

NEX1000 Series Monitoring

Integration Program

User`s Guide

Introduction

Thank you for purchasing our product.

The Program User's Guide describes how to use this software for real-time monitoring of our products.

Notes regarding this manual

- ※ This instruction manual should be delivered to the USER so that they can keep it with them at all times, and should be kept in a place where they can be seen at any time.
- ※ Please fully understand the instruction manual before using this software.
- ※ This manual provides a detailed explanation of the software's functions, and does not guarantee anything other than what is provided in this manual..
- ※ The contents of this software instruction manual may be changed at any time without prior notice.
- ※ This software manual has been created with the utmost care, but if you find any inadequacies, errors, or omissions in the content, please contact your distributor or our sales department.

Disclaimer for this product

- ※ We do not accept any warranty or responsibility for this product other than as specified in our quality assurance conditions..
- ※ We shall not be liable for any direct or indirect damage suffered by the user or a third party due to defects or natural disasters that were unforeseeable by us when using this product.

Software Copyright Agreement

- ※ PLEASE READ CAREFULLY BEFORE INSTALLING THIS SOFTWARE. THESE END USER TERMS OF USE ("TERMS OF USE") ARE A LEGAL AGREEMENT BETWEEN NEXCONTROL CORPORATION, ITS SOFTWARE SUPPLIERS AND LICENSORS, AND YOU, FOR THE SOFTWARE ("SOFTWARE")..
- ※ Installing this Software indicates that you have read, understood, and agree to these Terms of Use.

Products covered by this software manual

- ※ NEX1000 : 1CH Program Controller
- ※ NEX1100 : 2CH Program Controller
- ※ NEX1200 : Temperature/humidity program controller
- ※ NEX1300 : Thermal Shock Program Controller
- ※ NEX1400 : 3CH Program Controller

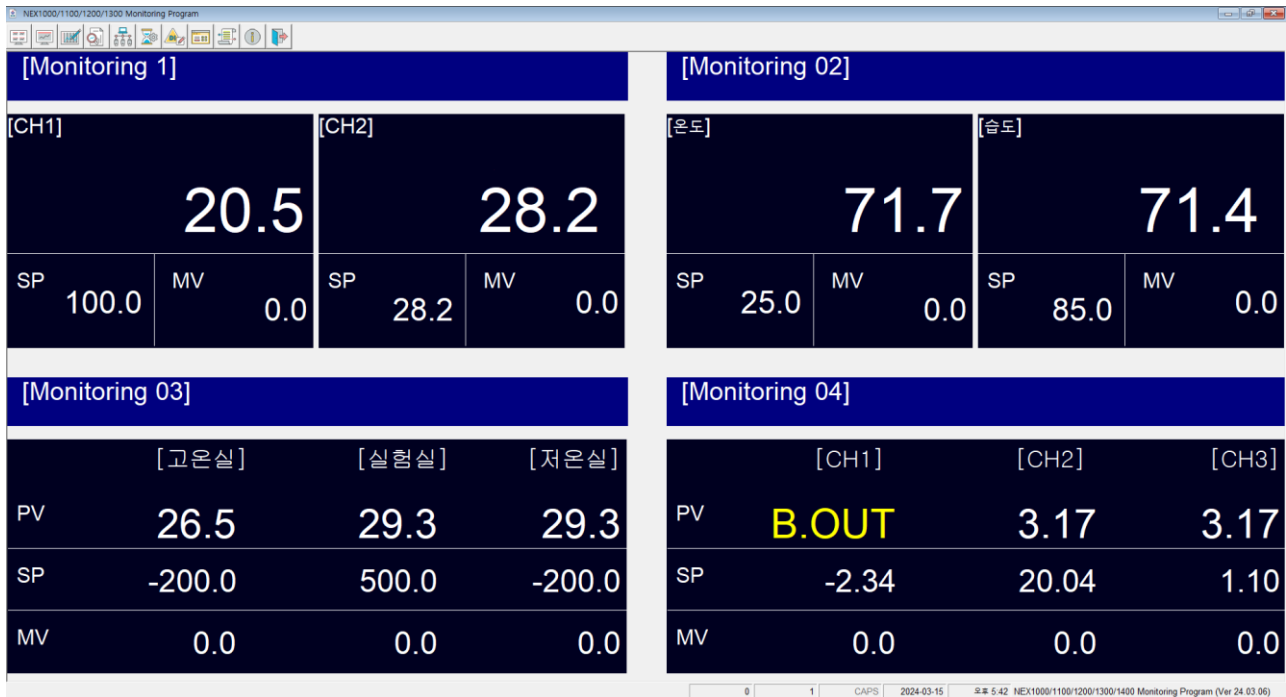
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1. Program Overview

- This program is an integrated monitoring program that displays data from NEX1000 series products and products connected via Ethernet or RS485/422 serial communication.
- Up to 30 devices can be connected and detailed information can be checked by going to the individual monitoring screen..
- Program/Fix Operation status information can be saved as a file and viewed on the data graph screen.



1.1 Main menu bar configuration

MENU	Toolbar	Description
See All		Full screen display of connected NEX series products.
View alone		View real-time data about the product you select.
Pattern Set		You will be taken to the pattern editing (Read/Writing) screen for the selected product.
Data Graph display		Display the saved data file on the graph screen.
Communication Set		Configure Ethernet/serial communication settings and check communication
Wait Operation Set		Go to the Wait Operation Set.

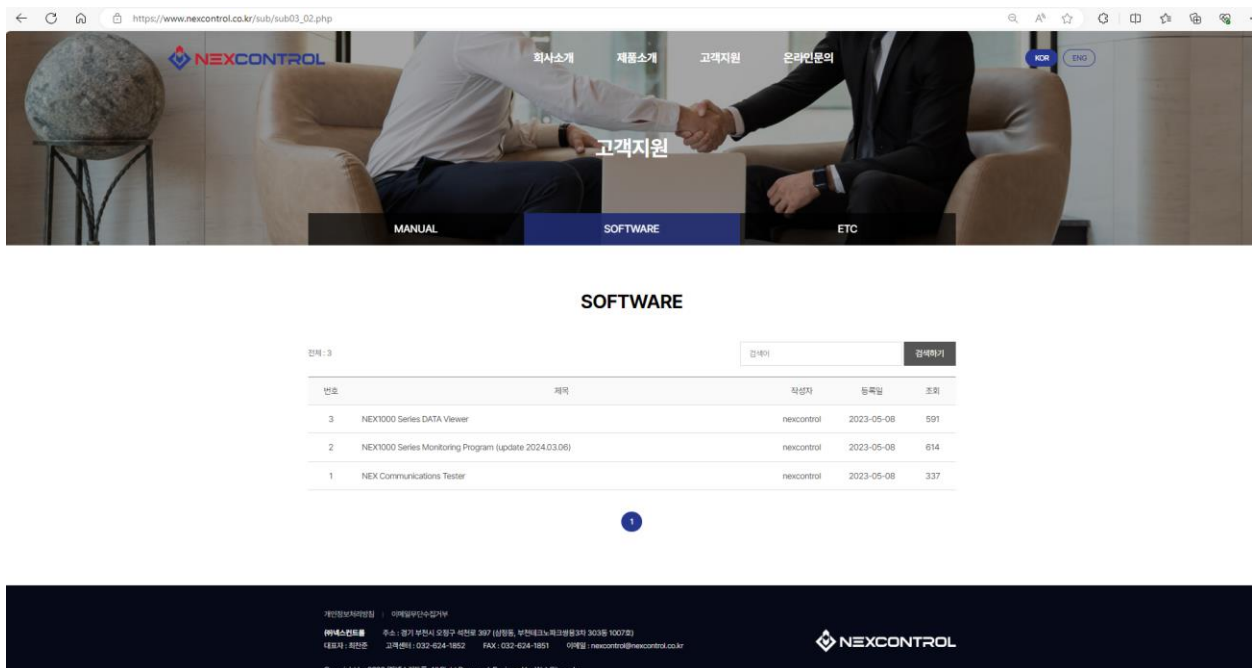
DI Error Name		Go to the DI Error Name
Display		Move to language selection, buzzer sound, alarm display screen.
Status History		View a report of the action.
Version		Program Version.
END		Program End

1.2 Preparing for program operation

- This program is PC software for real-time monitoring of NEXControl products..
- Monitoring is performed via Ethernet and serial communication.
- The cables and setup are essential for normal monitoring.
- To install the program, download the latest program version via www.nexcontrol.co.kr and install the program.

👉 www.nexcontrol.co.kr → Support → SOFTWARE

👉 Install the program in administrator mode



The screenshot shows the NEXControl website's 'SOFTWARE' section. The page has a header with navigation links: 회사소개, 제품소개, 고객지원, and 온라인문의. Below the header is a banner image of two people shaking hands. The main content area is titled 'SOFTWARE' and contains a table with three software items. The table has columns for '번호' (Number), '제목' (Title), '작성자' (Author), '등록일' (Registration Date), and '조회' (Views). The items are: 3. NEX1000 Series DATA Viewer, 2. NEX1000 Series Monitoring Program (update 2024.03.06), and 1. NEX Communications Tester. The footer contains contact information for NEXCONTROL, including address, phone, fax, and email, along with the company logo and copyright notice.

번호	제목	작성자	등록일	조회
3	NEX1000 Series DATA Viewer	nexcontrol	2023-05-08	591
2	NEX1000 Series Monitoring Program (update 2024.03.06)	nexcontrol	2023-05-08	614
1	NEX Communications Tester	nexcontrol	2023-05-08	337

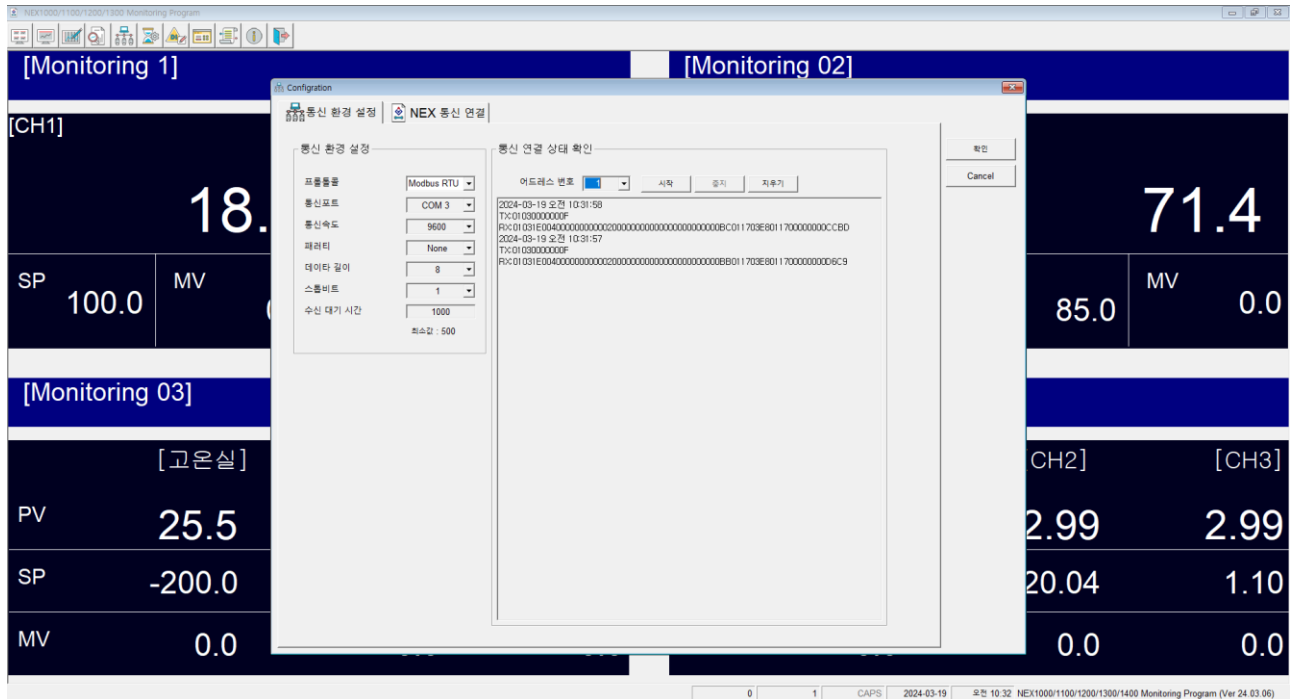
•Description of subfolders of installed programs

Folder name	Description
DATA	Saving driving data (Fix or pattern)
Error	Saving program error details
FILE_EXCEL	Excel data conversion
FILE_JPG	JPG data conversion
Message	Status history storage
PTN	Save Pattern

- After the program is successfully installed, select the NEX1000_S Monitoring item on the “ Windows Startup” or desktop to start the program in administrator mode.

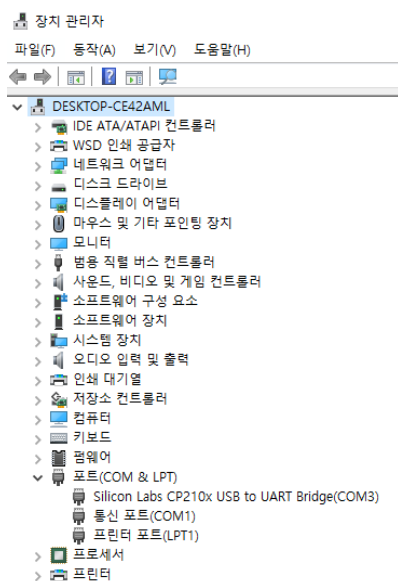
2. Communication Set

- To connect this product to the user's PC via an Ethernet or serial (RS232/485) cable and display product information on the user's PC screen, please set up the communications environment between the product and the user's PC in advance.



2.1 Serial Communication Environment Settings

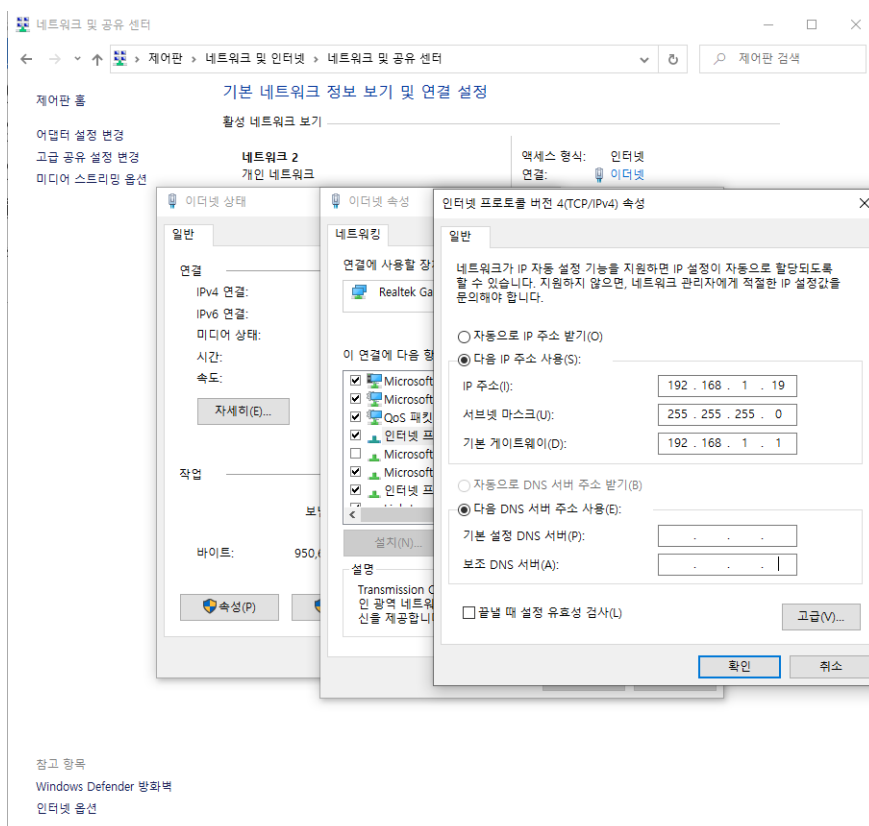
- To check your PC's serial port (COM PORT) number, go to Control Panel → Hardware and Sound → Device Manager → Ports (COM & LPT) and check the communications port number.
- If you use a USB to Serial cable, it will be displayed with the corresponding product name.



- Select the same serial port number confirmed on the user PC as the communication port in the communication release setting of the monitoring program..
- Set the communication environment of this product and the monitoring program to be the same (protocol/communication speed/parity/data length/stop bit)
- If the communication environment settings are the same, check that communication proceeds smoothly after specifying the address number while connected.
- For the reception wait time, specify the wait time for the product to respond after transmission. Enter an appropriate time according to the performance of the user's PC (Modbus RTU minimum: 500/ms, Modbus ASCII minimum: 1000/ms).

2.2 Ethernet Communication Environment Settings

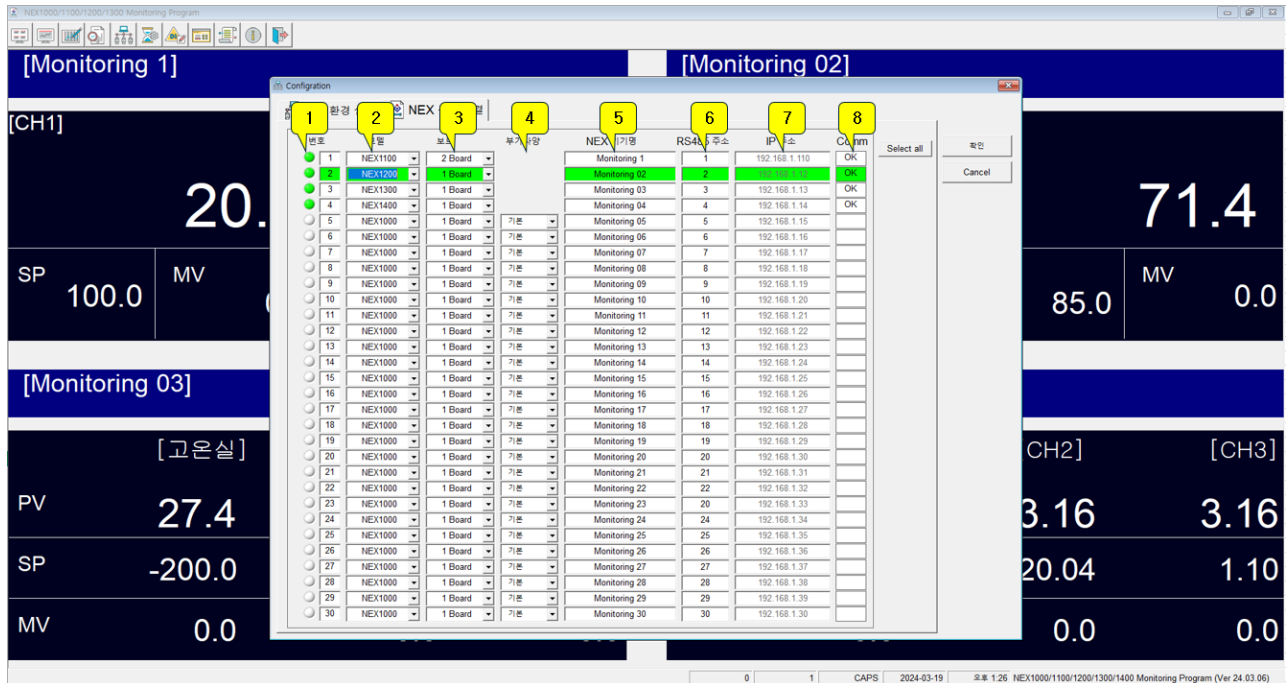
- If you want to use Ethernet communication, please check in advance whether this product supports Ethernet communication.
- The Ethernet network settings on the user PC can be found in Control Panel → Network and Internet → Network and Sharing Center → Ethernet → Properties → Select Internet Protocol Version 4 (TCP/IPv4) and then click Properties.



- Click Use the following IP address to set the IP address, subnet mask, and Gebon Gateway.
- Set the subnet mask and default gateway to the same as the product.

- Once you have completed the network settings on the machine and the user's PC, check that communication is working smoothly while connected..
- Ethernet communication does not specify addresses.

2.3 Communication Connection



NO	Description
1	Select whether to communicate or not
2	Product Selection
3	Choose 1 or 2 boards In the case of two boards, the number of DI and DO status lamps is displayed as 32
4	Select for NEX1000 heating and cooling products
5	Enter the device name to be displayed at the top of the monitoring screen
6	Enter the address number (only valid for serial communication)
7	Please enter the IP address. (Only valid for Ethernet communication)
8	Checking the communication status If NG, check the communication connection status

3. Monitoring screen configuration

3.1 See All

•The connected product information will be displayed in full screen.



If you want to go to a specific product's detail page, click it with your mouse or select the respective view icon from the toolbar.

3.2 View alone

- Displays PV, SP, and MV graphs.
- Displays the status information of DI, DO, and IS.



[Figure 3.2-1] NEX1100 Individual display selection screen

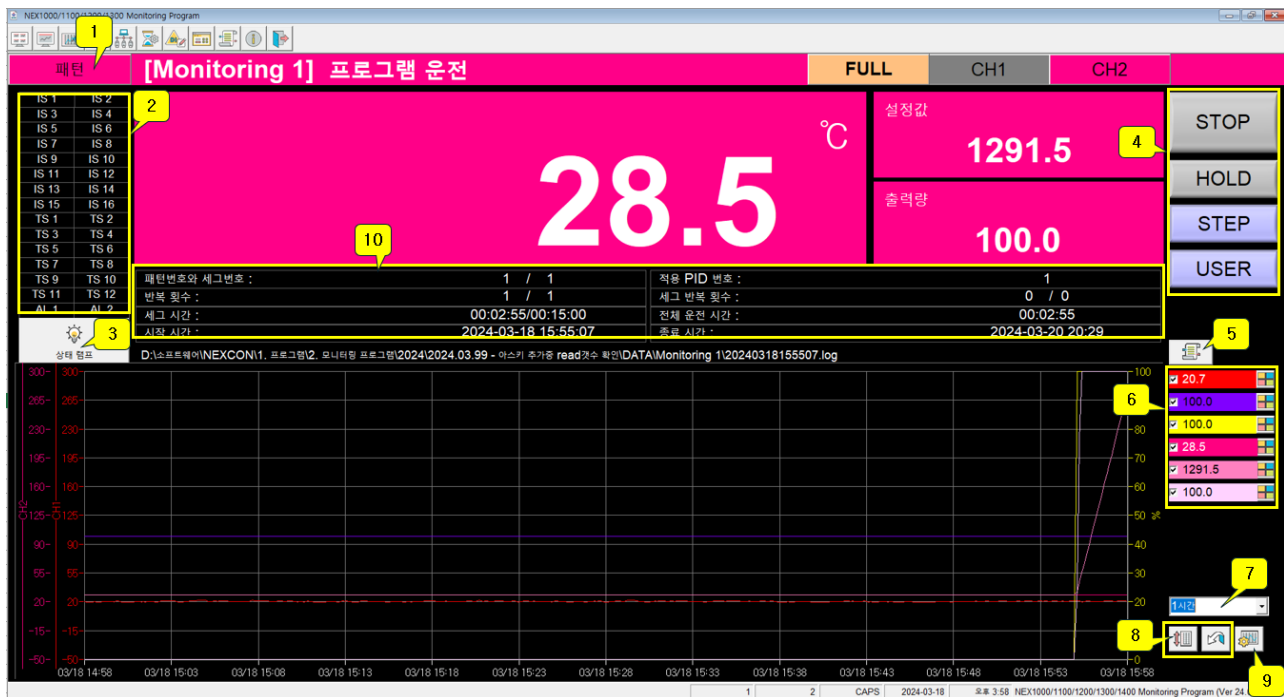
- It is divided into CH1 and CH2, and clicking CH1/CH2 will take you to the detailed screen.



[Figure 3.2-1] CH1 FIX screen



[Figure 3.2-1] CH2 Pattern screen



[Figure 3.2-1] Individual display screen

NO	Description
1	You can set the driving behavior mode (pattern/fix).
2	Displays the inner signal, DI, DO, time, and alarm signal generation status.. The number of items that can be displayed on the screen is 30. You can set whether to display it or not with number 3.
3	Set whether to display the status lamp.
4	The RUN/STOP button is displayed. HOLD and STEP buttons are displayed during pattern operation.
5	You can check the running/stop time and status history information as below. "20230321 17:27:35 Chamber 1 CH3 START RUN" "20230321 17:27:35 Chamber 1 CH2 Inner Signal 1 ON" "20230321 17:27:35 Chamber 1 CH2 Inner Signal 2 ON" "20230321 17:27:35 Chamber 1 CH2 DI 6 ON" "20230321 17:27:35 Chamber 1 CH2 DI 7 ON" "20230321 17:27:35 Chamber 1 CH3 Alarm Signal 2 OFF" "20230321 17:27:35 Chamber 1 CH3 Alarm Signal 1 OFF" "20230321 17:27:53 Chamber 1 CH1 STOP RUN"
6	Set whether to display on the graph screen and the color.
7	Set the display time on the graph screen (10 minutes to 24 hours).
8	This button zooms in and out on the graph screen.
9	Set the graph range, decimal points, etc.
10	Displays various information during RUN.

- The operation data file will be saved as "Installed folder\WDATA\WChamber name\Wyear/month/date/time/minute/second.log".
- You can check the data in Data View.

Ex) C:\WProgramFile64\WNEX1000_S Monitoring Program\WDATA\No.1\W20180612134710.LOG



[Figure 3.2-2] NEX1200 screen



[Figure 3.2-3] NEX1300 screen

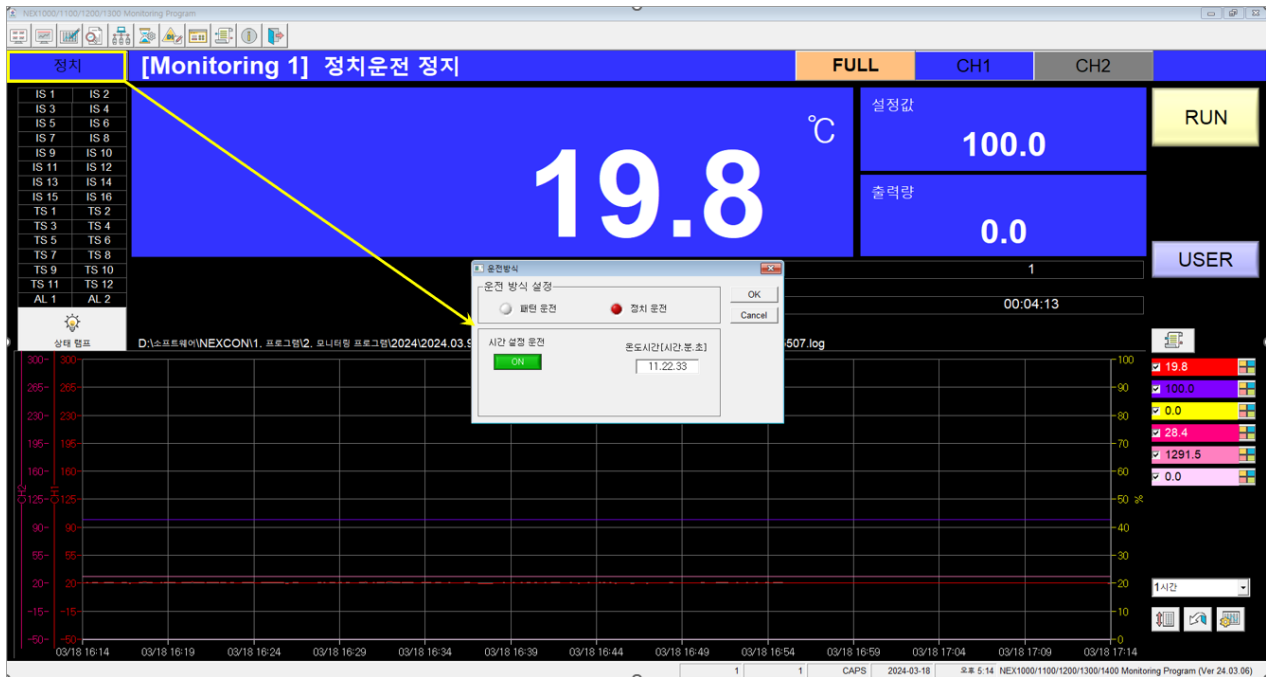


[Figure 3.2-4] NEX1400 screen

- It is divided into Channel 1, Channel 2, and Channel 3. Clicking on CH1/CH2/CH3 will take you to a detailed screen.

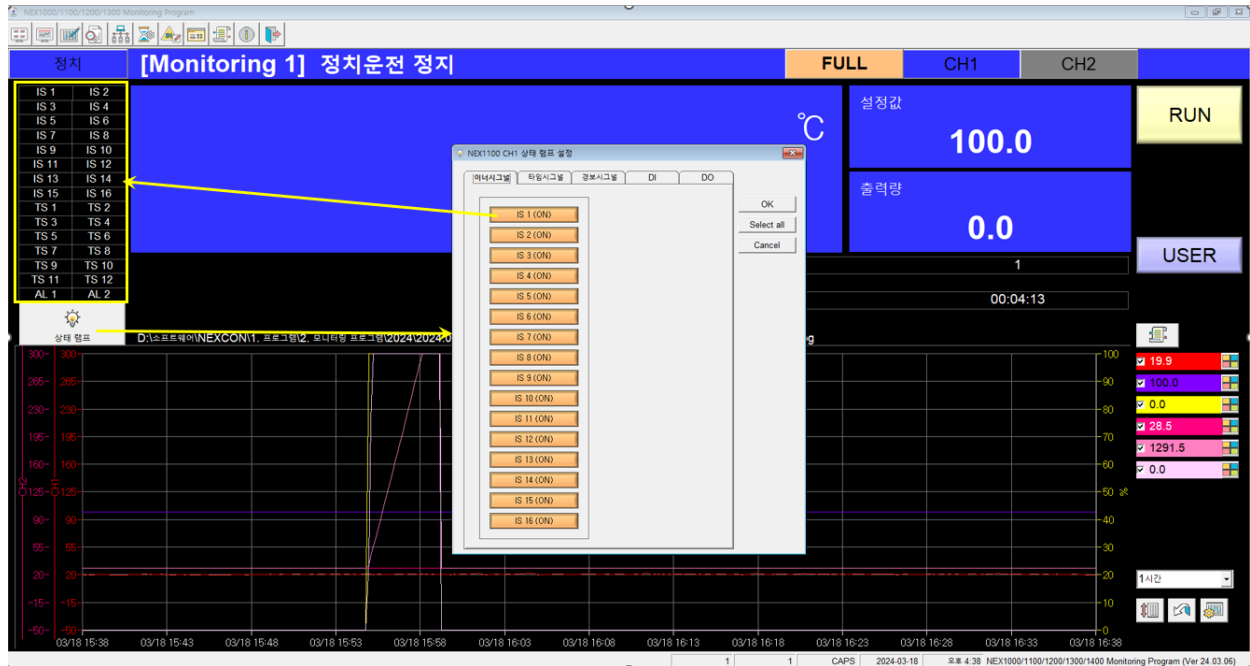
3.3 Function Set

- There are FIX control method and pattern control method. NEX1300 product does not have operation control method.
- The pattern operation method is a method in which the time to reach the target SP is set in a program and the temperature is controlled sequentially according to that program.
- The FIX operation method controls the temperature only with the target set value..
- Time setting is only available in fix control mode.



3.4 Lamp Set

- Set the type of status lamp to be displayed on the FIX or PROGRAM operation screen..
- Up to 30 items can be displayed on the operation screen..



ON

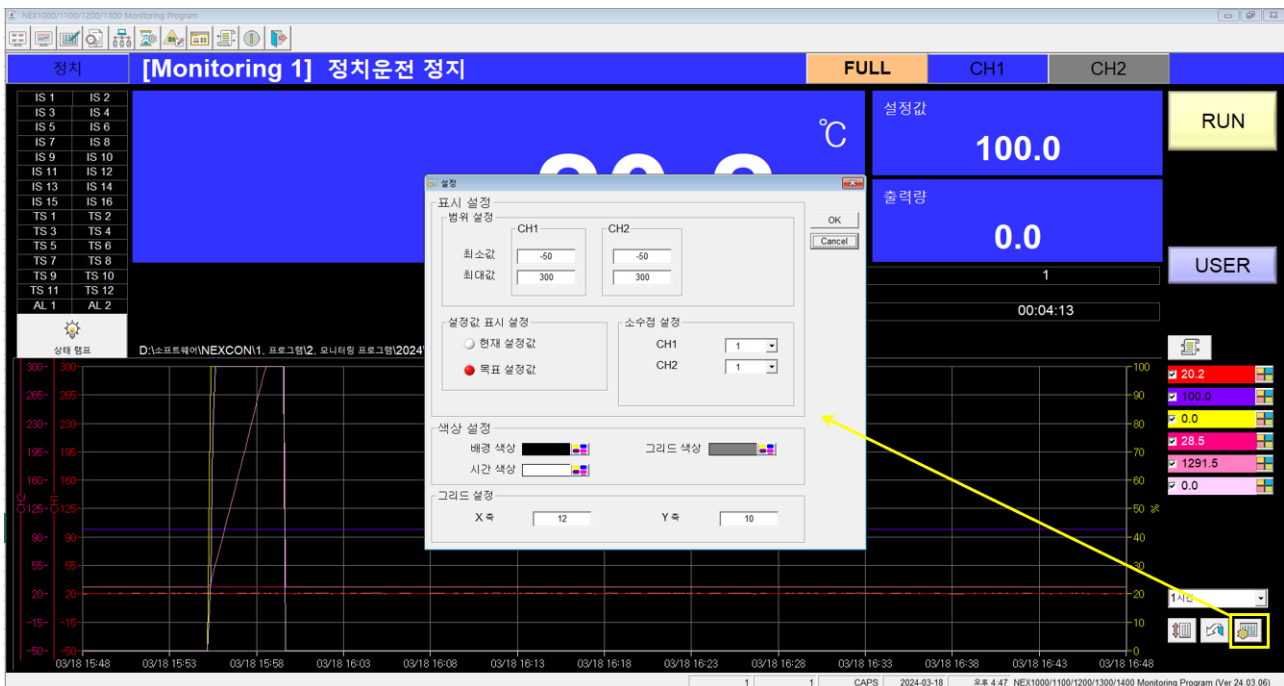
Screen display

OFF

Screen display clears

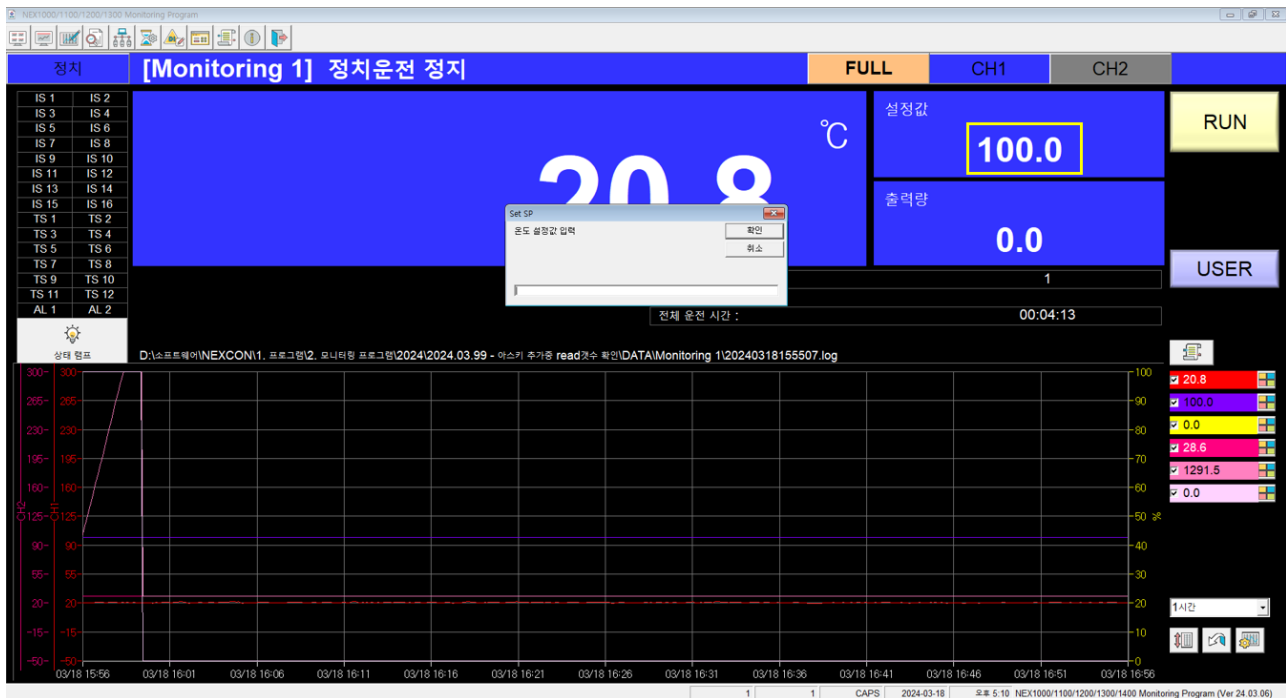
3.5 Graph Set

- Set the graph display range, color, set values to be displayed on the operation screen, decimal point position, etc.
- Can be set for each individual screen.



3.6 Setting target set points

- Clicking the setting value on the FIX operation screen allows you to enter the target setting value..



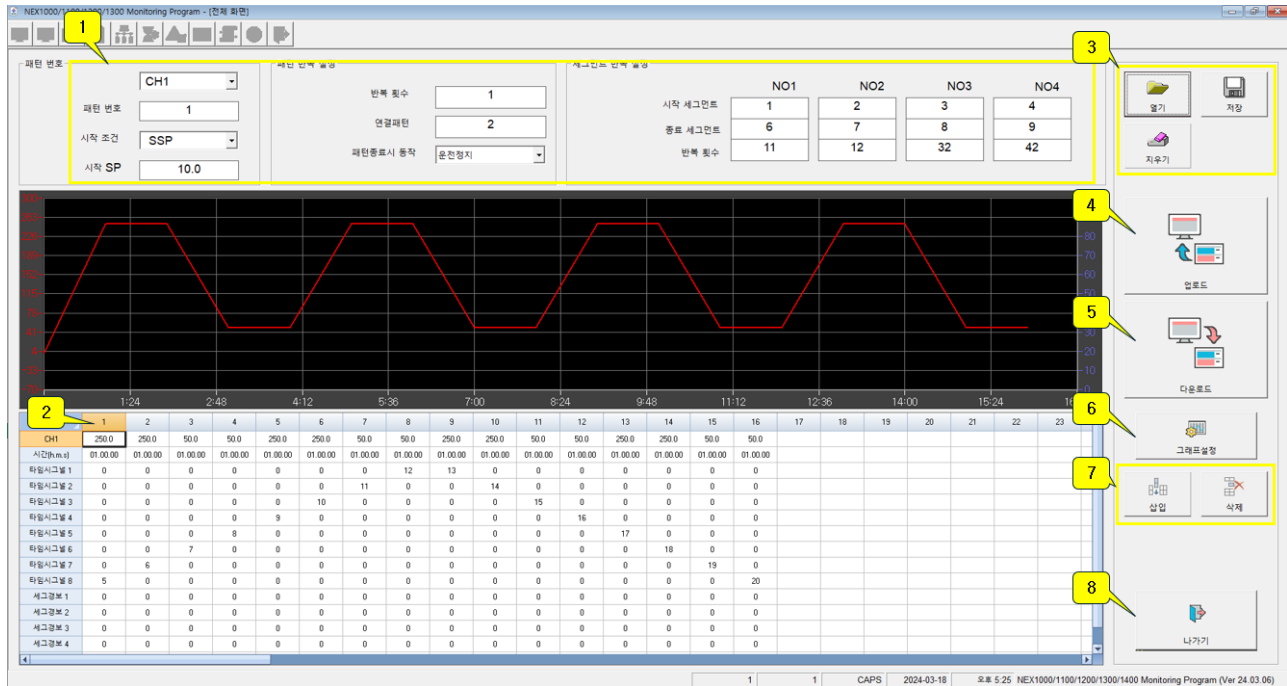
3.7 Pattern number input

- Clicking the pattern number on the pattern operation screen allows you to input the pattern number you want to operate..



4. Pattern Set

- Setting a goal (TSP) and the time (hours, minutes, seconds) to reach the goal.
- You can set conditions related to time signals, wait actions, etc. in that segment..
- You can set the repeat function for the patterns and segments you set.
- You can set the operation method when the pattern operation ends.



[Figure 4-1] NEX1100 Pattern Editing Screen

NO	Description
1	Pattern number, start condition, pattern/segment repeat setting.
2	Pattern related information data setting (TSP, TIME, etc.)
3	Pattern data can be saved as a file or read.
4	Upload NEX product pattern information to your PC.
5	Download the pattern setting data as a pattern for NEX products.
6	Setting the graph range.
7	You can delete/insert columns of entered pattern data.
8	EXIT

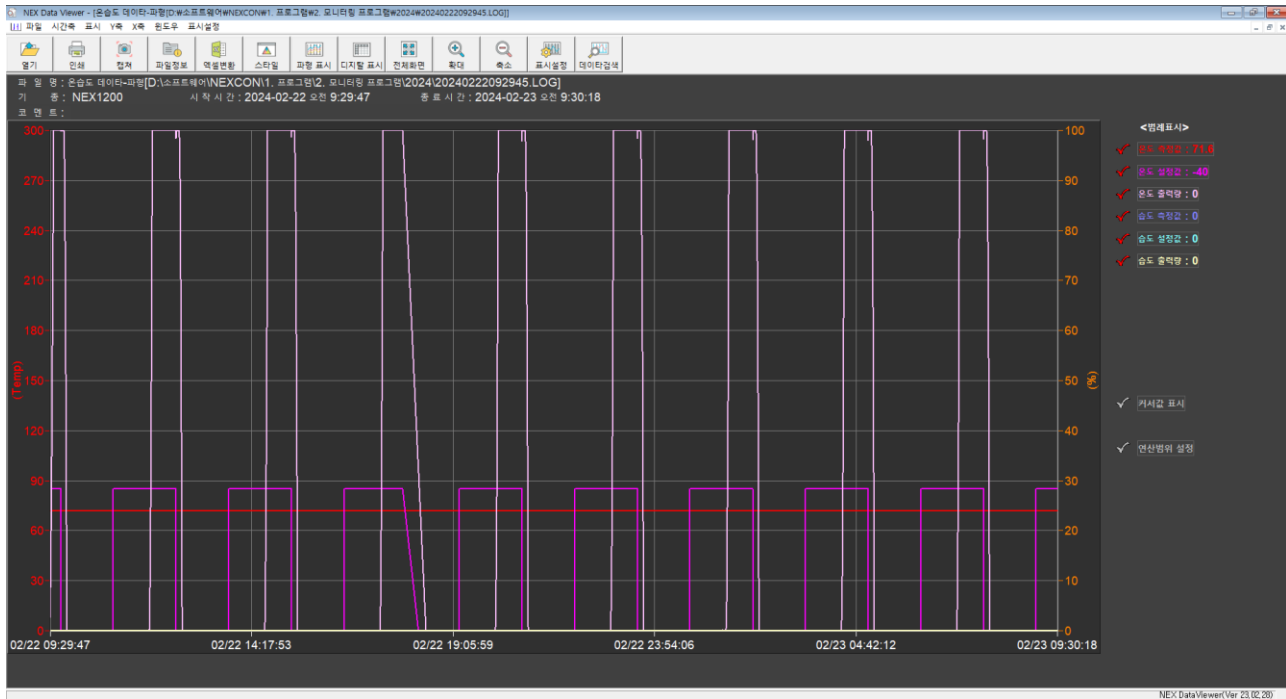


[Figure 4-2] NEX1300 Pattern Editing Screen

NO	Description
1	Pattern number, pattern repeat setting
2	Set the type of pattern you want to operate.
3	Pattern related information data setting (TSP, TIME, etc.)
4	Upload NEX product pattern information to your PC..
5	Download the pattern setting data as a pattern for NEX products.

5. Data Graph display

- In the monitor program, open and graph the stored data (extension log) or the data file (extension csv) stored in the product.
- Easy to zoom.
- To return to the original screen after zooming in, right-click on the graph..

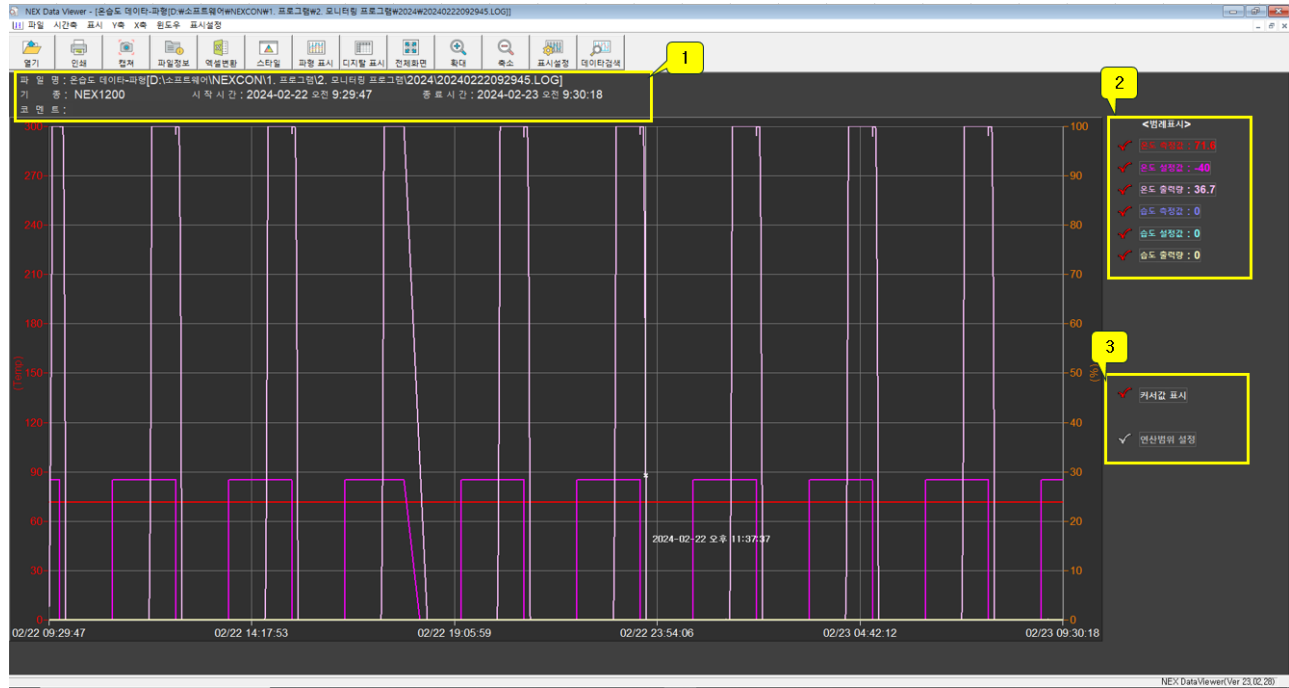


icon	Description
	Open
	Print
	Screen capture
	Displays the file information of the current screen. You can enter a comment for the current file..
	Converts files (extension log) saved as monitoring programs into Excel files (extension csv).
	Displays the screen style (black/white).
	Display saved data as a waveform.
	The stored data is displayed digitally.
	Return a zoomed screen to full screen
	Zooming the graph.
	Setting the graph color and range



Search the graph currently displayed on the screen in detail by time

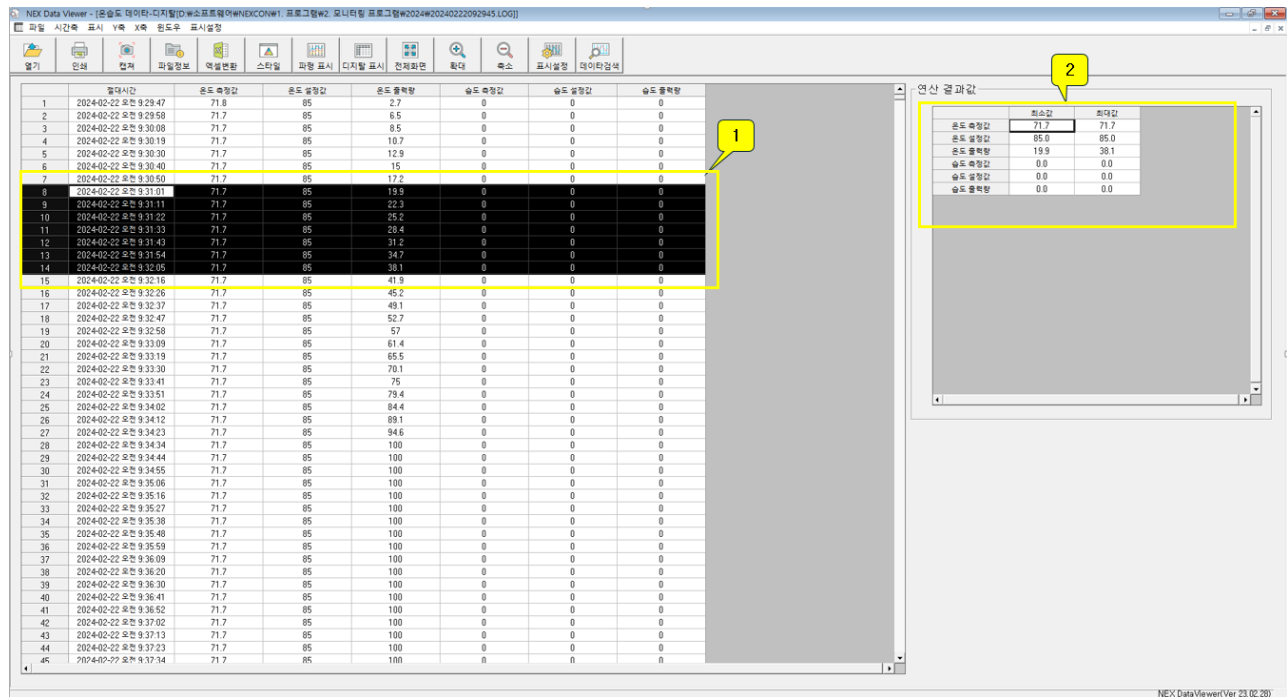
5.1 Graph display



NO	Description
1	Displays information about the graph currently displayed on the screen. Comments can be entered in the file information (📄).
2	Check whether to show or hide graph lines.
3	Show Cursor Value: Check the time and stored value at a point on the graph. Calculation range setting: Set the graph range to calculate the average value.

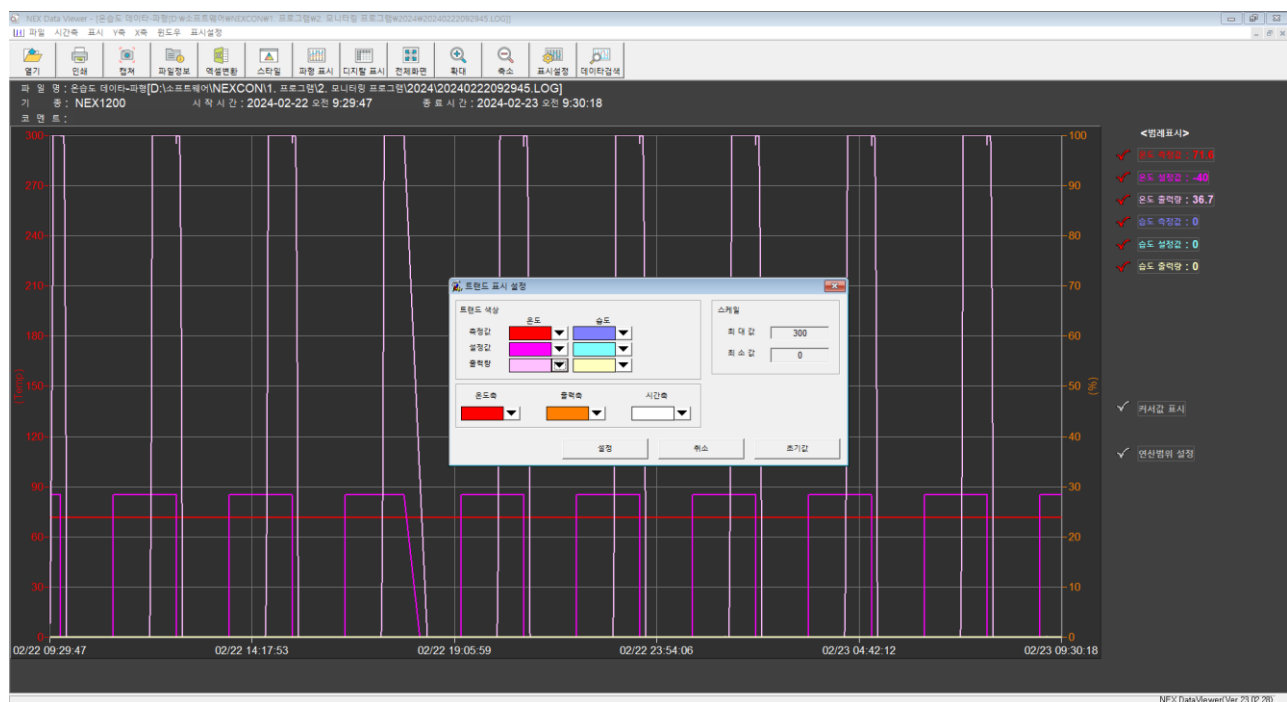
5.2 Digital display

- Displays waveform graphs in digital format.
- In number 1, use the mouse to grid the range and check the calculation results on the right.



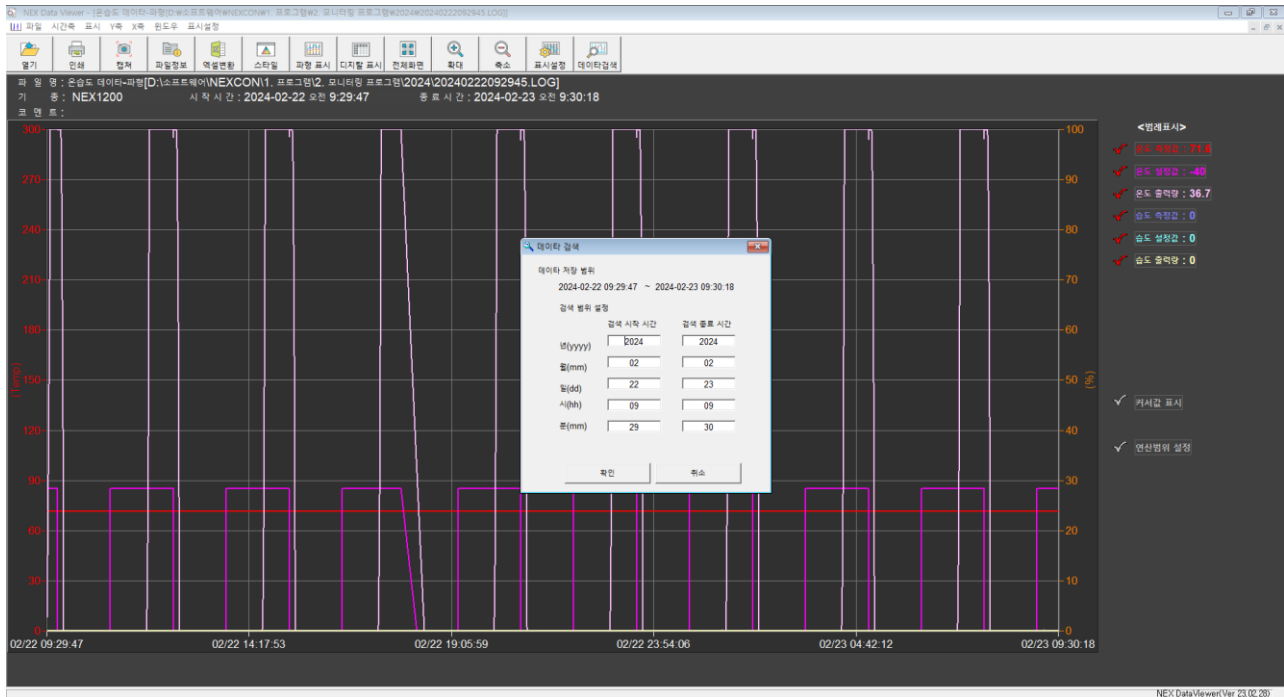
5.3 Graph Set

- Set the colors and ranges of the graph .



5.4 data search

- In the advanced search for graphs, you can specify the search start and end times, and only the entered times will be displayed on the graph.



6. Wait Operation Set

- Set the standby range and time for standby action during pattern operation.
- You can apply the configured standby operation method to each segment in [Pattern Edit].
- For detailed instructions, please refer to the product instruction manual.



[Figure 6-1] NEX1100 Wait Operation Set



[Figure 6-2] NEX1200 Wait Operation Set



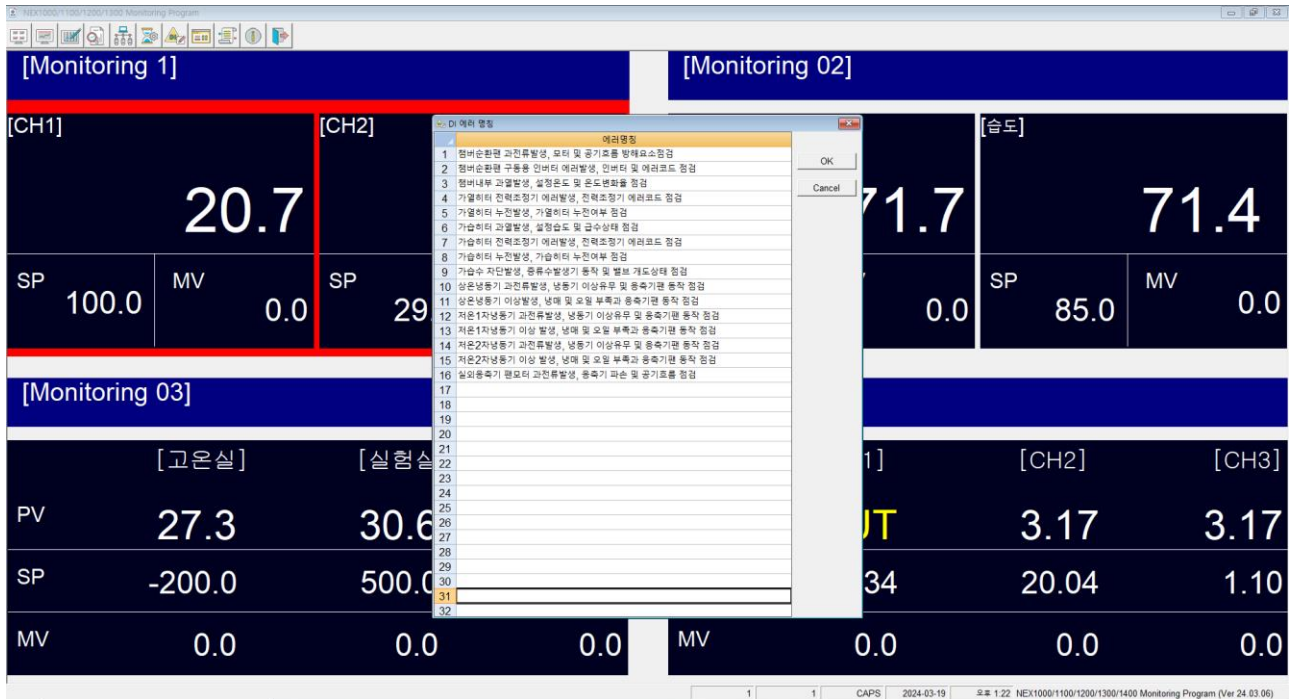
[Figure 6-3] NEX1300 Wait Operation Set



[Figure 6-4] NEX1400 Wait Operation Set

7. DI Error Name

- DI error name input.
- Up to 16 DI error names can be entered for one board, and up to 32 for two boards.
- The maximum number of characters that can be entered for the DI error name is 50 Hangul characters (100 English characters).



8. Display



NO	Description
1	Select the language to be used on the user's PC.
2	Select whether to display or not display on the screen when an alarm occurs.
3	Select whether or not to generate a buzzer sound on the user's PC when an alarm occurs.
4	Select whether to display or hide buttons on the operation screen.



NO	Description
5	Setting the data save interval during execution.
6	Select whether to save the communication status. Saved data for analyzing data saved when communication-related A/S occurs.