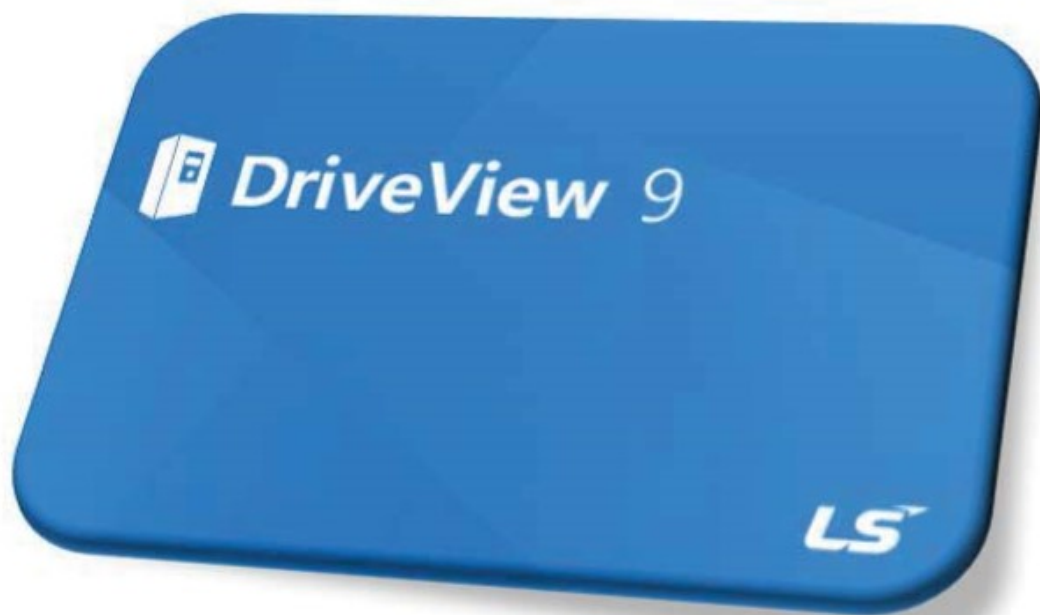


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DRIVEVIEW 9

User Manual



Safety Instructions

- Read this manual carefully before installing, wiring, operating, servicing or inspecting this equipment.
- Keep this manual within easy reach for quick reference.

LSELECTRIC

Revision History

Version	Date	Remark	Revised Page
V1.0	'19.6.21	First Edition	
V1.1	'19.8.20	Error revised	
V1.2	'20.2.3	Changes and new features (parameter window, trip history)	
V1.3	'20.5.29	Changes and new features Change company name	
V1.4	'22.03.02	Cover error revised	
V1.5	'22.03.16	Error revised	
V1.6	'22.04.19	Error revised	
V1.7	'22.11.03	Error revised and New feature	
V1.8	'23.07.25	Error revised and New feature	
V1.9	'23.11.03	New feature	
V2.0	'25.01.21	Feature modification	

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1 Getting Started

1.1 DriveView 9 Characteristics

DriveView 9 is a software tool for engineering the LS ELECTRIC inverter, referred to as drives. The tool holds the features for remote monitoring the drives connected to DriveView 9 and supports the necessary tasks needed for start-up and maintenance.

1.2 System Configuration

DriveView 9 supports various communication methods (Modbus-TCP, Modbus-RTU, LS INV 485, USB).



1.3 System Requirements

Category	Requirement
Windows	Windows 7/8/10/11
Processor	1 GHz or higher
RAM	1 GB (32-bit) or 2 GB (64-bit)
HDD	16 GB (32-bit) or 20 GB (64-bit)
Graphics	Graphic card supporting MS DirectX 9

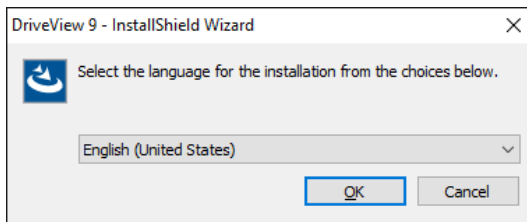
1.4 Prepare Installation

[Order]

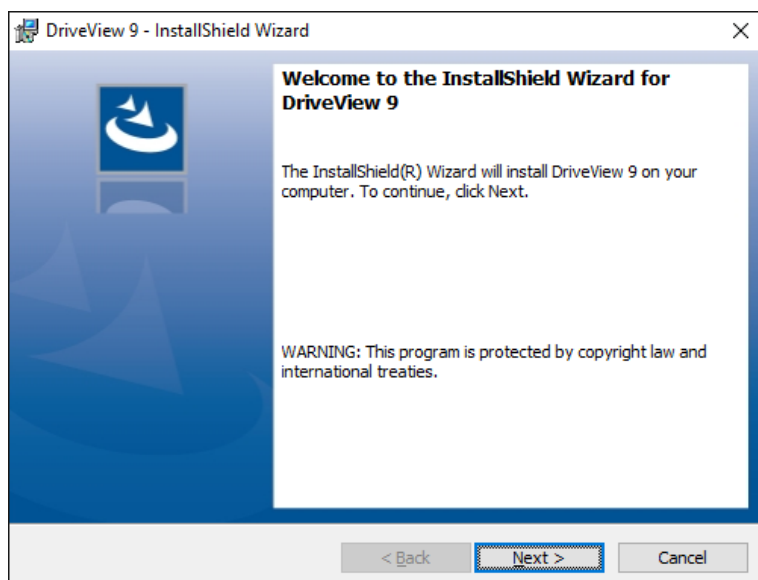
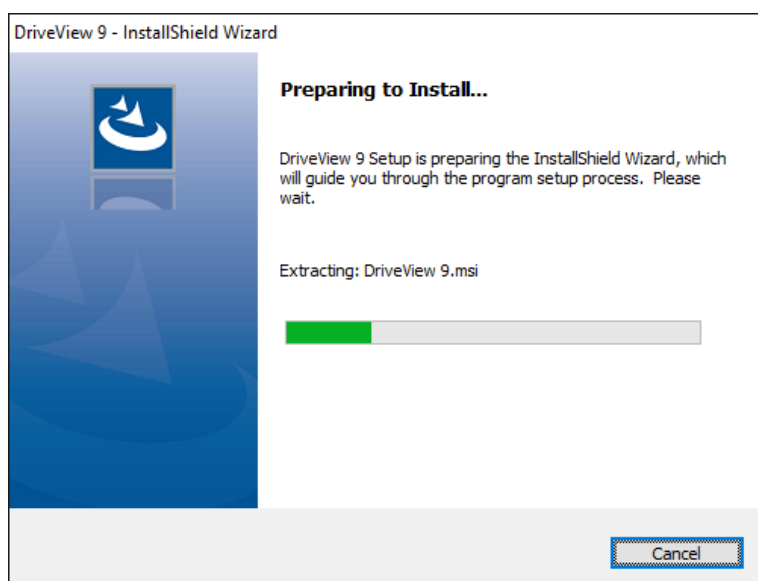
- 1 Run the installation file.
- 2 For normal operation, there may be essential redistribution packages that must be installed. Click on the installation button if the following installation screen appears.



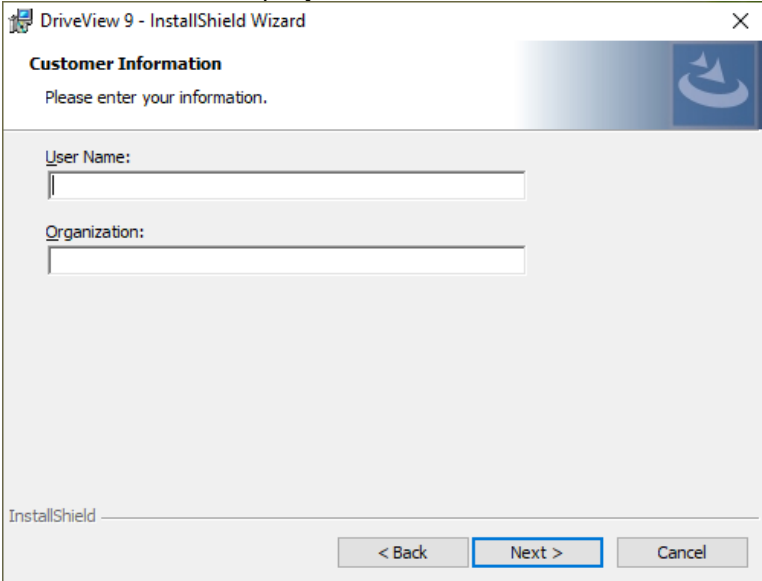
- 3 The time taken to install the redistribution package differs depending on the PC environment. In some cases, it may take more than 1-2 minutes. Even after it has been installed once, the installation of the redistribution package will not be requested again, even if DriveView 9 is installed again.
- 4 Select the installed language.



The installation wizard prepares the installation as follows.

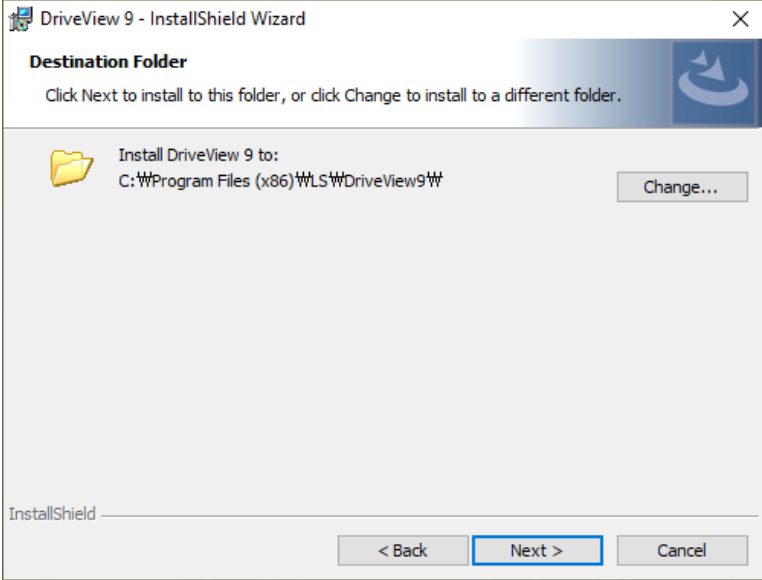


- 5 Enter the user and company name and click next.



The screenshot shows the 'Customer Information' step of the 'DriveView 9 - InstallShield Wizard'. The window title is 'DriveView 9 - InstallShield Wizard'. Below the title bar, there is a header area with the text 'Customer Information' and 'Please enter your information.' To the right of this text is a blue circular icon with a white arrow. Below the header, there are two text input fields: 'User Name:' and 'Organization:'. At the bottom of the window, there is a status bar with the text 'InstallShield' and three buttons: '< Back', 'Next >', and 'Cancel'. The 'Next >' button is highlighted with a blue border.

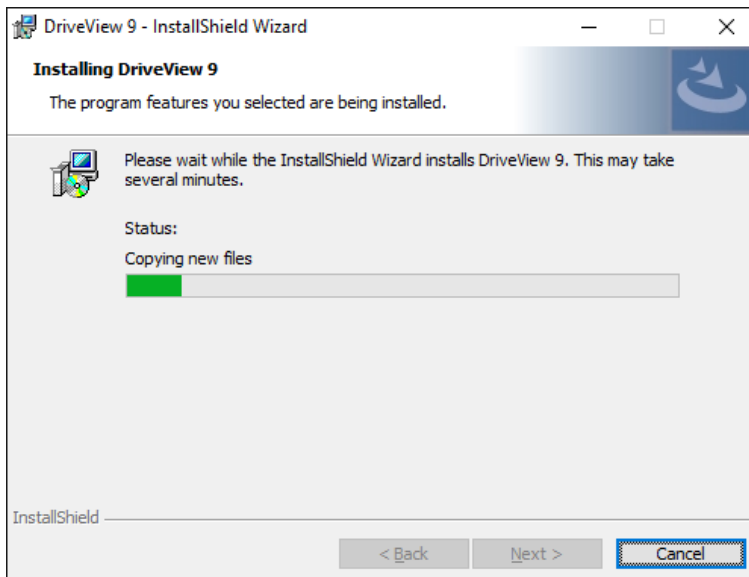
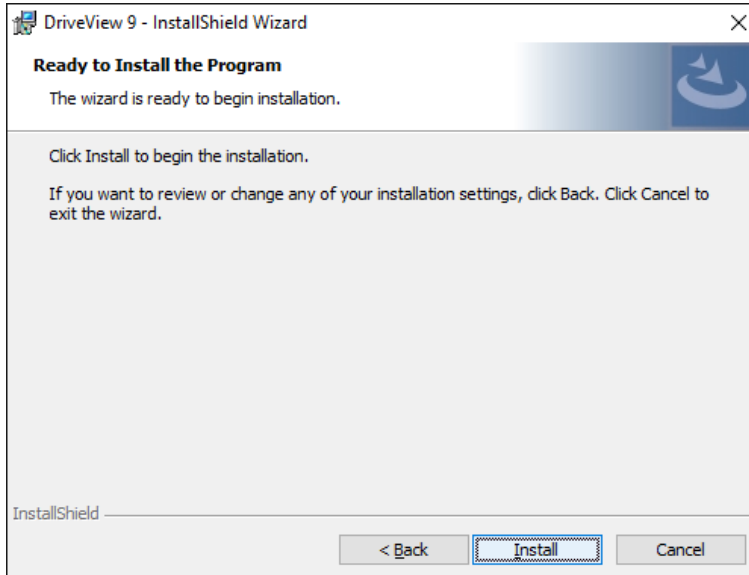
- 6 Specify the folder to install the files in. If you want to change the folder, click on the Browse button to enter or select a new folder. DriveView 9 needs around 120 MB of space for installation, so select a disk with sufficient space. If there is an insufficient amount of space, a warning message will appear and you cannot proceed to the next step.



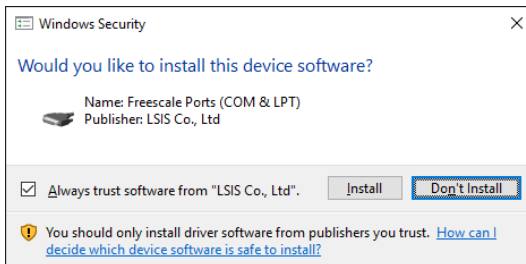
The screenshot shows the 'Destination Folder' step of the 'DriveView 9 - InstallShield Wizard'. The window title is 'DriveView 9 - InstallShield Wizard'. Below the title bar, there is a header area with the text 'Destination Folder' and 'Click Next to install to this folder, or click Change to install to a different folder.' To the right of this text is a blue circular icon with a white arrow. Below the header, there is a folder icon and the text 'Install DriveView 9 to: C:\Program Files (x86)\LS\DriveView9'. To the right of this text is a 'Change...' button. At the bottom of the window, there is a status bar with the text 'InstallShield' and three buttons: '< Back', 'Next >', and 'Cancel'. The 'Next >' button is highlighted with a blue border.

- 7 Once you have selected the folder, press the next button.

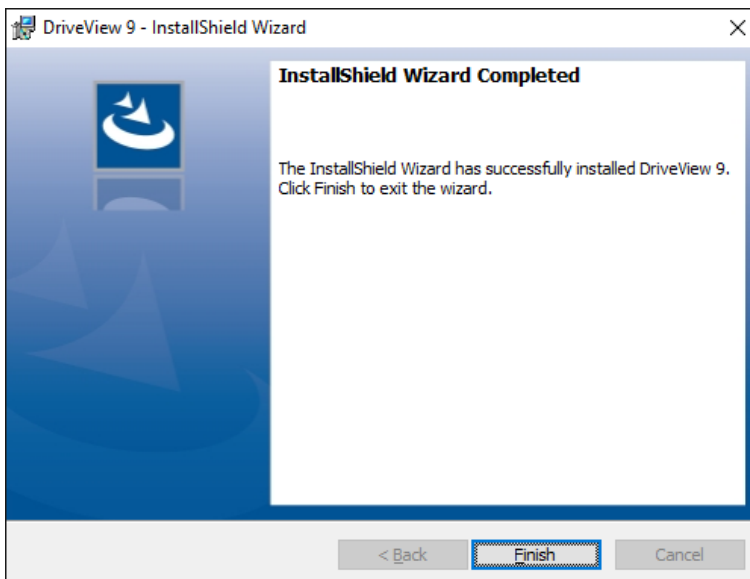
Check the installation information and click the Install button. Start installing as below.



- 8 If you need to use the USB connection with the H100 product, you must install the relevant drive. Click on the Install button if the following installation screen appears.



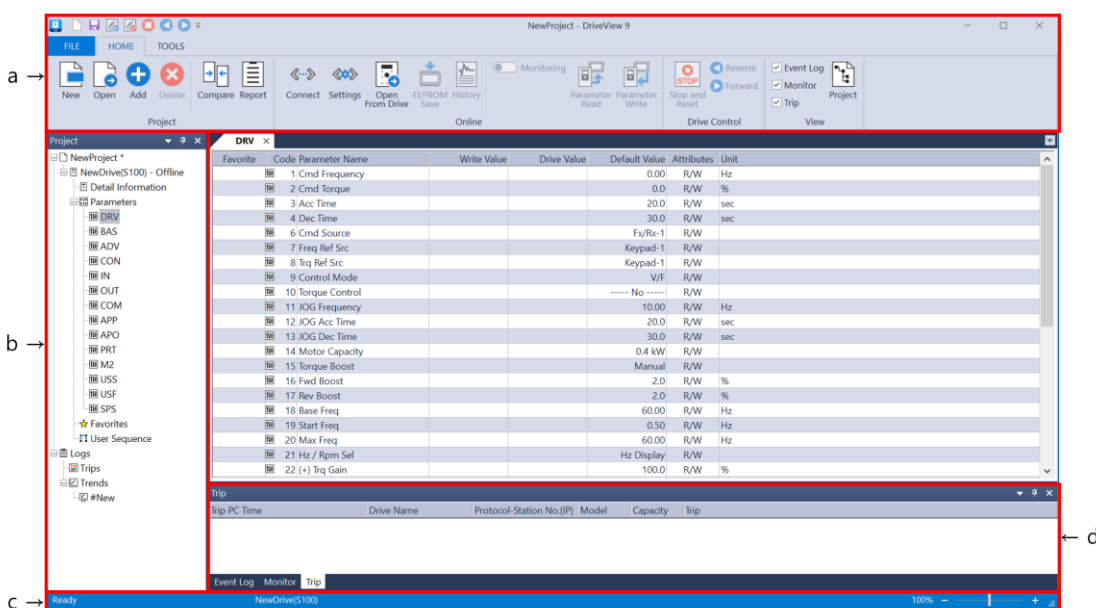
- 9 After a moment, the installation will complete as shown below.



2 Key Features

2.1 Main Screen

This is the screen displayed when DriveView 9 is started. The main screen consists of a title, menu, toolbar, control, search screen, parameter edit screen, result edit screen, and state screen.



[Chat Dialog Description]

- Ribbon Bar:** The basic menu for the program. This ribbon is made up of a panel with command buttons and icons. The commands are divided into tabs.
- Project Screen:** Shows the components of the current project.
- State Bar:** Shows the state of the DriveView 9, accessed drive information, and more.
- Status Display Screen:** Shows information of events and trips.

2.2 Starting

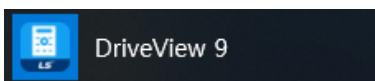
DriveView 9 is installed in the system.

You can run it using two methods.

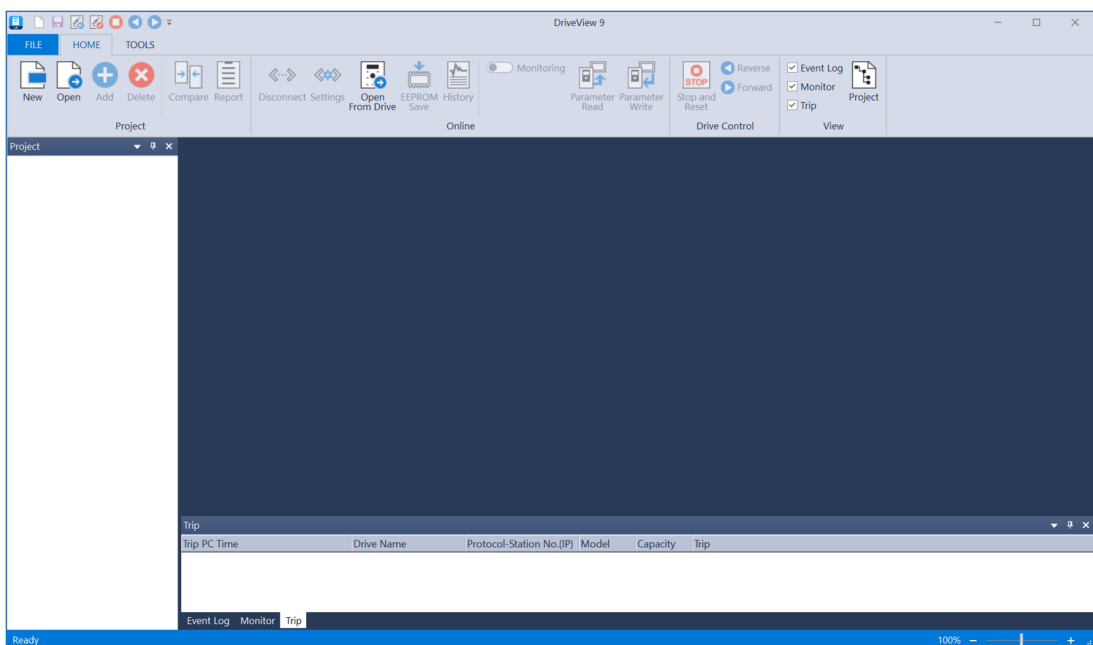
- Click the Fun icon on the desktop



- Windows Start button – Run DriveView 9



Start DriveView 9.exe. The start screen of DriveView 9 is displayed.



2.3 Communication

This explains the communication settings required for the drive connection and the deletion of the drive.

DriveView 9 supports Ethernet and Serial communication.

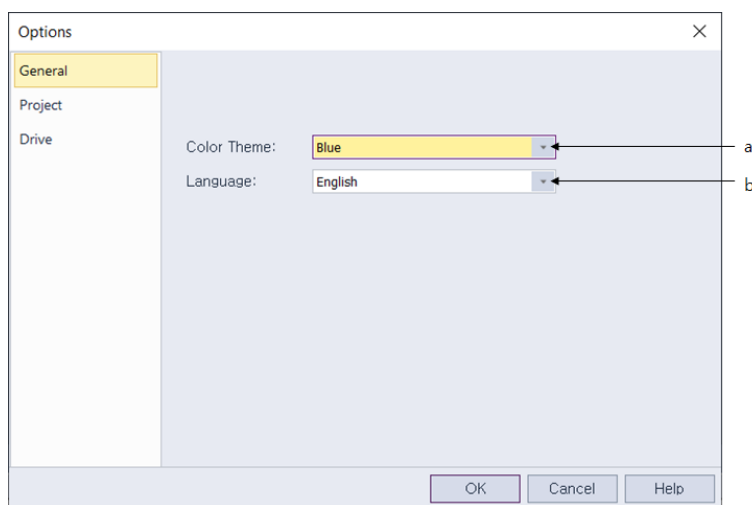
- Modbus-TCP, an Ethernet communications protocol, is supported automatically without any additional settings.
- The serial communication is connected with the drive by using Modbus-RTU, LS INV 485, USB.

(Refer to the manual guide of each drive for the maximum number of drives that can be connected.)

2.4 Options

1 General

You can set the general features of DriveView 9.

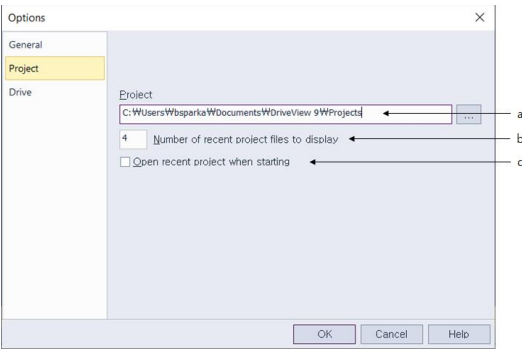


[Chat Dialog Description]

- a. Theme color: Colors the theme of three colors (bold, dark, and bright).
- b. Language: Supports English and Korean. Initially, the language is set to the language installed on the PC. Changes to the language selection will be reflected after restarting.

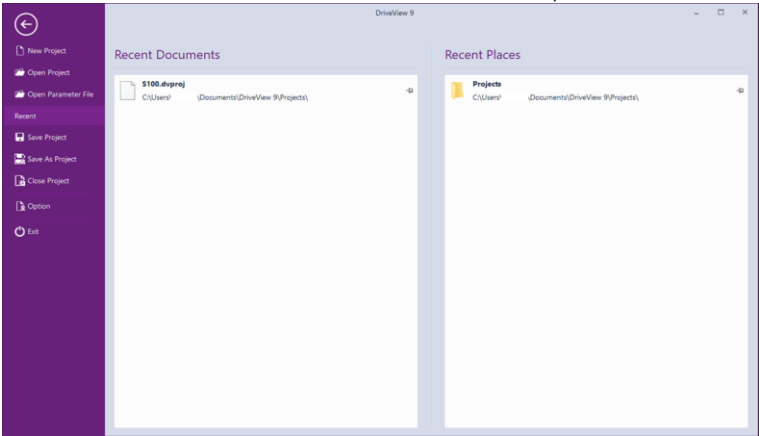
2 Project

You can set the project features of DriveView 9.



[Chat Dialog Description]

- a. Project Path: Set the folder where the generated projects are saved.
- b. Display Recent Projects: Sets the maximum number of items displayed in recent projects. This is the number of items shown on the screens, as shown below.

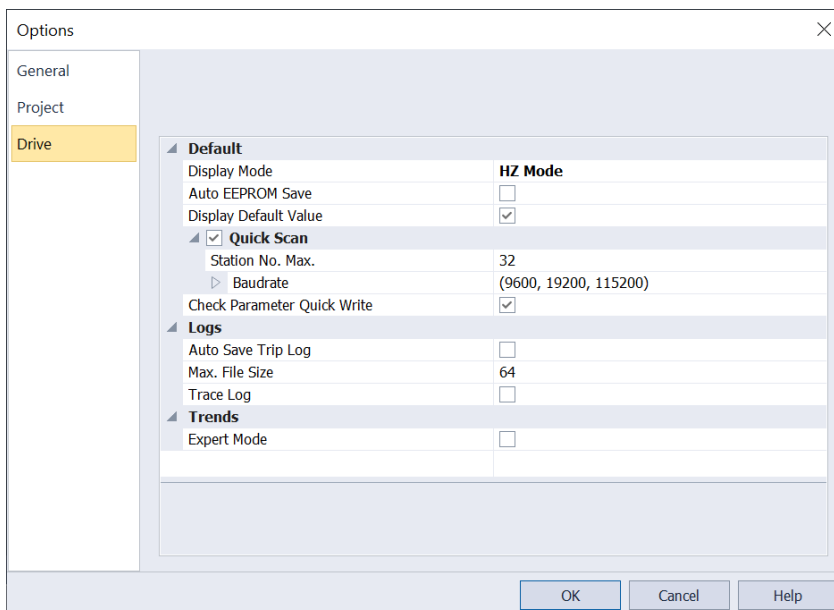


- c. Opening the Previous Project when Starting: Opens the previously opened project when DriveView 9 launches.

3 Drive

If speed-related values are displayed from the parameter items of DriveView 9, it is displayed in the selected Hz and RPM.

Key Features



[Chat Dialog Description]

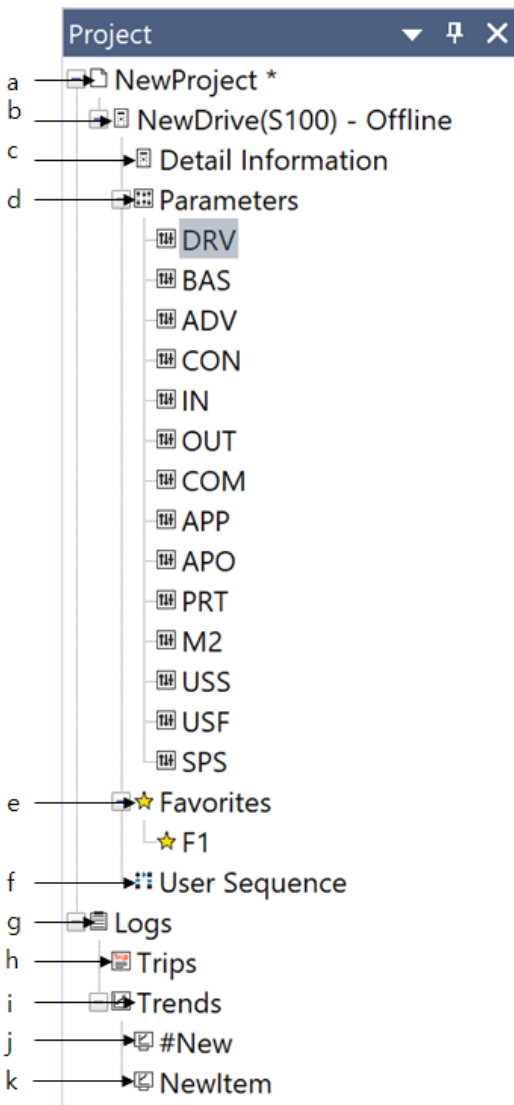
- a. Display Mode: Select the display mode of Hz and RPM.
- b. Logs: You can set log-related information.
 - Auto save trip log: Saves and manages the trip information saved in separate files if trips occur.
 - Max. file size: Sets the maximum size of the saved files. A new file will be automatically created and managed if the saved file size reaches the maximum file size.
- c. Display default value : Set whether to display default values
- d. Quick Scan : Set the Quick Port Scan feature
- e. Station No. Max : Set Station No. Max for quick scan
- f. Baudrate : Set the baudrat when quick scan.
- g. Check Parameter Quick Write : Set whether to display the write all parameters window.
- h. Use Latest Version: When creating a new project, the system first checks whether to use the latest version.
- i. Auto save trip log: Save and manage the information as a separate file when a trip occurs.
- j. Max file size: Specifies the size of the file to be stored. When the file being saved reaches its maximum

- k. Trace Log : Set whether to save log files for communication.
- l. Expert mode: Sets the ability to change graphs within a trend to various options.

3 Project

3.1 Project Configuration

The project configuration items are as follows.



[Chat Dialog Description]

- Project: Defines the entire system. Many related drives can be included in a single project.

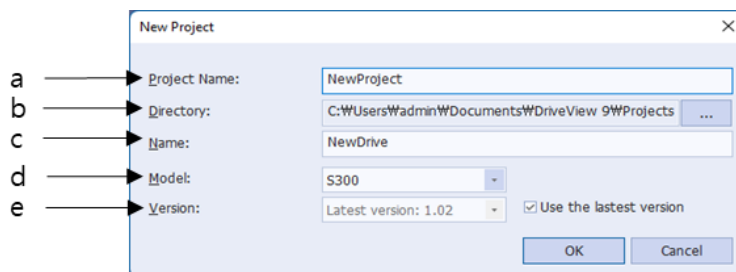
- b. Drive: Shows the system for a single drive.
- c. Detailed Information: Shows the detailed information of the drive and the monitoring parameters.
- d. Parameter: Shows the information of the drive parameters.
- e. Favorites: Shows the information of the parameters registered as favorites.
- f. User Sequence, Scheduling: Shows the additional features provided for each drive.
- g. Log: Shows the information saved as logs.
- h. Trips: You can view the trip logs.
- i. Trend: Shows the information saved as trends.
- j. #New Item: Double-click and a dialog box will appear for adding a new item.
- k. New Item: Shows trends

3.2 Project Management

3.2.1 Creating a New Project

Creates a new project.

Select the menu [FILE] – [New Project].



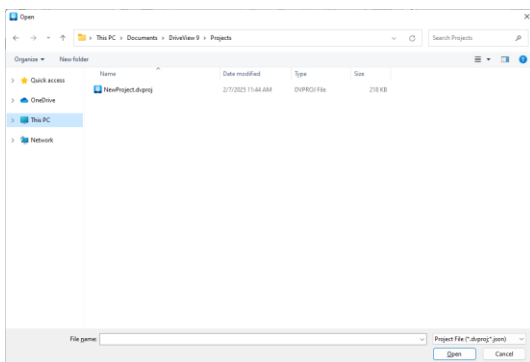
[Chat Dialog Description]

- Project Name: Enter the project name of your choice. This becomes the name of the project file, using the “dvproj” file extension.
- Path: The project file is created in the path as the name input by the user.
- Name: Input the drive name.
- Model: Select the model name of the drive.
- Version: Select the drive version. If the "Use Latest Version" option is checked, the latest data version for the model will be used.

3.2.2 Open Project

Open a previously saved project file.

Select the menu [FILE] – [Open Project].



- a. Extension dvproj: You can open project files saved in DriveView 9 SW.
- b. Extension json: You can open project files used in the mobile app and Solution Square.

⚠ Caution

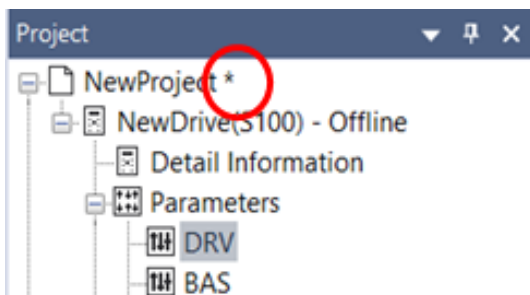
The mobile app and Solution Square will support this feature in a future update.

3.2.3 Save Project

Save changed project.

Select the menu [FILE] – [Save Project].

If there are edits in the project and it needs to be saved, an asterisk “*” will appear next to the project name in the project window.



⚠ Caution

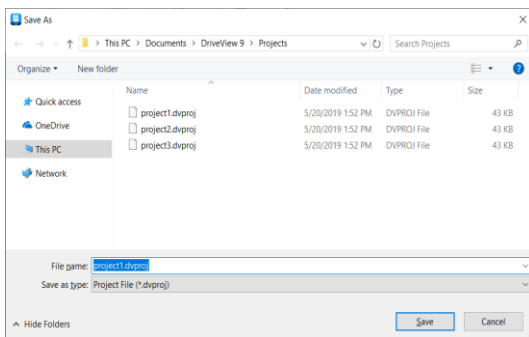
When a project is first created, the project name and file name are the same. However, they are not linked when either the project name or file name is changed later. The project name is displayed in

the project tree, while the file name appears in the top bar.

3.2.4 Save As

Save the project as a different file.

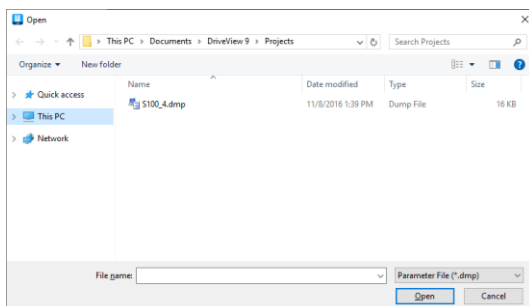
Select the menu [FILE] – [Save As].



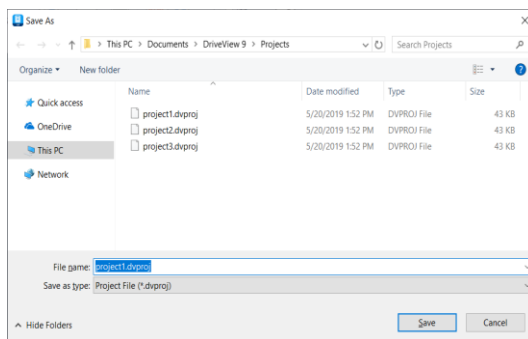
3.2.5 Opening the DriveView 7 Parameter File

You can open the parameter file created in DriveView 7.

- 1 Select the menu [FILE] – [Open Parameter File].
- 2 Select the DriveView 7 parameter and select Open.



- 3 A new project is made and a dialog box appears for saving the project.



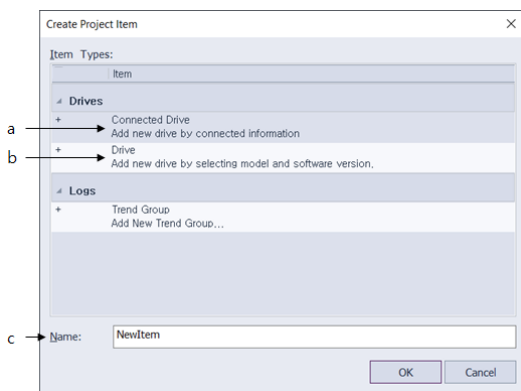
3.3 Project Item

Explains the items displayed in the project.

3.3.1 Drive

1 Add

Select the project name item and click [Add].

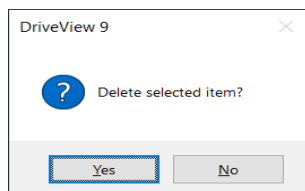


[Chat Dialog Description]

- c. Connected Drive: Use the connected drive information to add a drive.
- d. Drive: Select a model to add a new drive.
- e. Name: Input the drive name.

2 Delete Drive

Select a drive item to delete from the project tree and click [Delete].

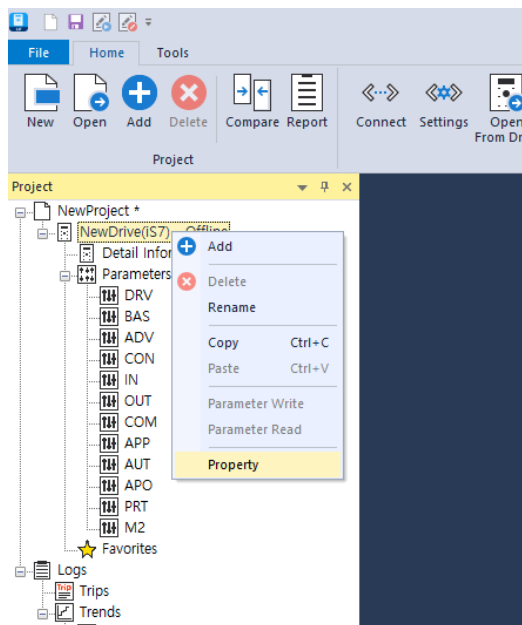


3.3.2 Version Change

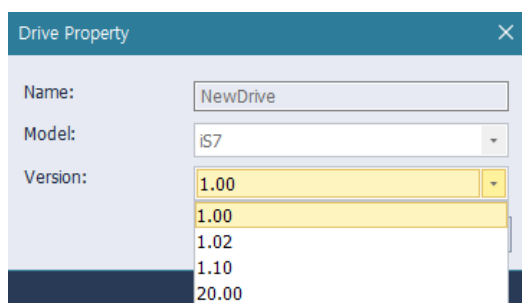
Provides the ability to change the version of a drive registered in a project.

When you create a project and add a drive, you can change it if you create the wrong version, and you can change and connect when you connect a drive with a different version.

Select the appropriate drive in the project tree, then right-click to select Properties.



You can change it to the version you want in the properties window



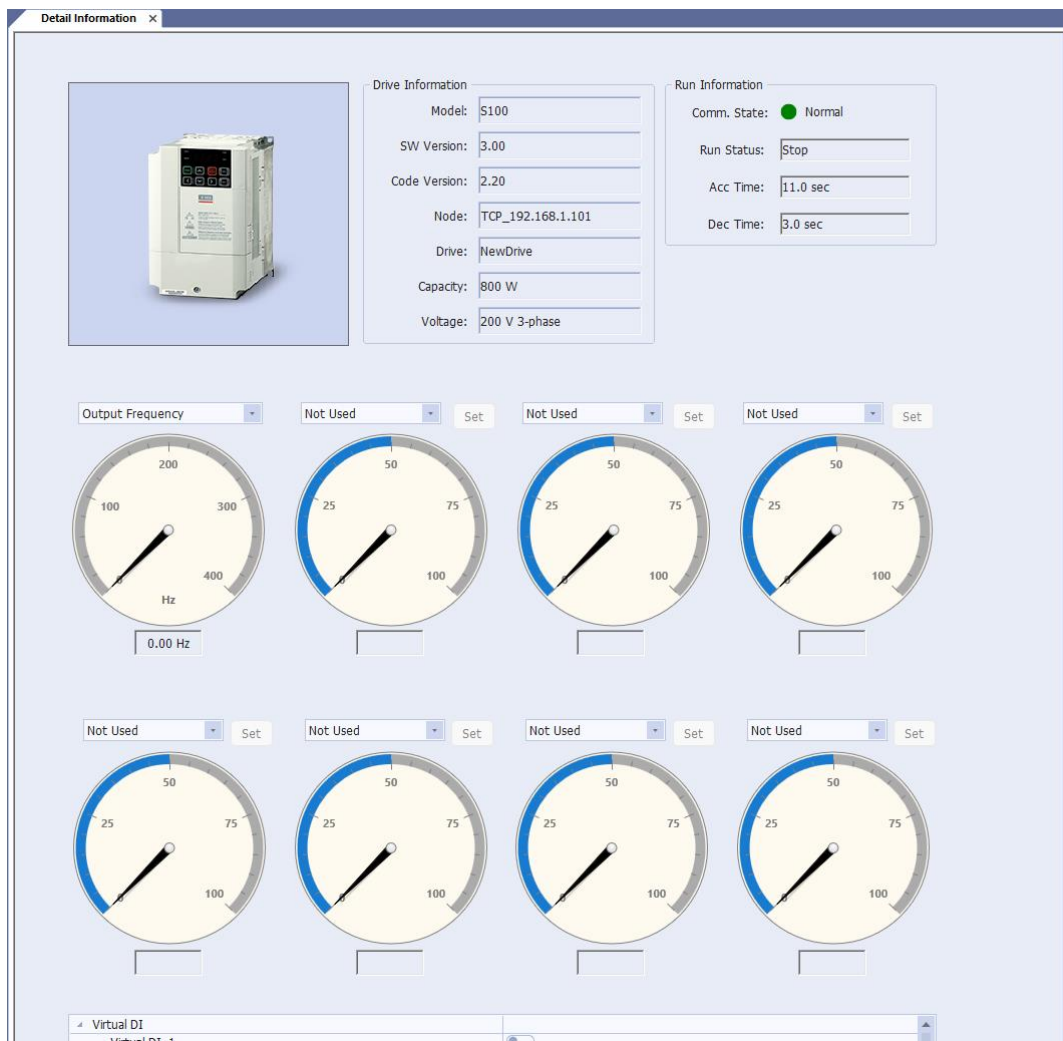
⚠ Caution

Only drives of the same model can be modified. Other models are not supported.

3.3.3 Detailed Information

Shows the detailed information of the drive and the monitoring parameters.

Double-click the "Detail information" item under the drive item in the project window.



- 1 Model Image: Shows the main image of the drive.
- 2 Device Information: Shows the information of the drive device.
 - Model Name: Shows the model name of the drive.
 - Version: Shows the version.
 - Node: Shows the node name made up of the communication method, IP address, or Station number.

- Device Name: The name can be changed to the device name chosen by the user.
- Change Button: Change the device name and click on the Change button to apply the changes.
- Capacity: Shows the capacity of the drive.
- Voltage: Shows the drive voltage.

3 Operating Information

- Communication State: Shows whether the communication state of the drive is normal or experiencing an error.
- Operation State: Shows the operation of the drive as Trip, Stop, or Operation.
- Acc Time: Shows the Acc Time.
- Dec Time: Shows the Dec Time.

4 Select Monitoring

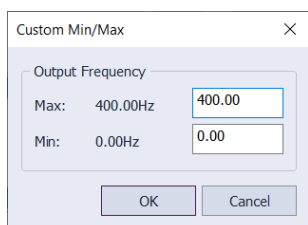
The user can select the monitoring parameters for monitoring, and information is provided in the gauge format.

ⓘ Caution

If the frequency reference is an analog source, the operation frequency must be set to Command Freq in the combo box and the parameter value must be changed. (The content of the combo box may differ for each model.)

5 Output Gauge: Select from Output Frequency or Output Speed for monitoring.

- Use the combo and select Output Frequency and Output Speed.
- Custom Min / Max: If monitoring is difficult to the size of the maximum or minimum width, the maximum and the minimum value of the gauge can be adjusted.
- Double-click on the gauge to display the maximum and minimum setting screen.



- Enter the maximum and minimum and click Apply.
- The gauge that is applied with the maximum and minimum values is output.

6 Select Monitoring Gauge: Seven gauges are provided. The user can select a gauge from the monitoring parameters.

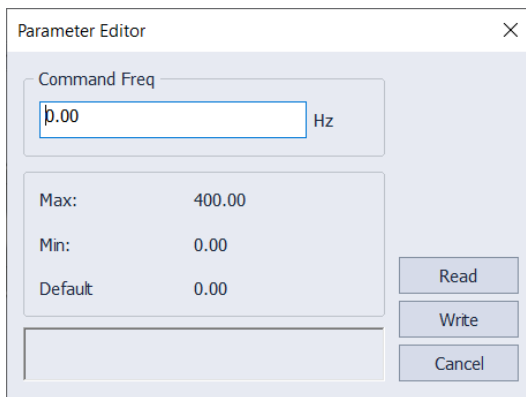
- The monitoring parameters can be selected from combo.

- Minimum and Maximum Settings: If monitoring is difficult to the size of the maximum or minimum width, the maximum and the minimum value of the gauge can be adjusted.
- Double-click on the gauge to display the maximum and minimum setting screen.
- Input the maximum and minimum and click Apply.
- The gauge that is applied with the maximum and minimum values is output.

7 Change Parameter Value

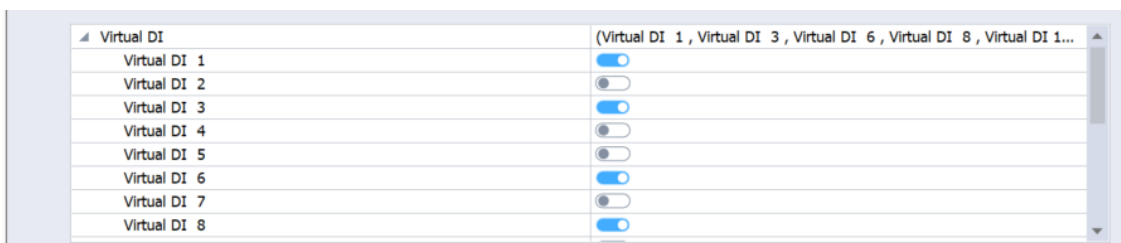
If the selected type of the monitoring parameter is a changeable parameter, then a control button for changing the parameter value is activated.

- Click the Control button.
- The Parameter Edit window will be shown.



The image shows a 'Parameter Editor' dialog box. It has a title bar with a close button (X). Inside, there is a section labeled 'Command Freq' with a text input field containing '0.00' and a unit label 'Hz'. Below this, there is a table with three rows: 'Max:' with value '400.00', 'Min:' with value '0.00', and 'Default' with value '0.00'. To the right of this table are three buttons: 'Read', 'Write', and 'Cancel'.

- Enter the value within the minimum and the maximum value range, and click the Write button to apply it to the drive.
- The result after writing will be output on the Status Display window.
- The Read button is used to read the parameter value again from the drive.



The image shows a 'Virtual Digital Input Settings' window. It has a table with two columns. The first column lists 'Virtual DI' from 1 to 8. The second column shows the status of each input, with a header '(Virtual DI 1, Virtual DI 3, Virtual DI 6, Virtual DI 8, Virtual DI 1...)' and a list of toggle switches. The switches for Virtual DI 1, 3, 6, and 8 are turned on (blue), while the others are turned off (grey).

8 Virtual Digital Input Settings

Provides the settings to set up virtual digital values on the drives.

- Double click the left parameter to change its digital input.

- You can change the input status by changing the right on/off switch.

3.3.4 Parameter

Parameters that can be viewed and changed from the drive are classified into a group and provided as a list. If you select the parameter group, all parameters will be displayed. If you select a group, then only the parameters in that group will be displayed.

⚠ Caution

The parameter group may vary by model and version. The group name is identical to the name shown on the keypad.

Favorite	Code	Parameter Name	Write Value	Drive Value	Default Value	Attributes	Unit
Favorite	1	Cmd Frequency	13.00	13.00	0.00	R/W	Hz
Favorite	2	Cmd Torque	0.0	0.0	0.0	R/W	%
Favorite	3	Acc Time	12.0	12.0	20.0	R/W	sec
	4	Dec Time	30.0	30.0	30.0	R/W	sec
	6	Cmd Source	Keypad	Keypad	Fx/Rx-1	R/W	
	7	Freq Ref Src			Keypad-1	R/W	
	8	Trq Ref Src			Keypad-1	R/W	
	9	Control Mode			V/F	R/W	
	10	Torque Control			----- No -----	R/W	
	11	JOG Frequency			10.00	R/W	Hz
	12	JOG Acc Time			20.0	R/W	sec
	13	JOG Dec Time			30.0	R/W	sec
	14	Motor Capacity			0.75kW	R/W	
	15	Torque Boost			Manual	R/W	
	16	Fwd Boost			2.0	R/W	%
	17	Rev Boost			2.0	R/W	%
	18	Base Freq			60.00	R/W	Hz
	19	Start Freq			0.50	R/W	Hz
	20	Max Freq			60.00	R/W	Hz
	21	Hz / Rpm Sel			Hz Display	R/W	
	25	Output Freq			0.00	R	Hz
	26	Adv ATB Filter			100	R/W	msec
	27	Adv ATB M Gain			50.0	R/W	%
	28	Adv ATB G Gain			50.0	R/W	%
	30	kW/HP Select			kW	R/W	

The display items per parameter are as below.

Favorite	Code	Parameter Name	Write Value	Drive Value	Default Value	Attributes	Unit
Favorite	1	Cmd Frequency	13.00	13.00	0.00	R/W	Hz
Favorite	2	Cmd Torque	0.0	0.0	0.0	R/W	%
Favorite	3	Acc Time	12.0	12.0	20.0	R/W	sec
	4	Dec Time	30.0	30.0	30.0	R/W	sec
	6	Cmd Source	Keypad	Keypad	Fx/Rx-1	R/W	
	7	Freq Ref Src			Keypad-1	R/W	
	8	Trq Ref Src			Keypad-1	R/W	
	9	Control Mode			V/F	R/W	
	10	Torque Control			----- No -----	R/W	
	11	JOG Frequency			10.00	R/W	Hz
	12	JOG Acc Time			20.0	R/W	sec
	13	JOG Dec Time			30.0	R/W	sec
	14	Motor Capacity			0.75kW	R/W	

It is displayed in blue if it is different than the default value. If it exceeds the minimum and the minimum value, it will be displayed in red.

1 View Parameter

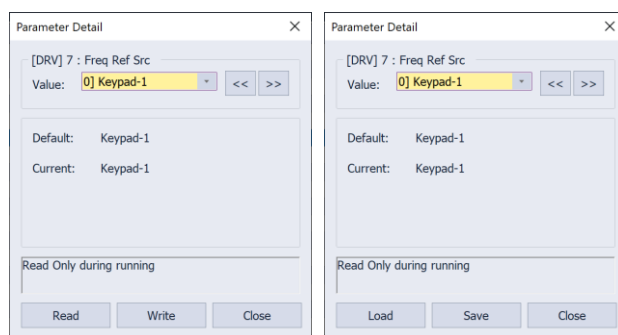
If connected with the drive, you can use the “read” feature to look up the parameter values.

2 Edit Parameter

A. Input from the Edit Screen

It is saved in the project. If you want to save the drive later, you can use the “write” feature to send the parameter value.

B. Edit from the Parameter Edit Window



You can change and save the parameter value. If online, click the Write button from the dialog box, then the parameter value can be sent to the drive.

3 Description

A. Favorites

Decides whether the parameter has been bookmarked.

B. Group name

Displays the group name to which the parameter belongs.

Displayed only when the parameter window has been set to display “All.”

C. Code

Shows the code number on the keypad display.

D. Parameter name

Displays the parameter name.

E. Write value

Displays the value to write to the parameter.

F. Drive value

Displays the value that was read from the drive.

G. Default Values

Displays the default values for the parameters

H. Attributes

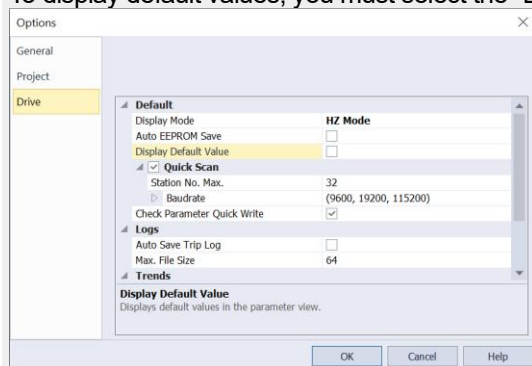
Shows the attributes of the parameter.

I. Unit

Displays the unit of the parameter value.

⚠ Caution

To display default values, you must select the "Display Default Value" option in the option.

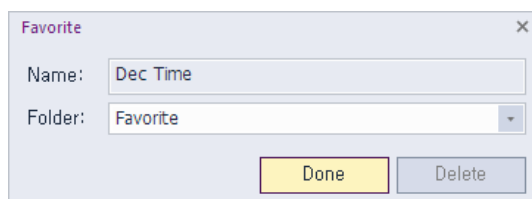


3.3.5 Favorites

You can make a separate favorites group for the parameters that you use frequently. You can only collect groups in favorites to view or read and write the favorites group only on the drive.

1 Add

Select the favorites area from the Parameter Edit window. The following dialog box will be displayed. Click the Complete button in the dialog box.



2 Delete

Select the registered parameter area from the parameter edit window. Click the Delete button in the dialog box. You can also delete items from the favorites group.

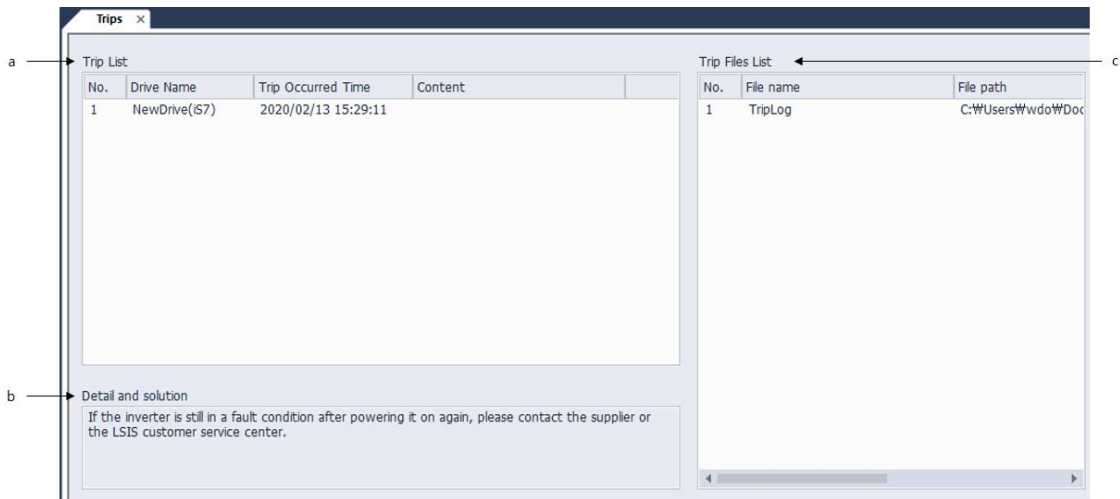
3.3.6 TRIP

Provides a feature to view the trips that have occurred in the drive. The trip files are saved in the “TripFile” folder under the project folder. This feature allows you to access the trip files in the “TripFile” folder. You can view the trip information saved in the trip files.

⚠ Caution

This feature is available on software version **1.0.7** or later.

3 Feature



a. Trip list

Displays the information of the trip you have selected from the trip file list.

b. Diagnosis and resolutions

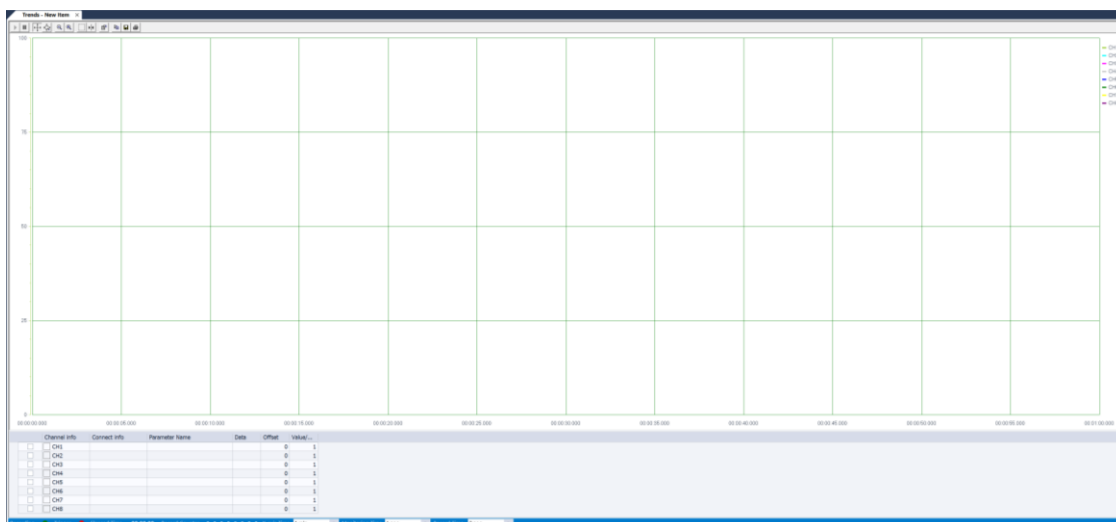
Displays the diagnosis of the trip you have selected from the trip file list and provides solutions to resolve the problem.

c. Trip file list

Displays the trip files stored in the folder in a set path

3.3.7 Trend

This is a feature for monitoring parameters as graphs. The monitoring graphs show 8 channels. These 8 channels can be shown on one graph or each channel can be shown on each graph. Also, up to 8 graphs can be shown.



1 Add

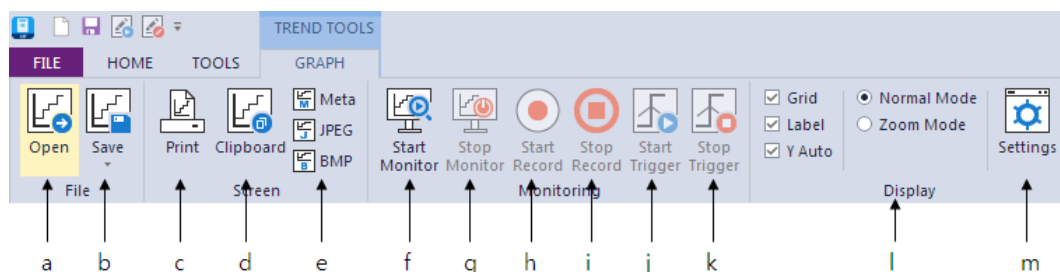
On the project tree, double-click on the “#New Item” below the trend item. Enter the name and click the Confirm button.

The 'Create Project Item' dialog box shows a tree view under 'Item Types' with 'Logs' expanded. Under 'Logs', there is a '+' icon and the text 'Trend Group' and 'Add New Trend Group...'. At the bottom, there is a 'Name:' label and a text box containing 'NewItem'. There are 'OK' and 'Cancel' buttons at the bottom right.

2 Delete

Select the trend item to delete from the project tree and select [Delete] from the menu.

3 Menu



a. Open

- Select the menu at [Graph] – [Open].
- This is a feature for importing the saved scope file.
- Click and select a file to open. The file extension is *.sco.
- This feature is enabled when monitoring is stopped.

b. Save

- Select [Graph] – [Save].
- This is a feature for saving the currently monitored graph.
- Save all the settings information of the graph.
- The extension of the saved file is *.sco.

c. Print

- Select the menu at [Graph] – [Print].
- Print the current graph screen.

d. Clipboard

- Select the menu at [Graph] – [Clipboard].
- Copies the current graph screen.

e. Image

- Select the menu [Graph] – [Image].
- Meta File: Save the graph screen in the meta file format.
- JPEG File: Save the graph screen in the JPEG file format.
- BITMAP File: Save the graph screen in the BITMAP file format.

f. Start Monitoring

- Select the menu at [Graph] – [Start Monitoring].
- Start monitoring. If you start monitoring, the recording icon and the triggering icon is enabled so you can start the recording and triggering.

g. Stop Monitoring

- Select the menu at [Graph] – [Stop Monitoring].
- Stop the monitoring in operation. When you stop monitoring, the recording icon and the triggering icon will be disabled. Also a marker is enabled so you can check each channel value.

h. Start Recording

- Select the menu at [Graph] – [Start Recording].
- When you start recording, the channels and values are recorded at every set recording time. The recordings are stored in the file specified in the recording file path. When recording, the signal blinks on the screen. Also, the recording counter shows the number of currently recorded items.

i. Stop Recording

- Select the menu at [Graph] – [Stop Recording].
- Stop Recording.

j. Start Trigger Observation

- Select the menu at [Graph] – [Start Trigger].
- Start trigger observation. When you start triggering, the screen will be stored if the channel value is higher or lower than the set value set on the trigger settings. The triggers are stored in the file specified in the screen save path.

k. Stop Trigger Observation

- Select the menu at [Graph] – [Stop Trigger].
- Stop the trigger observation.

l. Display

- Grid: The grid of the graph will be shown or hidden.
- Show Label: The label that shows the channel name will be shown or hidden.
- Automatic Y-Axis Scaling: This feature allows automatic movement of the Y-axis to the amount of the set channel value. Uncheck this value and the value of the Y-axis is adjusted to the specified minimum and maximum value.
- Normal Mode: The marker becomes active in the graph.
- Zoom Mode: The graph become zoom in.

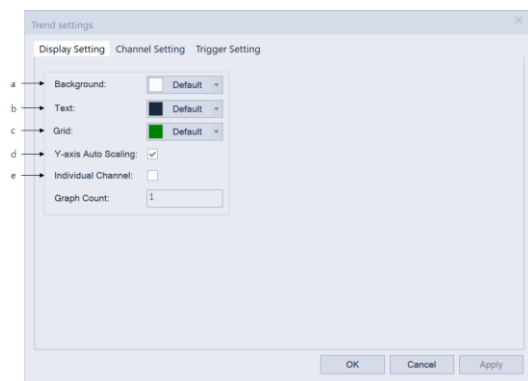
m. Settings

- Select the menu at [Graph] – [Settings].
- This shows the option setting dialog box on the graph.

3.3.7.1 Graph Setting

Select the menu [GRAPH] – [Settings].

1 Channel Setting



[Chat Dialog Description]

a. Background Color

Select the color of the graph.

b. Text Color

Select the text color of the graph.

c. Grid Color

Select the grid color of the graph.

d. Auto Adjust Y-Axis

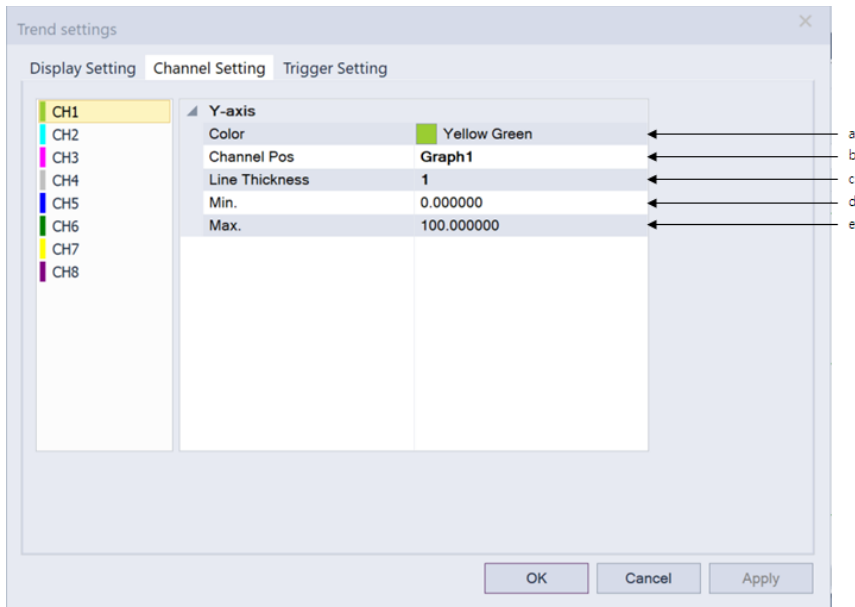
This feature allows automatic movement of the Y-axis to the amount of the set channel value. Uncheck this value and the value of the Y-axis is adjusted to the specified minimum and maximum value. If the channel value is lower or higher than the minimum or maximum values respectively, the Y-axis still will not change.

e. Separate View of Channels

This feature provides each channel as a separate graph. First select the separate channel view, enter the number of graphs (1-8), and click the Change button to see the monitoring graphs, depending on the set number. By default, all channels are allocated as graph 1. If

you do not select separate view of channels, only 1 graph is shown again and all channels are shown in that one graph.

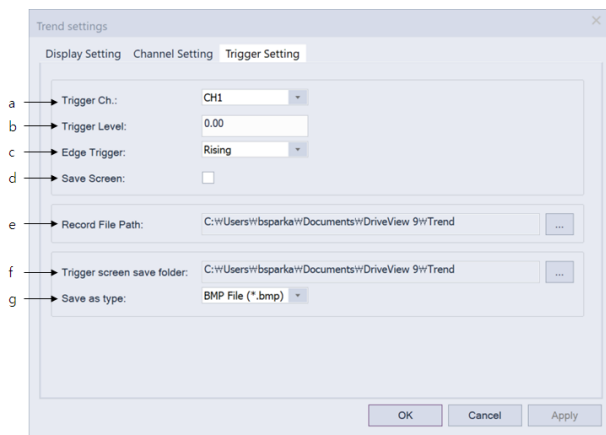
2 Monitor Screen Settings



[Chat Dialog Description]

- a. Color
You can change the color of channels by channel.
- b. Channel Location
You can select the channel location for each channel
- c. Line Width
Select the line width of the channel.
- d. Minimum value
You can change the minimum value of the Y axis by channel.
- e. Maximum value
You can change the maximum value of the Y axis by channel

3 Trigger and Record Settings



[Chat Dialog Description]

a. Trigger Channel

To use the triggering feature, you must have saved the 1 trigger setting. The number of channels that can be triggered is limited to 1.

b. Trigger Level

Set the reference value for triggering.

c. Condition

Select whether to save the screen if the channel value is rising in reference to the triggering value, or if the channel value is falling.

d. Save Screen

Select whether to save the screen if the channel value matches the condition.

e. Record Save Folder

Select a folder to save to when recording. You can select the folder after recording has stopped. While recording, it is disabled and cannot be selected.

f. Trigger Screen Save Folder

Select the folder you want to save the screen in when conducting triggering. You can select the folder after triggering has stopped. While triggering, it is disabled and cannot be selected.

g. Save Method

Select a method folder you want to save the screen in when conducting triggering.

3.3.7.2 Feature

[Show Graph]



1 Recording

- If you start recording during a monitoring operation, the light will flash to indicate that is is recording. This action can be used to indicate whether you are currently recording or not.

2 Trigger Generation

- When you start trigger observation and a trigger occurs, this light will flash.

3 Elapsed Time

- This shows the elapsed time since monitoring started. The time is output in the 00:00:00 format.

4 Record Counter

- Shows how many recordings were after recording started.

5 Adjust X-Axis Time

- Select the time scope of the X-axis. You can select from 10 seconds to 1 hour.

6 Adjust Monitoring Time

- Select the monitoring time interval of the channel. You can select between 0.1 - 5 seconds and a graph will be shown depending on the selected time period.

7 Adjust Record Time

- Select the interval of record time. You can select between 1 second to 1 hour, and recording will be performed based on the selected interval.

[Parameter Settings]

	Channel info	Connect info	Parameter Name	Data	Offset	Value/Di...
<input checked="" type="checkbox"/>	CH1	NewDrive(S100)	Output Speed		0	1
<input checked="" type="checkbox"/>	CH2	NewDrive(S100)	Output Voltage		0	1
<input type="checkbox"/>	CH3	Not Use			0	1
<input type="checkbox"/>	CH4	Not Use			0	1
<input type="checkbox"/>	CH5	Not Use			0	1
<input type="checkbox"/>	CH6	Not Use			0	1
<input type="checkbox"/>	CH7	Not Use			0	1
<input type="checkbox"/>	CH8	Not Use			0	1

1 Parameter

For monitoring, you must enable the channel. If disabled, it is excluded from the monitoring item. You can select the connection information from the enabled channel. The connected information can select the drive included in the current project. You can select the parameter that can be monitoring in the drive.

2 Data

Shows the current value. This is the original value that is not offset or applied with a ratio. If there is an error with communication, it will be displayed as a communication error.

3 Offset

This is applying offset to the current value. The applied value is shown in the graph.

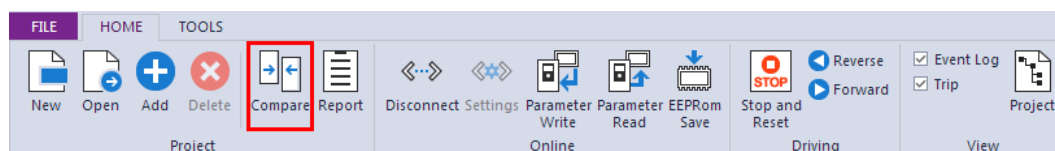
4 Ratio

This is applying a ratio to the current value. The applied value is shown in the graph.

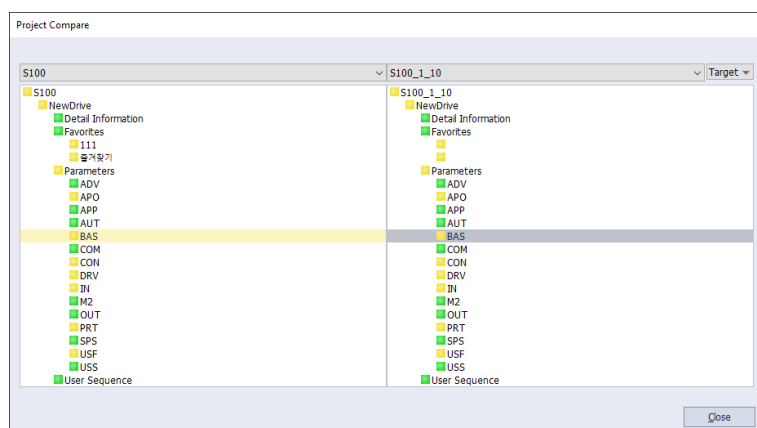
3.3.8 Compare

This is a feature for showing the wrong parameter value in the results window by comparing drive-drive, drive-file, file-file, drive-default value (null device), and file-default parameter file.

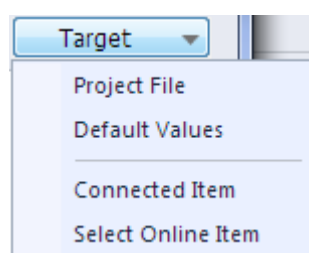
Select the menu at [HOME] – [Compare].



It will be displayed as below.






In Compare with, select the items to compare.



■ is shown if the content is the same and ■ is shown if the content is different.

For more information, double-click on the group and the following dialog box is shown.

Group	Code	Parameter Name	Value	Unit	Group	Code	Parameter Name	Value	Unit
BAS	28	Ld (PM)	0.00	mH	BAS	27	Rs (PM)	0.110	Ohm
BAS	29	Lq (PM)	0.00	mH	BAS	28	Ld (PM)	1.70	mH
BAS	32	Lq(PM) Scale	100	%	BAS	29	Lq (PM)	2.00	mH
BAS	34	Ld,Lq Tune Lev	33.3	%					
BAS	35	Ld,Lq Tune Hz	150.0	%					
					BAS	95	-- Reserved --	0.0	%
					BAS	96	-- Reserved --	100.00	Hz
					BAS	97	-- Reserved --	0.0	%

- 1 : Shows all parameters on the screen.
- 2 : Shows only different parameters on the screen.
- 3 : Shows only the same parameters on the screen.

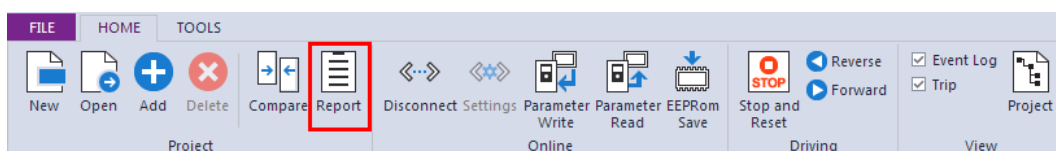
3.3.9 Report

This is a feature for outputting the parameter values as a report format.

This explains the report edit and output features.

3.3.9.1 Run

Select the menu [HOME] – [Report].



The currently selected parameter content of the drive on the project window. This is shown on the dialog box of the report.

Report

FILE

FUNCTION

CONFIGURATION

Export

Print

Refresh

Settings

Company	2019,05,22 17:14:45		Department	
Date	S100		User Name	
Model Name	NewDrive(S100)		Model Vers	1,40
Node Name			Operation N	TCP_10,13,115,196

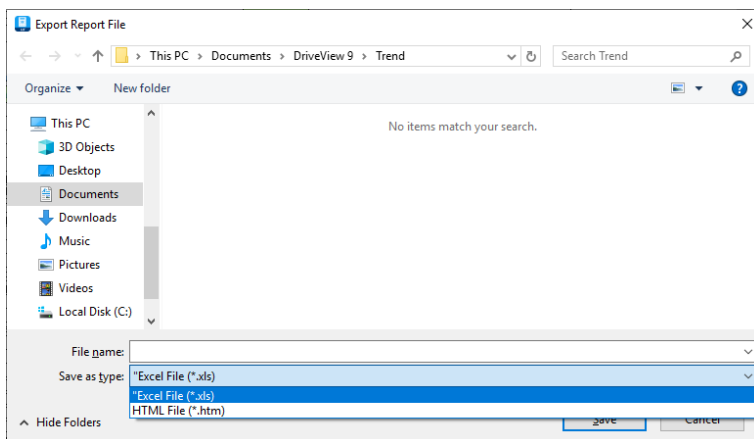
[Parameter Group : DRV]

Code	Parameter Name	Value	Default Value	Unit
1	Cmd Frequency	0,00	0,00	Hz
2	Cmd Torque	0,0	0,0	%
3	Acc Time	20,0	20,0	sec
4	Dec Time	30,0	30,0	sec
6	Cmd Source	Fx/Rx-1	Fx/Rx-1	
7	Freq Ref Src	Keypad-1	Keypad-1	
8	Trq Ref Src	Keypad-1	Keypad-1	
9	Control Mode	V/F	V/F	
10	Torque Control	— No —	— No —	
11	JOG Frequency	10,00	10,00	Hz
12	JOG Acc Time	20,0	20,0	sec
13	JOG Dec Time	30,0	30,0	sec
14	Motor Capacity	0,4 kW	0,4 kW	
15	Torque Boost	Manual	Manual	
16	Fwd Boost	2,0	2,0	%
17	Rev Boost	2,0	2,0	%
18	Base Freq	60,00	60,00	Hz
19	Start Freq	0,50	0,50	Hz
20	Max Freq	60,00	60,00	Hz
21	Hz / Rpm Sel	Hz Display	Hz Display	
22	(+) Trq Gain	100,0	100,0	%
23	(-) Trq Gain	80,0	80,0	%
24	(-) Trq Gain0	80,0	80,0	%
25	(-) Trq Offset	40,0	40,0	%
80	— Reserved —	0	0	
81	— Reserved —	0	0	
85	Parameter Read	— No —	— No —	
86	ParameterWrite	— No —	— No —	
88	D/A Card Sel	— No —	— No —	
89	Changed Para	— No —	— No —	
90	Multi-Key Sel	0	0	
91	SmartCopy	None	None	
93	Parameter Init	— No —	— No —	
94	Key Lock Pw	0	0	
95	Key Lock Set	0	0	
97	Inv S/W Ver	0,00	0,00	
98	IO S/W Ver	0,00	0,00	

3.3.9.2 Export File

This is a feature to save the report information as an Excel or web file.

Select the menu at [FILE] – [Export File].



1 Output in Excel Format

It is saved as an Excel file with the extension .xls.

Company		Department	
Date	2019.05.22 17:14:45	User Name	
Model Name	S100	Model Ver	1.40
Node Name	NewDrive(S100)	Operation M	TCP_10.13.115.196

[Parameter Group : DRV]

Code	Parameter Name	Value	Default Value	Unit
1	Cmd Frequency	0.00	0.00	Hz
2	Cmd Torque	0.0	0.0	%
3	Acc Time	20.0	20.0	sec
4	Dec Time	30.0	30.0	sec
6	Cmd Source	Fx/Rx-1	Fx/Rx-1	
7	Freq Ref Src	Keypad-1	Keypad-1	
8	Trq Ref Src	Keypad-1	Keypad-1	
9	Control Mode	V/F	V/F	
10	Torque Control	----- No -----	----- No -----	
11	JOG Frequency	10.00	10.00	Hz
12	JOG Acc Time	20.0	20.0	sec
13	JOG Dec Time	30.0	30.0	sec
14	Motor Capacity	0.4 kW	0.4 kW	
15	Torque Boost	Manual	Manual	

2 Output as a Web File

It is saved as a web file with the extension .htm.

Company
Date 2019.05.22 17:14:45
Model Name S100
Node Name NewDrive(S100)

Department
User Name
Model Version 1.40
Operation Mode TCP_10.13.115.196

[Parameter Group : DRV]

Code	Parameter Name	Value	Default Value	Unit
1	Cmd Frequency	0.00	0.00	Hz
2	Cmd Torque	0.0	0.0	%
3	Acc Time	20.0	20.0	sec
4	Dec Time	30.0	30.0	sec
6	Cmd Source	Fx/Rx-1	Fx/Rx-1	
7	Freq Ref Src	Keypad-1	Keypad-1	
8	Trq Ref Src	Keypad-1	Keypad-1	
9	Control Mode	V/F	V/F	
10	Torque Control	----- No -----	----- No -----	
11	JOG Frequency	10.00	10.00	Hz
12	JOG Acc Time	20.0	20.0	sec
13	JOG Dec Time	30.0	30.0	sec
14	Motor Capacity	0.4 kW	0.4 kW	
15	Torque Boost	Manual	Manual	
16	Fwd Boost	2.0	2.0	%
17	Rev Boost	2.0	2.0	%
18	Base Freq	60.00	60.00	Hz
19	Start Freq	0.50	0.50	Hz
20	Max Freq	60.00	60.00	Hz
21	Hz / Rpm Sel	Hz Display	Hz Display	
22	(+) Trq Gain	100.0	100.0	%
23	(-) Trq Gain	80.0	80.0	%
24	(-) Trq Gain0	80.0	80.0	%
25	(-) Trq Offset	40.0	40.0	%

3.3.9.3 Header Settings

This is a feature to edit the text shown in the report header. Select the menu at [CONFIGURATION] – [Header Settings]. The edit window of the report header is output.

Report Header

Company:

Department:

Date: 2019.05.22 18:19:31

User Name:

Model Name: S100

Model Version: 1.60

Node Name: NewDrive(S100)

Operation Mode: Offline

OK Close

The items that can be edited are company name, department name, and writer. The rest are automatically input.

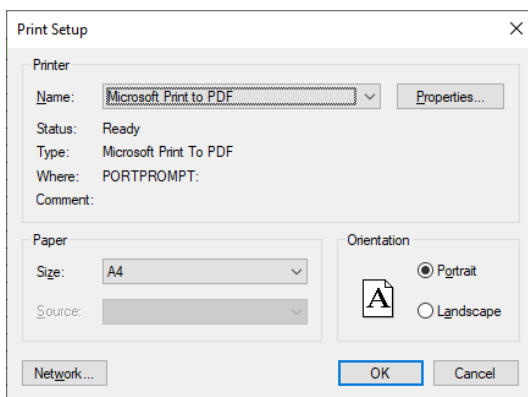
Click on the Confirm button and all setting information are saved. The changed content are applied to the report.

3.3.9.4 Refresh

This is a feature for updating the report content to the latest information. Select the menu at [FUNCTION] – [Refresh]. This newly reads information and displays as a report.

3.3.9.5 Output

This is a feature to print the report with the printer. Select the menu at [FILE] – [Print]. The print settings window will be output.



Click the Confirm button to print the report with the selected printer.

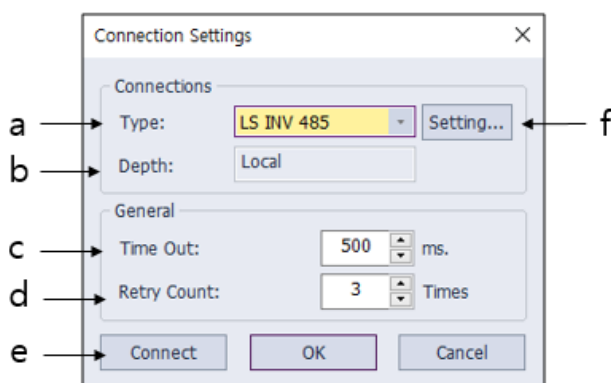
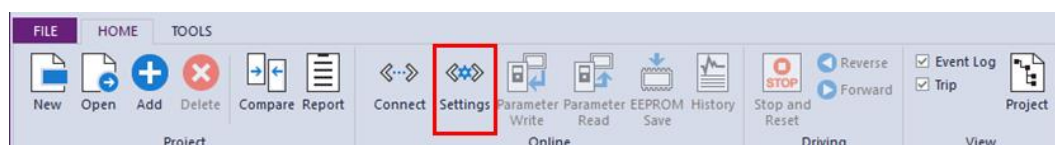
4 Online

4.1 Connection Option

Set the network to connect with the drive.

The connection method can be both Ethernet and Serial, and supports all three protocols (Modbus-TCP, Modbus-RTU, LS INV 485).

Select the menu [HOME] – [Settings].



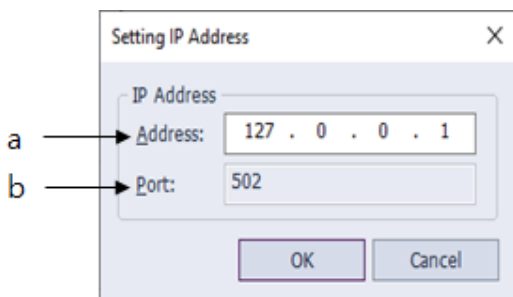
[Chat Dialog Description]

- Method: Set the communication media to be used when there is a connection with the drive. You can set to Modbus-TCP, Modbus-RTU, LS INV 485, USB.
- Steps: Set the structure of connection with the drive. You can select from local, 1-step remote, and 2-step remote connection settings.
- Timeout: Enter the communication timeout with the drive to one thousandth of a second.
- Retry Attempt: Enter the number of communication attempts to try after communication failure.

- e. Connect: This is a set access option that tries to establish a connection with the drive.
- f. Setting: Displays a dialog to set the IP address.

[Ethernet]

- 1 Connection Method - Set the method to Modbus-TCP and click the Set button.
- 2 Enter the IP address.



[Chat Dialog Description]

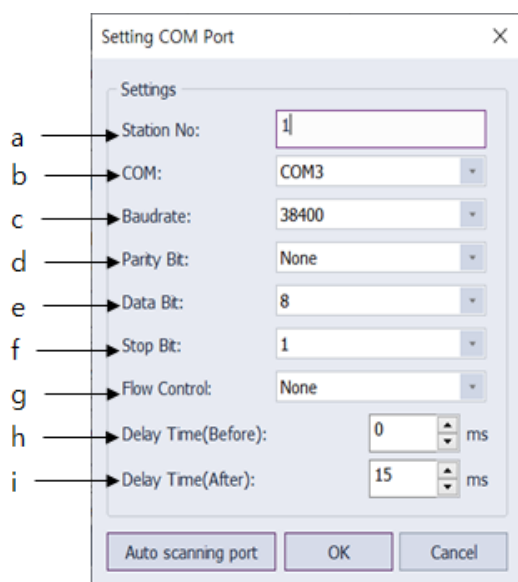
- a. Address: Enter the address assigned to the drive.
- b. Port: Shows the port information used after connecting to the drive.

ⓘ Caution

For an Ethernet connection, the PC must have an Ethernet connection.
The IP setting is the IP of the Ethernet communications model. You can check whether normal access is possible with the set IP address using Ping under [Run] in the Windows starts menu.

[Serial]

- 1 Connection Method - Set the method to Modbus-RTU, LS INV 485 and click the Set button.
- 3 Set the communications port.



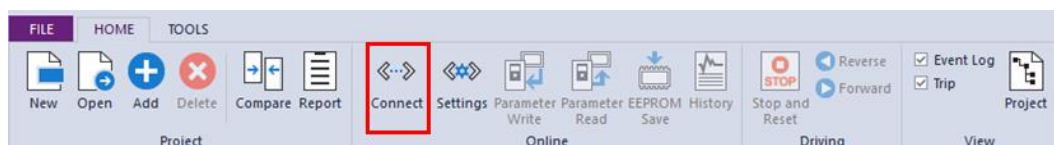
[Chat Dialog Description]

- a. Station Number: Input the Station number assigned to the drive.
- b. Communication Port: Select the COM Port connected to the drive. Only the COM Port installed in the system will be displayed. You cannot use the same COM Port for each Modbus-RTU and LS INV 485.
- c. Communication Speed: Input the communication speed.
- d. Parity Bit: Input the parity bit.
- e. Data Bit: Input the data bit.
- f. Stop Bit: Input the stop bit.
- g. Flow Control: Select the flow control.
- h. Wait time (Before): Delay time used for RTS control (before transmission)
- i. Wait time (After): Delay time used for RTS control (after transmission)

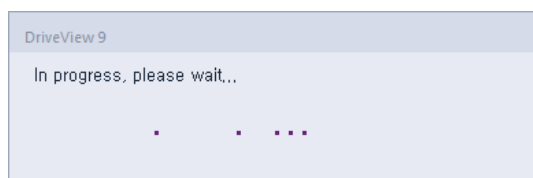
4.2 Connect/End Connection

This tries to establish a connection with the drive, depending on the access option you set.

Select the menu [HOME] – [Connect].



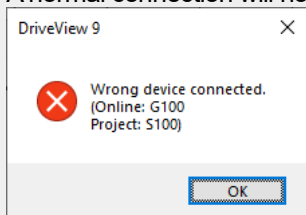
A dialog box appears during connection.



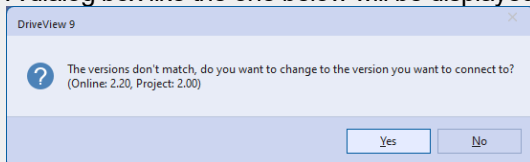
⚠ Caution

If a normal connection cannot be achieved

- 1) If the project drive and the connection drive are different models
A normal connection will not be made and the following dialog box will be displayed.



- 2) When the project's drive and the connected drive have different code versions
A dialog box like the one below will be displayed.



If you select "Yes", the system will compare and display the parameters that have changed from the existing project.

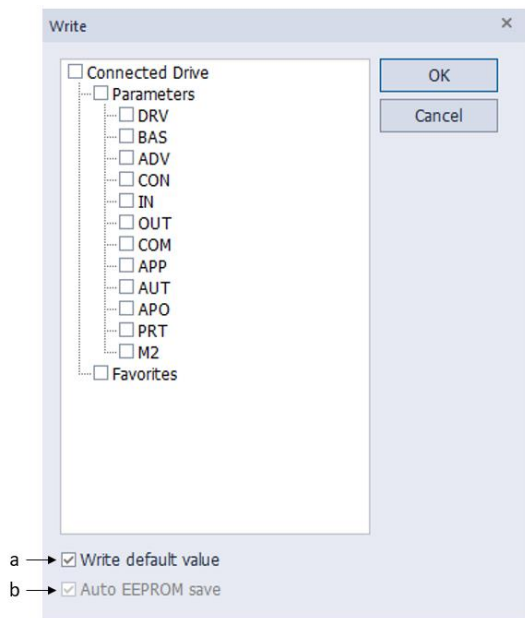
비교 - 모두 보기

이전 - 버전 2.00			이후 - 버전 2.20		
그룹	코드 파라미터 이름	값 단위	그룹	코드 파라미터 이름	값 단위
DRV	1 Cmd Frequency	0.00 Hz	DRV	1 Cmd Frequency	0.00 Hz
DRV	2 Cmd Torque	0.0 %	DRV	2 Cmd Torque	0.0 %
DRV	3 Acc Time	20.0 sec	DRV	3 Acc Time	20.0 sec
DRV	4 Dec Time	12.0 sec	DRV	4 Dec Time	12.0 sec
DRV	6 Cmd Source	Fu/Rx-1	DRV	6 Cmd Source	Fu/Rx-1
DRV	7 Freq Ref Src	Keypad-1	DRV	7 Freq Ref Src	Keypad-1
DRV	8 Trq Ref Src	Keypad-1	DRV	8 Trq Ref Src	Keypad-1
DRV	9 Control Mode	V/F	DRV	9 Control Mode	V/F
DRV	10 Torque Control	----- No -----	DRV	10 Torque Control	----- No -----
DRV	11 JOG Frequency	10.00 Hz	DRV	11 JOG Frequency	10.00 Hz
DRV	12 JOG Acc Time	20.0 sec	DRV	12 JOG Acc Time	20.0 sec
DRV	13 JOG Dec Time	30.0 sec	DRV	13 JOG Dec Time	30.0 sec
DRV	14 Motor Capacity	0.4 kW	DRV	14 Motor Capacity	0.4 kW
DRV	15 Torque Boost	Manual	DRV	15 Torque Boost	Manual
DRV	16 Fwd Boost	2.0 %	DRV	16 Fwd Boost	2.0 %
DRV	17 Rev Boost	2.0 %	DRV	17 Rev Boost	2.0 %
DRV	18 Base Freq	60.00 Hz	DRV	18 Base Freq	60.00 Hz
DRV	19 Start Freq	0.50 Hz	DRV	19 Start Freq	0.50 Hz
DRV	20 Max Freq	60.00 Hz	DRV	20 Max Freq	60.00 Hz
DRV	21 Hz / Rpm Sel	Hz Display	DRV	21 Hz / Rpm Sel	Hz Display
DRV	22 (+) Trq Gain	100.0 %	DRV	22 (+) Trq Gain	100.0 %
DRV	23 (-) Trq Gain	80.0 %	DRV	23 (-) Trq Gain	80.0 %
DRV	24 (-) Trq Gain0	80.0 %	DRV	24 (-) Trq Gain0	80.0 %
DRV	25 (-) Trq Offset	40.0 %	DRV	25 (-) Trq Offset	40.0 %
DRV	80 -- Reserved --	0	DRV	80 -- Reserved --	0
DRV	81 -- Reserved --	0	DRV	81 -- Reserved --	0
DRV	85 Parameter Read	----- No -----	DRV	85 Parameter Read	----- No -----
DRV	86 ParameterWrite	----- No -----	DRV	86 ParameterWrite	----- No -----
DRV	87 Datafile Ver	0.00	DRV	87 Datafile Ver	0.00
DRV	89 Changed Para	----- No -----	DRV	89 Changed Para	----- No -----
DRV	90 Multi-Kev Sel	0	DRV	90 Multi-Kev Sel	0

If you select "No", the existing project will be maintained. However, the change dialog box will continue to appear when reconnecting after disconnecting.

4.3 Write

Select the menu at [HOME] – [Write]. You can select the parameters to send to the drive, favorites, and features for each product.



a. Write Default Values

Check to use if you want to write the drive defaults when writing.

Writes only write values to the drive when not checked.

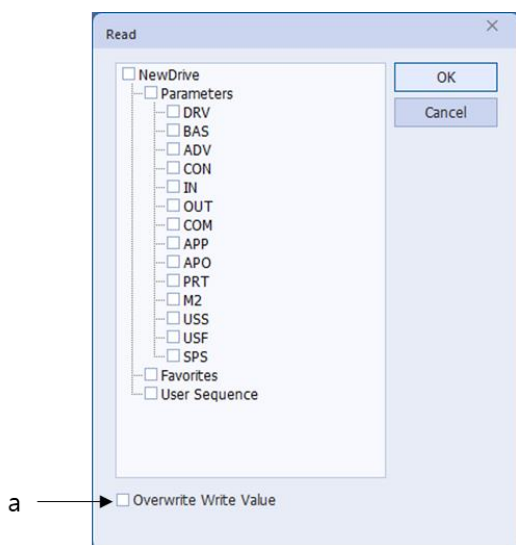
b. Auto save EEPROM

Enabled when the parameter full entry is selected.

When checking, write the entire item and save the EEPROM once at the end

4.4 Read

Select the menu at [HOME] – [Read]. You can select the parameters to receive from the drive, favorites, and features for each product.



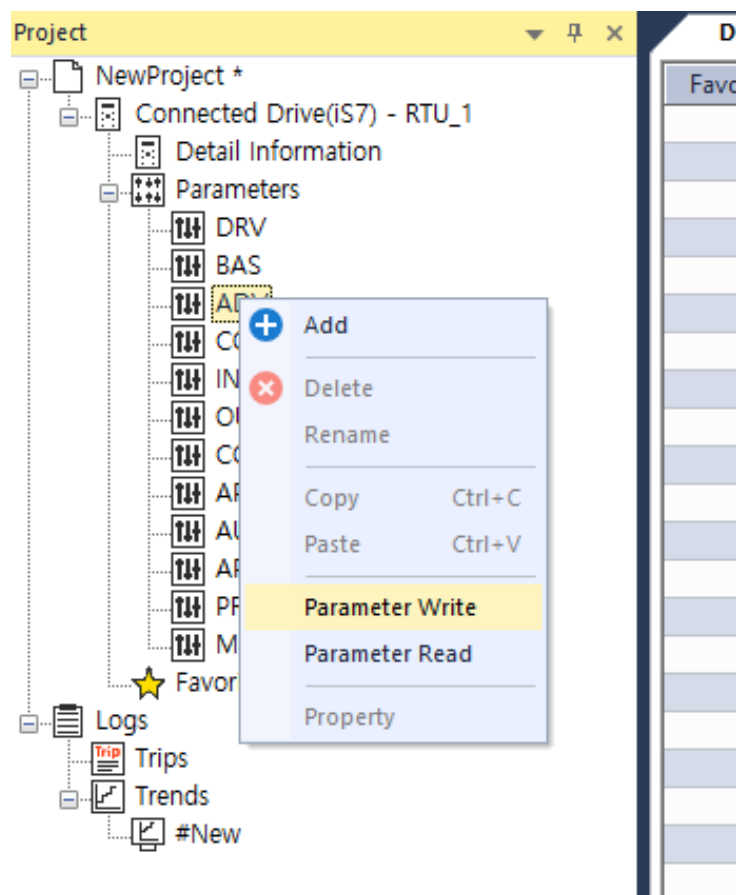
a. Overwrite Write Value

You can overwrite the parameter write value with the value read from the drive.

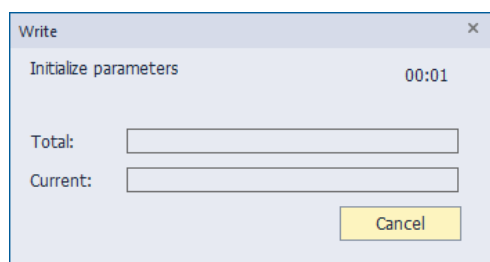
4.5 Write/Read by Group

Provides write/read per parameter group in the project tree.

Individual write/read functionality is provided, and if you want behavior for the entire parameter, select the "Parameter" item and then operate.

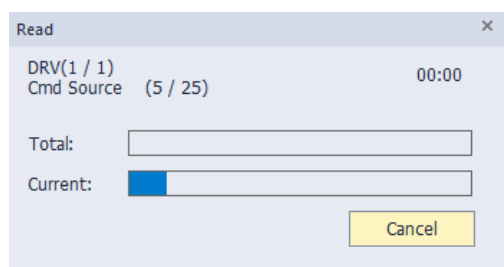


[Writing parameters]



A dialog box titled "Write" with a close button (X) in the top right corner. It contains the text "Initialize parameters" followed by a timer showing "00:01". Below this, there are two input fields: "Total:" and "Current:". At the bottom right, there is a yellow "Cancel" button.

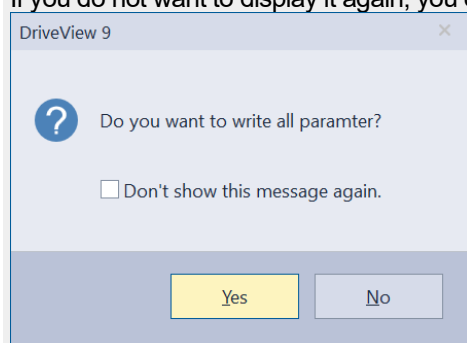
[Reading the parameters]



A dialog box titled "Read" with a close button (X) in the top right corner. It contains the text "DRV(1 / 1)" and "Cmd Source (5 / 25)" followed by a timer showing "00:00". Below this, there are two input fields: "Total:" and "Current:". The "Current:" field has a blue progress bar. At the bottom right, there is a yellow "Cancel" button.

⚠ Caution

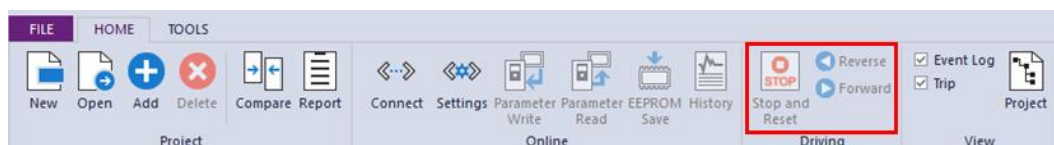
It is displayed in a pop-up window to prevent malfunction when writing all parameters. If you do not want to display it again, you can select the check box.



A dialog box titled "DriveView 9" with a close button (X) in the top right corner. It contains a question mark icon and the text "Do you want to write all paramter?". Below this, there is a checkbox labeled "Don't show this message again.". At the bottom, there are two buttons: "Yes" and "No".

4.6 Drive Control

This feature acts as a keypad that gives a control command to the drive. This is located in the menu [HOME] - [Driving] group and is enabled only when the drive is connected.



1 Reverse direction (Reverse direction operation)

If you select the reverse drive and click the Reverse icon, the reverse operation will be applied to the drive and the result can be checked through the operation status.

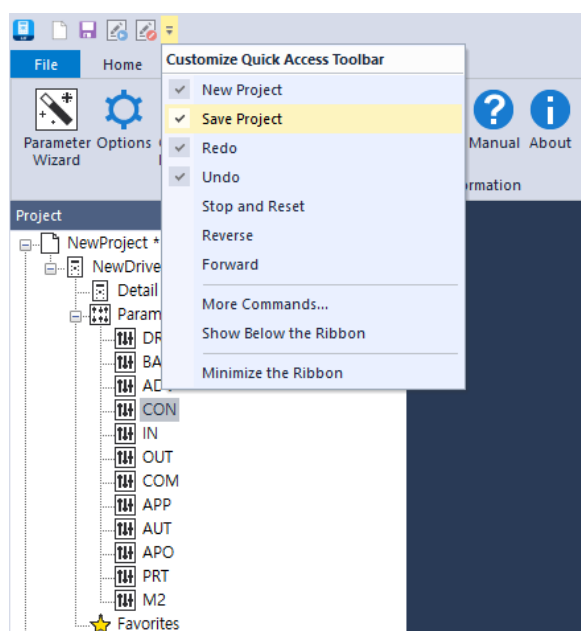
2 Reset/Stop

If you select a drive and click the Reset/Stop icon, a reset command is issued if a trip occurs or a command is given to stop the drive if it is operating.

3 Forward direction (Forward direction operation)

If you select the reverse drive and click the forward icon, the forward operation will be applied to the drive and the result can be checked through the operation status.

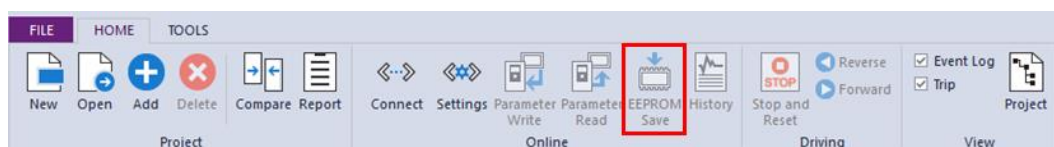
Added to the Quick Launch tool



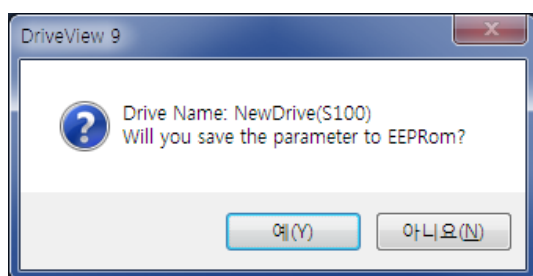
4.7 EEPROM Save

When changing parameter values of the drive with communication, the original drive value is displayed instead of the changed one at the next time you turn on the system because the changed value by such communication applies only to the drive's RAM. To solve this problem, this function is to remain the changed value by saving it to the drive's EEPROM.

In the Project window, select the drive you want to save, select the menu [HOME] – [EEPROM save].



Select the Yes button to save the EEPROM.



The saved result is displayed in the event window.

⚠ Caution

This is a feature that only works on certain models. Available models(iS7, S100, H100, G100)

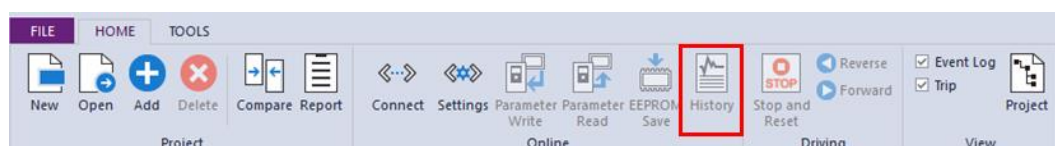
4.8 Trip history

When the drive detects a failure, a trip occurs or a warning message is output to prevent damages to the internal circuitry. The displayed messages are stored in the drive. This feature allows you to view the trip history stored in the drive.

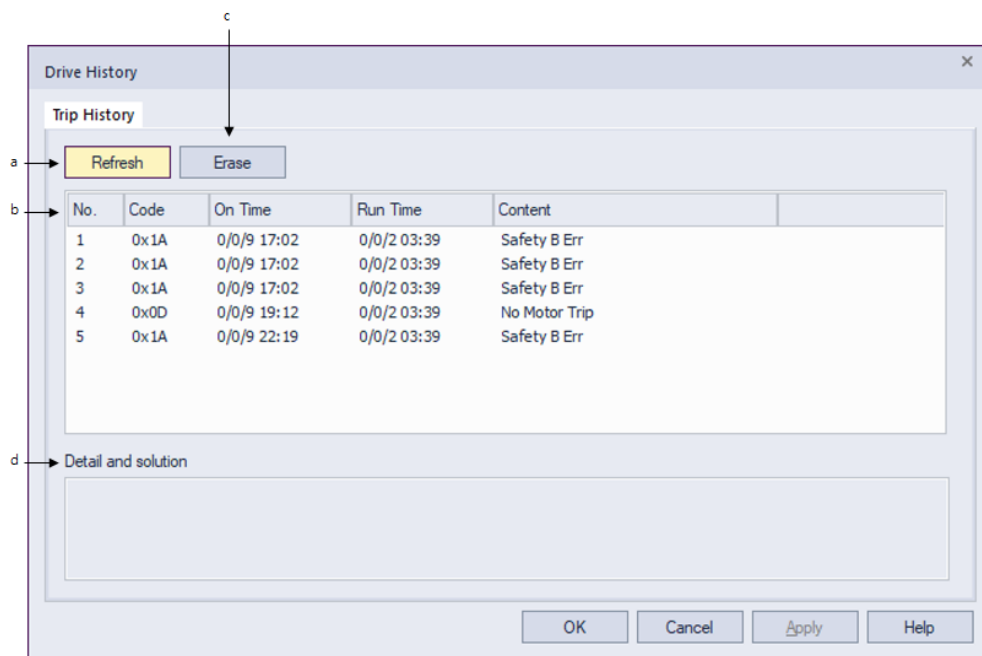
⚠ Caution

This feature is available only in the drive models that support this feature.
(S100 drive of specific application version)

In the project window, select the drive to save the trip information to and select [Home] > [Trip history] in the menu.



4 Description



a. Refresh

Reads the trip history stored in the drive.

b. Trip list

Displays the trip history stored in the drive. Up to five items can be stored. After the maximum number is reached, the next file will be saved after the oldest file is deleted.

c. Delete

Deletes all trip history stored on the drive.

d. Detail and solution

Displays the details of the trip you have selected from the trip file list and provides solutions to resolve the problem.

⚠ Caution

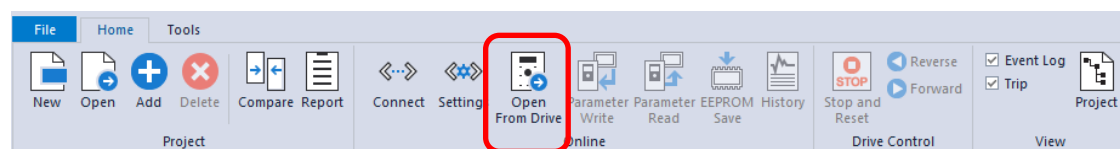
The operation time is based on the cumulative operation time of the drive, and the run time is based on the cumulative operation time of the fan.

4.9 Open from Drive

The ability to create and connect a project from a connected drive.

Attempt to connect through drive communication settings and, if successful, create a project with the appropriate drive information.

This feature is useful if you don't know the drive version information.



⚠ Caution

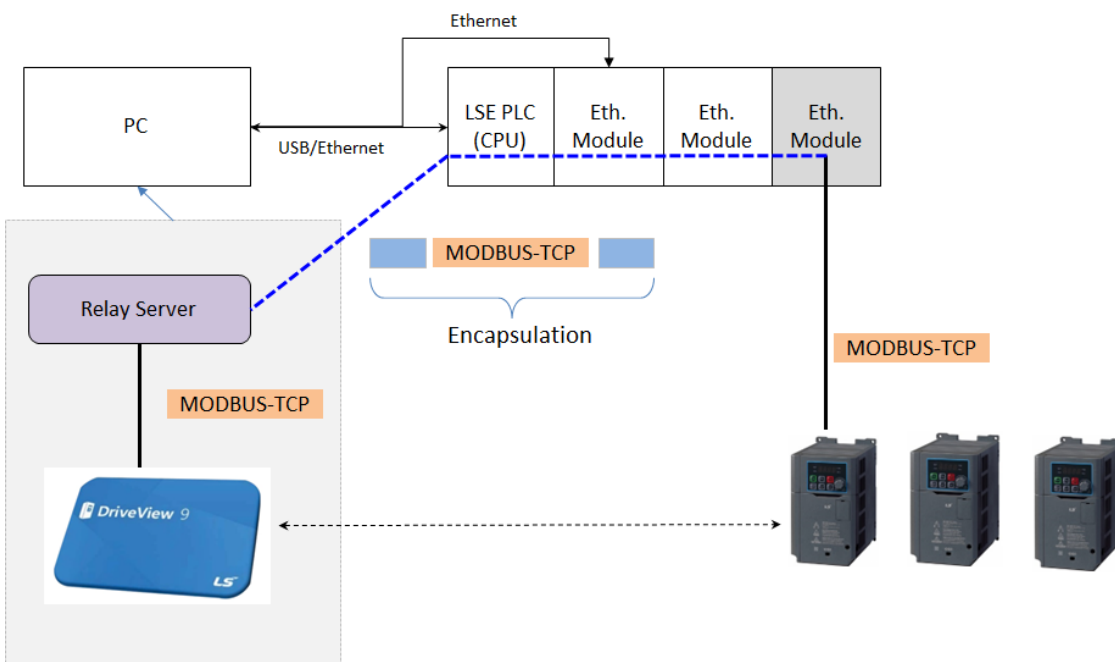
If a project is already open, perform the Close Project function and then perform the action.

⚠ Caution

If the data file for the drive to be connected does not exist, the connection will not be established.

4.10 Pass-through

This function allows you to access the drive through the LSE PLC. In the communication setting, you must also set the connection information for the PLC with the drive you want to connect to.



ⓘ Caution

This function operates only on certain PLC(XGI-CPUUN, XGL-EFMTB).
Please refer to the product manual for the OS version.

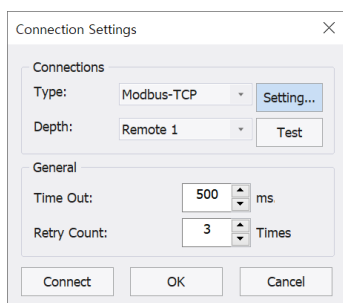
The drive operates on products equipped with Ethernet or RAPIEnet+ modules.

This function operates only on certain PLC(XGI-CPUUN, XGL-EFMTB).
Please refer to the product manual for the OS version.

The drive operates on products equipped with Ethernet or RAPIEnet+ modules.

The drive operates on products equipped with Ethernet or RAPIEnet+ modules.

1 Connection Settings



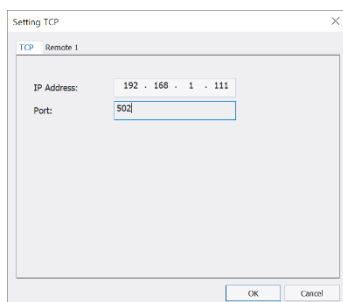
The 'Connection Settings' dialog box contains the following fields and buttons:

- Connections**
 - Type: Modbus-TCP (dropdown menu) with a 'Setting...' button next to it.
 - Depth: Remote 1 (dropdown menu) with a 'Test' button next to it.
- General**
 - Time Out: 500 (spin box) with 'ms.' to its right.
 - Retry Count: 3 (spin box) with 'Times' to its right.
- Buttons: Connect, OK, Cancel.

Type: Set to Modbus-TCP.

Depth: Set to Remote 1.

2 Drive Access Setting



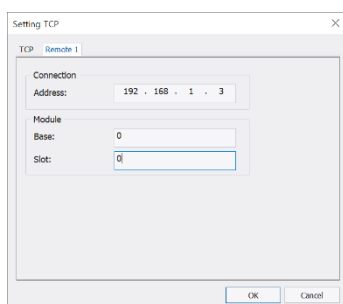
The 'Setting TCP' dialog box shows the 'TCP Remote 1' tab with the following fields:

- IP Address: 192 . 168 . 1 . 111
- Port: 502

Buttons: OK, Cancel.

Enter the communication information of the drive to be connected.

3 Check PLC Connection Information



The 'Setting TCP' dialog box shows the 'TCP Remote 1' tab with the following fields:

- Connection**
 - Address: 192 . 168 . 1 . 3
- Module**
 - Base: 0
 - Slot: 0

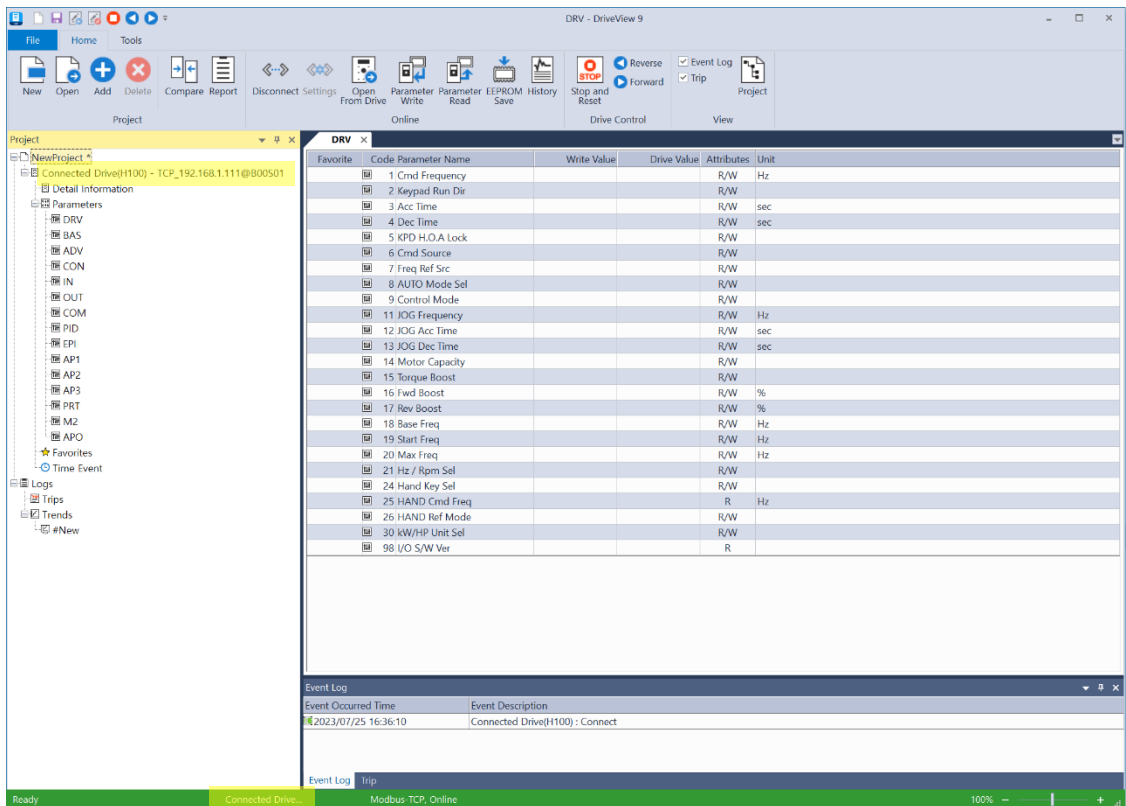
Buttons: OK, Cancel.

Address: Set the PLC communication address connected to the PC.(If connected to another communication module, enter the communication address of that module.)

Base: Set the base information of the module connected to the drive.

Slot: Set the slot information of the module connected to the drive.

If connected after setting, it can be used as if the drive was directly connected.








Drive access information is displayed with the following meaning.

TCP_192.168.1.111	@	B00	S00
drive address	connect	base information	slot information

5 Other Screens

5.1 Event

The adding, deleting, and controlling type of events of the drive are shown on the event screen. The events are collected from the activation of DriveView 9. Upon ending, the existing events will be deleted.


Event Log	
Event Occurred Time	Event Description
 2019/05/22 17:11:39	NewDrive(S100) : Stop Control
 2019/05/22 17:11:34	NewDrive(S100) : Forward Control
 2019/05/22 17:11:33	NewDrive(S100) : Connect
 2019/05/22 17:11:29	NewDrive(S100) : Disconnect
 2019/05/22 16:54:18	NewDrive(S100) : Connect
<div>Event Log</div> <div>Trip</div>	

5.2 Trip

If a trip occurs on the connected drive, the information will be shown on the trip screen.

1 View Trip

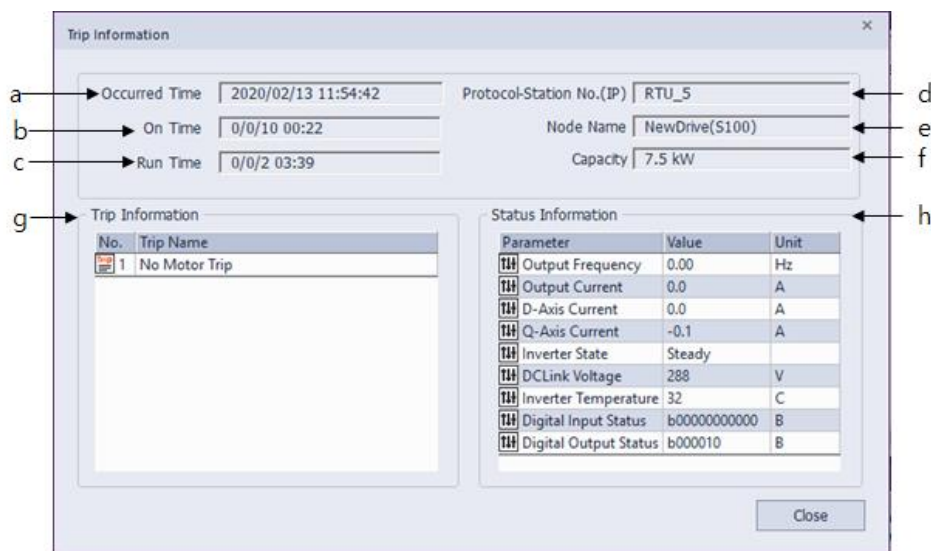
To view a trip, click on a trip on the navigation window or click the Trip tab in the Result Information window and it will be shown in the results information window.

Trip					
Trip Occurred Time	Drive Name	Protocol-Station No.(IP)	Model	Capacity	Trip
 2019/05/22 17:58:17	NewDrive(S100)	TCP_10.13.115.196	S100	400 W	No Motor Trip

2 View Detailed Trip

This is a feature for viewing the status and additional trip information when trip occurs.

Select the trip to view the detailed information from the trip list and double-click on it. As shown below, the dialog box will appear with detailed information of the trip.



[Chat Dialog Description]

- a. Occurrence Time: Shows the time of the trip occurrence.
- b. Operation time: Displays the time of the trip based on the drive's operation time. (Omissible)
- c. Run time: Displays the time of the trip based on the cooling fan's operation time. (Omissible)
- d. Communication method-Station number (IP): Shows communication method of the drive and the Station number (IP).
- e. Model Name: Shows the model name.
- f. Capacity: Shows the capacity.
- g. Detailed trip information: Shows the detailed trip information upon trip occurrence.
- h. Detailed Status Information: Shows the main parameter values upon trip occurrence.

5.3 Monitor

The parameter values from the connected drive are displayed in the monitor window.

1 Parameter Registration

After selecting the parameters to monitor in the parameters window, you can register them using a mouse drag & drop function.

Monitor					
Drive Name	Group Name	Code	Parameter Name	Value	Unit
Connected Drive	DRV	1	Cmd Frequency	13.00	Hz
Connected Drive	DRV	3	Acc Time	12.0	sec
Connected Drive	DRV	4	Dec Time	30.0	sec

2 Unregister Parameter

After selecting the parameter you want to cancel, select the delete button, or if you want to cancel everything, select delete all.

Monitor					
Drive Name	Group Name	Code	Parameter Name	Value	Unit
Connected Drive	DRV	1	Cmd Frequency	13.00	Hz
Connected Drive		3	Acc Time	12.0	sec
Connected Drive		4	Dec Time	30.0	sec

Copy

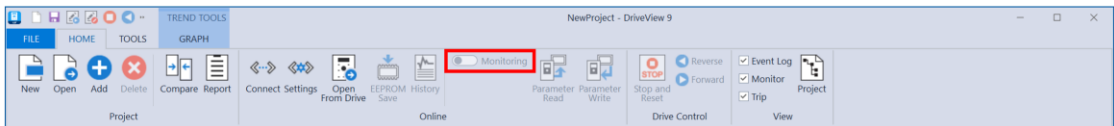
Paste

Delete

Clear

3 Start/End Monitoring

You can set monitor start/end for parameters registered in the monitor window.



6 Specialized Features

6.1 User Sequence

This is used to implement a simple sequence using a combination of various functional blocks. It can be composed of up to 18 steps using 29 function blocks and 30 void parameters.

1 loop means that a maximum of 18 user-defined sequences are performed once. 1 Loop Time can be selected by the user between 10 and 1,000 ms.

User-sequence-related groups include the USS group responsible for setting up the user sequences and the USF group responsible for setting up the function blocks.

⚠ Caution

This function operates on the following products:

Model	S/W Version	Code Version
S100	0.11 or higher	1.00 or higher
G100	3.10 or higher	3.10 or higher

6.1.1 Diagram

Double-click "User Sequence" in the project. Then, the parameter information (USS and USF group parameter) will be read and displayed on the screen.



10

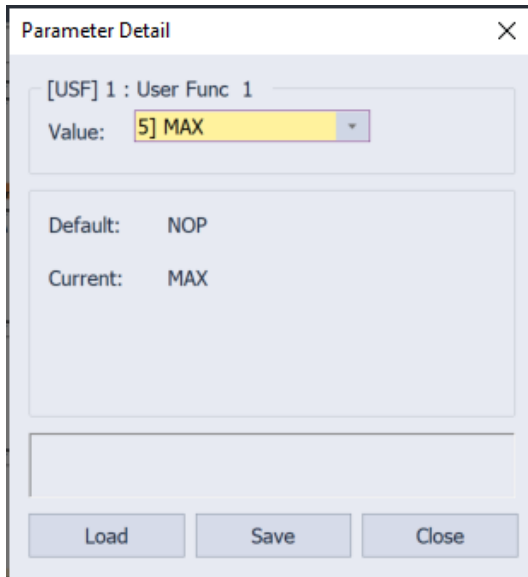


- 10

6.1.3 Block Settings

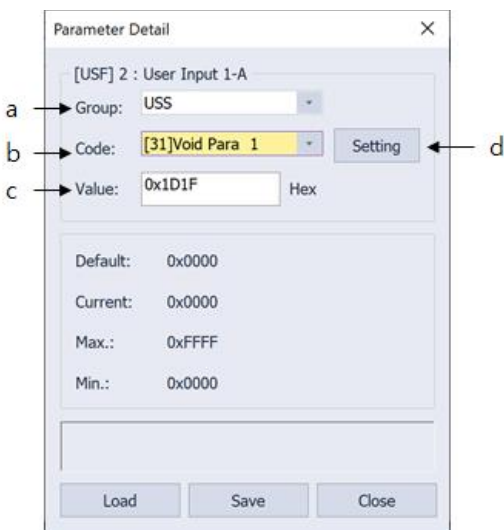
1 Feature Settings

Click on the block and the feature can be changed. Select NOP if a function block is not being used.



2 Input/Output Parameter Settings

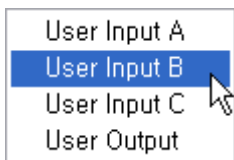
Select the parameter area to change and the parameter edit window will appear as shown below. The parameter can be changed from the window.



[Chat Dialog Description]

- a. Select Group: Select the parameter groups.
- b. Select Group: Select the parameters of the selected group.
- c. Input Value: Directly enter the communication address. This is changed when the group and the group code are changed.
- d. Settings: Settings is enabled for parameters where its value can be set and a dialog box for setting the value is displayed.

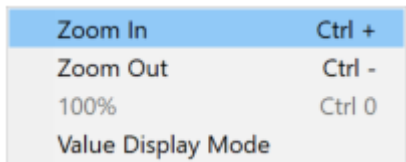
If the parameter being changed is not in the area, select the block and right-click it. Then, the following context menu will be displayed. Select the parameter to change from the menu and select the parameter. Then, the following parameter edit window will be displayed.



6.1.4 Screen Settings

6.1.4.1 Screen Mode

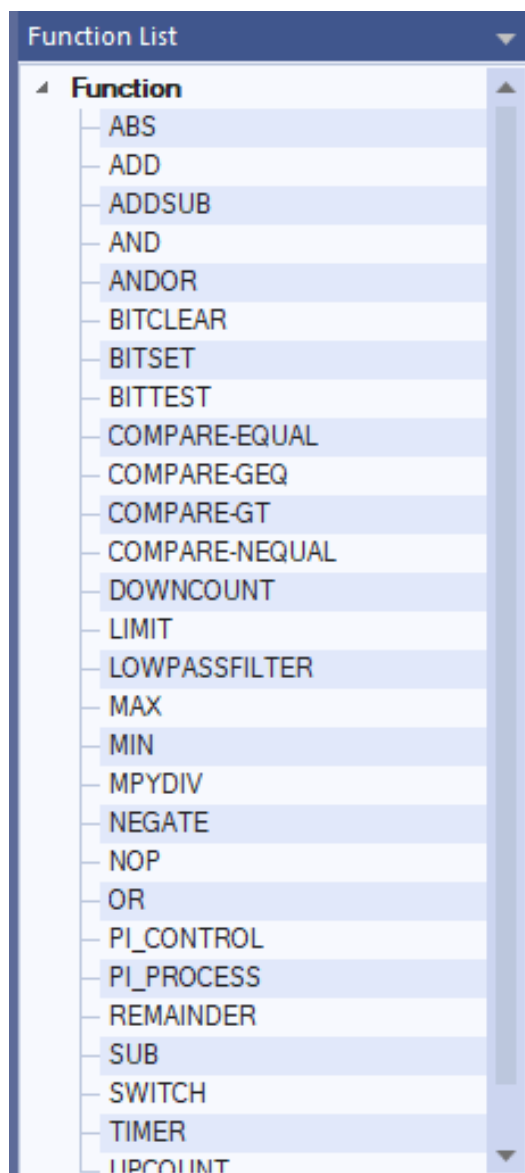
You can change the screen mode by right-clicking on the diagram screen.



- 1 Expand
Shows the diagram displayed on the screen bigger in 10% increments. (Maximum 200%)
- 2 Reduce
Shows the diagram displayed on the screen bigger in 10% decrements. (Minimum 10%)
- 3 100%
Changes the diagram displayed on the screen to its original size.

6.1.4.2 Function List

Displays all available function lists that can be configured. Additionally, functions can be selected from the list and directly set on the screen using the drag-and-drop feature.



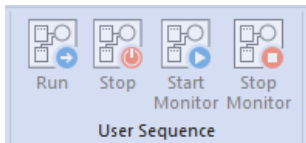
6.1.4.3 Execution Order

Displays the operation sequence of the user sequence.

User Sequence List	
No	Name
1	NOP
2	NOP
3	NOP
4	NOP
5	NOP
6	NOP
7	NOP
8	NOP
9	NOP
10	NOP
11	NOP
12	NOP
13	NOP
14	NOP
15	NOP
16	NOP
17	NOP
18	NOP

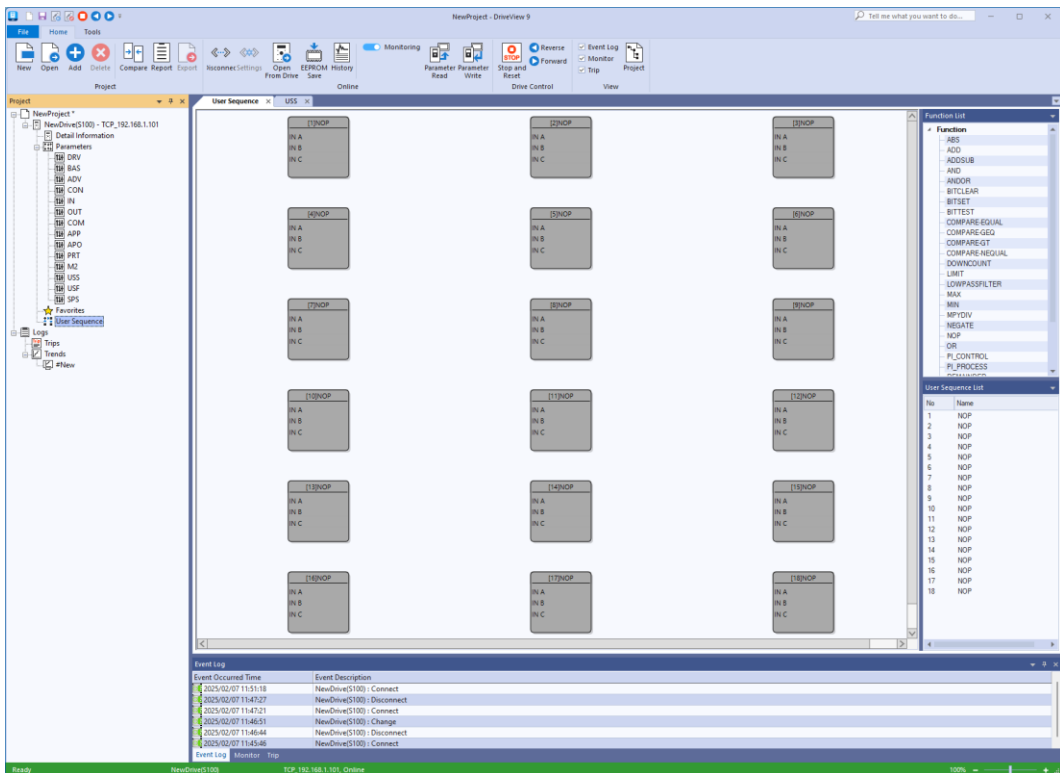
6.1.4.4 User Sequence Operation

Allows starting and stopping the user sequence operation. The buttons are activated based on the current operation status. When the Run button is clicked, the user sequence function starts, and when the Stop button is clicked, the function stops.



6.1.5 Monitoring

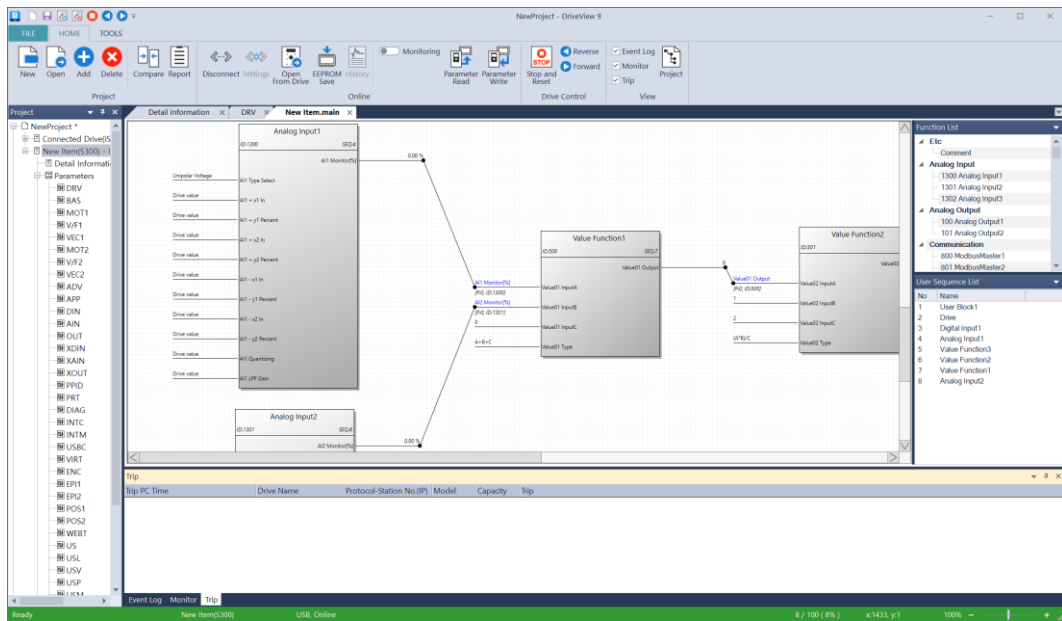
Allows monitoring of the configured user sequence. During monitoring, blocks and input/output parameters cannot be modified.



6.2 Advanced User Sequence

We have improved the existing user sequence. The improvements are as follows.

- Maximum number of blocks : 100
- Maximum number of block inputs and outputs : 32(variable depending on block)
- Free screen arrangement(reading and writing possible within the drive)
- Provides real-time parameter value monitoring function

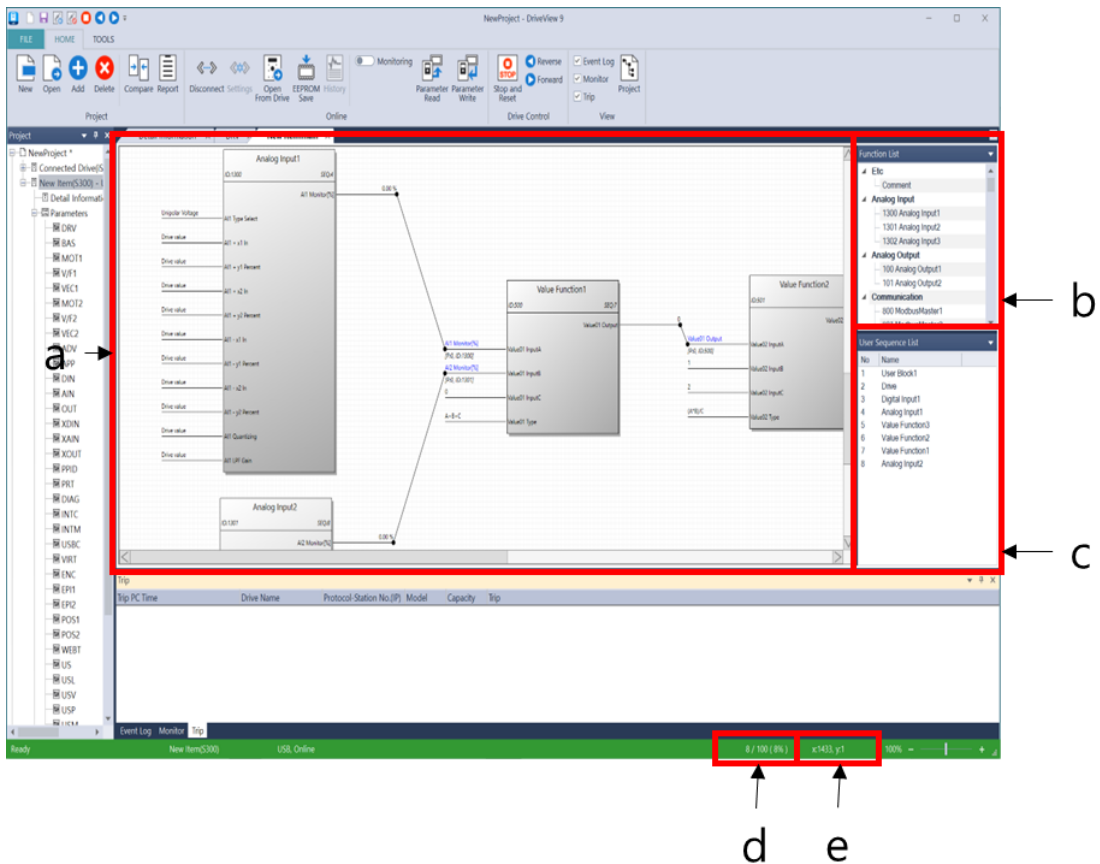


⚠ Caution

This is a feature that only operates in **S300** models.

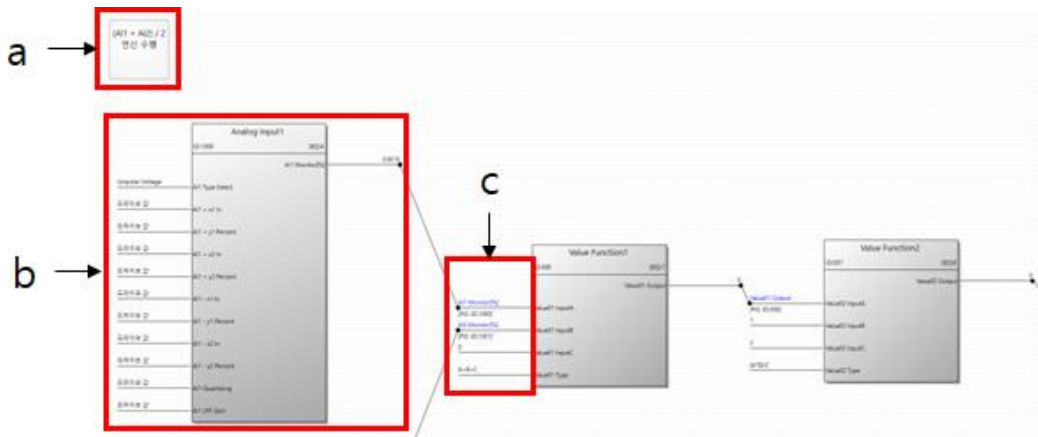
6.2.1 Screen Arrangement

Specialized Features



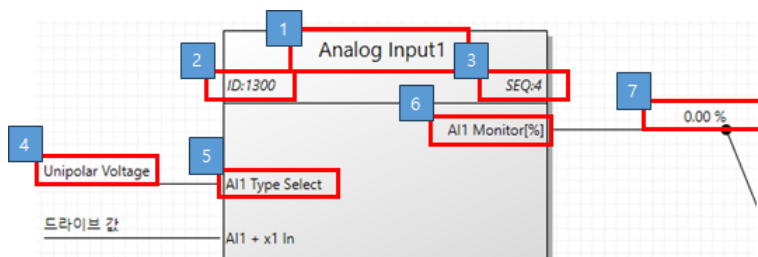
- Displays the User Sequence screen
- Displays description and function list
- Displays a list of functions displayed on the screen(shows the flow chart as well)
- Display number of functions used(including maximum number)
- Display mouse coordinates on screen

6.2.2 Block Description



[Explanation]

- a. Display descriptive statement
- b. Display function block



1. Shows block name
 2. Shows block ID
 3. Shows block order
 4. Shows the values of input parameters
 5. Shows the names of input parameters
 6. Shows the names of output parameters
 7. Shows output parameter values
- c. Display output information for connected blocks

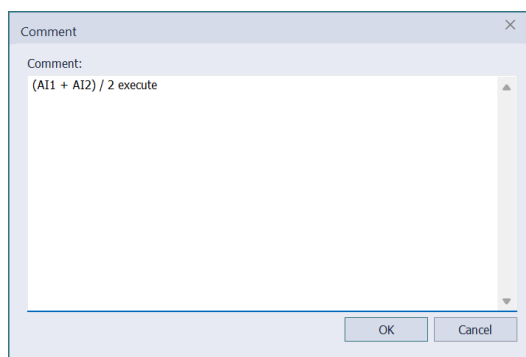
6.2.3 Block Settings

6.2.3.1 Function Block

After selecting the function to add from the function list, you can add it by mouse drag & drop on the screen.

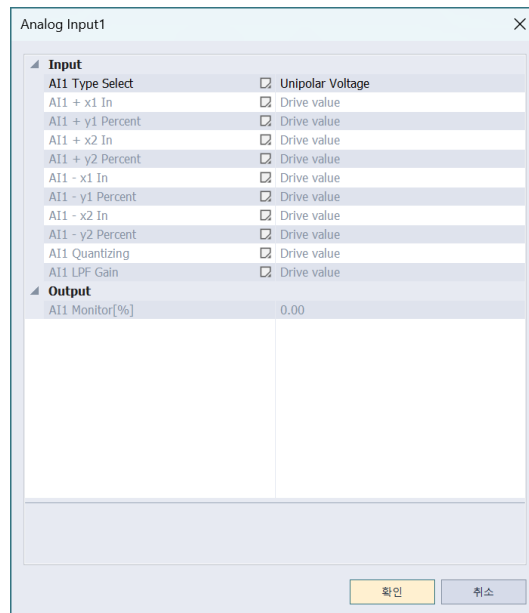
6.2.3.2 Description

You can write a description within the screen. You can select a description item from the function list and add it by drag & drop.

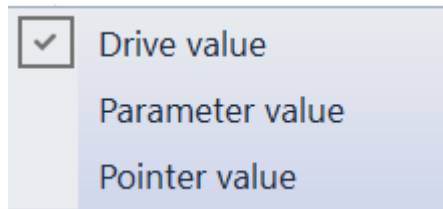


6.2.3.3 Input/Output Parameter

You can set input/output parameters for a function. If you select the function you want to change and double-click it, the dialog box below will be displayed.



After selecting the parameters to change, you can set them to 3 types.

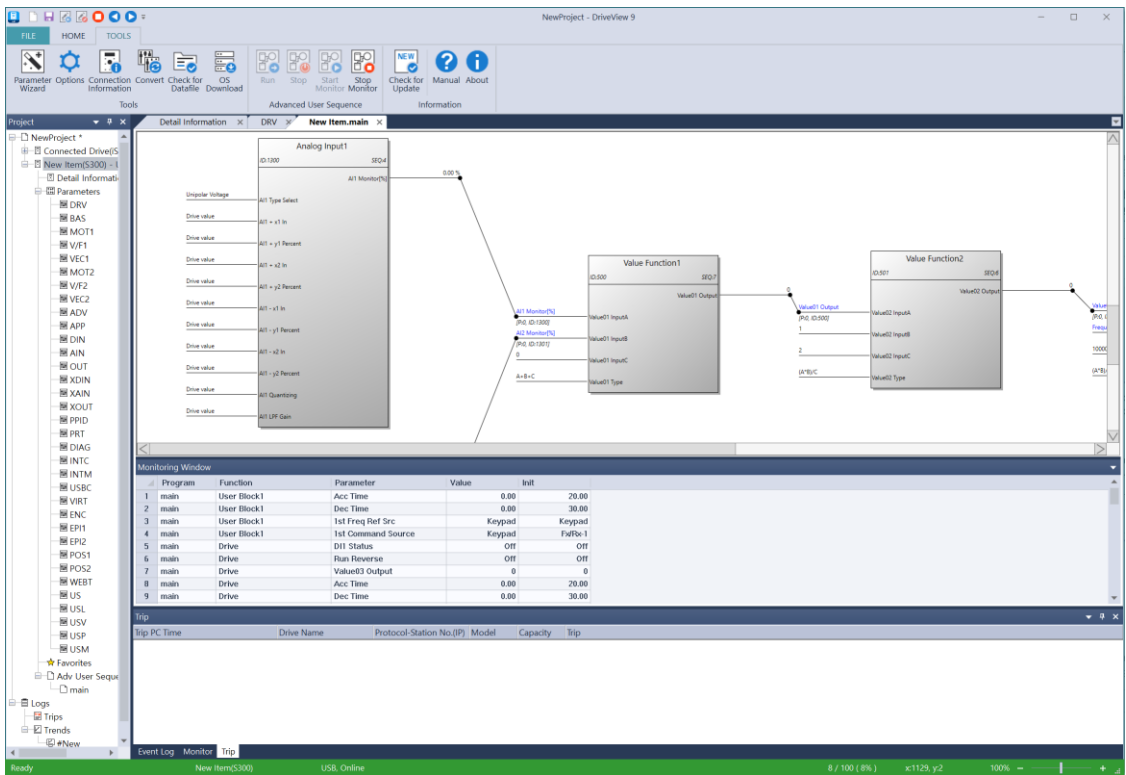


1. Drive value : Use the value provided by the drive.
2. Parametric value : You can directly enter a value into the parameter.
3. Connected parameter value : You can select outputs and general parameters of other functions.

6.2.4 Monitoring

You can monitor the set user sequence. Block and input/output parameters cannot be changes during monitoring.

Specialized Features



6.3 Time Event Scheduling

This is a feature used to start the desired operation at the specified time by using an RTC (Real Time Clock). First, you need to set the current date and time. Then, you need to set Time Period Module (the time to start the operation), Time Event (what operation to perform), Exception Date (specific date and time that affects priority of operation execution).

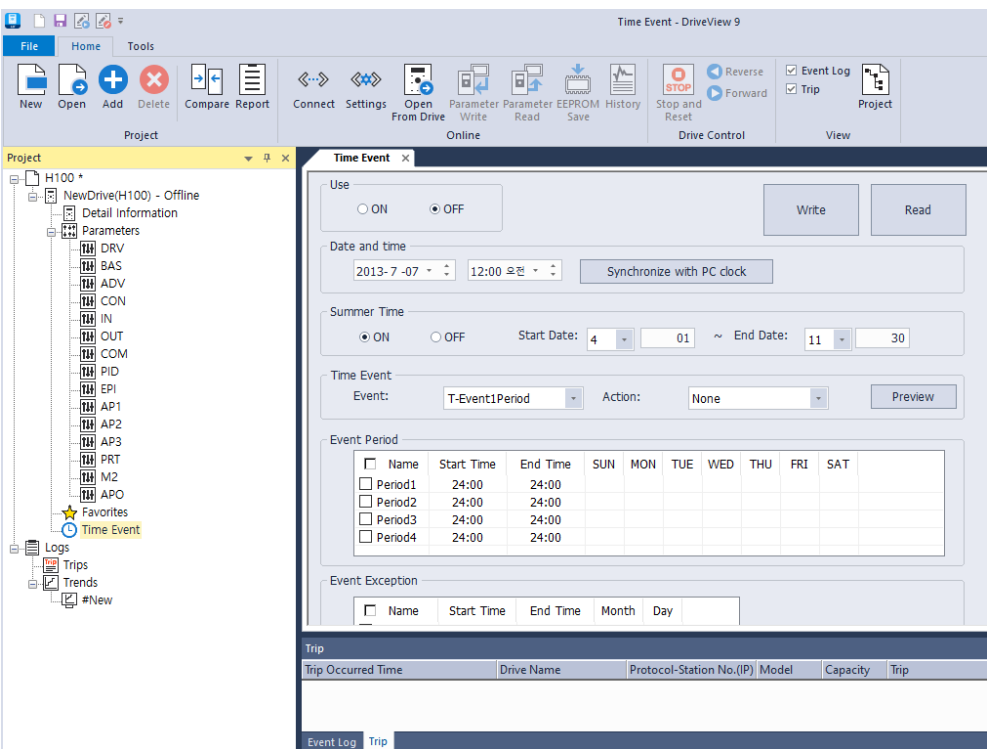
It is made up of 4 event intervals and 8 event exceptions. The scheduling operation is started with the settings.

⚠ Caution

This is a feature that only operates in **H100** models.

6.3.1 Start Operation

Select “Scheduling Operation” from the project window and the relevant information screen will be displayed.

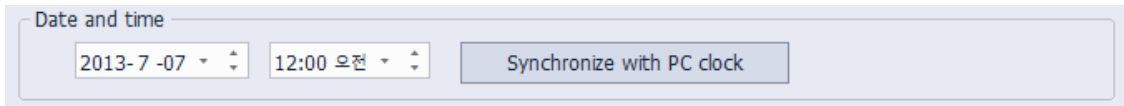


6.3.2 Function Description

1 Date and Time

Provides the ability to set the date and time.

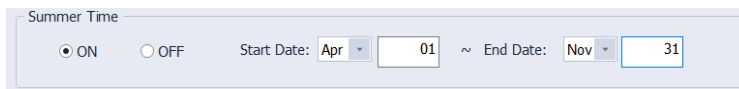
If you want to synchronize with your PC watch, click the button to synchronize

A screenshot of a 'Date and time' settings panel. It contains two dropdown menus for date and time, and a button labeled 'Synchronize with PC clock'. The date is set to '2013-7-07' and the time is '12:00 오전'.

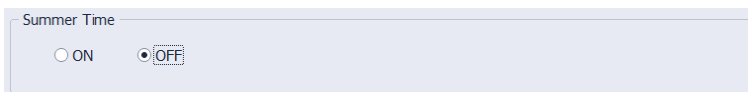
2 Summer Time

This provides a feature to set summer operation.

- ON: The summer time schedule can be set. Set the start date and the end date to operate in summer time mode during that period.

A screenshot of the 'Summer Time' settings panel with 'ON' selected. It shows 'Start Date' as 'Apr 01' and 'End Date' as 'Nov 31'.

- OFF: Select to not use summer time.

A screenshot of the 'Summer Time' settings panel with 'OFF' selected.

ⓘ Caution

If even ON is selected, summer time mode will not start if the start date and the end date is the same.

3 Event Settings

This provides the features related to registering, changing, and deleting an event.

Time Event

Event:

T-Event1Period

 Action:

None

Preview

d

Event Period

<input type="checkbox"/> Name	Start Time	End Time	SUN	MON	TUE	WED	THU	FRI	SAT
<input type="checkbox"/> Period1	24:00	24:00							
<input type="checkbox"/> Period2	24:00	24:00							
<input type="checkbox"/> Period3	24:00	24:00							
<input type="checkbox"/> Period4	24:00	24:00							

e

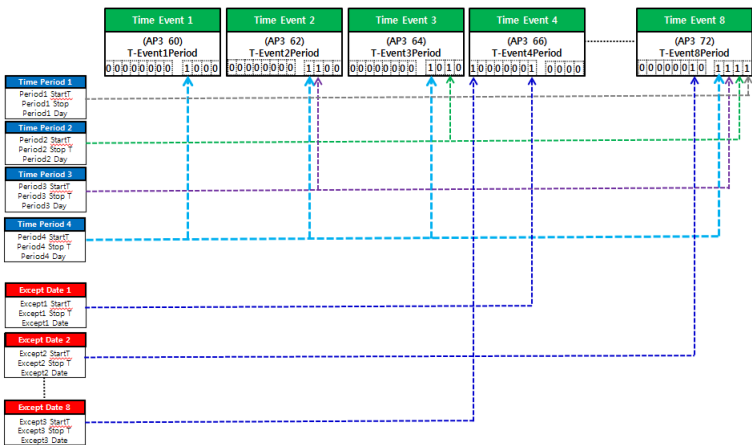
Event Exception

<input type="checkbox"/> Name	Start Time	End Time	Month	Day
<input type="checkbox"/> Exception1	24:00	24:00	1	01
<input type="checkbox"/> Exception2	24:00	24:00	1	01
<input type="checkbox"/> Exception3	24:00	24:00	1	01
<input type="checkbox"/> Exception4	24:00	24:00	1	01
<input type="checkbox"/> Exception5	24:00	24:00	1	01
<input type="checkbox"/> Exception6	24:00	24:00	1	01
<input type="checkbox"/> Exception7	24:00	24:00	1	01
<input type="checkbox"/> Exception8	24:00	24:00	1	01

[Chat Dialog Description]

a. Select Event Connection

You can select 8 connections. For each connection, you can register 4 event intervals and 8 exception intervals.



b. Event Operation Settings

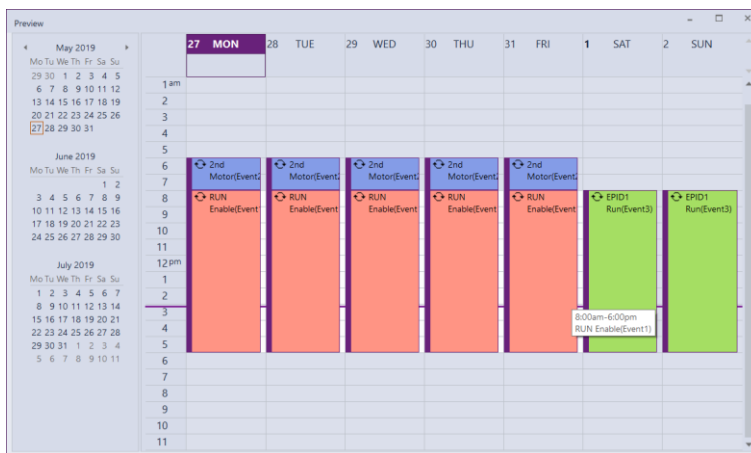
You can select the operation following the event settings.

Settings			
0	None	16	PID Openloop
1	Fx	17	PID Gain 2

2	Rx	18	PID Ref Change
3	Speed-L	19	2nd Motor
4	Speed-M	20	Timer In
5	Speed-H	21	dis Aux Ref
7	Xcel-L	22	EPID1 Run
8	Xcel-M	23	EPID1 ITermClr
9	Xcel-H	24	Pre Heat
10	Xcel Stop	25	EPID2 Run
11	Run Enable	26	EPID2 ITermClr
12	2nd Source	27	Sleep Wake Chg
13	Exchange	28	PID Step Ref L
14	Analog Hold	29	PID Step Ref M
15	I-Term Clear	30	PID Step Ref H

c. Event Settings Preview

Shows the event interval and exception period as a calendar and can also show the selected event action together.



d. Event Interval Settings

4 intervals can be set. You can set selection by interval, start and end time, and settings per day. The start and end time is shown as a time list to be selected.

Start Time

24:00 ▼

00:00

01:00

02:00

03:00

04:00

05:00

06:00

07:00

For settings per day, double-click on the days in the interval and it will be shown as “V.” To disable the setting, double-click on it again and the “V” mark will be removed.

SUN	MON	TUE	WED	THU	FRI	SAT
V		V		V		V
	V		V		V	
		V		V		

e. Event Exception Settings

You can set the start and end time together with the event interval. The monthly or daily settings stops the operation of the event on the specified day.

4 Parameter Write/Read

Read/write parameters related to scheduling operation can be performed. Online and offline movements are different, so please check and operate.

Time Event x

Use

☐ ON ☒ OFF

Write Read

[Offline]

Write: Saves the set information in the screen to the parameter.

Read: Read parameter information to display in-screen.

[Online]

Write: Save the information you set on the screen to a parameter and write the parameter to the drive.

Read: Read parameters from the drive, save parameters, read parameter information, and display in-screen

6.4 Wizard

This section describes the Wizard, which is a feature that allows you to set up important parameters step by step during initial drive installation.

6.4.1 Run

Select the menu at [Tools] – [Parameter Wizard]. The wizard screen is displayed corresponding to the selected model. (Here, the explanation is based on iS7.)

1. Motor & Control

Control Mode : V/F

Parameter	Default	Max	Min	Value	Unit
Motor Capacity	0.75kW	450.0 kW	0.2 kW	0.75kW	
60/50 Hz Sel	60Hz	50Hz	60Hz	60Hz	
Pole Number	4	48	2	4	
Rated Slip	40	3000	0	40	rpm
Rated Curr	3.6	1000.0	1.0	3.6	A
No-load Curr	1.6	1000.0	0.5	1.6	A
Rated Volt	0	480	180	0	V
Efficiency	72	100	70	72	%
Inertia Rate	0	8	0	0	
AC Input Volt	220	480	0	220	V

Previous Next Cancel

6.4.2 Step-by-step Settings

Set the parameter using the 10 steps of the wizard (excluding install). To move between steps, you can go to the previous step or the next step by clicking the button corresponding to each step or by clicking the Previous Next button.

The steps and the step-by-step parameter types may vary by model.

1 Motor & Control

Set the main parameters for motor & control.

1.Motor & Control

Control Mode : Sensorless-1 Torque Control : ☐ Yes ☒ No

Parameter	Default	Max	Min	Value	Unit
Motor Capacity	0.75kW	450.0 kW	0.2 kW	0.75kW	
60/50 Hz Sel	60Hz	50Hz	60Hz	60Hz	
Pole Number	4	48	2	4	
Rated Slip	40	3000	0	40	rpm
Rated Curr	3.6	1000.0	1.0	3.6	A
No-load Curr	1.6	1000.0	0.5	1.6	A
Rated Volt	0	480	180	0	V
Efficiency	72	100	70	72	%
Inertia Rate	0	8	0	0	
AC Input Volt	220	480	0	220	V

Torque Control is disabled if Control Mode is V/F, V/F PG, or Slip.

You can edit each parameter by clicking the setting value column in the list.

Depending on whether Torque Control is set to Yes or No, the next step is changed to the Torque settings or the Speed settings.

2 Speed & Torque

2.Speed & Torque - Speed

Parameter	Default	Max	Min	Value	Unit
Cmd Frequency	0.00	400.00	0.00	0.00	Hz
Freq Ref Src	Keypad-1	Binary	Keypad-1	Keypad-1	
Base Freq	60.00	400.00	30.00	60.00	Hz
Start Freq	0.50	10.00	0.01	0.50	Hz
Max Freq	60.00	400.00	40.00	60.00	Hz
Torque Boost	Manual	Auto	Manual	Manual	
Fwd Boost	2.0	15.0	0.0	2.0	%
Rev Boost	2.0	15.0	0.0	2.0	%

If Torque Boost is Manual, you can set it to Fwd Boost and Rev Boost.

2.Speed & Torque - Torque

Parameter	Default	Max	Min	Value	Unit
Cmd Torque	0.0	180.0	-180.0	0.0	%
Trq Ref Src	Keypad-1	Binary	Keypad-1	Keypad-1	
Torque Lmt Src	Keypad-1	Binary	Keypad-1	Keypad-1	
Speed Lmt Src	Keypad-1	PLC	Keypad-1	Keypad-1	
FWD Speed Lmt	60.00	400.00	0.00	60.00	Hz
REV Speed Lmt	60.00	400.00	0.00	60.00	Hz
Speed Lmt Gain	500	5000	100	500	%

3 Xcel Time



Xcel Time related parameters are output with the graph. The graph changes according to the parameter value selected in the combo. The time range can be changed in the edit window.

4 Start & Stop

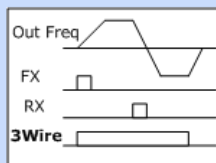
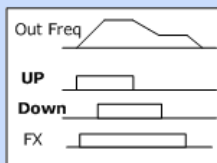
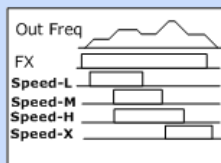
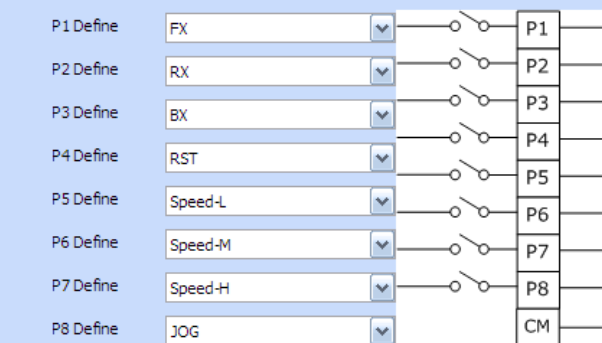
4.Start & Stop

Parameter	Default	Max	Min	Value	Unit
Cmd Source	Fx/Rx-1	PLC	Keypad	Fx/Rx-1	
Start Mode	Acc	Dc-Start	Acc	Acc	
Stop Mode	Dec	Power Braking	Dec	Dec	
Run Prevent	None	Reverse Prev	None	None	
Power-on Run	---- No ----	---- Yes ----	---- No ----	---- No ----	
Dc Inj Level	50	200	0	50	%

Set the parameters corresponding to Start & Stop. If DC-Start is selected from Start Mode, "Dc-Start Time" will be displayed. IF DC-Brake is selected in Stop Mode, the Dc-Block Time, Dc-Brake Time, and Dc-Brake Freq parameters will be displayed.

5 Digital Input

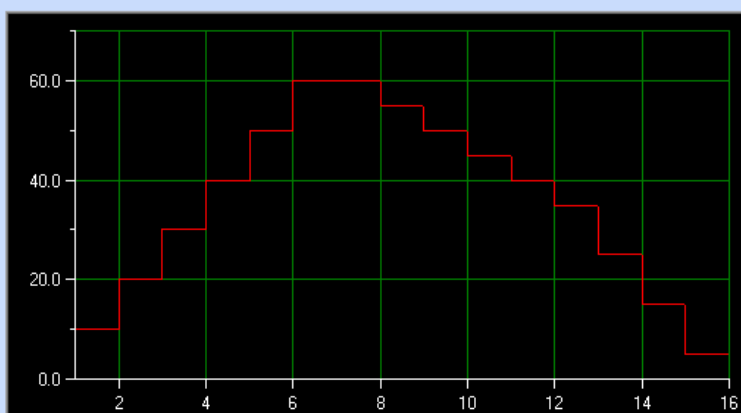
5.Digital Input



Set the parameters corresponding to Digital Input.

6 Multi-Step Speed

6.Multi-Step Speed



Parameter	Default	Max	Min	Value	Unit
Step Freq- 1	10.00	400.00	0.00	10.00	Hz
Step Freq- 2	20.00	400.00	0.00	20.00	Hz
Step Freq- 3	30.00	400.00	0.00	30.00	Hz
Step Freq- 4	40.00	400.00	0.00	40.00	Hz
Step Freq- 5	50.00	400.00	0.00	50.00	Hz
Step Freq- 6	60.00	400.00	0.00	60.00	Hz
Step Freq- 7	60.00	400.00	0.00	60.00	Hz
Step Freq- 8	55.00	400.00	0.00	55.00	Hz
Step Freq- 9	50.00	400.00	0.00	50.00	Hz
Step Freq-10	45.00	400.00	0.00	45.00	Hz
Step Freq-11	40.00	400.00	0.00	40.00	Hz
Step Freq-12	35.00	400.00	0.00	35.00	Hz
Step Freq-13	25.00	400.00	0.00	25.00	Hz
Step Freq-14	15.00	400.00	0.00	15.00	Hz
Step Freq-15	5.00	400.00	0.00	5.00	Hz

Set the parameters corresponding to Set Multi-Step Speed.

7 Digital Output

7.Digital Output

The interface displays three digital output configurations:

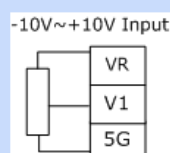
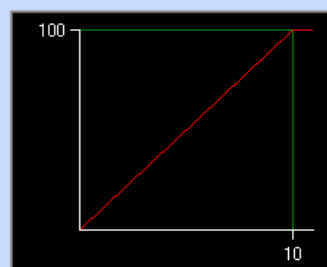
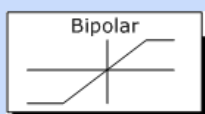
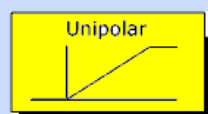
- Relay 1:** Labeled "Trip", it shows a circuit diagram with three relays (A1, B1, C1) connected in parallel.
- Relay 2:** Labeled "Run", it shows a circuit diagram with two relays (A2, B2) connected in parallel.
- Q1 Define:** Labeled "FDT-1", it shows a circuit diagram of a transistor (Q1) connected to a common terminal (CM) and ground.

Parameter	Default	Max	Min	Value	Unit
FDT Frequency	30.00	400.00	0.00	30.00	Hz
FDT Band	10.00	400.00	0.00	10.00	Hz

Set the parameters corresponding to Digital Output.

8 V1 Analog Input

8.V1 Analog Input

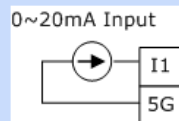
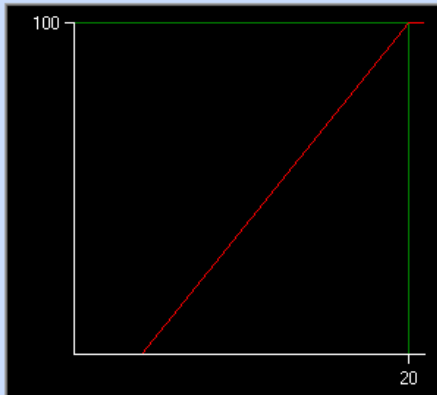


Parameter	Default	Max	Min	Value	Unit
V1 Filter	10	10000	0	10	msec
V1 Volt x1	0.00	10.00	0.00	0.00	V
V1 Perc y1	0.00	100.00	0.00	0.00	%
V1 Volt x2	10.00	10.00	0.00	10.00	V
V1 Perc y2	100.00	100.00	0.00	100.00	%
V1 -Volt x1'	0.00	0.00	-10.00	0.00	V
V1 -Perc y1'	0.00	0.00	-100.00	0.00	%
V1 -Volt x2'	-10.00	0.00	-10.00	-10.00	V
V1 -Perc y2'	-100.00	0.00	-100.00	-100.00	%
V1 Inverting	---- No ----	---- Yes ----	---- No ----	---- No ----	
V1 Quantizing	0.04	10.00	0.04	0.04	%

Set the parameters corresponding to V1 Analog Input.

9 I1 Analog Input

9.11 Analog Input

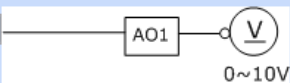


Parameter	Default	Max	Min	Value	Unit
I1 Filter	10	10000	0	10	msec
I1 Curr x1	4.00	20.00	0.00	4.00	mA
I1 Perc y1	0.00	100.00	0.00	0.00	%
I1 Curr x2	20.00	20.00	0.00	20.00	mA
I1 Perc y2	100.00	100.00	0.00	100.00	%
I1 Inverting	---- No ----	---- Yes ----	---- No ----	---- No ----	
I1 Quantizing	0.04	10.00	0.04	0.04	%


Set the parameters corresponding to I1 Analog Input.

10 Analog Output

10. Analog Output

AO1 Mode: Frequency 

Parameter	Default	Max	Min	Value	Unit
AO1 Gain	100.0	1000.0	-1000.0	100.0	%
AO1 Bias	0.0	100.0	-100.0	0.0	%
AO1 Filter	5	10000	0	5	msec
AO1 Const %	0.0	100.0	0.0	0.0	%

AO2 Mode: Frequency 

Parameter	Default	Max	Min	Value	Unit
AO2 Gain	80.0	1000.0	-1000.0	80.0	%
AO2 Bias	20.0	100.0	-100.0	20.0	%
AO2 Filter	5	10000	0	5	msec
AO2 Const %	0.0	100.0	0.0	0.0	%

Set the parameters corresponding to Analog Output.

11 Install

Wizard

[Drv]Control Mode : Default:V/F, :Sensorless-1
 [Drv]Torque Control : Default:---- No ----, :---- Yes ----
 [ADV]Acc Pattern : Default:Linear, :S-curve
 [ADV]Dec Pattern : Default:Linear, :S-curve
 [CON]Speed Limit Src : Default:Keypad-1, :Int 485
 [INV]Polarity : Default:Unipolar, :Bipolar
 [INV]P4 Define : Default:RST, :External Trip
 [INV]P8 Define : Default:JOG, :Speed-X

8 parameters are changed.

8 parameters are changed.
 Click Install Button.

Run Wizard Install Cancel

The content of the changed parameters is displayed.

Wizard Run Button: Converts to the Wizard Settings screen. Use this button to make additional changes.

Install Button: Saves the parameters set in the wizard to the project parameters. You can use the write function if you need to apply the parameter contents to the drive.

6.5 Parameter interconversion between models / Parameter Converter

This section describes about the parameter interconversion between models. A subset of parameters may not be changed. (uneditable, unchangeable, inaccessible. etc)

⚠ Caution

Not all models support parameter interconversion. The supported models will be expanded in the future.

6.5.1 Source Drive Configuration

For this feature, a source drive project must be configured and there are 3 methods to configure a project.

- 1) Open DriveView 7 parameter file

Source drive project can be configured by using the DriveView 7 parameter files from the source drive. If the project was managed using DriveView 7 SW, this would be a useful method.

- 2) Create new project

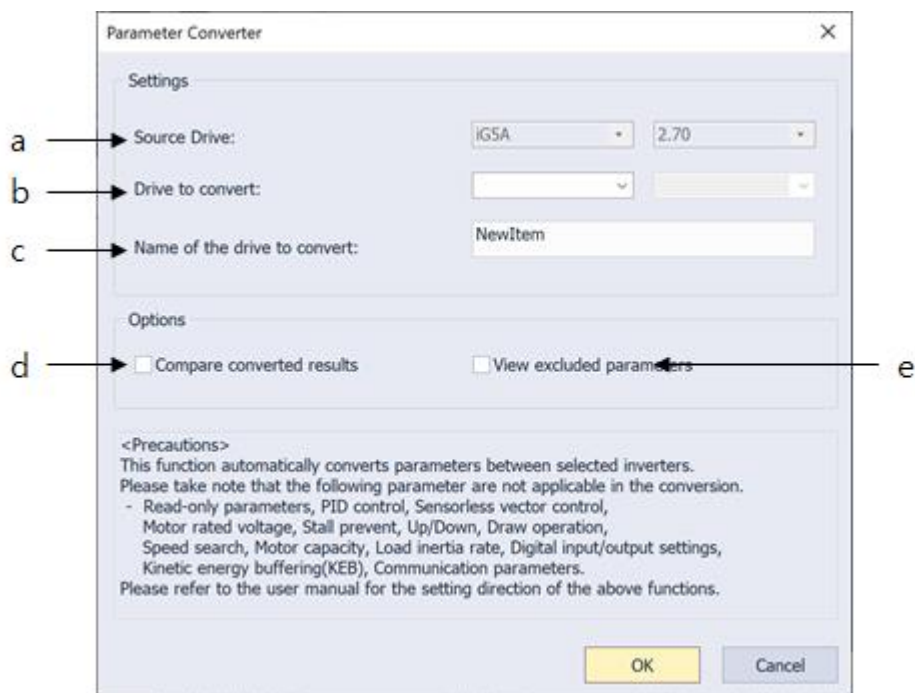
Source drive project can be configured by creating a new project. When creating a new project, the drive model and the version must be specified.

- 3) Open project

Source drive project can be opened from existing source drive.

6.5.2 Convert Parameter

Select the Menu [TOOLS] – [Converter]



[Dialog Box Description]

- Source Drive: Shows the source drive that needs parameter conversion.
- Drive to convert: Shows the information about the drive to convert.
- Name of the drive to convert: Shows the name of the converted project.
- Options – Compare convert results: You can select this check box to compare the values of converted drive and the default values in a new window.



- e. Options – View convert exclude list: You can select this check box to view the excluded parameters.

Code	Parameter Name
DRV:15	FRQ2
DRV:16	PID Ref.
DRV:17	PID FBK.
FU1:14	PreExTime
FU1:39	Volt Perc
FU1:59	Stall prev.
FU1:60	Stall level
FU1:61	OutVolt Supp
FU1:63	UP/DN SAVE
FU1:64	UP/DN FREQ
FU1:65	UP/DN Mode
FU1:66	UP/DN Step
FU1:70	Draw Mode
FU1:71	Draw Percent
FU1:72	Fault Clear

6.6 OS Download Function

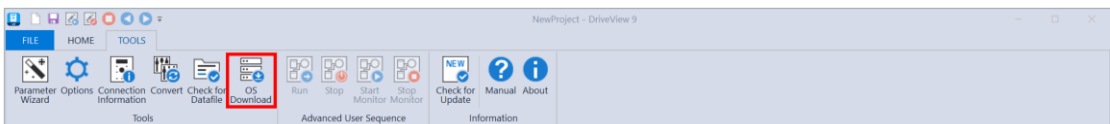
This function allows you to download OS files to the drive.

⚠ Caution

This is a feature that only operates in **S300** models.

6.6.1 Run

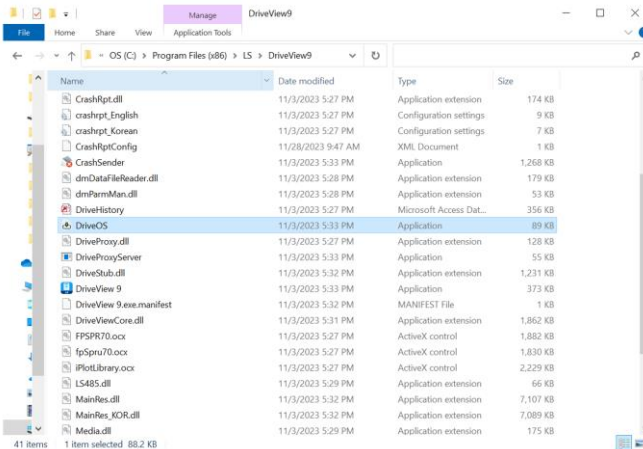
If DriveView 9 is running, select Menu-[Tools]-[OS Download].



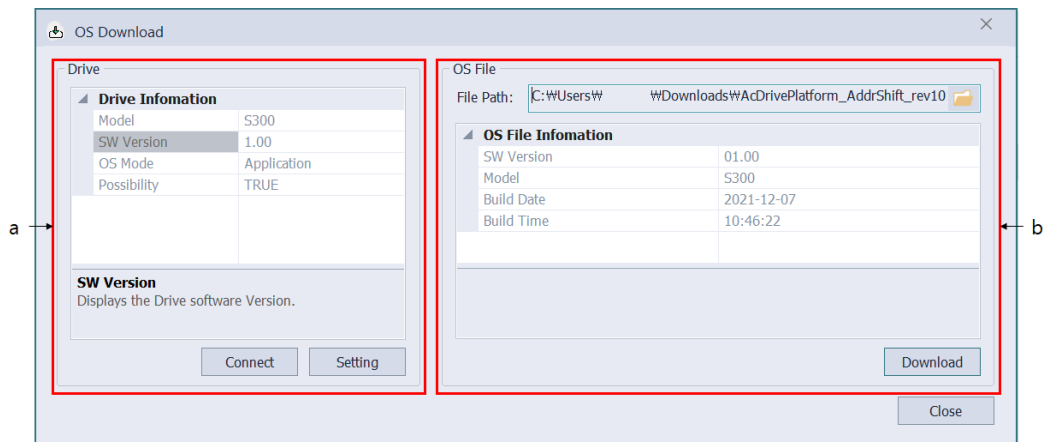
⚠ Caution

This menu is enabled only for models that support the OS download function.

If you need to run the program separately, double-click the DriveOS.exe file in the DriveView 9 installation path.



6.6.2 Download Settings



[Dialog box description]

- Drive:** You can view the information of the drive to download the OS. You can connect to communication through the “Setting” button and click “Connect”. Once the connection is complete, you can check the information of the connected drive in Drive Information.
- OS File:** You can view OS file information to be downloaded to the drive. Select the OS file to download through the “File Path” button. When downloading the final OS file, select the “Download” button.

Warranty

Warranty Information

After purchasing and installing the product, please keep the note of the following information in detail and store in a safe location. If the product does not operate as correctly during the applicable warranty period, this information outlines the free service benefits.

Product Name	LS ELECTRIC Universal Inverter		Installation Date	
Model Name			Warranty Period	
Customer	Name (Company Name)			
	Address			
	Phone Number			
Dealership	Name (Company Name)			
	Address			
	Phone Number			

Warranty Period

The warranty period of this product is 12 months from the date of installation. If the installation date is not written down, the warranty period is 18 months from the date of manufacture. (The warranty period differs depending on the contract conditions made during installation and construction.)

Information on the Free Quality Assurance Service

If a product malfunction occurs within the warranty period under normal use, you may be entitled to a free warranty repair service at our agency or designated service center.

Charged Repair Service

A charged repair service is provided for the following cases.

- If a malfunction occurs due to intentional or negligence of the consumer
- If a malfunction occurs due to a fault in the power supply or connected equipment
- If a malfunction occurs due to natural disasters (fire, flood, gas accident, earthquake, etc.)
- If the product has been remodeled or repaired at a place other than our dealer or service center
- If the product is not marked with an authentic LS ELECTRIC nameplate
- If the warranty period has passed

Homepage

Go to the LS ELECTRIC Homepage (<https://www.ls-electric.com>) to get useful information on products as well as service information.

UL mark



The UL mark applies to products in the United States and Canada. This mark indicates that UL has tested and evaluated the products and determined that the products satisfy the UL standards for product safety. If a product received UL certification, this means that all components inside the product have been certified to meet UL standards as well.

CE mark



The CE mark indicates that the products carrying this mark comply with European safety and environmental regulations. European standards include the Machinery Directive for machine manufacturers, the Low Voltage Directive for electronics manufacturers and the EMC guidelines for safe noise control.

Low Voltage Directive

We have confirmed that our products comply with the Low Voltage Directive (EN 61800-5-1).

EMC Directive

The Directive defines the requirements for immunity and emissions of electrical equipment used within the European Union. The EMC product standard (EN 61800-3) covers requirements stated for drives.

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