Diagram 7 - 3], enter command in [ Enter Command].

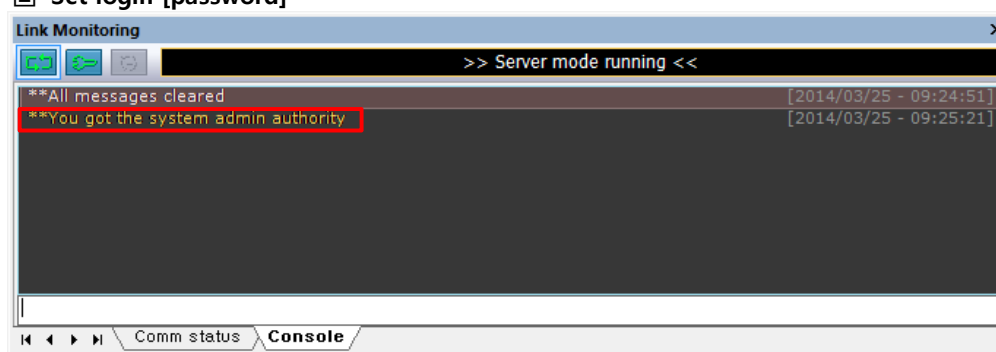
Command	Function
Get command list	Get a list of commands
Set login [password]	Log-in with authorized account
Set logout admin	Log-out authorized account
Set show/hide timeline	Hide or show time of message occurrence
Set clear list	Delete all messages on console window

Get command list



[Command list]

■ Set login [password]



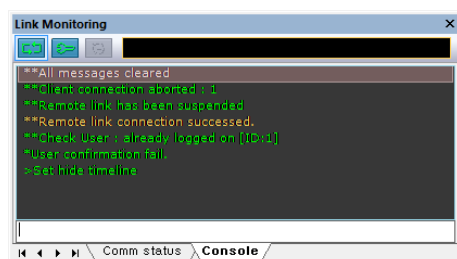
[Message for successful log-in]

■ Set logout admin

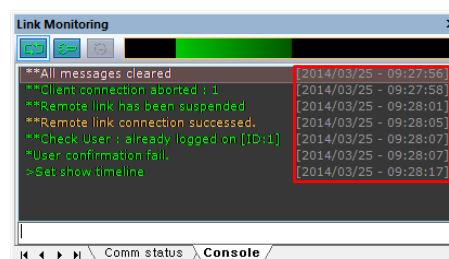


[Message for successful log-out]

■ Set show/hide timeline

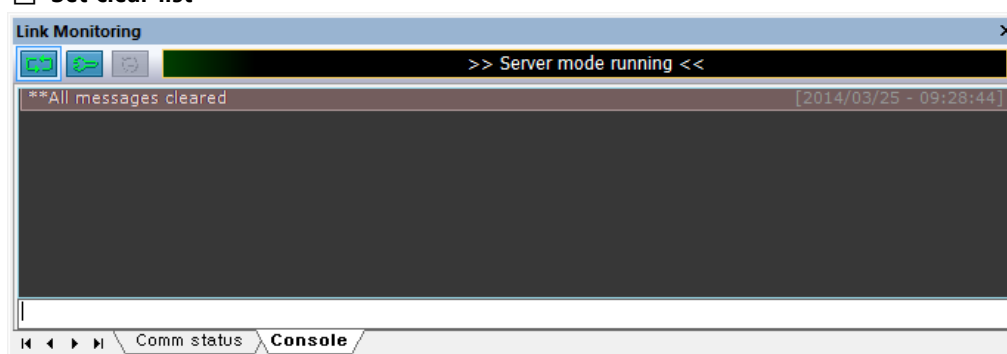


[Set hide timeline]



[Set show timeline]

■ Set clear list



[Messages successfully deleted]

7. 4. Start Server Mode

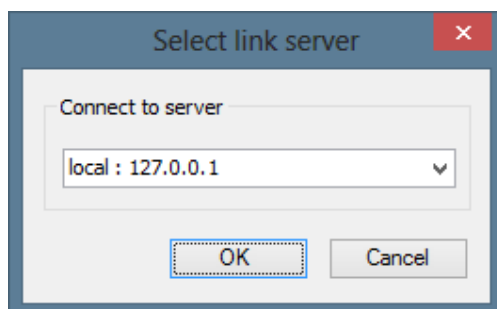
Start server mode to get a remote access to the monitoring server.

- ① Add a user account in [**1** **Add account**] of [7. 3. 3 **Link monitoring**].
- ② Set server port in [**2** **Options**] of [7. 3. 3 **Link monitoring**].
- ③ Start server mode by clicking on [**3** **Start Link**] in [7. 3. 3 **Link monitoring**].

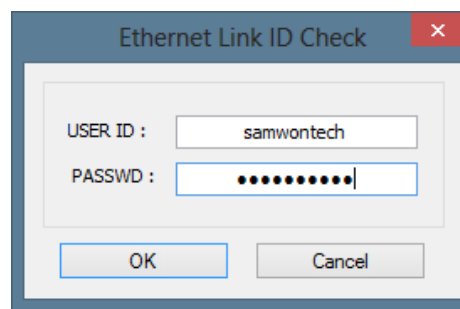
7. 5. Remote Monitoring Access in Client Mode

Access a server in a Server mode for remote monitoring.

- ① Add a server in [**1** **Add account**] of [7. 3. 3 **Link monitoring**].
- ② Set waiting time for sending and receiving and method of recording in [**2** **Options**] of [7. 3. 3 **Link monitoring**].
- ③ Select a server by clicking [**3** **Start Link**] in [7. 3. 3 **Link monitoring**].
- ④ After selecting a server, enter the user name and passwords and click on OK button.

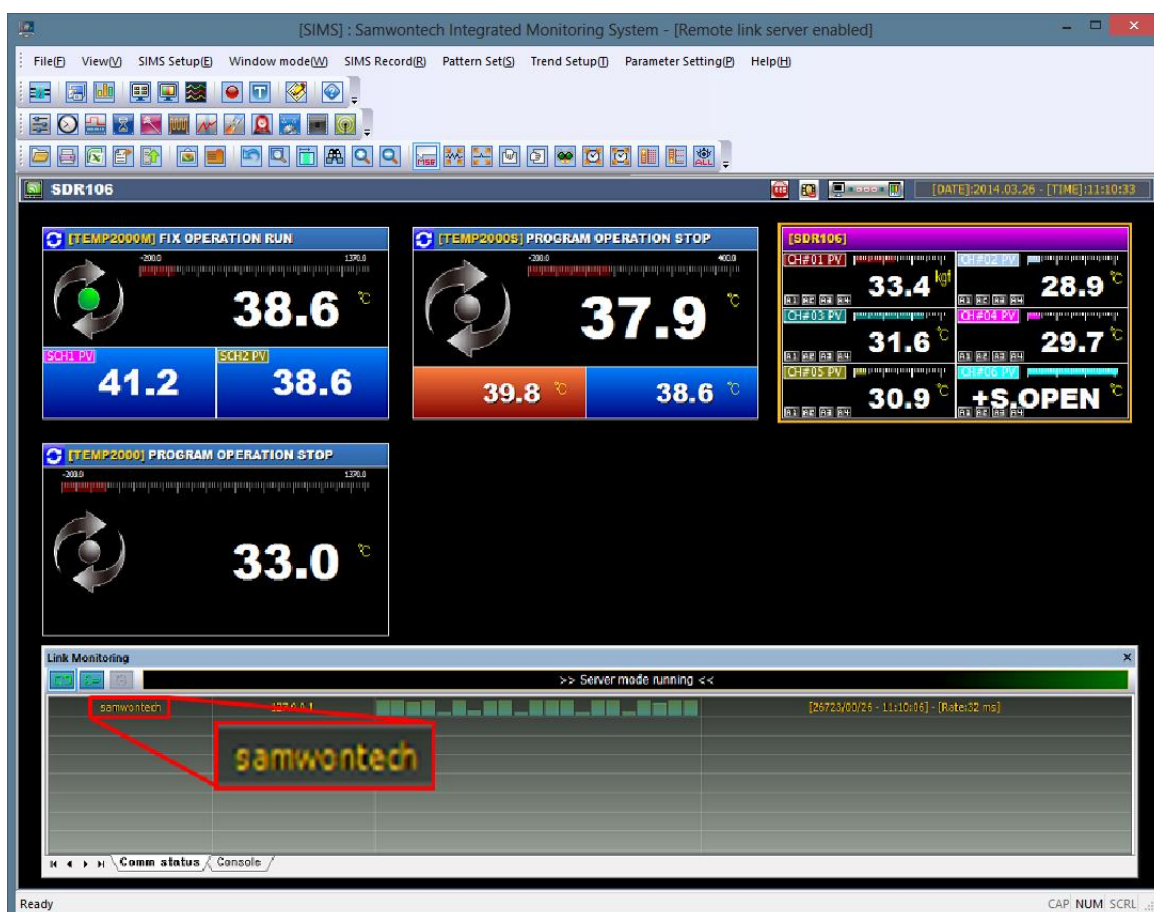


[Select Server]

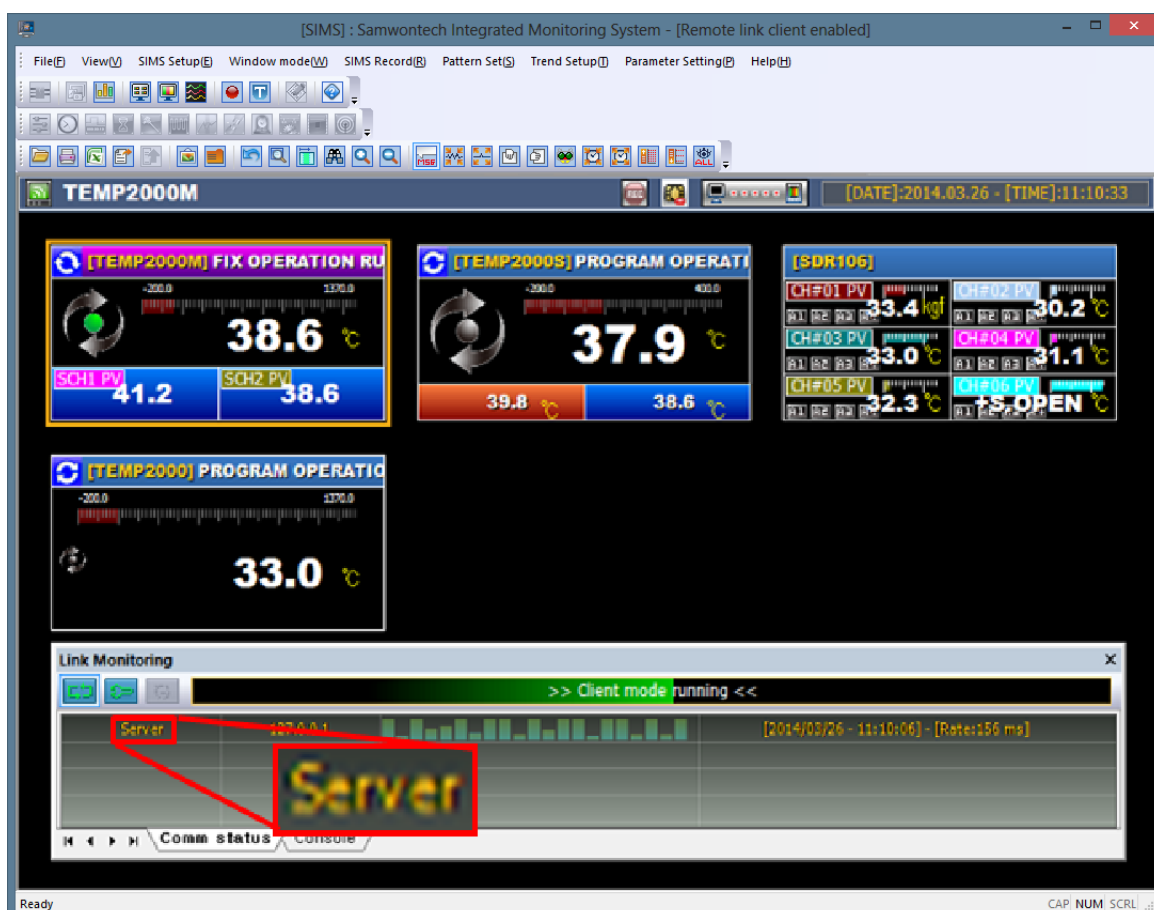


[Enter Log-in Information]

- ⑤ Remote monitoring starts when you access after selecting a server.



[Screen when server mode starts]



[Client screen when connected to a server]

MEMO