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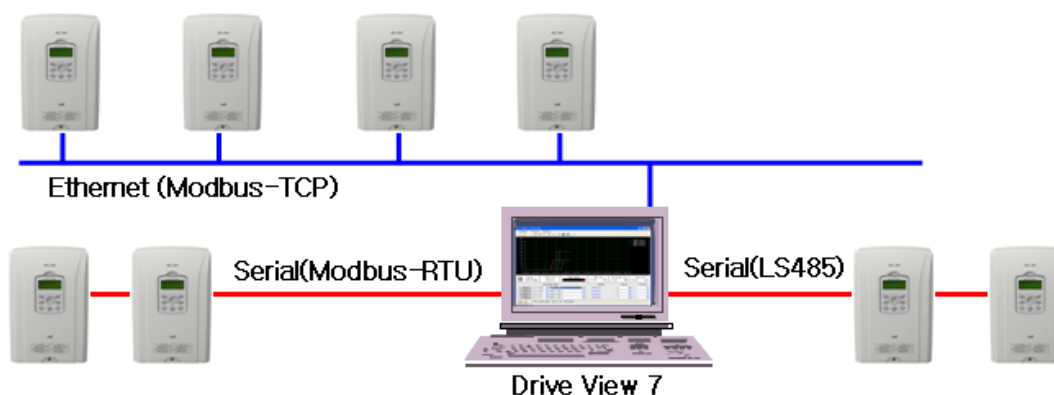
1 Introduction of Drive View 7

Drive View 7 is software for engineering LS Industrial System inverter (hereinafter, “ Drive”).

It has a function to monitor the devices connected with Drive View 7 in remote and support works necessary for Start-up and Maintenance.

2 System Configuration

Drive View 7 supports three communication modes (Modbus-TCP, Modbus-RTU, LS485).



3 Installation

3.1 Prepare for installation

Copy the installation program of Drive View 7 to the system

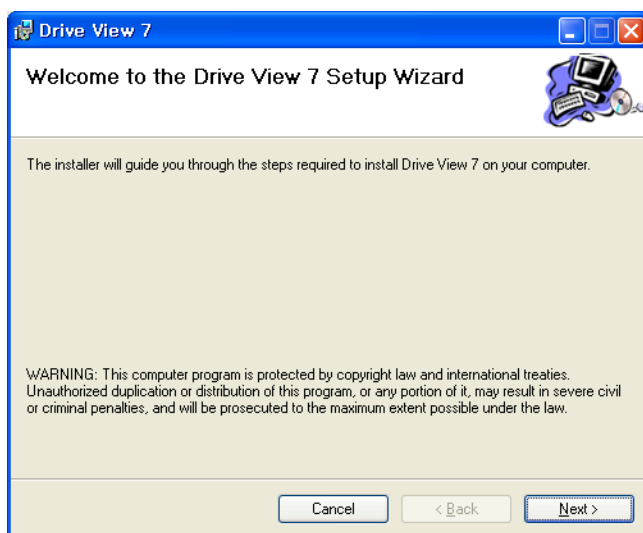
- 1) Folder: DV7_Setup

Copy the installation folder (DV7_Setup) to the system.

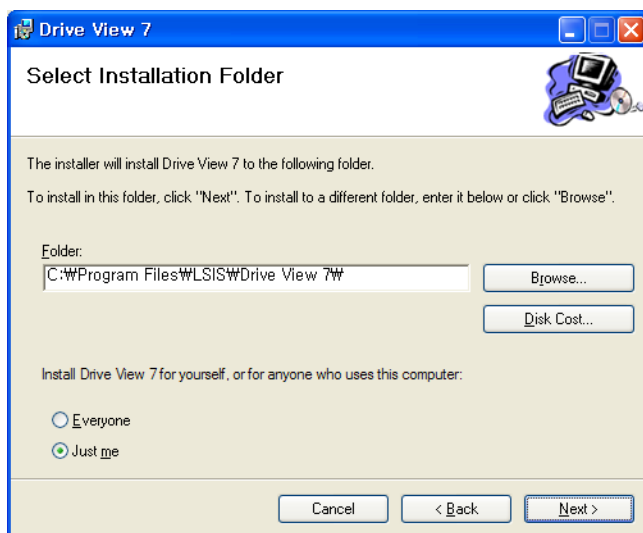
- 2) File: It consists of 5 files.

3.2 Install

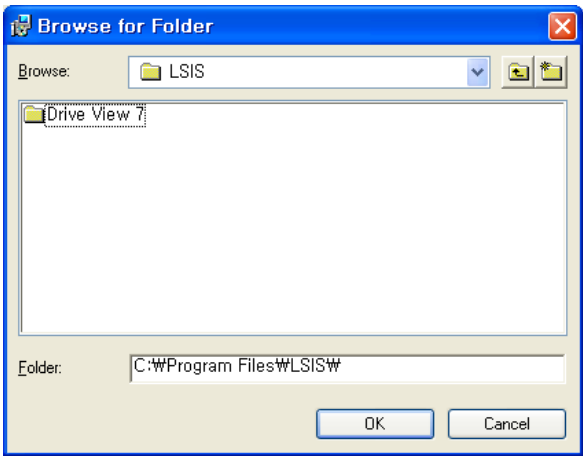
- 1) Execute Setup.exe.
- 2) Drive View 7 Setup Wizard screen will appear.



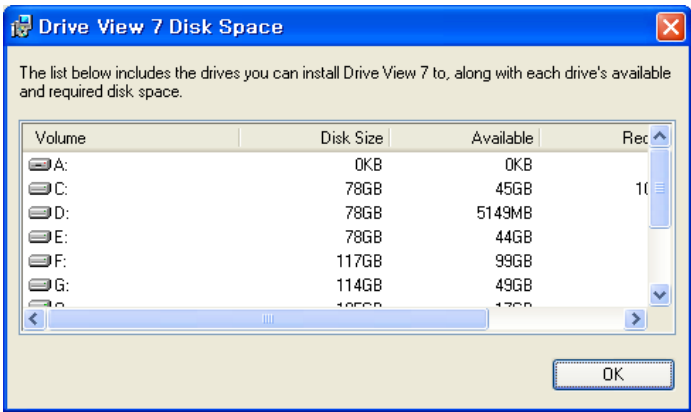
- 3) Click the Next button.
- 4) Screen to Select Installation Folder will appear.



5) Type the folder name you want to install or click the Browse button to select an installation folder.



6) To browse the size of the disc you want to install, click Disc Cost .

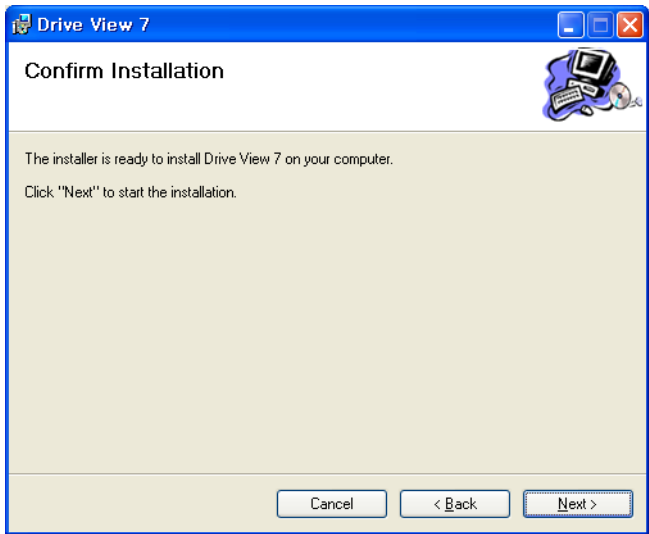


-The system's disc size, available space and required space will be displayed.

- The required space for installing Drive View 7 is about 65MB.

7) Select whether to open Drive View 7 to the entire user of the system or to use it exclusively.

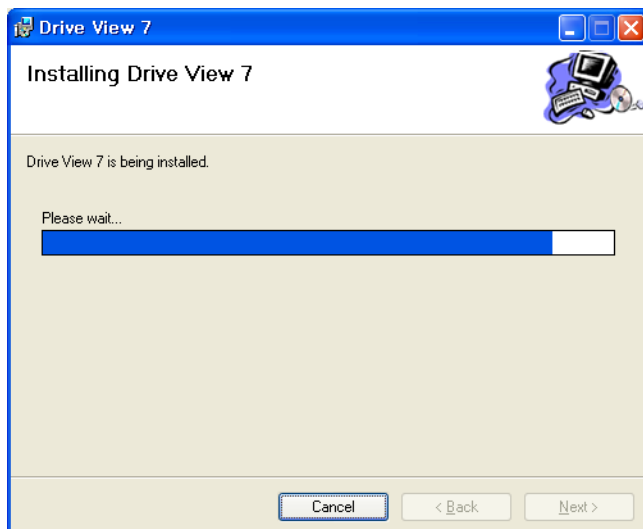
8) If you click the next button, the window to confirm installation will appear.



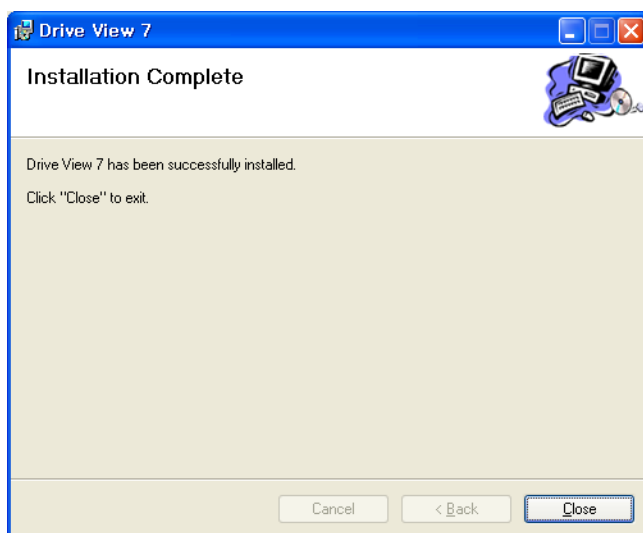
9) If you are ready for installation, click the next button

Drive View 7

10) Drive View 7 will be installed.



11) Drive View 7 is completely installed and then the following window will appear.



3.3 Complete installation

1) If you open the program menu after installing Drive View 7, Drive View 7 Menu will be created.



2) Three shortcut icons will be created under the menu of Drive View 7

- Execute Drive View 7.
- Execute Help File.
- Execute Manual File.

3) Drive View 7 execution Icon will be generated on the Desktop.



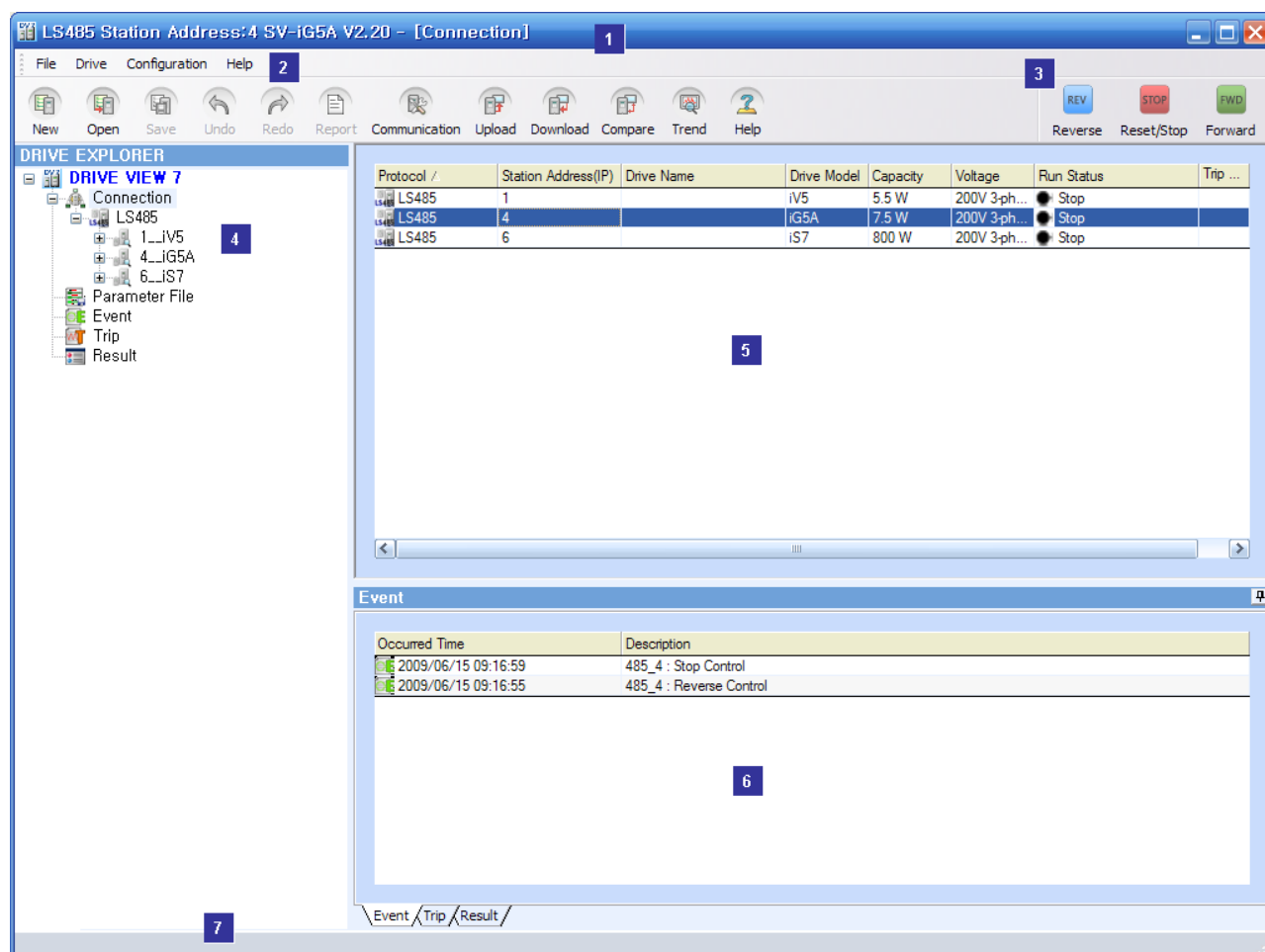
DriveView7

items

4 Description on Screen

4.1 Main Screen

The main screen, a screen displayed when Drive View 7 runs, consists of Title, Menu, Toolbar, Control, Navigation Window, Parameter Edit Window, Result Display Window and Status Display Window.



- 1) Title: The name of the selected drive or the current window
- 2) Menu and Toolbar: Menu and toolbar to select functions
- 3) Control: Drive's control button
- 4) Navigation Window: Window to select drive, file, parameter group, and application
- 5) Parameter Edit Window: As the main window to display the selected item from the navigation window, it shows application diagrams or parameter lists.
- 6) Result Display Window: Window to display results of event or trip
- 7) Status Display Window: Window to display the current status or process status (Progress bar)



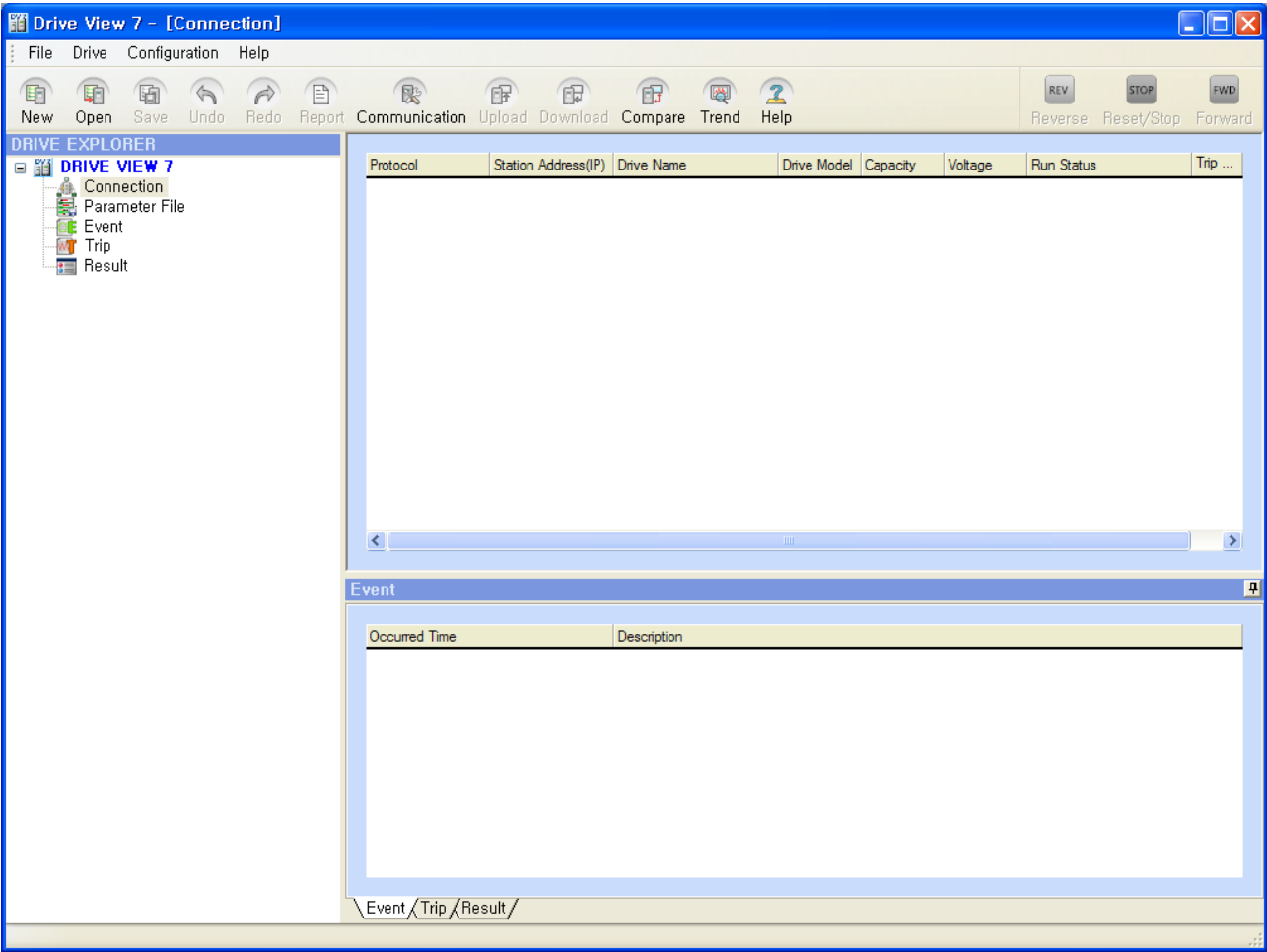
Drive View 7

5 Description on Run and Its functions

The functions needed for running and operating Drive View 7 are described.

5.1 Run

- Drive View 7 is already installed in the system.
- Run DriveView7.exe.
- The initial screen of Drive View 7 will appear.



5.2 Communicate

Communication setup and drive connection/deletion needed for drive connection are described.

- Drive View 7 supports Ethernet and Serial Communication.
- Ethernet communication Modbus-TCP is automatically supported without setup.
- Serial communication is connected by two communication methods; Modbus_RTU and LS485.

(Maximum Station Number that can be connected to the inverter, please refer to the instruction manual of each inverter.)

5.2.1 Set up Communication

- Menu: Select 'Configuration → Communication'.
- Communication setup dialog will be displayed.

Field Number	Modbus-RTU (1)	LS485 (2)	Unit
3	Comm. Port: COM1	COM10	
4	Comm. Speed: 9600	9600	
5	Parity Bit: None	None	
6	Data Bit: 8	8	
7	Stop Bit: 1	1	
8	Timeout: 1000	1000	msec
9	Retry Count: 3	3	times
10	Delay Time (Before): 50	0	msec
11	Delay Time (After): 15	15	msec
12	Flow Control: None	None	

Buttons: 13 OK, 14 Close

- ① Modbus-RTU: Set up for Modbus-RTU communication.
- ② LS485: Set up for LS485 communication.
- ③ Comm. Port: Select Comm Port to be connected with the drive. Only the communication ports installed in the system are displayed. If you select 'None', the relevant communication function will not work. More than one communication port can not be used for each communication mode.
- ④ Comm. Speed: Select communication speed.
- ⑤ Parity Bit: Select parity bit.
- ⑥ Data Bit: Select data bit.

- ⑦ Stop Bit: Select stop bit.
- ⑧ Time Out: Type time to stop communication with the drive.
- ⑨ Retry Count: Select retry count when failing in communication.
- ⑩ Delay Time (Before): Delay Time used when controlling RTS (before sending).
- ⑪ Delay Time (After): Delay Time used when controlling RTS (after sending).
- ⑫ Flow Control: Select flow control.
- ⑬ OK: The setup is applied and the dialog is closed.
- ⑭ Close: The dialog is closed without saving setup

5.3 Add Drive

- Three communication modes, Modbus-TCP, Modbus-RTU and LS485, can be used to register the drive.
- How to register Drive for each communication mode is described.

5.3.1 Add Modbus-TCP Drive

- Menu: Select 'Drive → Add → Modbus_TCP'.
- The dialog to add Modbus-TCP Drive will be displayed.

- ① Station Name: Type the drive name you want to register and control in Drive View 7.
 - ② Station IP: If you click the IP radio button when registering one drive, it will activate. Type IP Address assigned to the drive.
 - ③ IP Range: If you click the "IP Range" Radio button when searching and automatically registering multiple IPs, they will activate.
 - ④ IP address may be designated with range. .
 - ⑤ Add: The drive will be added before closing. The range is automatically registered.
 - ⑥ Close: The work to register Modbus-TCP Station will end.
- If you click the Add button after typing information, the Modbus-TCP Drive you type and search will be added to Drive View 7.
 - If you click the Close button, the work to add Modbus-TCP Station will end.



Drive View 7

5.3.2 Add Modbus-RTU Drive

- Menu: Select 'Drive → Add → Modbus_RTU'.
- The dialog to add Modbus- RTU Drive will be displayed.

- ① Station Name: Type the drive name you want to register and control in Drive View 7.
 - ② Station No.: If you click the IP Radio button when registering one drive, it will activate. Type Station No. assigned to the drive.
 - ③ Station Range: Select and type station range when searching with station range. You may input 1 at minimum and 128 at maximum.
 - ④ All.: All of the station numbers ranged from 1 to 128 will be searched and automatically registered.
 - ⑤ Add: The drive will be added after being searched.
 - ⑥ Close: The work to register Modbus-RTU Station will end.
- If you click the Add button after typing information, the Modbus-RTU Drive you type and search will be added to Drive View 7.
 - If you click the Close button, the work to add Modbus-RTU Station will end.

5.3.3 Add LS485 Drive

- Menu: Select 'Drive → Add → LS485'.
- The dialog to add LS485 Drive will be displayed.

- ① Station Name: Type the drive name you want to register and control in Drive View 7.
- ② Station No.: If you click the IP Radio button when registering one drive, it will activate. Type Station No.

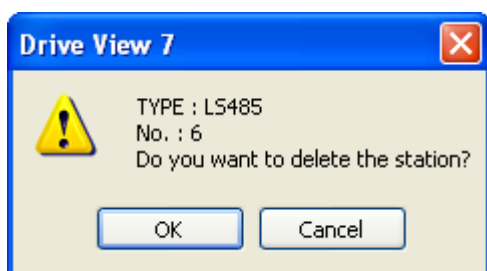
assigned to the drive.

- ③ Station Range: Select and type station range when searching with station range. You may input 1 at minimum and 128 at maximum.
 - ④ All: All of the station numbers ranged from 1 to 128 will be searched and automatically registered.
 - ⑤ Add: The drive will be added after being searched.
 - ⑥ Close: The work to register LS485 Station will end.
- If you click the Add button after typing information, the LS485 Drive you type and search will be added to Drive View 7.
 - If you click the Close button, the work to add LS485 Station will end.

5.4 Delete Drive

Delete a drive among those registered in Drive View 7.

- Select a drive to delete (click the drive from the associated information window or the search window).
- Menu: Select 'Drive → Delete'.
- The dialog to confirm deleting the selected drive will appear.



- OK: The selected drive will be deleted.
- Cancel: The work to delete will be cancelled.
- When you select OK, the selected drive will be deleted.
- The deleted screen will appear.

5.5 Other setup

5.5.1 Set up Language

Drive View 7 basically supports English and Korean. At the initial running after installation, the dialog to select language will appear to allow the user to select language. The user is allowed to change language anytime during the operation.

- Menu: Select 'Configuration → Language'.
- The dialog to select language will appear.

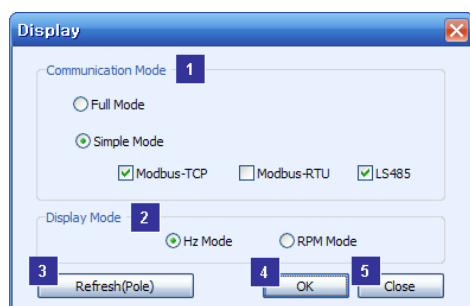


- ① Select Language: The currently selected and operated language is displayed. The combo list shows available languages. Select a language you want to replace the current language with (The combo language file list is displayed only if the system has any language file to support the list.)
- ② OK: The selected language will be applied.
- ③ Close: Changing languages will be cancelled.

5.5.2 Set up Screen

Drive View 7 screen operation is set up.

- Menu: Select 'Configuration → Display'.
- The dialog to set up screen will appear.



- ① Communication Mode: Select a communication mode that will be displayed on Drive View 7 screen. When Full Mode is selected, all of the three communication modes will be selected while they are separately selected in Simple Mode.
- ② Display Mode: Select either Hz or RPM mode.

Drive View 7

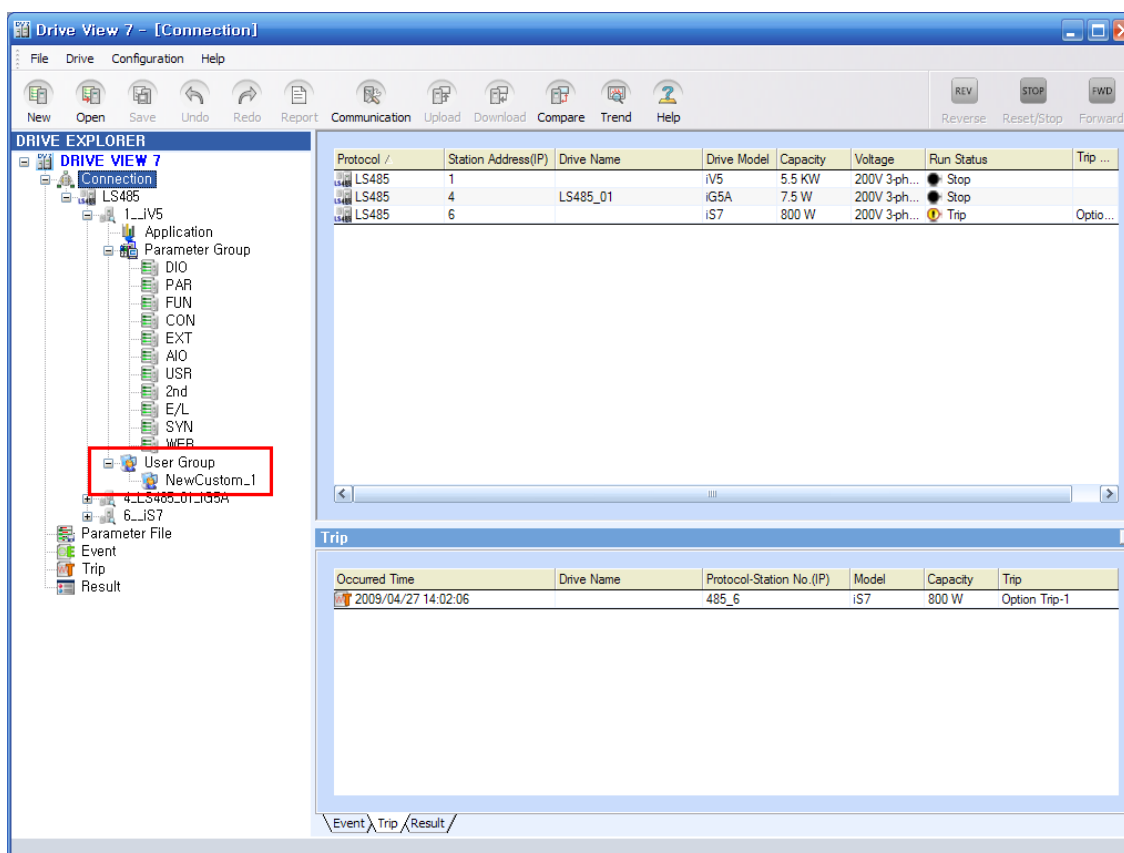
- ③ Refresh(Pole): A pole value for each drive will be refreshed and applied. It is used when applying changed pole value.
- ④ OK: The setup information will be applied and saved.
- ⑤ Close: Changing setup will be cancelled.

5.6 User Group

The user can create a group to manage parameter, separate from the drive's basic parameter group. Also, the user may save the contents of the user group in files.

5.6.1 Create User File

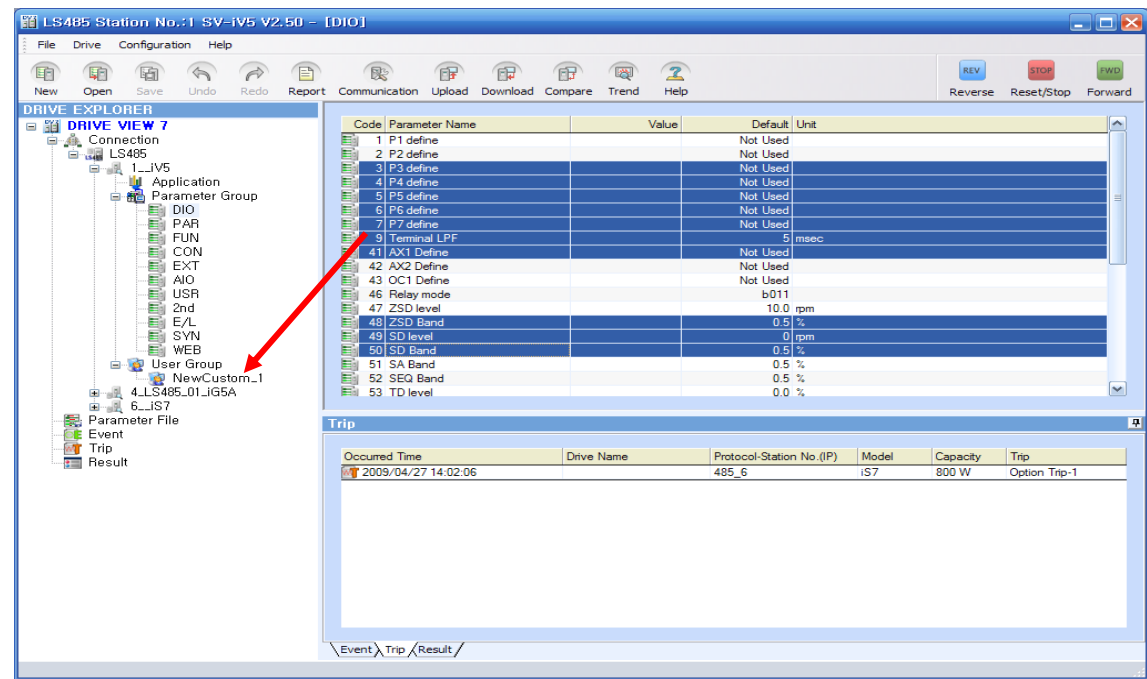
- Menu: Select 'File → User → New User File'.



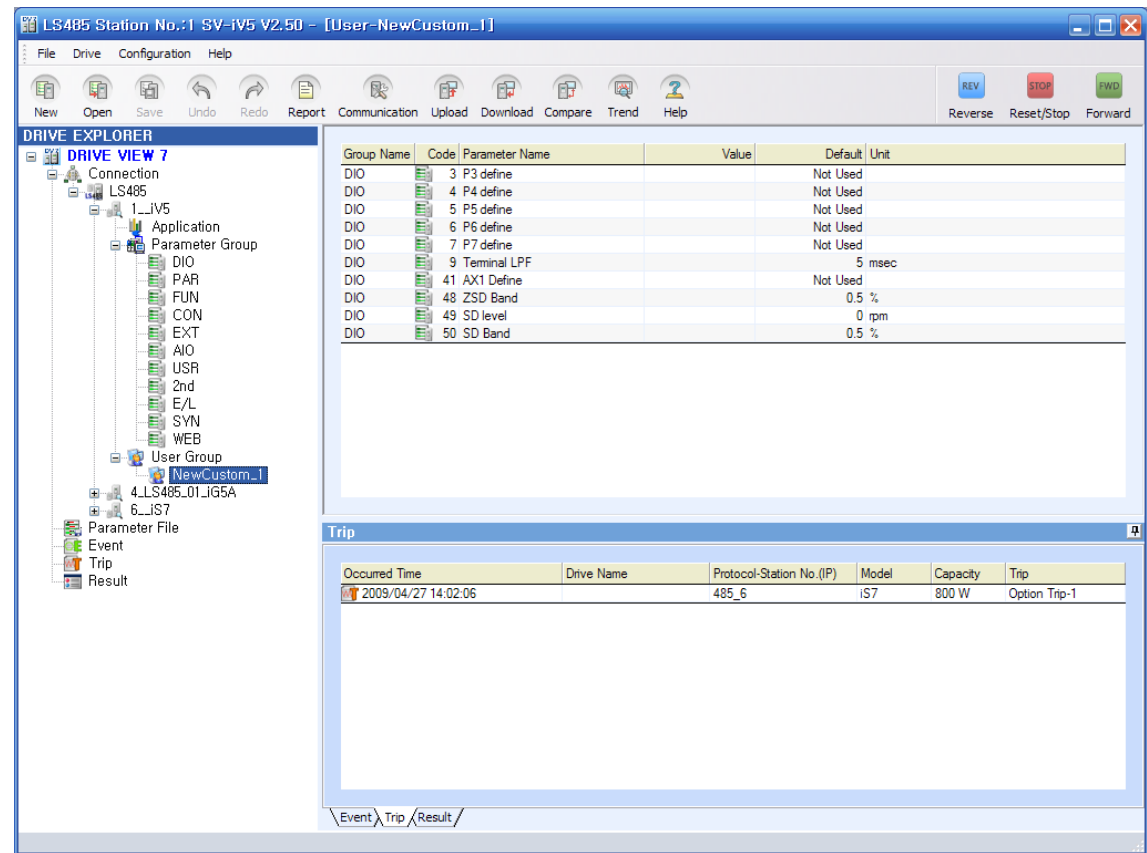
- A new group is added under 'User Group', a submenu of the selected drive.

1) Add Parameter

- Select a parameter to add to 'User Group'.
- Drag and drop the selected parameter to the user file.



- The dragged and dropped parameter will be added to 'User Group.'
- Adding parameter is only possible to the same drive (model).
- Dropping to other drive is not available.



Drive View 7

- 2) Delete Parameter
- Select a parameter to delete from 'User Group'.
 - Press the Del Key of the keyboard.
 - The selected parameter will be deleted from 'User Group'.

LS485 Station No.1 SV-IV5 V2.50 - [User-NewCustom.1]

File Drive Configuration Help

New Open Save Undo Redo Report Communication Upload Download Compare Trend Help

REV STOP FWD
Reverse Reset/Stop Forward

DRIVE VIEW 7

Connection
LS485
1_IV5
Application
Parameter Group
DIO
PAR
FUN
CON
EXT
AIO
USR
2nd
E/L
SYN
WEB
User Group
NewCustom.1
4_LS485_01_JG5A
6_IS7
Parameter File
Event
Trip
Result

Group Name	Code	Parameter Name	Value	Default	Unit
DIO	3	P3 define		Not Used	
DIO	4	P4 define		Not Used	
DIO	5	P5 define		Not Used	
DIO	6	P6 define		Not Used	
DIO	7	P7 define		Not Used	
DIO	9	Terminal LPF		5	msec
DIO	41	AX1 Define		Not Used	
DIO	48	ZSD Band		0.5	%
DIO	49	SD level		0	rpm
DIO	50	SD Band		0.5	%

Trip

Occurred Time	Drive Name	Protocol-Station No. (IP)	Model	Capacity	Trip
2009/04/27 14:02:06		485_6	IS7	800 W	Option Trip-1

Event Trip Result

LS485 Station No.1 SV-IV5 V2.50 - [User-NewCustom.1]

File Drive Configuration Help

New Open Save Undo Redo Report Communication Upload Download Compare Trend Help

REV STOP FWD
Reverse Reset/Stop Forward

DRIVE VIEW 7

Connection
LS485
1_IV5
Application
Parameter Group
DIO
PAR
FUN
CON
EXT
AIO
USR
2nd
E/L
SYN
WEB
User Group
NewCustom.1
4_LS485_01_JG5A
6_IS7
Parameter File
Event
Trip
Result

Group Name	Code	Parameter Name	Value	Default	Unit
DIO	3	P3 define		Not Used	
DIO	4	P4 define		Not Used	
DIO	6	P6 define		Not Used	
DIO	7	P7 define		Not Used	
DIO	41	AX1 Define		Not Used	
DIO	48	ZSD Band		0.5	%
DIO	49	SD level		0	rpm
DIO	50	SD Band		0.5	%

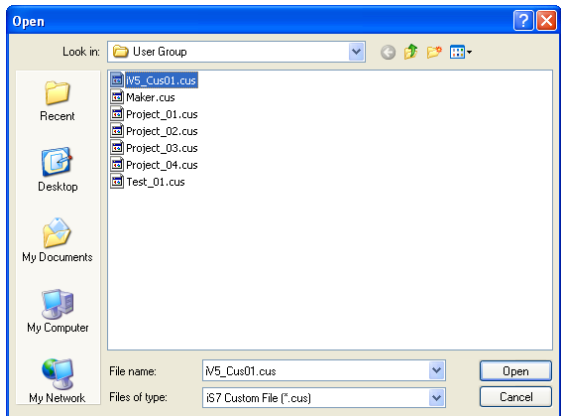
Trip

Occurred Time	Drive Name	Protocol-Station No. (IP)	Model	Capacity	Trip
2009/04/27 14:02:06		485_6	IS7	800 W	Option Trip-1

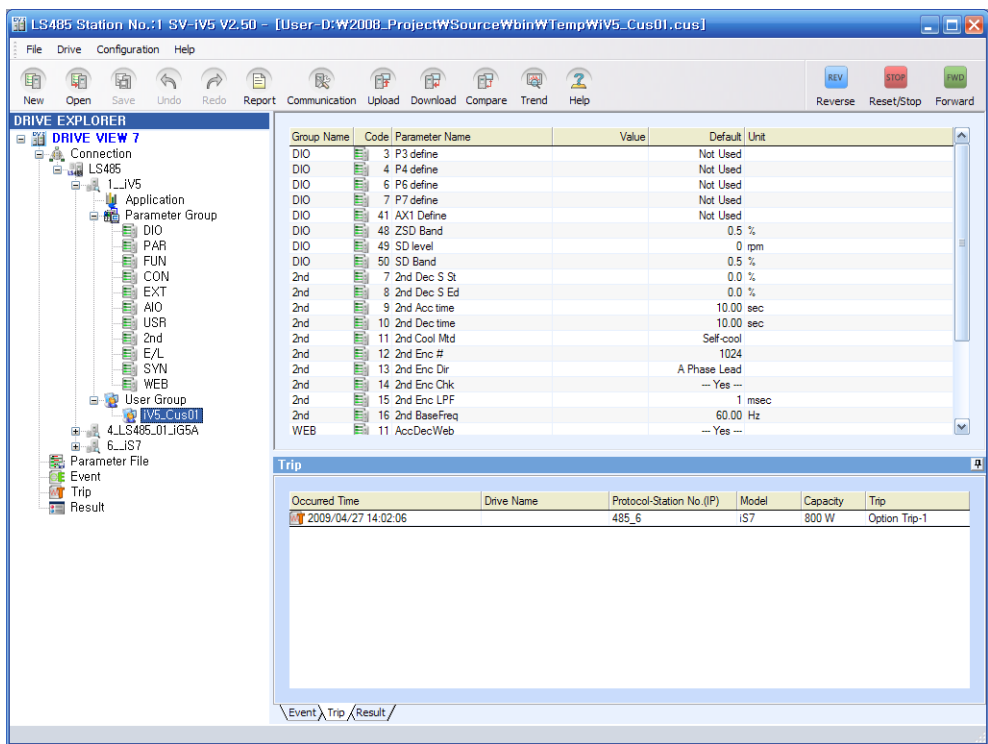
Event Trip Result

5.6.2 Open User File

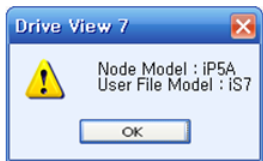
- Menu: Select 'File → User → Open User File'.



- The screen to open User File will appear.
- User files have extension '.cus'.
- Select User File.



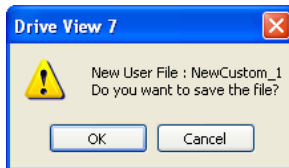
If the model is not under the same drive to which the model is intended to add, the model name will appear in the message box and it will fail in opening file.



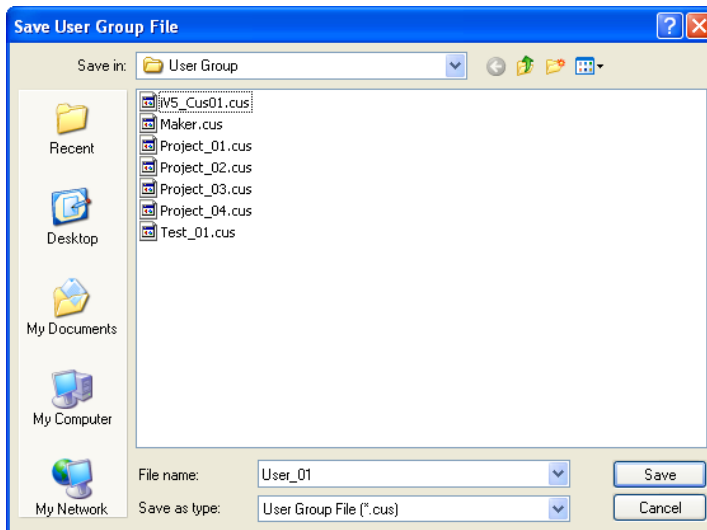
- The user file information will add under 'User Group' and the user can refer to the parameter files registered in the user file.

5.6.3 Save User File

- Menu: Select 'File → User → Save User File'.



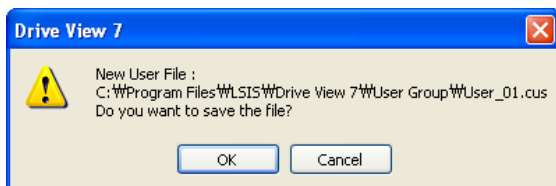
- If there is any change in the current user file, the screen to ask the user whether to save the change, Click the cancel button not to save the change.
- Click the OK button to display the screen to type the file name.



- Select a path and type a file name. Then, click the save button.
- The user group file will be saved in the selected path.

5.6.4 Close User File

- Select a user file you want to close.
- Menu: Select 'File → User → Close User File'.
- 1) In case of new user group or changed one;
- The screen to ask you whether to save the file or not.



- If you select OK, the screen to ask you about a path and a file name will appear as in the saving process. The file will be saved in the same way as in saving a user group and the user group will close after saving.
- Select 'Cancel' to close the user group without saving.
- 2) In case of user group without any change;
- It will close without asking whether to save it or not.

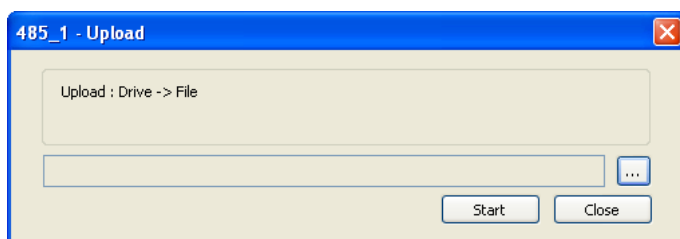
5.7 Parameter

Functions listed in the parameter menu of Drive View 7.

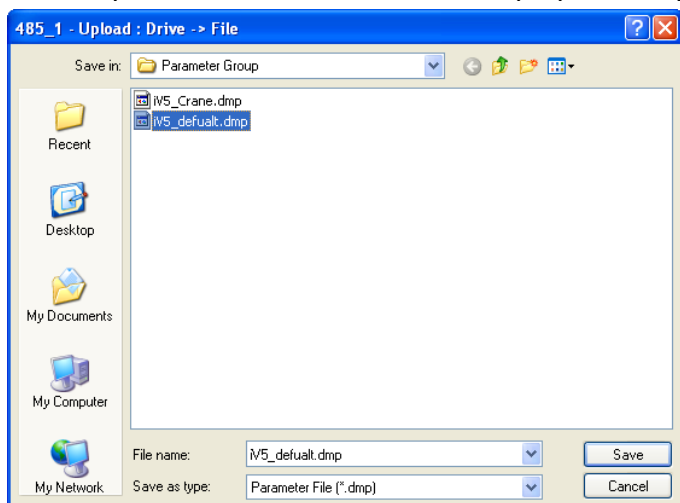
5.7.1 Upload

Function to bring the parameter setup information from the drive and to save it in a form of parameter file.

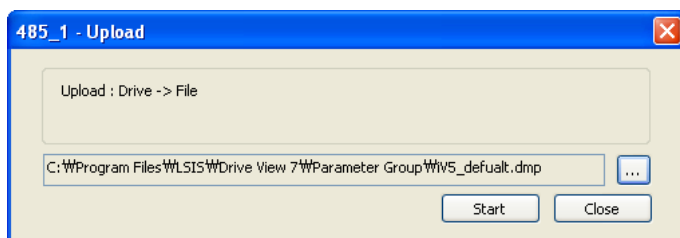
- Select a drive to upload: The menu will activate only when a drive is selected.
- Menu: Select 'Drive → Upload'.
- Upload window will appear.



- Select a parameter file and click the select (...) button. Type a file name to save the parameter value.



- Click the Save button.

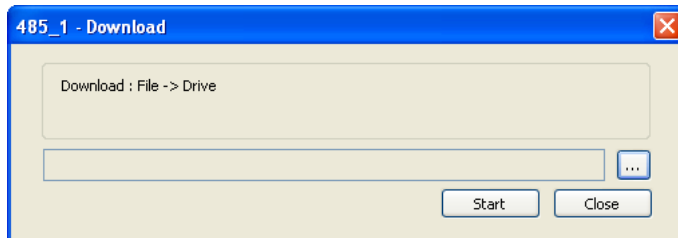


- The file to be saved will appear.
- Click the Start button.
- The status display window or the progress bar of the main window shows the progress to upload the parameter value from the drive to the file.
- The file will be saved after completing the upload process.
- The work will end after showing completion message.

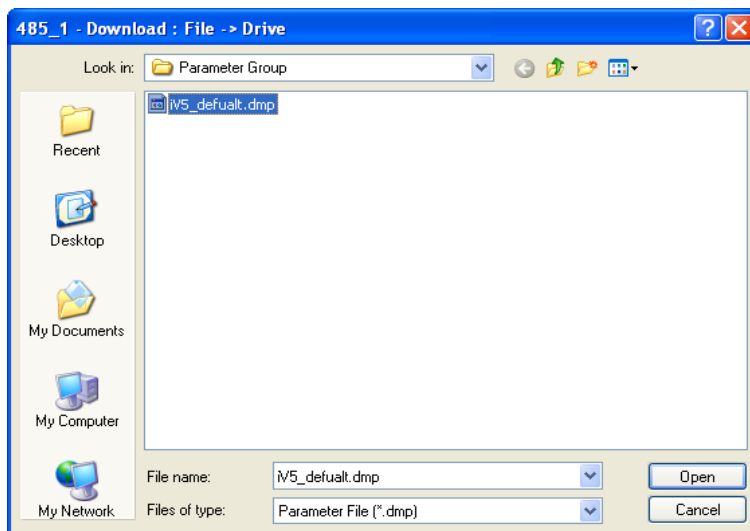
5.7.2 Download

Function to apply the setup value in a parameter file to the parameter setup information of the drive.

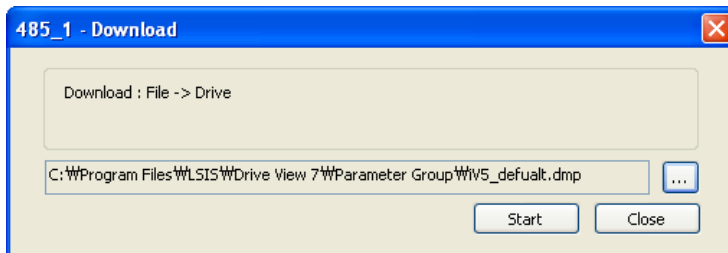
- Select the drive to download: The menu will activate only if any drive is selected
- Menu: Select 'Drive → Download'.
- Download window will appear.



- Select a parameter file and click the select () button. Type a file name to save the parameter value.



- Click the Open button.

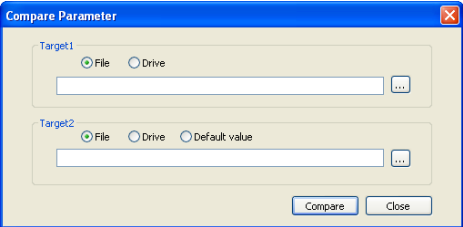


- The file to be downloaded will appear.
- Click the Start button.
- The status display window or the progress bar of the main window shows the progress to download the parameter value from the file to the drive.
- The work will end after showing completion message.

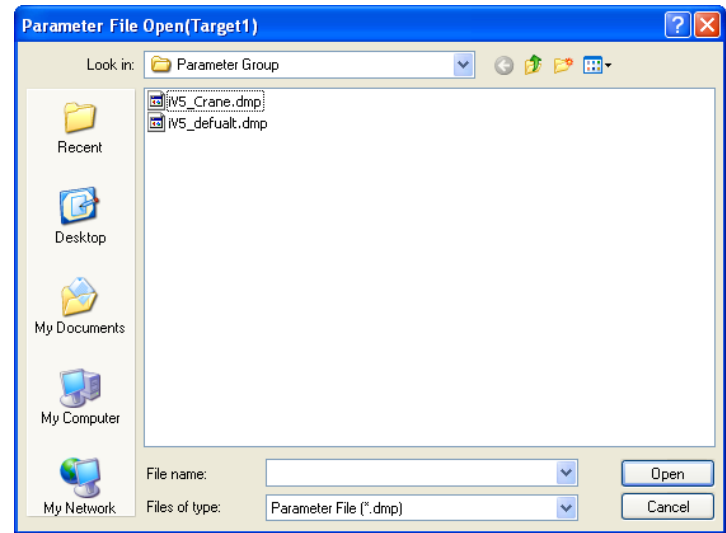
5.7.3 Compare

Function to compare between drives, between drive and file, between files, between drive's basic values (factory values) and between file's basic value and parameter value and to show wrong parameter values in the result display window.

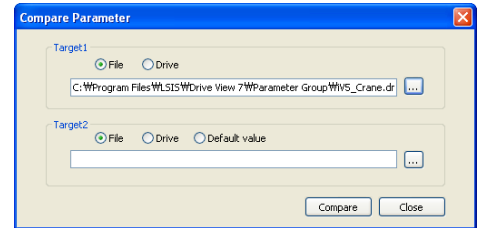
- Menu: Select 'Drive → Compare'.
- The screen to Compare Parameter will appear.



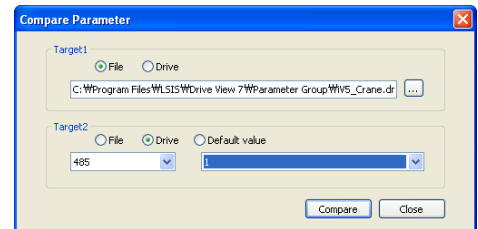
- The screen to select subjects to compare will appear.
- Select Target 1 and Target 2.
- Click the search (...) button to select files.



- The selected files are displayed.

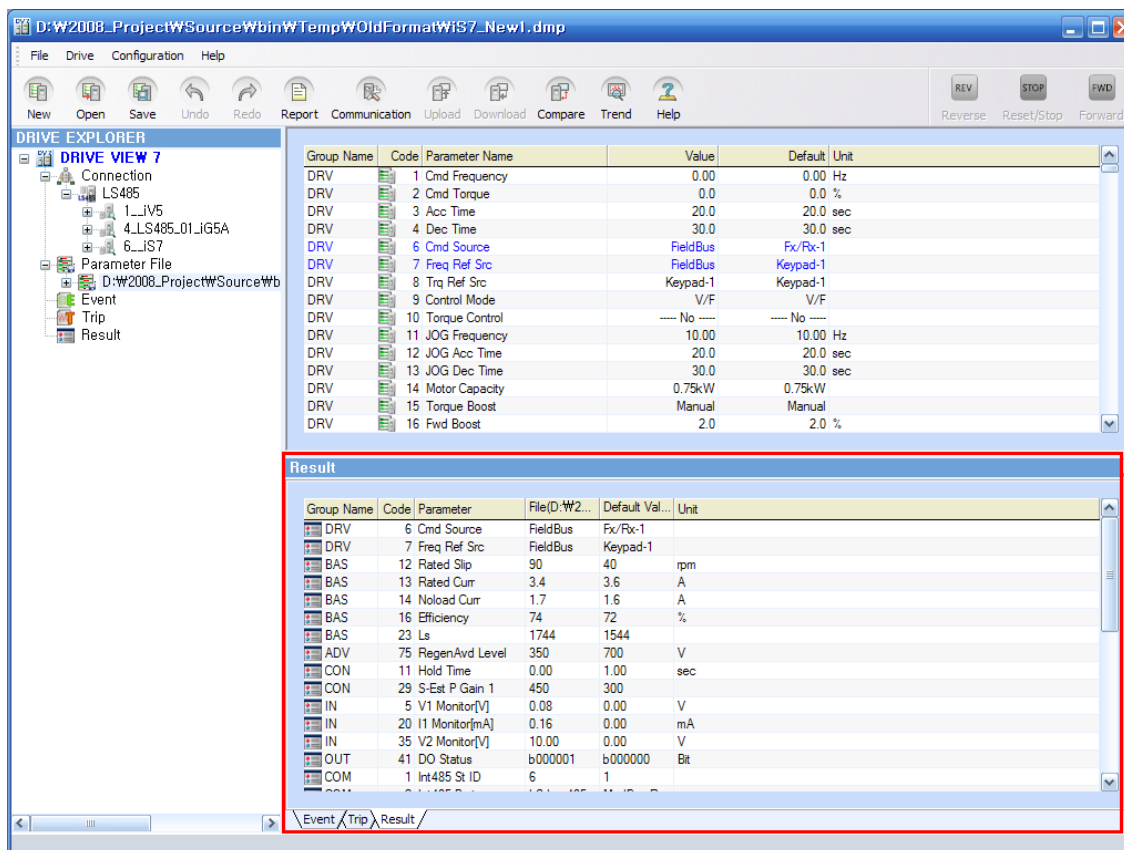


- When selecting 'Drive', you may select a drive associated with the communication mode.



Drive View 7

- When comparing with default value, select Default.
- Click the compare button.
- The progress bar of the main screen shows the comparison progress.
- The result display window will show the result after completion.



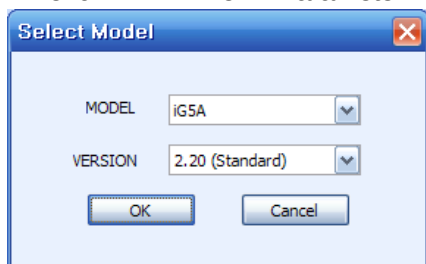
5.7.4 Parameter File

Function to edit a parameter of the drive and save it in a form of a file in off-line. How to create, edit and save a parameter file is described.

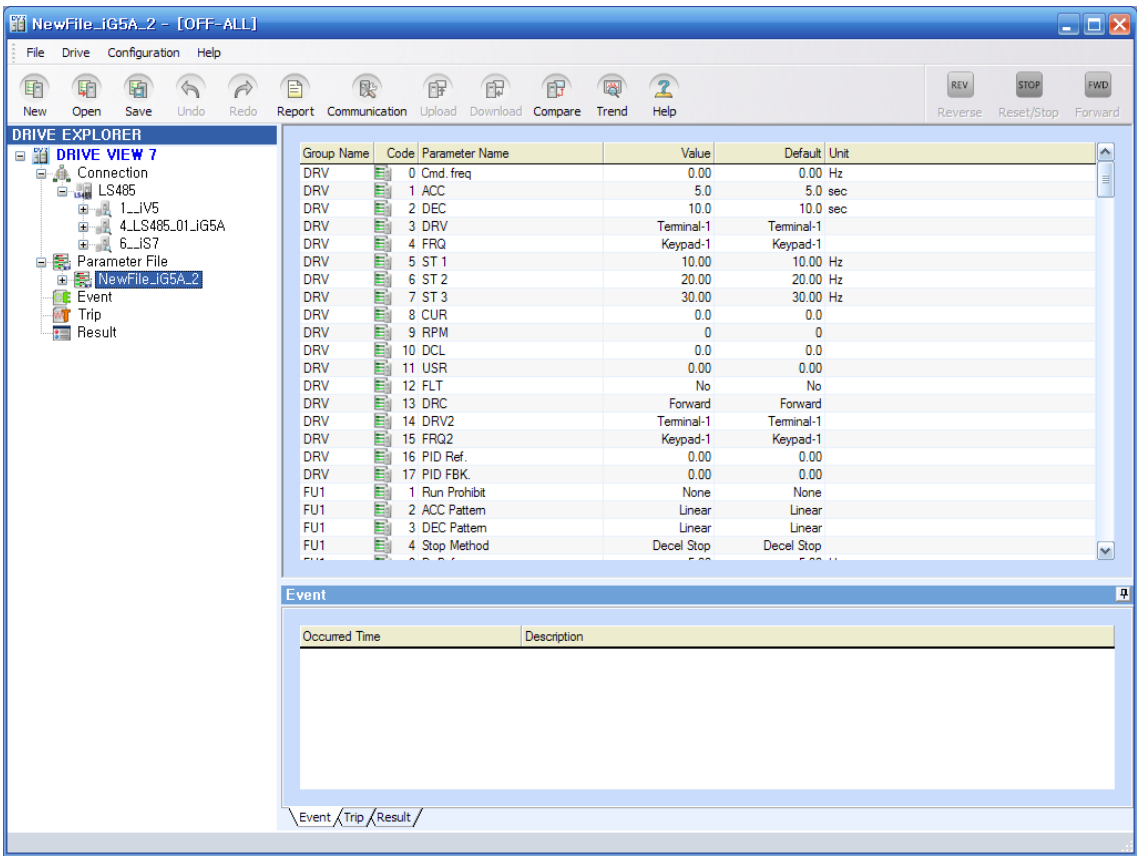
5.7.4.1 Create Parameter File

Create a new parameter file.

- Menu: Select 'File → Parameter → Create Parameter File'.



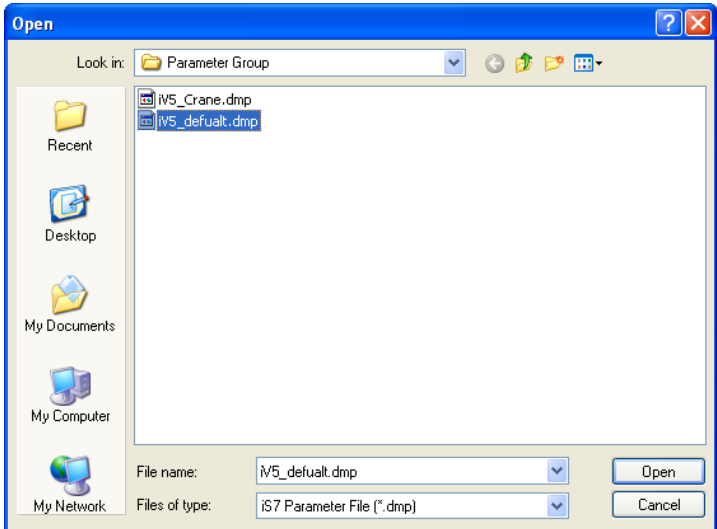
- The window to select a model and version supported in Drive View 7.
- Select a model and version of a parameter file you want to create and click the OK button.
- A new parameter file will be added to the tree information window.



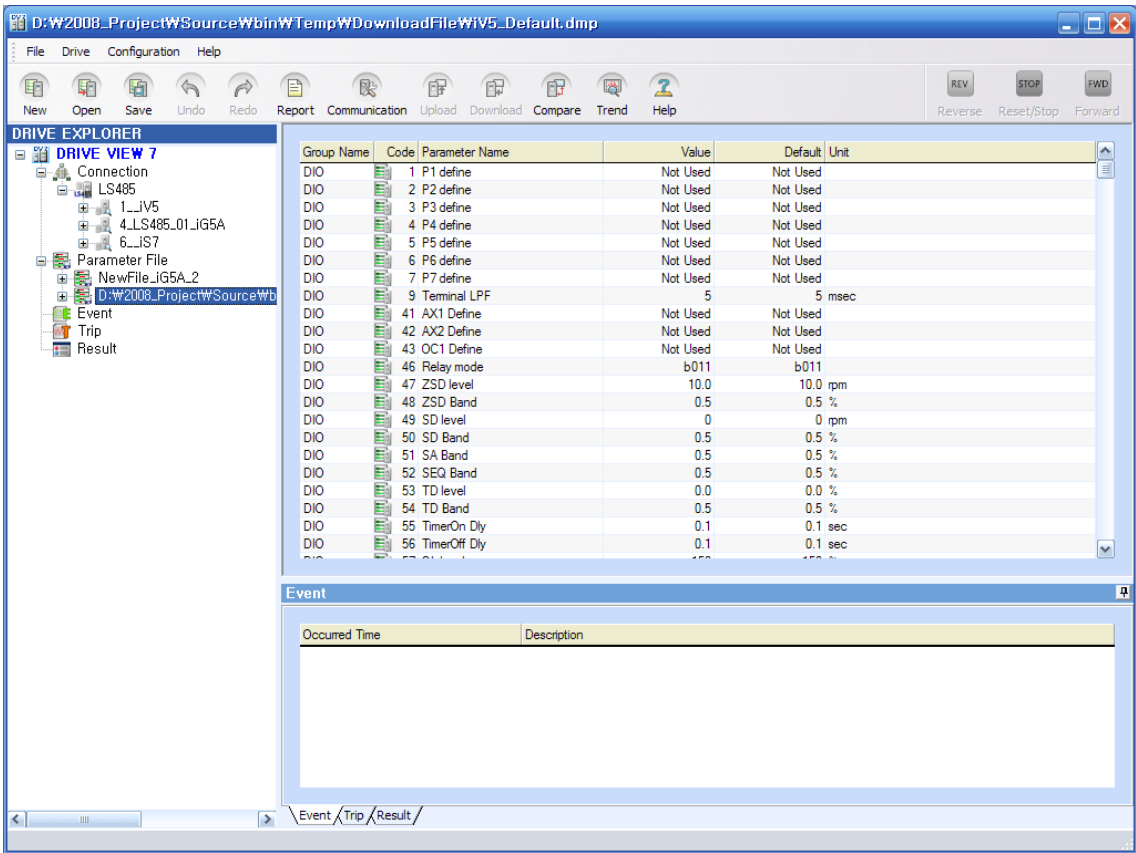
5.7.4.2 Open Parameter File

Open one of existent parameter files.

- Menu: Select 'File → Parameter → Open Parameter File'.
 - When the window to select File opens, select a parameter file you want to open and click the open button.
- The extension of parameter files is .dmp.

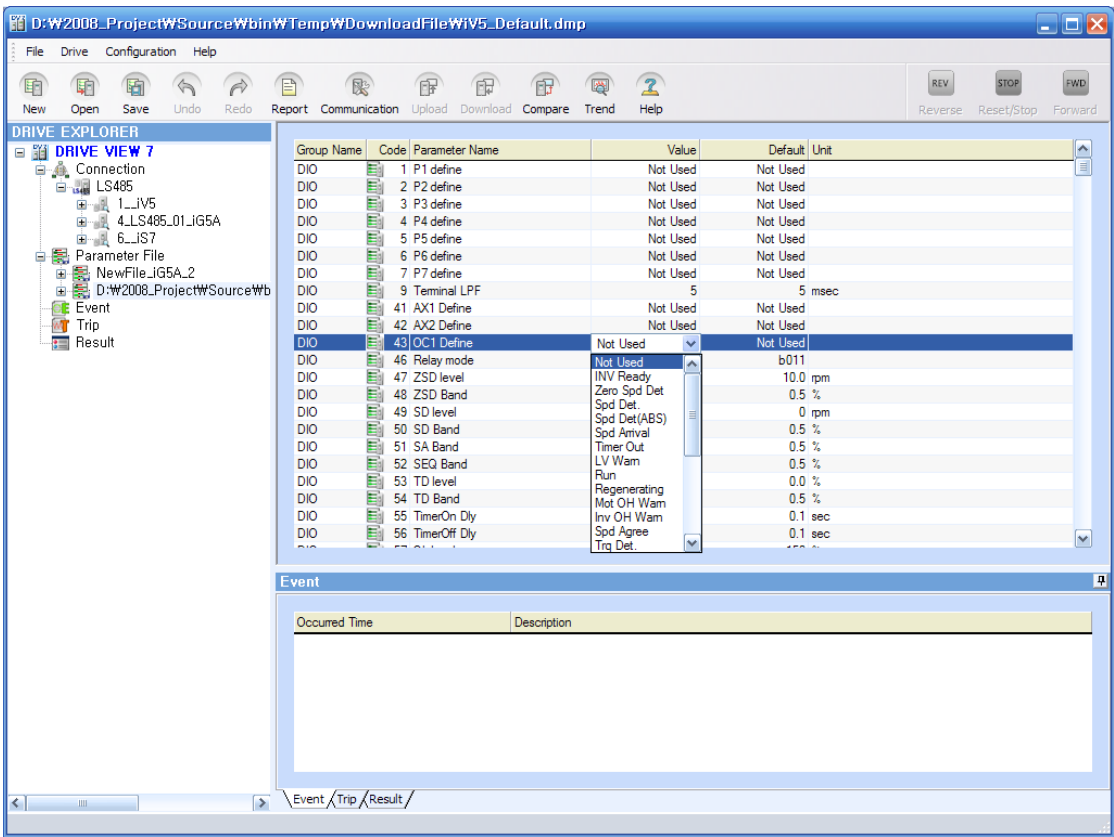


- The selected parameter file will be added to the tree information window.

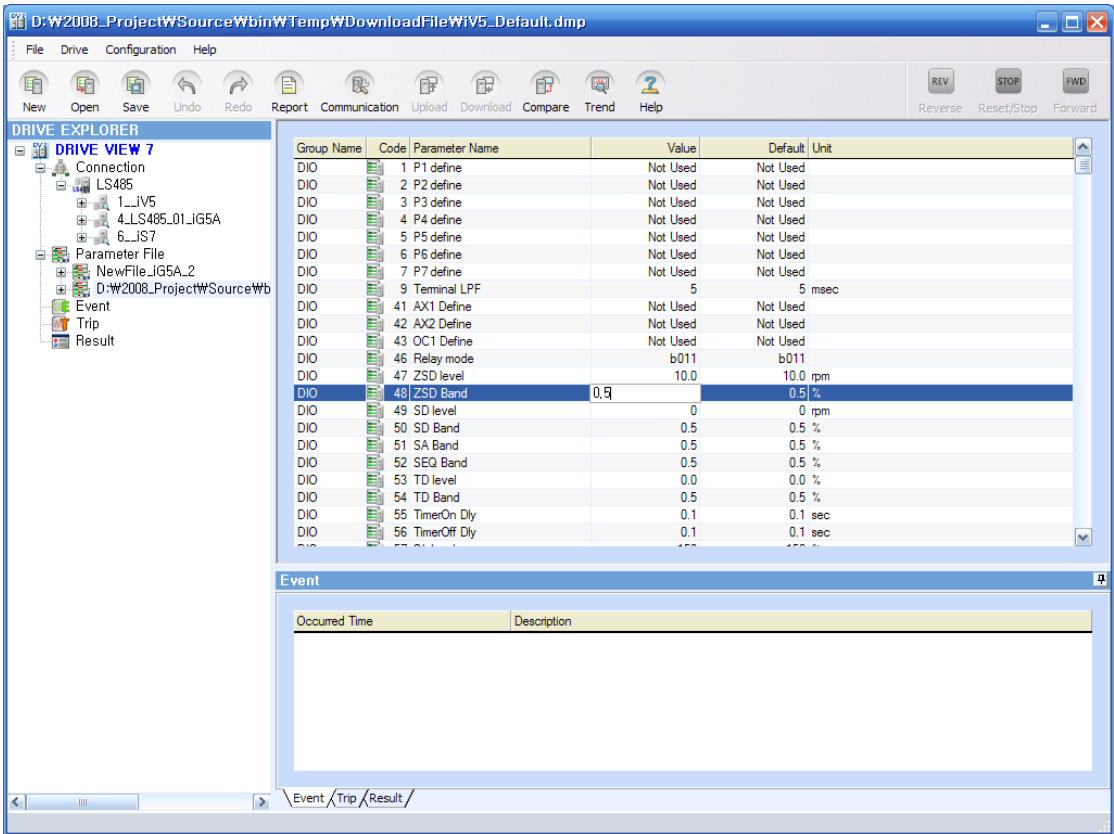


5.7.4.3 Edit Parameter File

- 1) Parameter File Configuration
 - The parameter file will be added to the tree information window under the parameter file category and its file path will be also added along with it.
 - When selecting the file, its entire parameters will be displayed. If you select a group under a certain file, only those parameters that belong to the group will appear.
- 1) Edit Parameter Value
 - A parameter list will appear in the parameter information window and if you click a value, it will turn into the edit mode.
 - The combo will appear for editing message and you may select from the combo list to edit.



- If the edit box appears, type an appropriate parameter value. At this time, the value exceeding the maximum value or lacking the minimum value will not be entered.



- If neither the combo nor the edit box appears, the parameter shall be deemed as a read-only parameter.

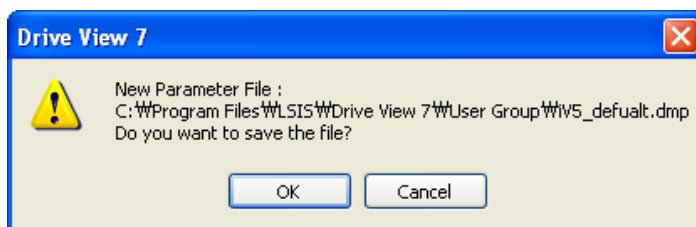
2) Undo/Redo

- Function to cancel the typed value and to retype a new value during editing a parameter
- Menu: Select 'File → Undo/Redo'.
- If you select to Undo, all of revisions will be canceled.
- If you select to Redo, the canceled revisions will be re-executed.
- Undo/Redo operates in the unit of parameter file. When selecting other parameter file, the revision of the relevant file has influence.

5.7.4.4 Save Parameter File

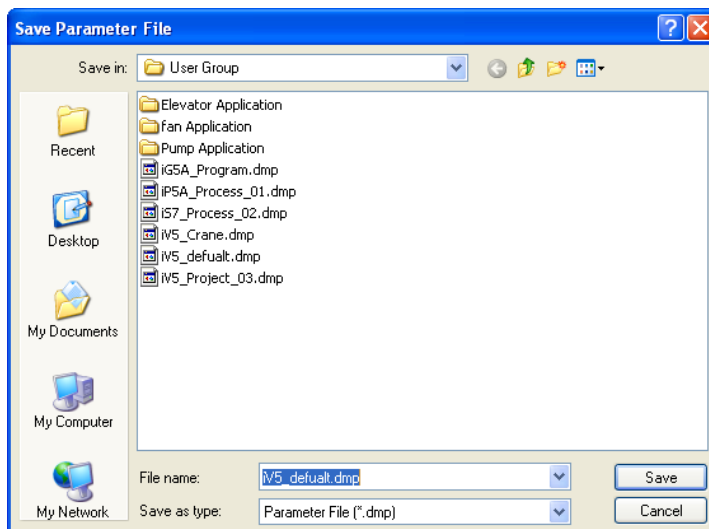
A parameter file is saved in a form of a file.

- Menu: Select 'File → Parameter → Save Parameter File'.
- The window to ask whether to save the file will appear only when the parameter file has some revision.



- Click the OK button.
- Once the window to input the file, type the parameter file information and click the save button.

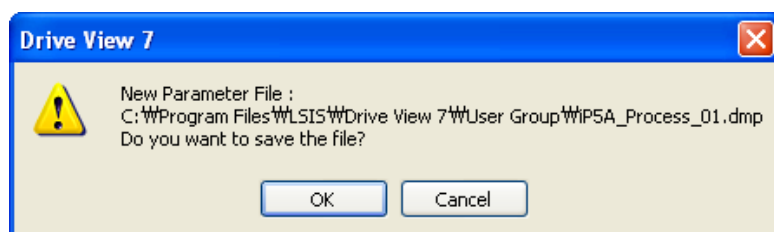
The extension of parameter files is .dmp.



5.7.4.5 Close Parameter File

Close the selected parameter file.

- Select a parameter file you want to close from the tree information window.
- Menu: Select 'File → Parameter → Close Parameter File'.
- The window to ask whether to save the parameter file will appear.



- If you click the OK button, the parameter file list will disappear after getting through the same process with the saving process.
- If you click the Cancel button, the parameter file list will disappear without saving.

5.7.4.6 Convert File (from iS5 to iS7)

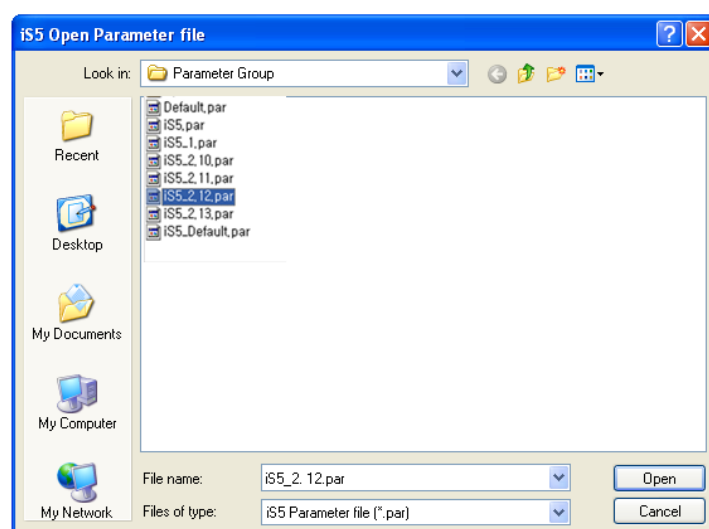
Function to convert a parameter file for iS5 used in Drive View 3.0 to a parameter file for iS7 used in Drive View 7. At this time, the parameter value for iS5 will be converted and saved to the one that fits to iS7.

* Note: This function is supported only its version is higher than iS5 Version 2.12.

- Menu: Select 'File → Convert from iS5 to iS7 parameter file'.
- The window to convert Data File from iS5 to iS7 will appear.

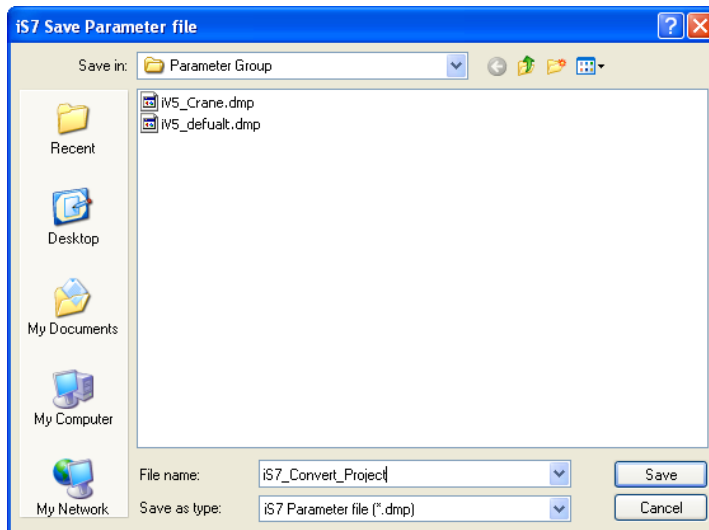


- Select and enter an iS5 parameter file after clicking search button (...).

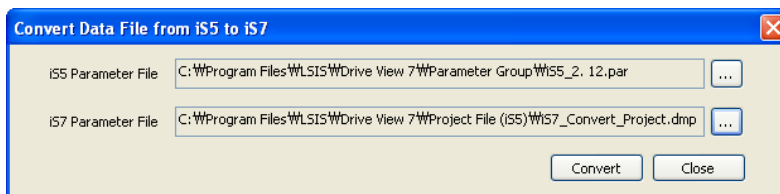


Drive View 7

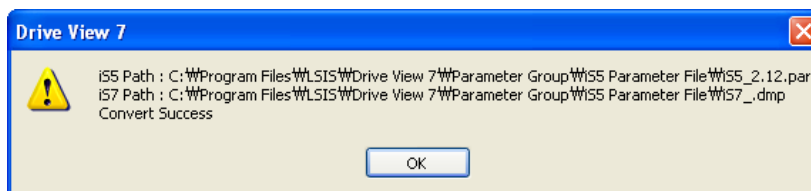
- iS5 parameter file have extension .par and click the Open button after selecting one.
- Click the search button (...) to select and enter an iS7 parameter file.



- Type the name of the iS7 file. It will be saved in dmp file.
- The version of the iS7 file will be converted to Ver 1.00. (the relevant data file needs to be in the data file folder.)
- Click the save button.

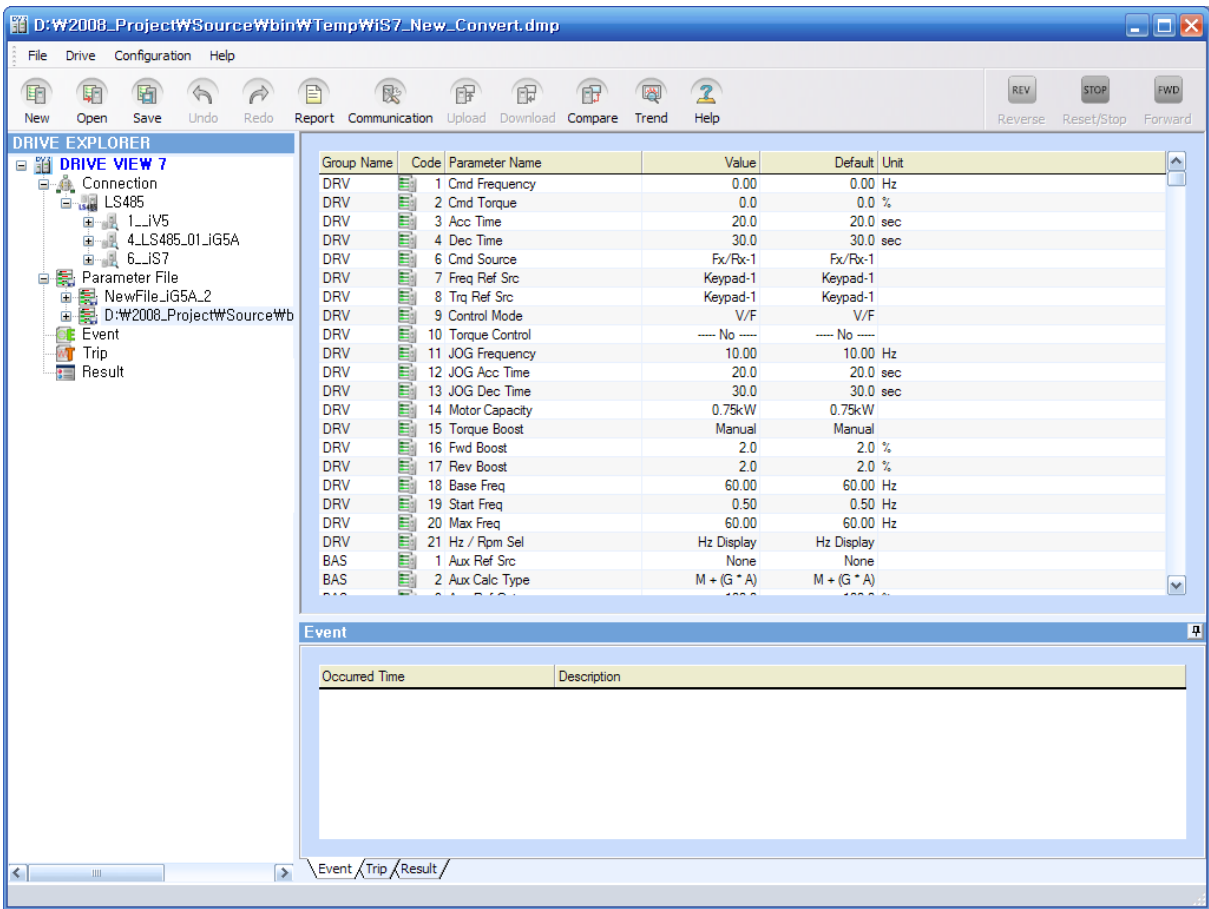


- Once the selected file name is entered, click the convert button after checking.



- 'Convert Success' message will appear and it will be saved in the selected path.

- Also, it will be automatically added to the parameter file list and the list will be displayed.

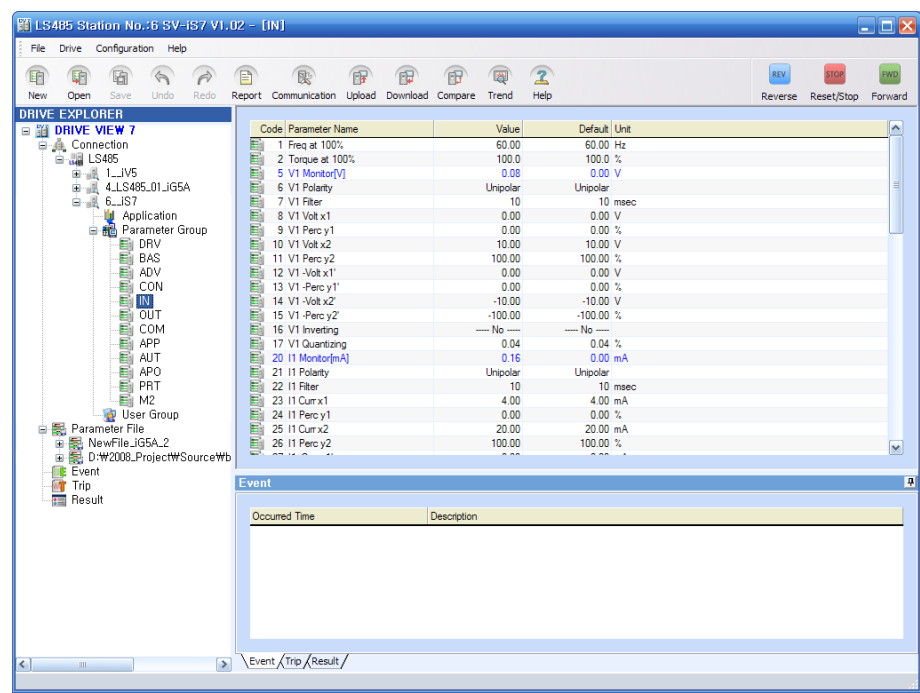


5.8 Report

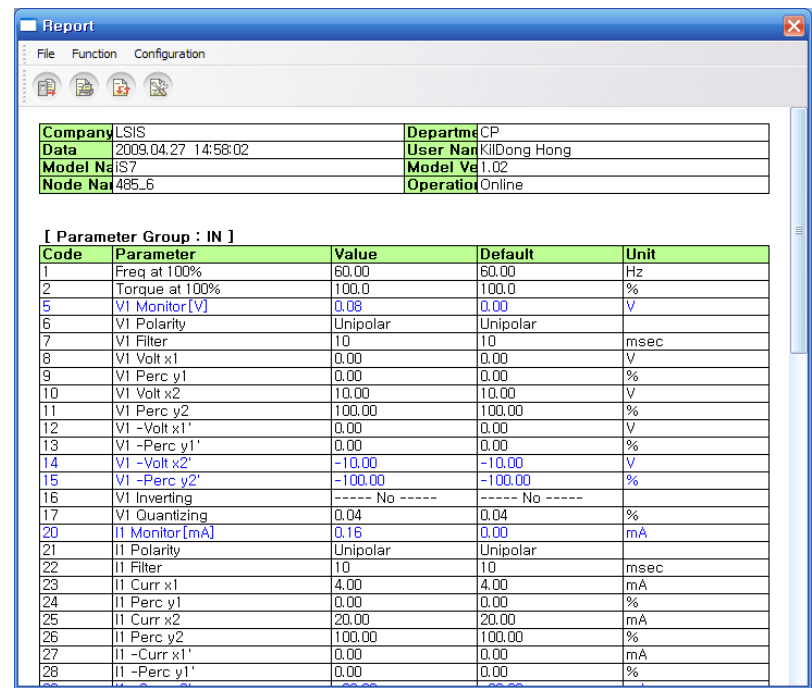
Function to on-line (Drive) and off-line (Parameter File) parameter values in a form of report.
Functions related to editing and printing reports are described.

5.8.1 Run Report

- Select a parameter group you want to display in a form of report from the tree information window.



- It is possible to select one among drive online parameter groups, user groups and offline parameter file's parameter group.
- Menu: Select 'File → Report'.
- The report window will appear and the selected parameter group will be displayed.

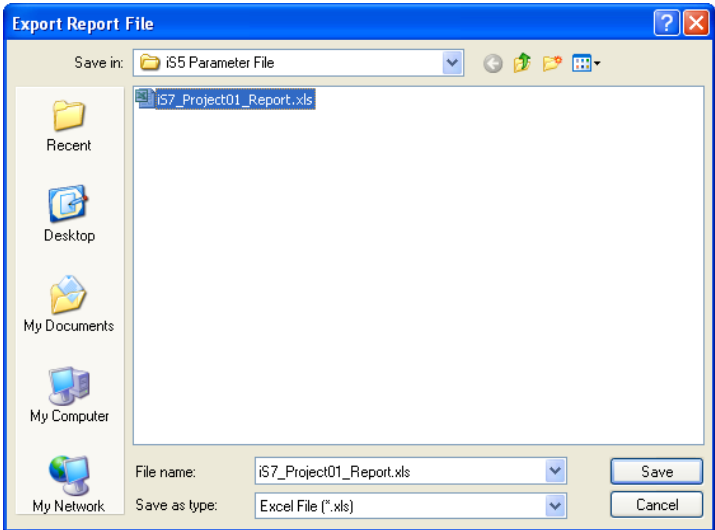


5.8.2 Function

5.8.2.1 Export File

Function to save report information in Excel or HTML file.

- Report Menu: Select 'File → Export File'.
- The window to enter the file you want to save will appear.

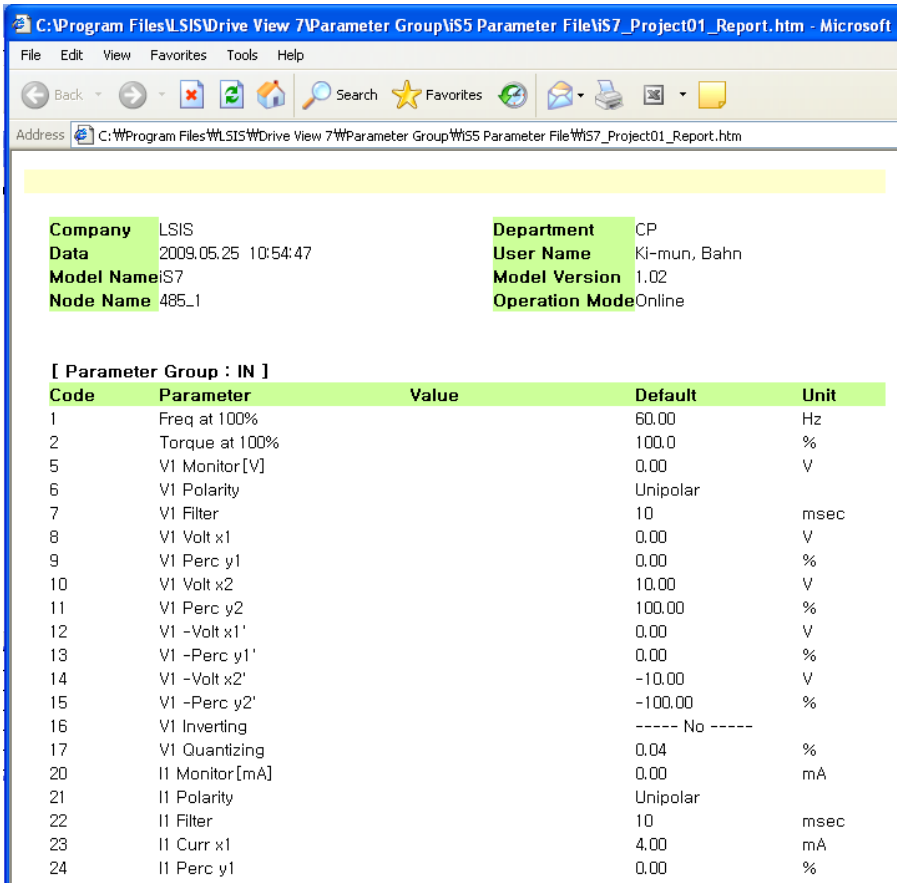


- Select a name and a type of the selected file (Excel File, HTML File).
- It will be saved in Excel file or HTML file.

⦿ Output in Excel form

Microsoft Excel - iS7_Project01_Report.xls										
M11										
	A	B	C	D	E	F	G	H	I	J
1										
2		Company	LSIS				Department	CP		
3		Data	2009.05.25 10:54:47				User Name	Ki-mun, Bahn		
4		Model No	iS7				Model Ver	1.02		
5		Node Name	485_1				Operation	Online		
6										
7										
8		[Parameter Group : IN]								
9		Code	Parameter	Value			Default		Unit	
10		1	Freq at 100%				60.00		Hz	
11		2	Torque at 100%				100.0		%	
12		5	V1 Monitor[V]				0.00		V	
13		6	V1 Polarity				Unipolar			
14		7	V1 Filter				10		msec	
15		8	V1 Volt x1				0.00		V	
16		9	V1 Perc v1				0.00		%	
17		10	V1 Volt x2				10.00		V	
18		11	V1 Perc v2				100.00		%	
19		12	V1 -Volt x1'				0.00		V	
20		13	V1 -Perc v1'				0.00		%	
21		14	V1 -Volt x2'				-10.00		V	
22		15	V1 -Perc v2'				-100.00		%	
23		16	V1 Inverting				----- No -----			
24		17	V1 Quantizing				0.04		%	
25		20	I1 Monitor[mA]				0.00		mA	
26		21	I1 Polarity				Unipolar			
27		22	I1 Filter				10		msec	
28		23	I1 Curr x1				4.00		mA	
29		24	I1 Perc v1				0.00		%	
30		25	I1 Curr x2				20.00		mA	

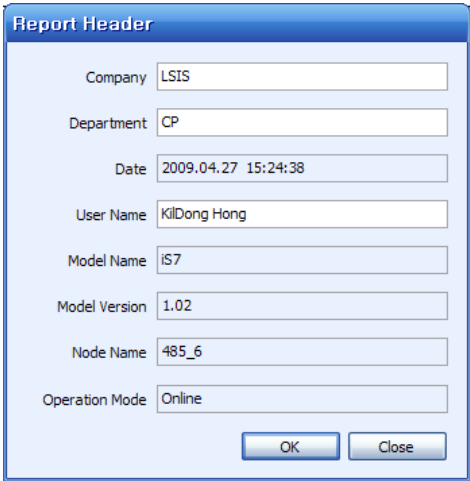
◎ Output in HTML form



5.8.2.2 Set up Header

Function to edit texts to be displayed in the report header.

- Report Menu: Select 'Configuration → Header Setting'.
- The report header edit window will appear.



- Company name, department name and user name are editable, and other items are automatically entered.
- If you click OK button, the Setup is saved, and the changed contents are reflected to the report.

5.8.2.3 Refresh

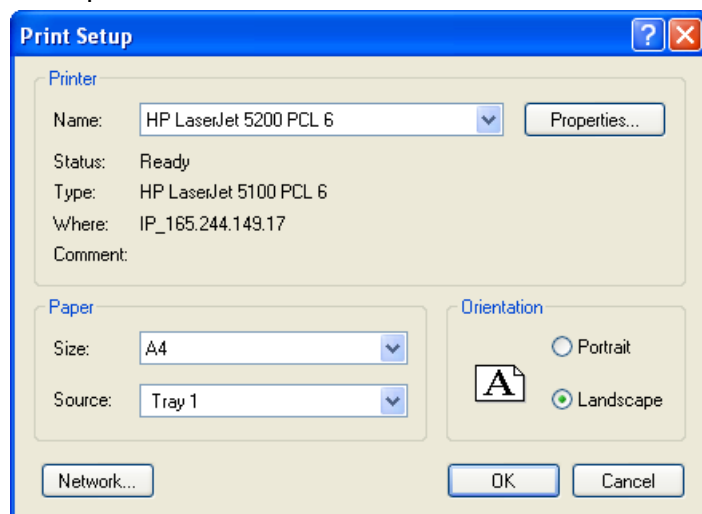
Function to update the report information

- Report Menu: Select 'Function → Refresh'.
- The updated information will be displayed in a form of report.

5.8.2.4 Print

Function to print the report with a printer.

- Report Menu: Select 'File → Print'.



- Click the OK button to print the report.

6 Monitor and Control Drive

6.1 Monitor Drive

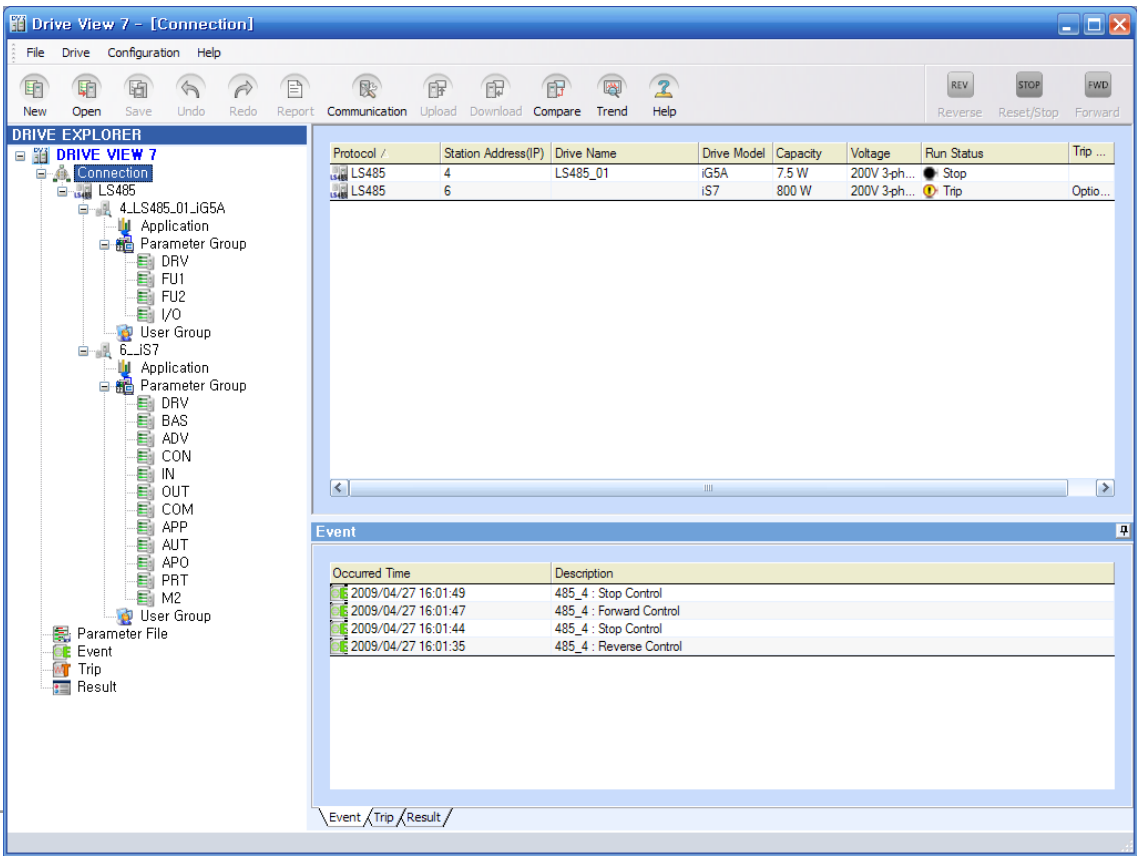
Screen to allow the user to monitor those drives connected with Drive View 7 in a form of list. The monitoring status will appear, regularly communicating with those drives and retrieving those monitored parameters.

1) Display Items

- Protocol: One of three communication modes, Modbus-TCP, Modbus-RTU, LS485 Communication Mode, is displayed.
- Station Address (IP): In case of TCP, IP and in case of RTU or LS485, station No. is displayed .
- Drive Name: The Drive Name designated by the user is displayed.
- Drive Model: Its drive model is displayed.
- Capacity: Its capacity is displayed.
- Voltage: Its voltage is displayed.
- Run Status: The current run status is displayed.
- Trip Information: The current trip status is displayed.

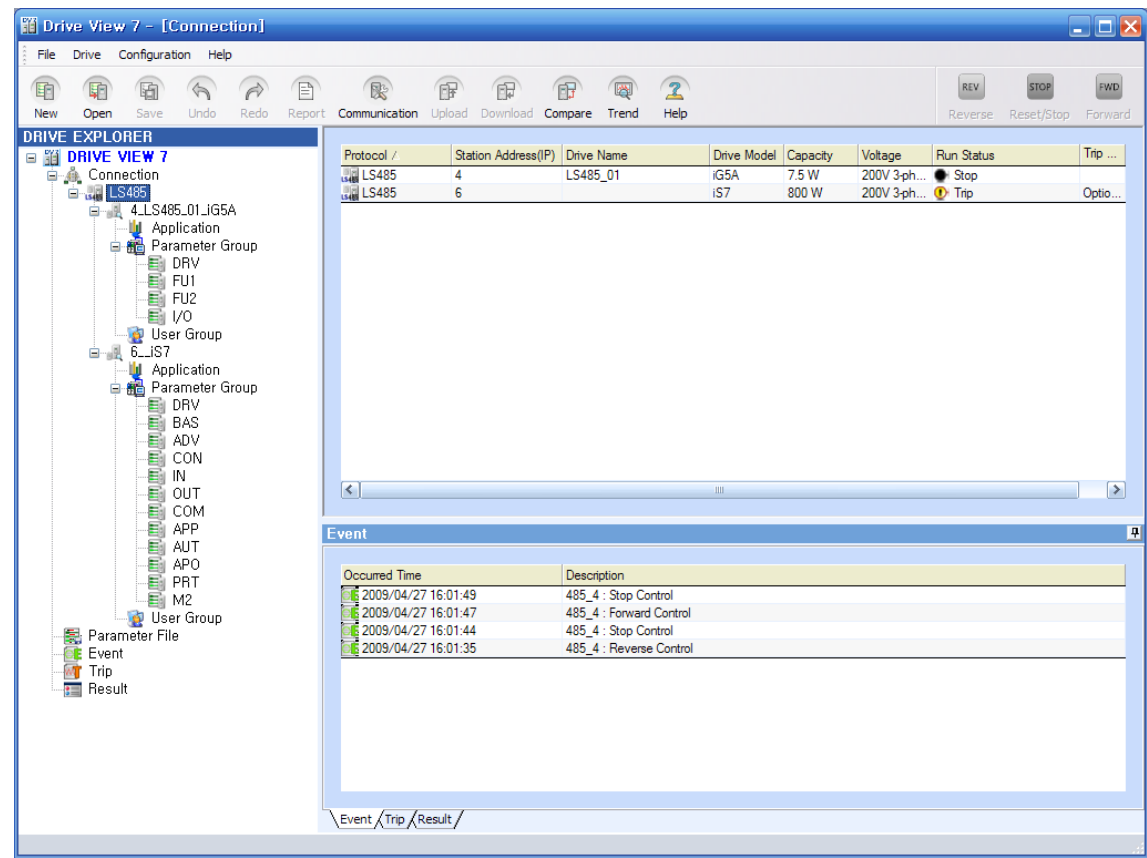
2) Monitor the entire nodes

To monitor the entire drives connected with Drive View 7 regardless of their communication mode, click 'Connection' at the top of the tree information window.



3) Monitor Node for each Communication Mode

To monitor nodes for each communication mode, click the communication mode you want to monitor. You may monitor the connection information on those drives connected in the selected communication mode.



6.2 Control Drive

It plays a keypad role giving commands to the drive. Icons to give commands are located in the upper right and they are active only when any drive is selected. Only when any drive is clearly selected through selecting its information or its parameter, the drive will be considered to be selected and the selected drive will be displayed at the tile area in the upper left.



6.2.1 Reverse (Run reverse)

If you select a drive and click the reverse icon, the command to run reverse will be sent to the drive and the result will be checked through its running status.

6.2.2 Reset/Stop

If you select a drive and click the reset/stop icon, the reset command will be given when any trip occurs or

the stop command will be given in case that the drive is running.

6.2.3 Forward (Run forward)

If you select a drive and click the forward icon, the command to run forward will be sent to the drive and the result will be checked through its running status.

6.3 Run Status

An easier monitoring is possible since the run status of the drive is displayed with the relevant icon along with description.

6.3.1 Description on Icon and Status

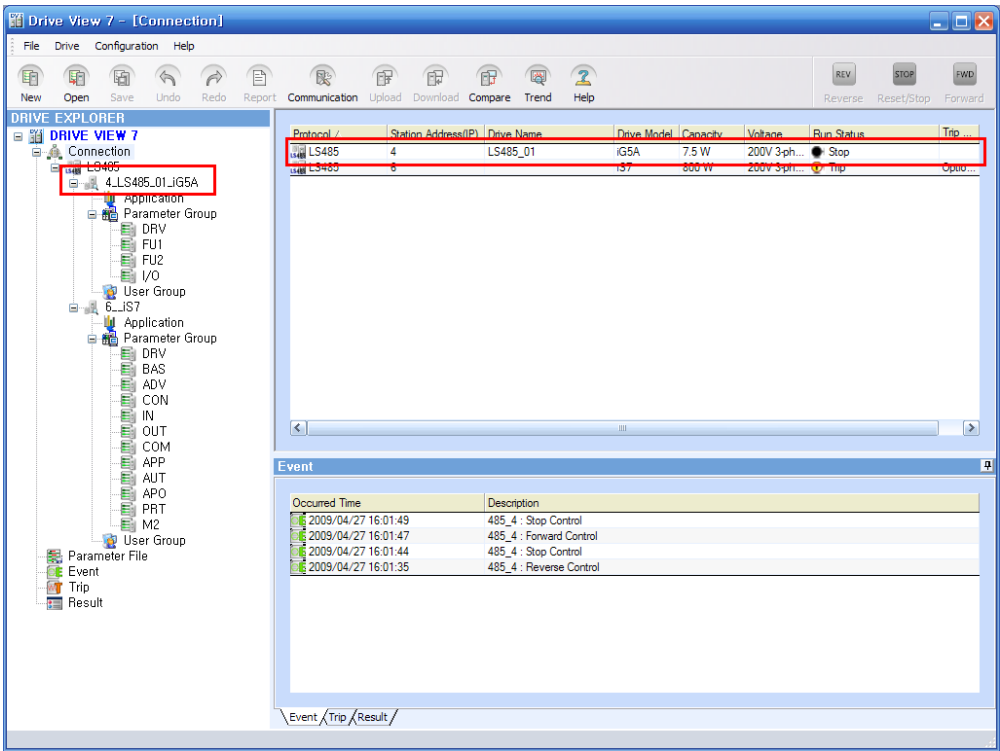
- 1)  Stop : The drive now stops.
- 2)  Communication Error: Communication with the drive is not possible now.
- 3)  Trip: Current some trip occurs.
- 4)  Run forward: The drive now runs forward. This icon appears when the drive gradually reduces its speed while running forward or when the drive is running forward.
- 5)  Run reverse: The drive now runs reverse. This icon appears when the drive gradually reduces its speed while running reverse or when the drive is running reverse.

6.4 Drive Detail Information

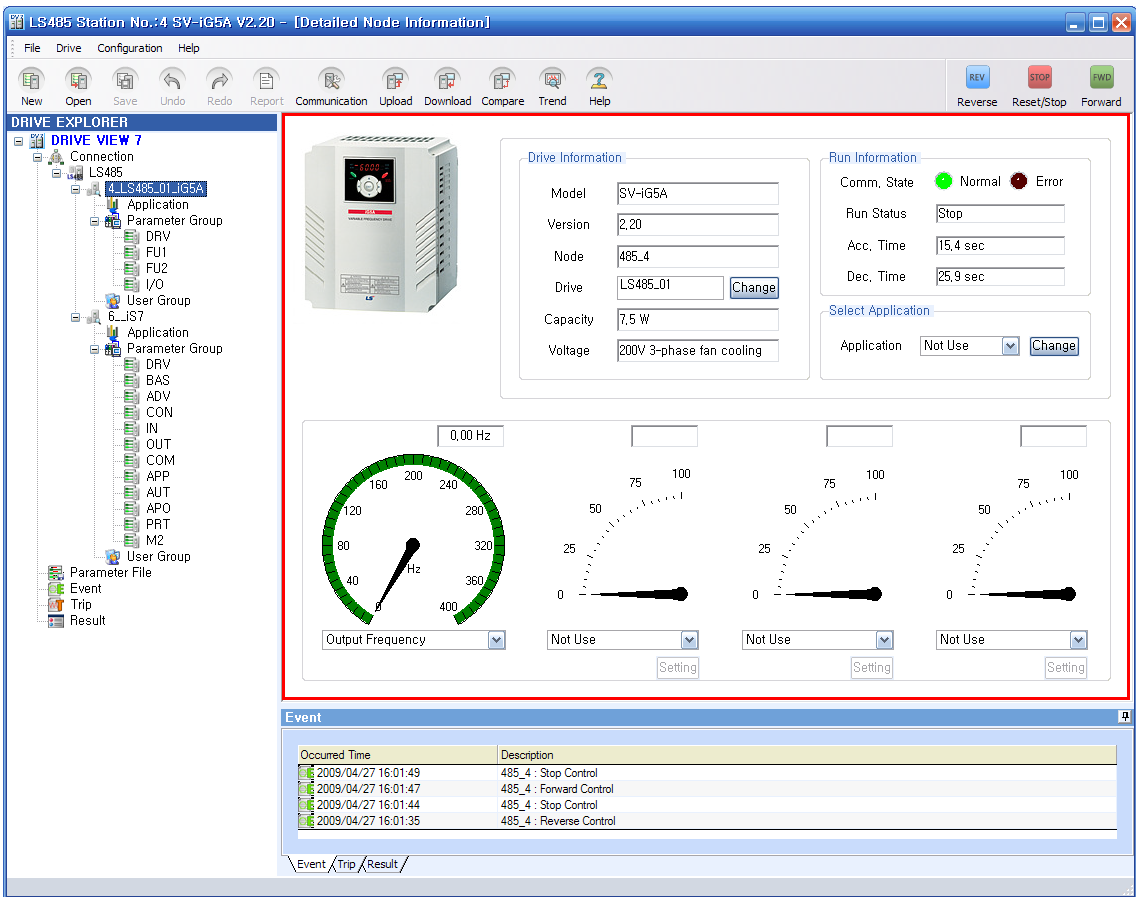
This system provides a window to allow the user to monitor detail parameter information for each drive (Monitoring Parameter).

6.4.1 Open Detail Information Window

Double click the relevant drive in the connection information or click the relevant drive in the node information window to move to the detail information window.

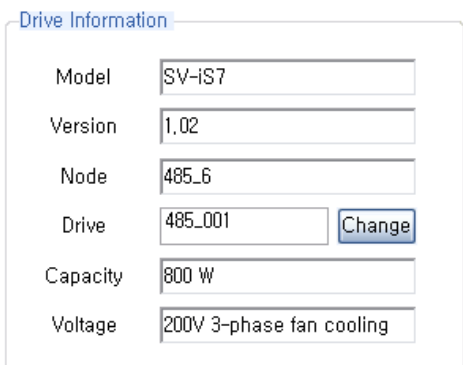


- Select and double click a drive you want to move to the detail information window.
- The detail information window will appear.



6.4.2 Displayed Detail Information Items

- 1) Drive Information: Information on the connected drive is displayed.



- Model: The model name of the drive model is displayed.
- Version: The version of the drive model is displayed.
- Node: The name of the node that consists of communication mode and IP or station no.
- Drive: It is possible for the user to change the current station name arbitrarily.
- Change: If you want to change, rename it and click the change button.
- Capacity: The capacity of the drive is displayed.

Drive View 7

- Voltage: The voltage of the drive is displayed.
- 2) Run Information: The current state of the drive is displayed.

Run Information

Comm. State	● Normal ● Error
Run Status	Trip
Acc. Time	20,0 sec
Dec. Time	30,0 sec

- Comm. State: The communication state of the drive is displayed. Either Normal or Error is displayed.
- Run Status: One of status among Trip, Stop and Run is displayed.
- Acc. Time: Acc time is displayed.
- Dec. Time: Dec time is displayed.

3) Select Application

Application for each drive can be selected.

- Available applications are displayed in the application combo list.
- Initially, 'Not Use' is selected

Select Application

Application	Not Use	Change
-------------	--------------------------------------	---------------------------------------

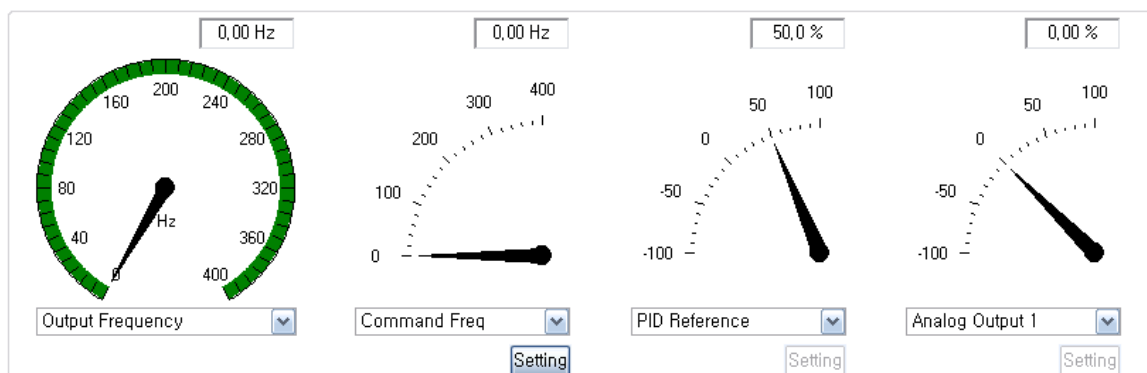
Not Use

Elevator

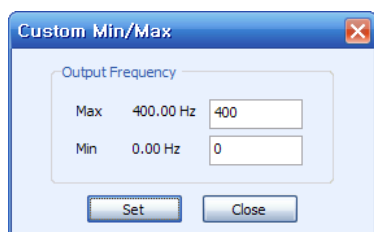
Hoist

IS7 WEB

- Select an application you want to apply and click the change button.
 - Diagrams provided at the selected application will be added to Application, the submenu of Drive in the Navigation Window.
 - Select a diagram to inquire and use. (Refer to the description on applications)
- 4) Select Monitoring Parameter: The user can select a parameter to monitor. Information is displayed in a form of gage.



- 5) Output Gage: Select either Output Frequency or Output Speed to monitor.
 - Select either Output Frequency or Output Speed through combo.
 - Custom Min / Max: If it is difficult to monitor since the range from the maximum value to the minimum value is too wide, the user may adjust the maximum value and/or the minimum value of the gage.
 - Double click a gage to display the Custom Min/Max window.

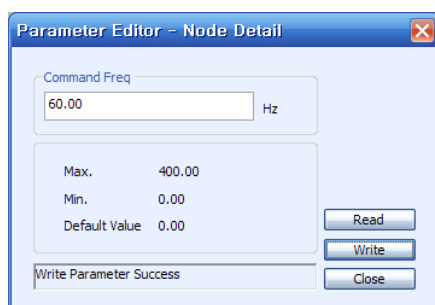


- After typing a maximum and minimum value, click the set button.
 - The gage to which the changed maximum and minimum value applies will be displayed.
- 6) Select Monitoring Gage: Three gages are provided and the user is allowed to select a monitoring parameter.
 - Select a monitoring parameter from the combo.
 - Custom Min / Max: If it is difficult to monitor since the range from the maximum value to the minimum value is too wide, the user may adjust the maximum value and/or the minimum value of the gage.
 - Double click a gage to display the Custom Min/Max window.
 - After typing a maximum and minimum value, click the Set button.
 - The gage to which the changed maximum and minimum value applies will be displayed.

7) Change Parameter Value

If a parameter is changeable according to the type of the selected monitoring parameter, the Setting button will be active to change the value of the parameter.

- Click the Setting button.
- The parameter control window will be displayed.
- Type a maximum and minimum value and click the Write button. The value will apply to the drive.
- Once writing is completed, its result will be displayed in the status display window.



- Use the Read button when you bring back the parameter value from the drive to read it again.

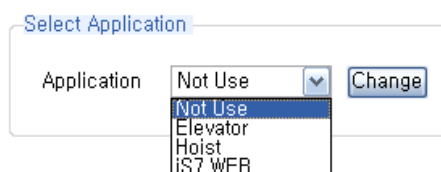
6.5 Application

In Drive View 7, parameters can be inquired and changed through the graph screen supported by a relevant application depending on the drive's applicable application

6.5.1 Select and Operate Application

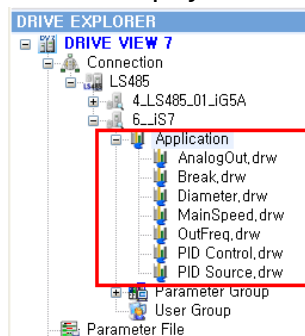
1) Select Application

- Select Application from the detail screen. Refer to detail screen – Select Application.



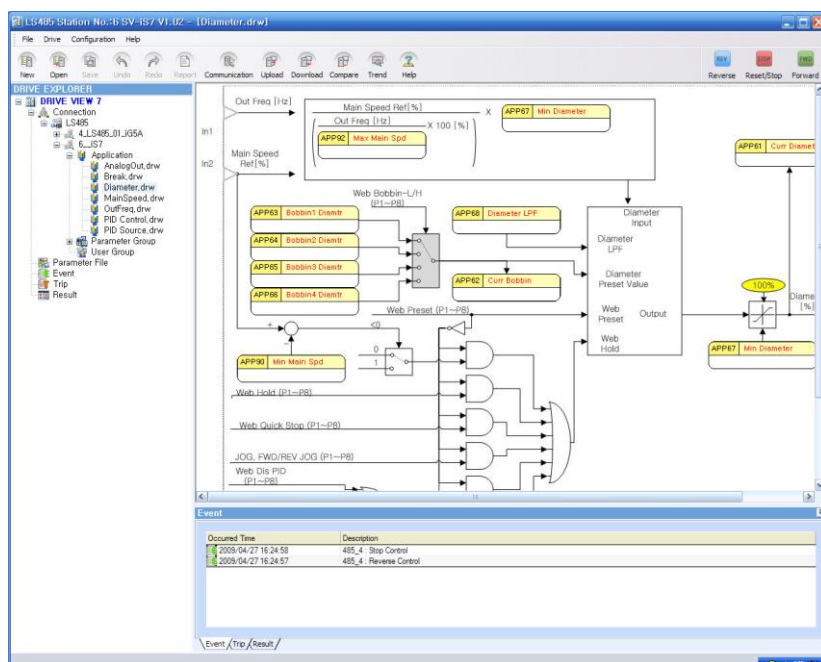
2) Display Application Diagram

- Once any application is selected, the application diagram list supported at the relevant application will be displayed under Application, the submenu of the drive.



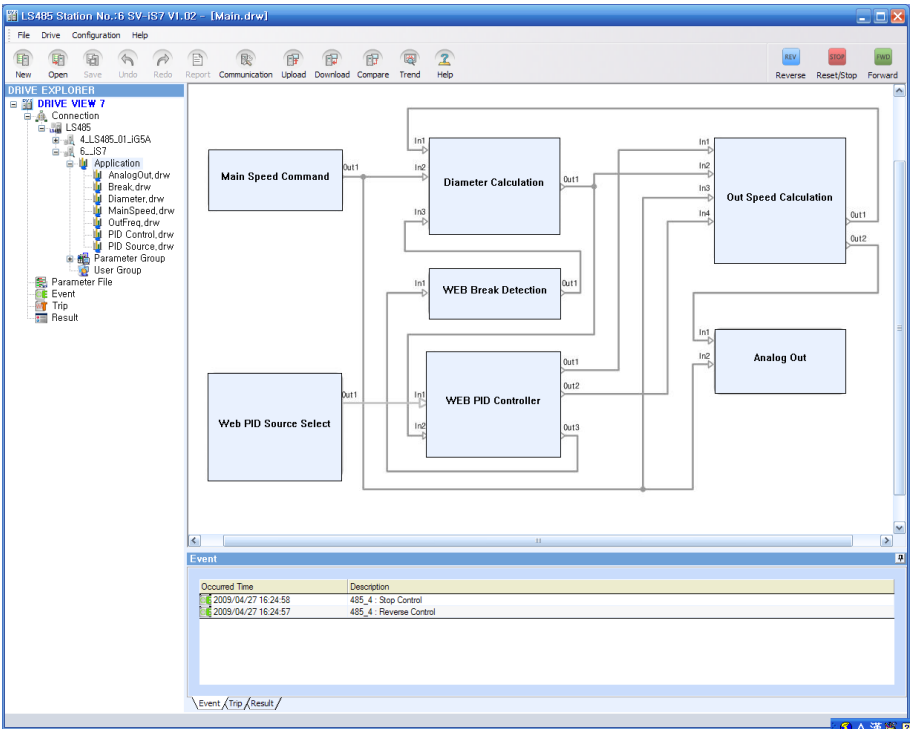
3) Display diagram screen

- Click an application diagram to display the relevant screen.



4) Main Screen

- Click an application from the tree to display the entire diagram organization chart (This chart is displayed only when there is a diagram named Main for the relevant application).

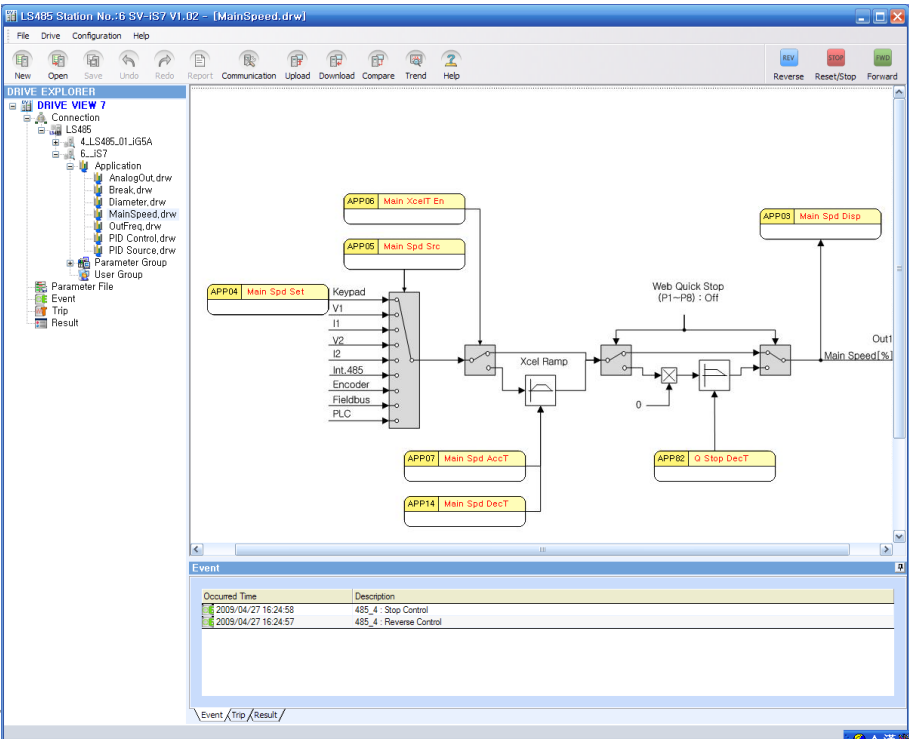


5) Link button

- Click the link button to move to the relevant diagram.

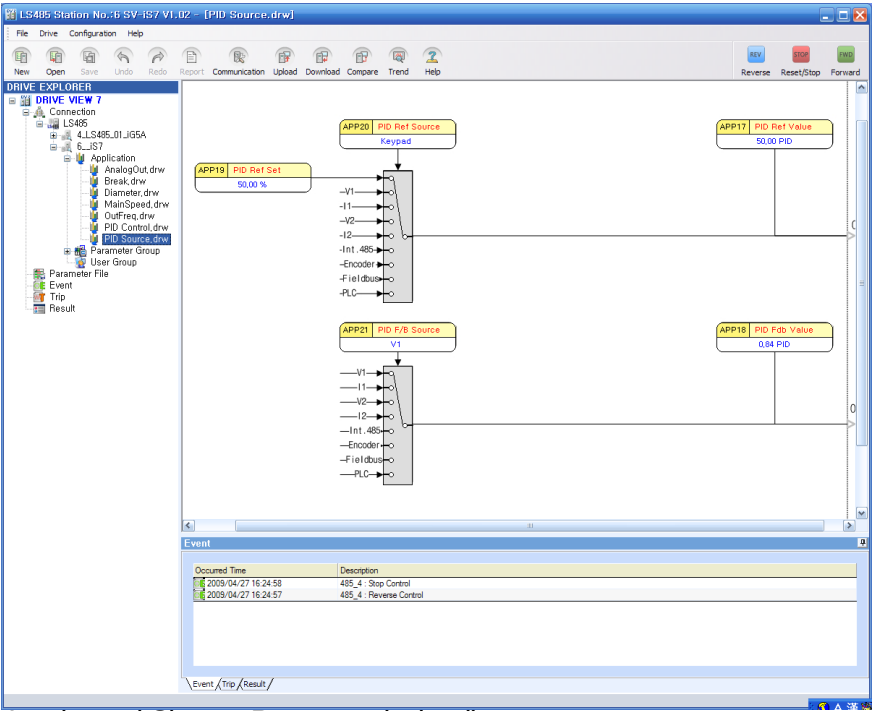
Main Speed Command

- It will move to 'Main Speed Command' diagram.

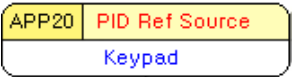


6.5.2 Inquire and Change Parameter Value

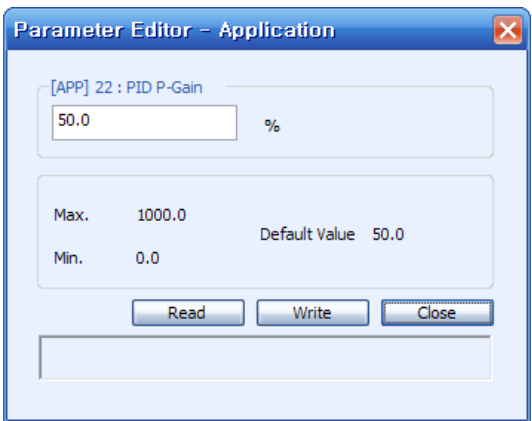
- 1) Read the entire parameter values of a diagram.
- Double click the name of a diagram you want to inquire.
 - The system will retrieve related parameters from the drive and display them in the diagram.



- 2) Inquire and Change Parameter in the diagram
- Click the name of a parameter (button) to inquire in the diagram.



- The system will retrieve related parameters from the drive and apply them to the diagram. The parameter editor window will be displayed.



- Change values and click the Write button.
- The changed parameters will apply to the drive and the result will be displayed in the diagram and the editor's status display window.

3) Description on Editor

- Parameter Editor: Message is displayed in the combo and the window to type numbers is displayed for normal input. Type a value to change within the range from the minimum value to the maximum value.
- Prev: Move to the previous parameter from the currently displayed parameter in the diagram.
- Next: Move to the next parameter from the currently displayed parameter in the diagram.
- Max, Min, Default Value: The maximum, minimum and default value (the value set in the factory) are displayed.
- Read: A parameter of the drive is retrieved and displayed.
- Write: A parameter value of the drive is written.
- Close: The editor window is closed.
- Status Display Window: Parameter Type (Read-only, Read Only during running etc.), Read, Write, Result and other status are displayed.

6.6 Parameter Information

6.6.1 Parameter Group

Those parameters available to be inquired and changed in the drive are classified into groups and provided in a type of list.

When Parameter Group is selected, the entire parameters will be displayed. When a certain group is selected, only those parameters that belong to the relevant group will be displayed.

LS485 Station No.16 SV-IS7 V1.02 - [ALL]

File Drive Configuration Help

New Open Save Undo Redo Report Communication Upload Download Compare Trend Help

Reverse Reset/Stop Forward

DRIVE EXPLORER

DRIVE VIEW 7

Connection

LS485

4.LS485_01_IG5A

6...IS7

Application

AnalogOut.drw

Break.drw

Diameter.drw

MainSpeed.drw

OutFreq.drw

PID Control.drw

PID Source.drw

Parameter Group

DRV

BAS

ADV

CON

IN

OUT

COM

APP

AUT

APO

PRT

M2

User Group

Parameter File

Event

Trip

Result

Group Name	Code	Parameter Name	Value	Default	Unit
DRV	1	Cmd Frequency		0.00	Hz
DRV	2	Cmd Torque		0.0	%
DRV	3	Acc Time		20.0	sec
DRV	4	Dec Time		30.0	sec
DRV	6	Cmd Source		Fx/Rx-1	
DRV	7	Freq Ref Src		Keypad-1	
DRV	8	Trq Ref Src		Keypad-1	
DRV	9	Control Mode		V/F	
DRV	10	Torque Control		No	
DRV	11	JOG Frequency		10.00	Hz
DRV	12	JOG Acc Time		20.0	sec
DRV	13	JOG Dec Time		30.0	sec
DRV	14	Motor Capacity		0.75kW	
DRV	15	Torque Boost		Manual	
DRV	16	Fwd Boost		2.0	%
DRV	17	Rev Boost		2.0	%
DRV	18	Base Freq		60.00	Hz
DRV	19	Start Freq		0.50	Hz
DRV	20	Max Freq		60.00	Hz
DRV	21	Hz / Rpm Sel		Hz Display	
BAS	1	Aux Ref Src		None	
BAS	2	Aux Calc Type		M + (G * A)	
BAS	3	Aux Ref Gain		100.0	%
BAS	4	Cmd 2nd Src		Fx/Rx-1	
BAS	5	Freq 2nd Src		Keypad-1	
BAS	6	Trq 2nd Src		Keypad-1	
BAS	7	V/F Pattern		Linear	
BAS	8	Ramp T Mode		Max Freq	
BAS	9	Time scale		0.1 sec	
BAS	10	60/50 Hz Sel		60Hz	
BAS	11	Pole Number		4	
BAS	12	Rated Slip		40	rpm
BAS	13	Rated Curr		3.6	A
BAS	14	Noload Curr		1.6	A
BAS	15	Rated Volt		0	V
BAS	16	Efficiency		72	%
BAS	17	Inertia Rate		0	
BAS	18	Trim Power %		100	%
BAS	19	AC Input Volt		220	V

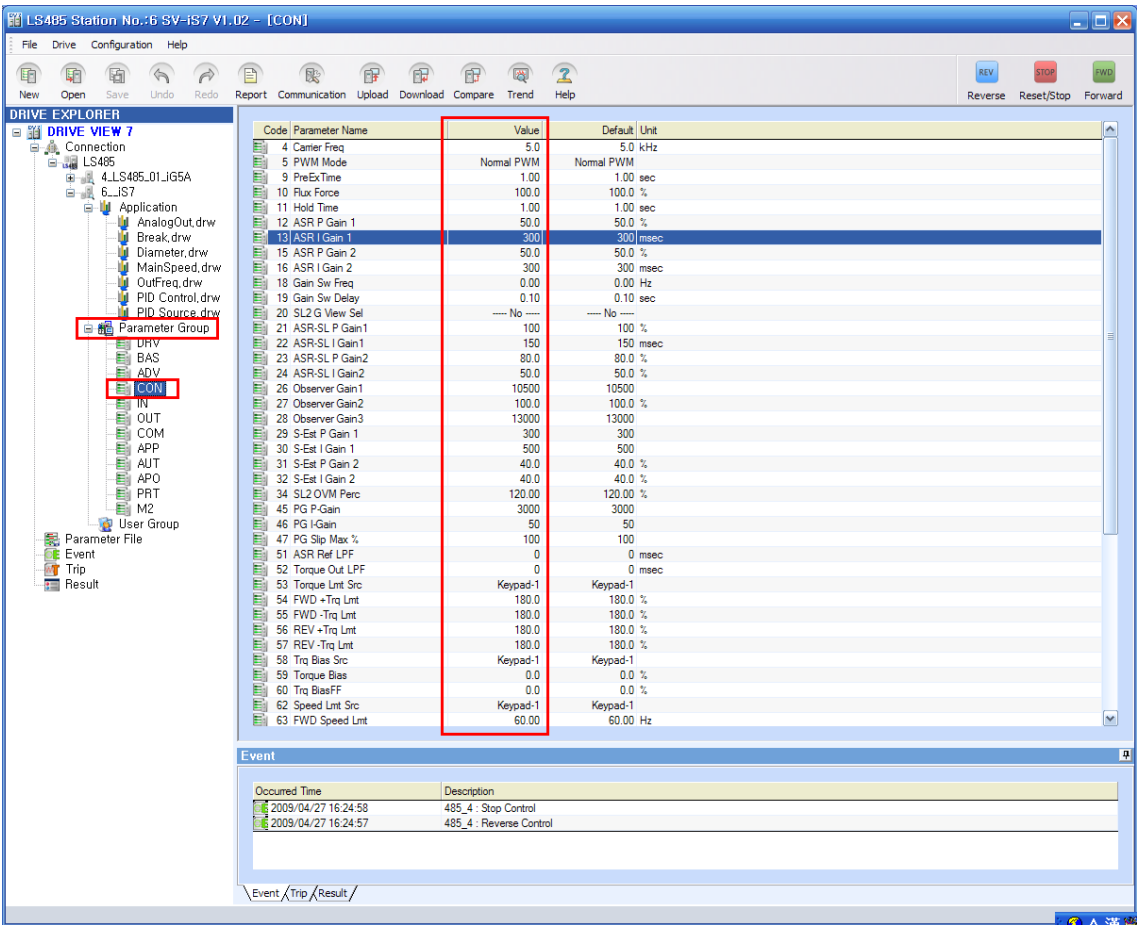
Event

Occurred Time	Description
2009/04/27 16:24:58	485_4 : Stop Control
2009/04/27 16:24:57	485_4 : Reverse Control

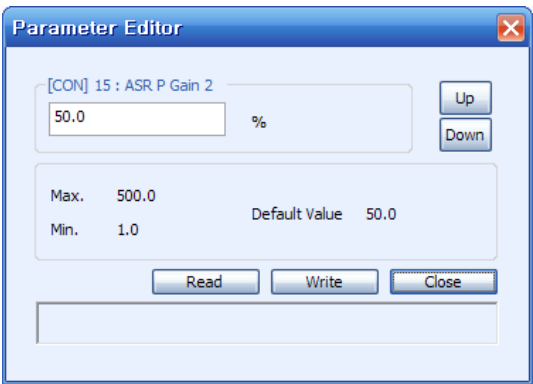
Event/Trip/Result/

6.6.2 Inquire and Change Parameter Value

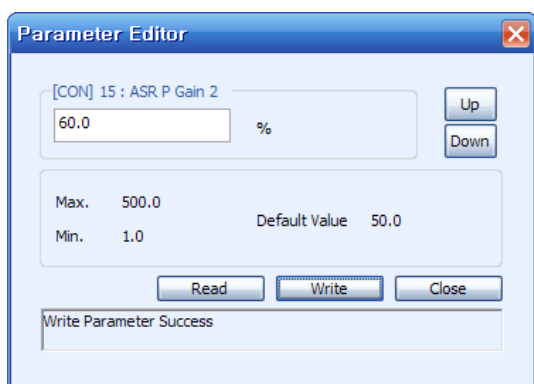
- 1) Retrieve the entire parameters of a group
 - Double click the name of a group to inquire.
 - If you want to inquire the entire parameters, double click Parameter Group.



- The system will retrieve the parameters of the relevant group from the drive and display the parameter list.
- 2) Inquire and Change individual parameter value
 - Double click the name of a parameter to inquire in the parameter list.
 - The system will retrieve the parameter values from the drive and apply them to the list and the parameter editor will be displayed.



- Make a change in the editor and click the Write button.
- The changed parameters will apply to the drive and the result will appear in the status display window of the editor.



3) Description on Editor

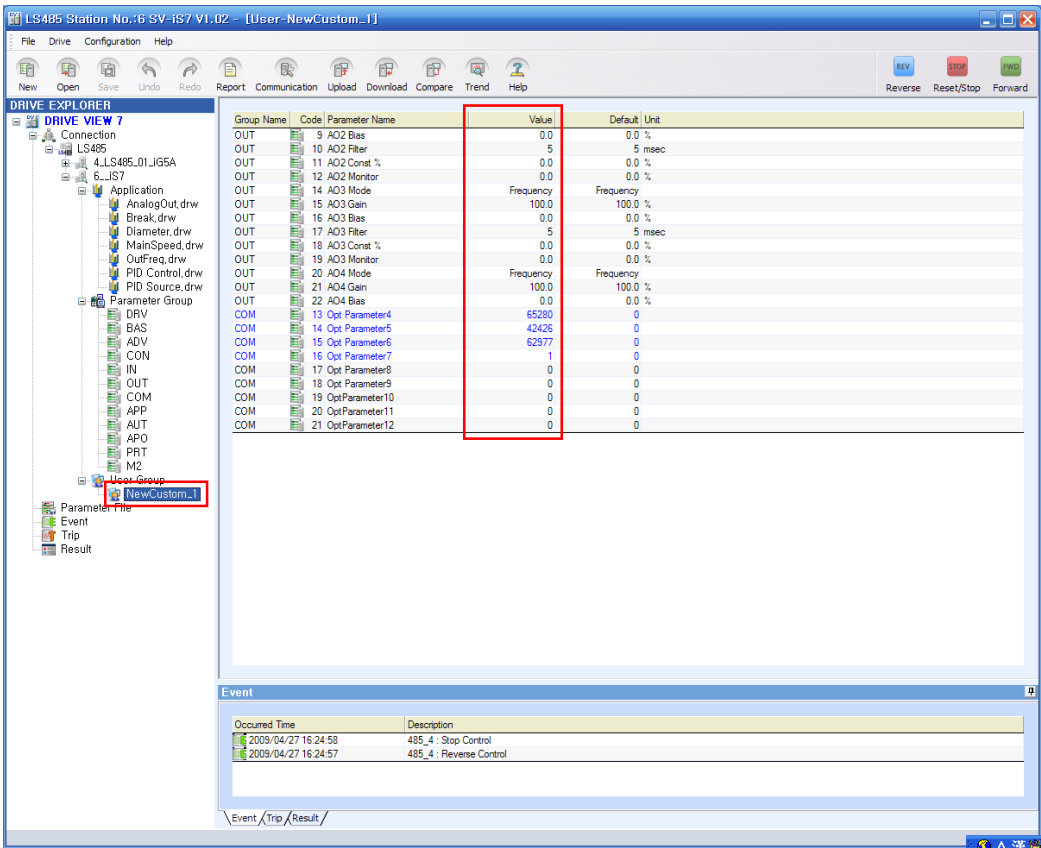
- Parameter Editor: Message is displayed in the combo and the window to type numbers is displayed for normal input. Type a value to change within the range from the minimum value to the maximum value.
- Up: Move to the previous parameter from the currently displayed parameter in the parameter list.
- Down: Move to the next parameter from the currently displayed parameter in the parameter list.
- Max., Min., Default Value: The maximum, minimum and default value (the value set in the factory) are displayed.
- Read: A parameter of the drive is retrieved and displayed.
- Write: A parameter value of the drive is written.
- Close: The editor window is closed.
- Status Display Window: Parameter Type (Read Only, Read Only during running), Read, Write, Result (Write Parameter Failure etc.) and other status are displayed.

6.7 User Group

How to inquire and change User Group values is described.

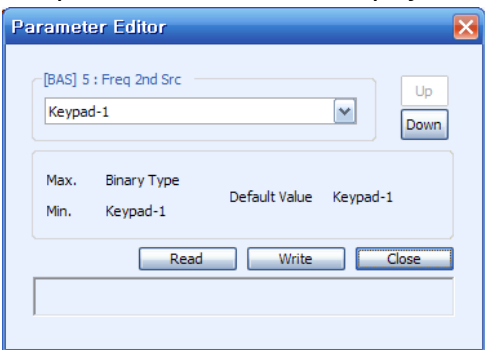
6.7.1 Inquire and Change Parameter Value

- 1) Retrieve the entire parameters of a group
 - Double click the name of a user group to inquire.



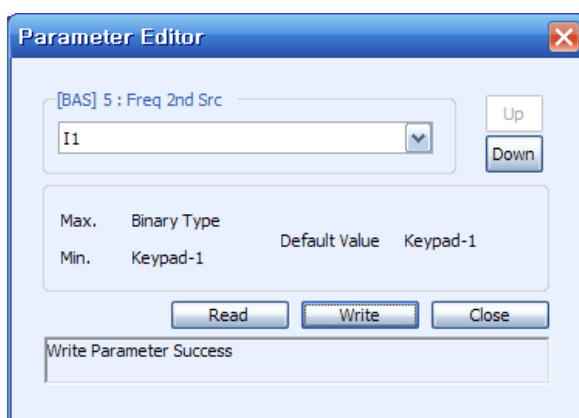
- The system will retrieve the parameters of the relevant user group from the drive and display the parameter list.

- 2) Inquire and Change individual parameter value
 - Double click the name of a parameter to inquire in the parameter list.
 - The system will retrieve the parameter values from the drive and apply them to the list and the parameter editor will be displayed.



- Make a change in the editor and click the Write button.

- The changed parameters will apply to the drive and the result will appear in the status display window of the editor.



3) Description on Editor

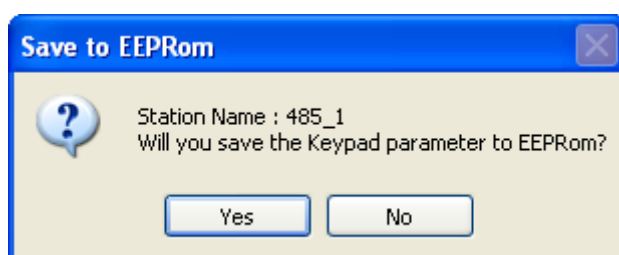
- Parameter Editor: Message is displayed in the combo and the window to type numbers is displayed for normal input. Type a value to change within the range from the minimum value to the maximum value.
- Up: Move to the previous parameter from the currently displayed parameter in the parameter list.
- Down: Move to the next parameter from the currently displayed parameter in the parameter list.
- Max., Min., Default Value: The maximum, minimum and default value (the value set in the factory) are displayed.
- Read: A parameter of the drive is retrieved and displayed.
- Write: A parameter value of the drive is written.
- Close: The editor window is closed.
- Status Display Window: Parameter Type (Read Only, Read Only during running), Read, Write, Result (Parameter Write Failure etc.) and other status are displayed.

6.8 EEPROM

When changing parameter values of the drive with DriveView7 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.

6.8.1 Save to EEPROM

- Select a drive you want to save to EEPROM. (available only for iS7)
- Menu : Select 'Drive → Save to EEPROM'. (Active only when selecting iS7)



- The message box to ask whether to save to EEPROM will appear.
- Click Yes to save it to EEPROM.



- The result will be displayed.

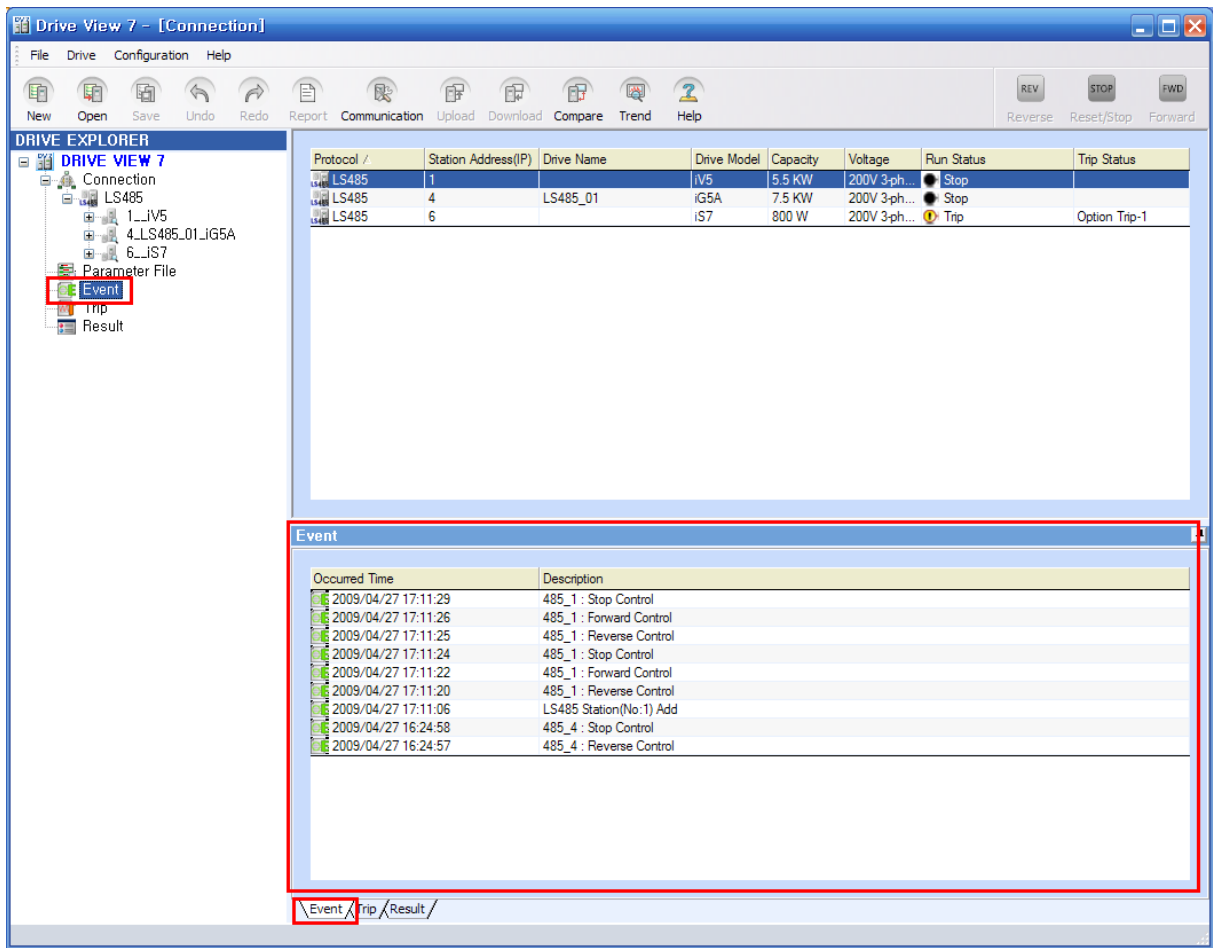
7 Other Screens

7.1 Event

Events such as adding, deleting or controlling the drive are recorded and displayed.
Events are collected while Drive View 7 is running and the existent events are deleted when it ends.

7.1.1 Inquire Event

Click an event you want to inquire in the navigation window or click the event tap in the result information window to display the result in the result information window.

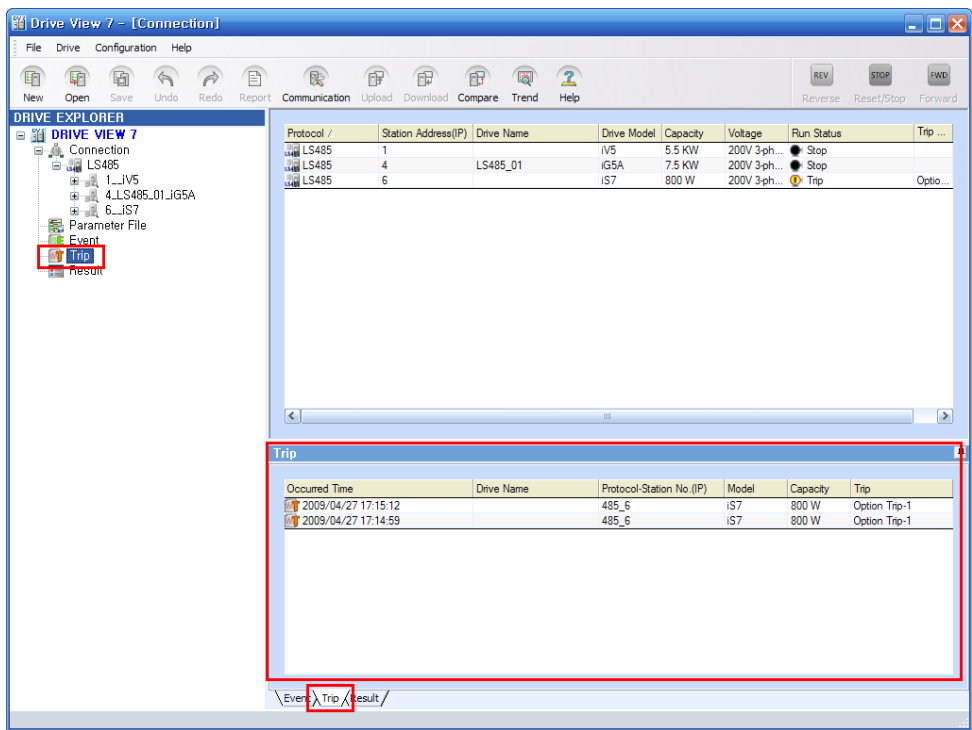


7.2 Trip

When any trip occurs in the connected drive, information on the trip will be displayed in the trip information window.

7.2.1 Inquire Trip

Click a trip you want to inquire in the navigation window or click the trip tap in the result information window to display the result in the result information window.

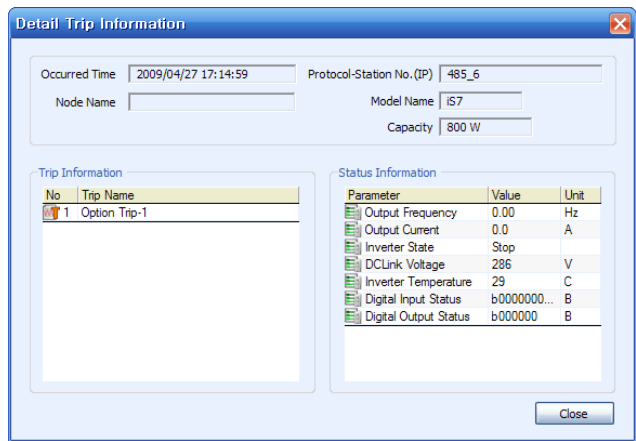


7.2.2 Inquire Detail Trip

Function to allow the user to inquire the state of the trip and additional trip Information when any trip occurs.

1) Execute Detail Trip

- Double click a trip you want to inquire its detail information in the trip list.
- The detail Trip Information window will appear.



- Detail information on the state when the trip took place will be presented.

2) Displayed Items

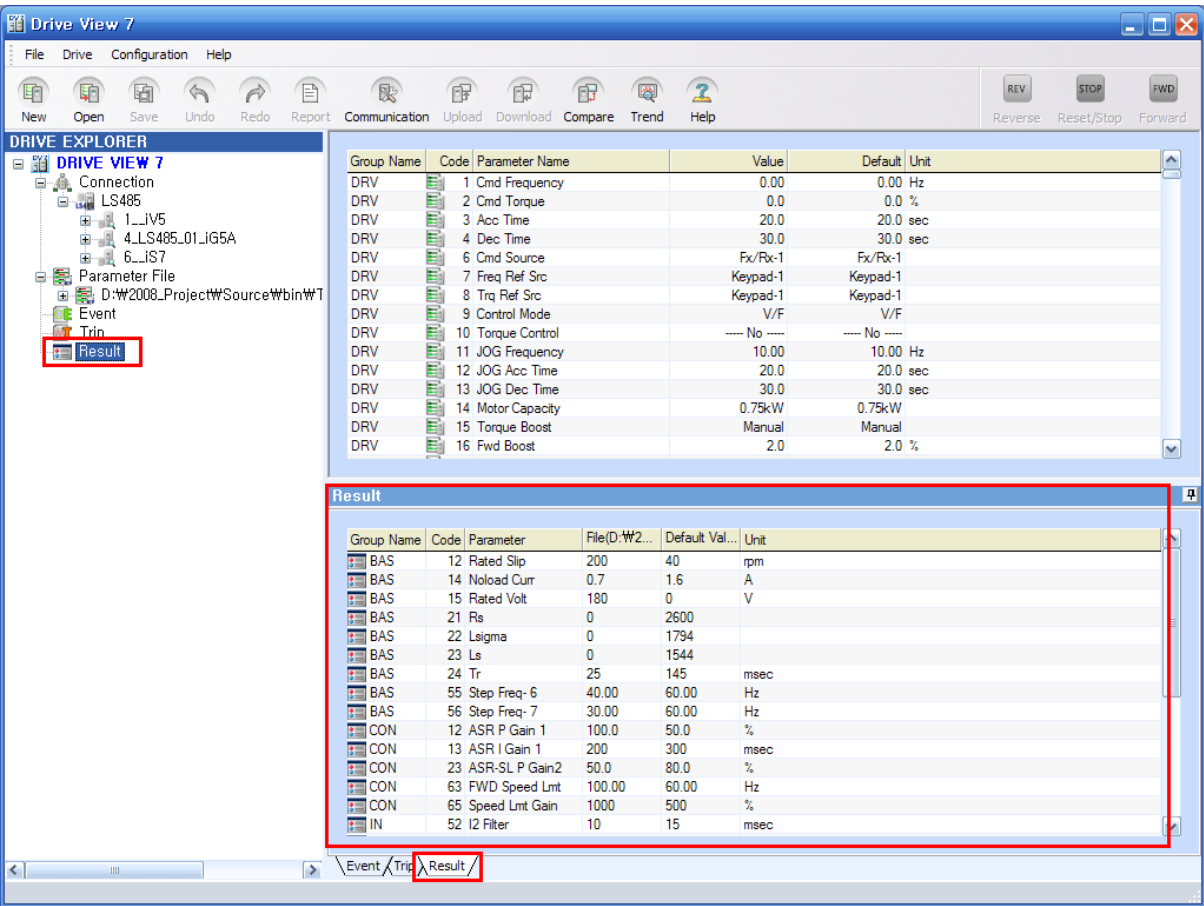
- Occurred Time: Time when the trip occurs.
- Protocol-Station No. (IP): The communication mode and Station No. (IP) of the drive is displayed.
- Model Name: The model name is displayed.
- Capacity: The capacity is displayed.
- Trip Information: Detail information on the trip is displayed.
- Status Information: Main parameter values when the trip occurred are displayed.

7.3 Result

The result values of functions such as Compare are displayed.

7.3.1 Inquire Result

Click a result you want to inquire in the navigation window or click the result tap in the result information window to display the result Information window.



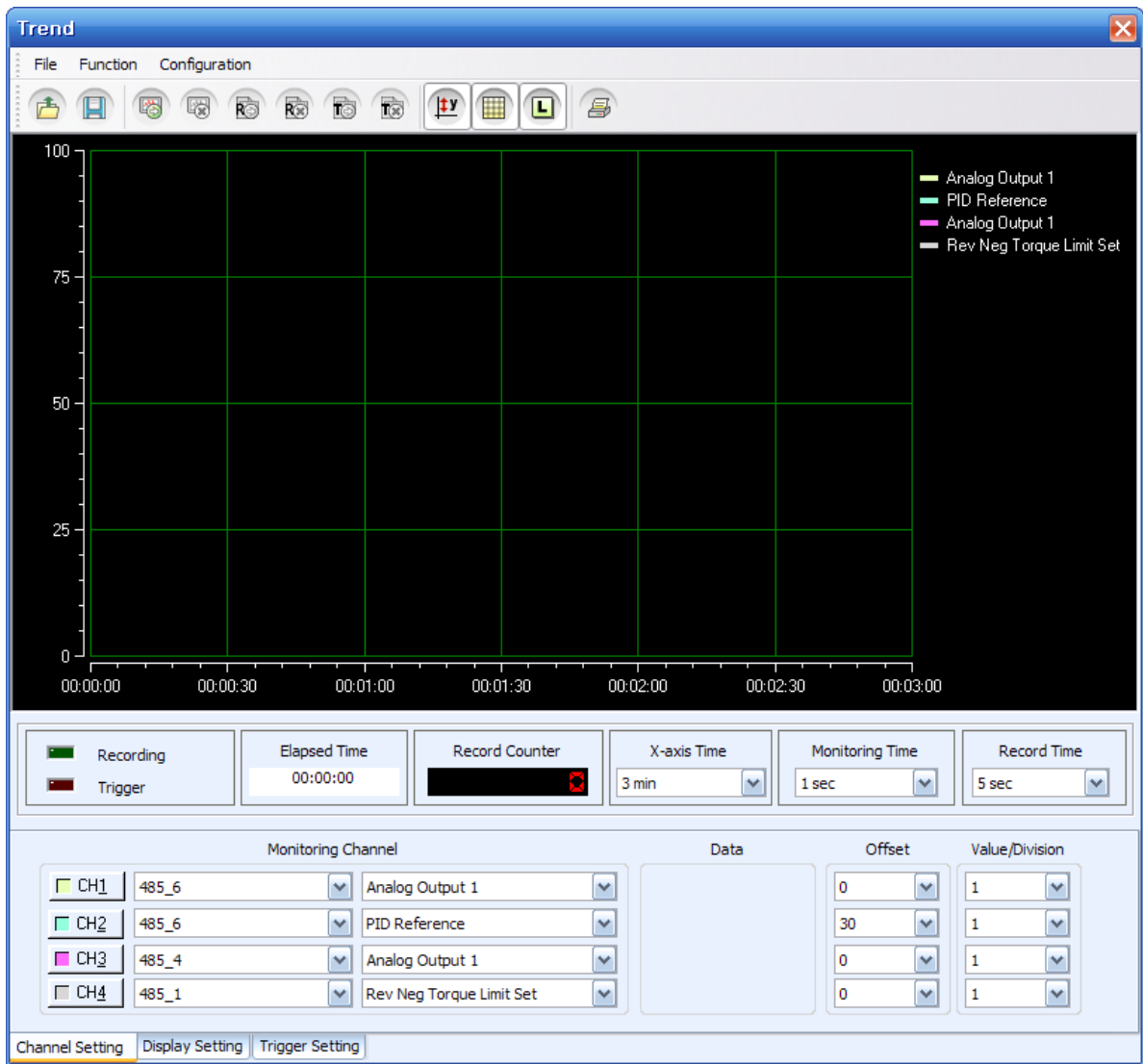
8 Additional Functions

8.1 Graph Monitoring (Trend)

The graph monitoring function, which allows the user to monitor parameters in a form of graph, is described. Through this function, the user can monitor up to four channels. One graph may display four channels at the same time or each graph may display one channel respectively. Up to four graphs are available at a time.

8.1.1 Start Trend

- Drive View 7 Menu: Select 'Drive → Trend'.
- If there is any previous monitoring information, start monitoring with that information.
- Monitoring up to four channels is possible.



8.1.2 Description on Menu

8.1.2.1 Start Monitoring

- Graph Monitoring Menu: Select 'Function → Start Monitoring'.
- Graph monitoring will start. Once monitoring begins, the recording icon and the triggering icon become active so that the user may start recording and triggering.

8.1.2.2 Stop Monitoring

- Graph Monitoring Menu: Select 'Function → Stop Monitoring'.
- Monitoring will stop. Once monitoring stops, the recording icon and the triggering icon become inactive. Also, the marker becomes active to show the value of each channel.

8.1.2.3 Start Recording

- Graph Monitoring Menu: Select 'Function → Start Record'.
- Once recording starts, channels and their values are recorded at every preset recording time. Recording is saved to a file in the recording file path. A symbol is flashing during the recording. Also, the recording counter shows the number of the channels and values that are currently recording.

8.1.2.4 Stop Recording

- Graph Monitoring Menu: Select 'Function → Stop Record'.
- Recording stops.

8.1.2.5 Start Trigger Observation

- Graph Monitoring Menu: Select 'Function → Start Trigger Mode'.
- Trigger monitoring starts. Once triggering starts, the screen will be saved at the time when the channel value becomes either higher or lower than a certain level designated by Trigger Setup. The screen is saved to a file in the trigger screen saving file path.

8.1.2.6 Stop Trigger Monitoring

- Graph Monitoring Menu: Select 'Function → Stop Trigger Mode'.
- Trigger monitoring stops.

8.1.2.7 Graph Monitoring Mode

Function to ban all of parameters except the registered ones from being inquired during the graph monitoring. This function is used to monitor them in the condition where the loads generated by other parameters' communication are blocked at most.

- Graph Monitoring Menu: Select 'Function → Graph Monitoring Mode'.
- The graph monitoring mode is displayed in the status bar at the bottom of the main screen.
- All inquire functions except controlling will stop.
- To cancel the monitoring mode, click the graph monitoring mode menu (In addition, the monitoring mode is cancelled when you close the graph monitoring window).

* Notice: In the graph monitoring mode, it is impossible to inquire all of the parameters supported by the

main screen or to update the status value of the drive. Only controlling the drive is allowed.

8.1.2.8 Y-Axis Auto Scaling

- Graph Monitoring Menu: Select 'Configuration → Y-axis Auto Scaling'.
- Function to allow Y-axis to move automatically according to the setup channel value. If this value is not checked, the value of Y-axis will be adjusted to the minimum value and the maximum value designated by the user.

8.1.2.9 View Grid

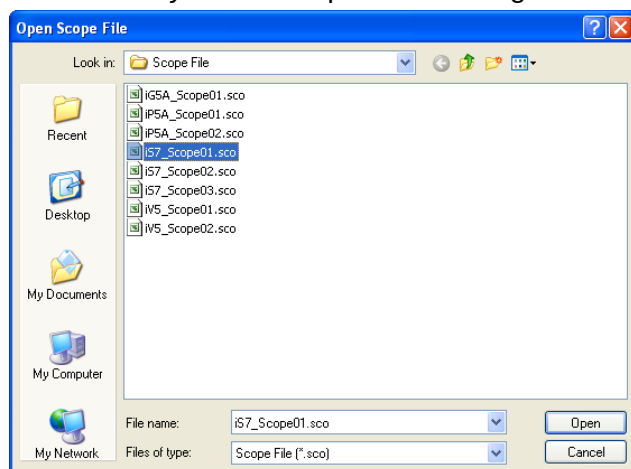
- Graph Monitoring Menu: Select 'Configuration → Show Grid'.
- Function to show or hide Graph Grid.

8.1.2.10 View Label

- Graph Monitoring Menu: Select 'Configuration → Show Label'.
- Function to show or hide Label that indicates the channel name.

8.1.2.11 Open Scope File

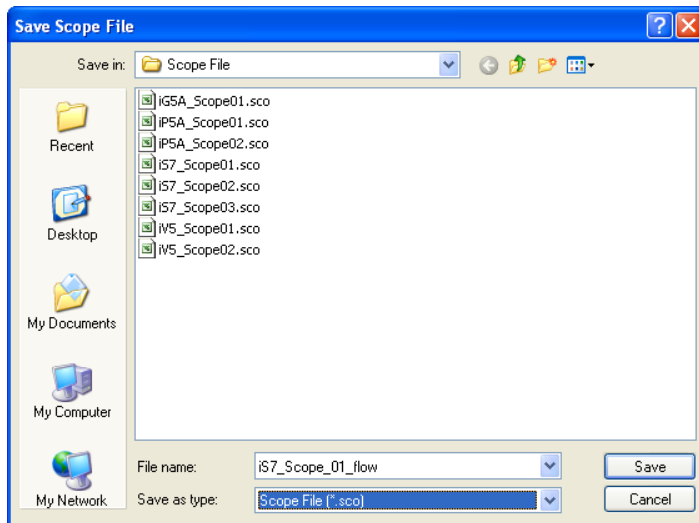
- Function to retrieve one of the saved scope files.
- Graph Monitoring Menu: Select 'File → Open Scope File'.
- Select a file you want to open after clicking. The extension of files is *.sco.



- This function will be active only when monitoring stops.

8.1.2.12 Save Scope File

- Function to save the graph currently monitored.
- All of the setup Information of the graph will be saved.
- Graph Monitoring Menu: Select 'File → Save Scope File'.
- The extension of the saved files is *.sco.



8.1.2.13 Save As

- Function to save the already saved file under other name.
- Same with the function to save Scope File.

8.1.2.14 Save Scope Screen

- Function to save the scope screen.
- Graph Monitoring Menu: Select 'File → Save Scope File'.

1) Meta File

- The current screen is saved in a form of meta file.

2) JPEG File

- The current screen is saved in a form of JPEG file.

3) Bitmap File

- The current screen is saved in a form of bitmap file.

8.1.2.15 Copy to Clipboard

- The current monitoring screen is copied to the clipboard.
- Graph Monitoring Menu: Select 'File → Copy to Clipboard'.
- Copy the monitoring screen to the program you are currently using after copying it to the clipboard.

8.1.2.16 Print Scope Screen

- Graph Monitoring Menu: Select 'File → Print Scope Screen'.
- The current screen is printed.

8.1.2.17 Graph Screen

This menu becomes active when monitoring stops. There are regular mode and zoom mode.

In the regular mode, the marker becomes active. In the zoom mode, the graph become zoom in.

* Marker: As a vertical line displayed in the graph when monitoring stops, the user can use it when inquiring the values at a certain time by moving it arbitrarily.

8.1.3 Description on Functions

Recording Trigger	Elapsed Time 00:00:00	Record Counter 	X-axis Time 3 min	Monitoring Time 1 sec	Record Time 5 sec
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- 1) Recording
It begins flashing when recording starts during monitoring. With this motion, the user can identify whether recording is now in progress or not.
- 2) Trigger
It begins flashing when trigger occurs and trigger monitoring starts.
- 3) Elapsed Time
It shows the elapsed time since monitoring starts. Time is displayed in a form of 00:00:00.
- 4) Record Counter
It shows the number of the current recordings since recording begins.
- 5) X-axis Time
Select a range of Graph X-axis time. The selection range is from 10 seconds to 1hour.
- 6) Monitoring Time
Select a time interval to monitor channels. The selection range is from 0.1second to 5seconds. A graph will be drawn according to the selected time interval.
- 7) Record Time
Select a time interval to record. The selection range is from 1second to 1hour. Recording is conducted according to the selected time interval.

8.1.3.1 Channel Setting

	Monitoring Channel			Data	Offset	Value/Division
1	2	3			4	5
☒ CH1	485_6	Analog Output 1		0	1	
☒ CH2	485_6	PID Reference		30	1	
☒ CH3	485_4	Analog Output 1		0	1	
☒ CH4	485_1	Rev Neg Torque Limit Set		0	1	

Channel Setting | Display Setting | Trigger Setting

- 1) Monitoring Channel
The box 1 in the above figure is about selecting whether to make the relevant channel active or not. Pressing the toggle button one time makes it active while another pressing makes it inactive. After making it active, select a channel you want to monitor in the monitoring channel at the box 2. Select a parameter

according to the selected monitoring channel at the box 3 to complete the channel selection.

2) Data

The current value is shown. This value is the original value without conducting Offset and Val/Div.

If there is any problem in the communication, a message of communication error will appear.

3) Offset

Offset applies to the current Offset value. The graph shows the value to which set applies.

4) Val / Div

Val/Div applies to the current value. The graph shows the value to which Val/Div applies.

8.1.3.2 Display Setting

The screenshot shows the 'Display Setting' tab of a configuration interface. It is divided into six numbered sections:

- 1:** Individual Graph Count. Includes a checked checkbox for 'Individual', a 'Graph Count' input field set to '2', and a 'Save' button.
- 2:** Select Graph. A table with 4 rows (Ch.1 to Ch.4) and 2 columns (Graph selection). Ch.1 and Ch.2 are set to 'Graph 1', Ch.3 to 'Graph 2', and Ch.4 to 'Graph 2'.
- 3:** Line Color. A table with 4 rows corresponding to the channels, each with a color swatch (yellow, green, magenta, grey).
- 4:** Thickness. A table with 4 rows, each with a 'Thickness' dropdown menu set to '1'.
- 5:** Y-axis Auto Scaling. Includes a checked checkbox for 'Y-axis Auto Scaling', 'Y-axis Min.' input field set to '0.00', and 'Y-axis Max.' input field set to '100.00'.
- 6:** Show Grid, Show Label, Background, and Text. Includes checkboxes for 'Show Grid' and 'Show Label' (both checked), a 'Background' color selector (black), and a 'Text' input field.

At the bottom, there are three tabs: 'Channel Setting', 'Display Setting' (which is highlighted), and 'Trigger Setting'.

1) Individual Graph Count

Function to show channels with individual graphs.

After checking Individual Graph Count and type the number of graphs (1~4), click the change button to show the selected number of monitoring graphs. Basically, graph 1 is assigned to all channels. If Individual Graph Count is not checked, only one graph will be shown and all channels are positioned in that graph.

2) Select Graph

After checking Individual Graph Count, you may select a location of each channel. The default value is designated to the location of Graph 1.

3) Line Color

Select line color of the channel.

4) Thickness

Select line thickness of the channel.

5) Y-axis Auto Scaling

If Y-axis Auto Scaling is checked, the maximum and minimum value of Y-axis will be automatically adjusted as the channel value changes. If not checked, the user needs to type the maximum and minimum value and the maximum and minimum value of Y-axis are fixed with those values. If the channel value is less than the minimum value or more than the maximum value, Y-axis will not change.

6) Show Grid

Select to show the grid in the graph.

7) Show Label

Select a Label that shows the channel name.

8) Background and Text

Select a color of graph and text.

8.1.3.3 Trigger Setting

1) Trigger Channel

To use the triggering function, trigger setup shall be saved at the box 1. Only one channel is allowed for triggering.

2) Trigger Level

Decide the baseline value of triggering.

3) Edge Trigger

Select whether to save the screen either when the channel value rises higher than the triggering value (Rising) or when it falls lower than the triggering value (Falling).

4) Record save folder

When recording, select a folder to record. Selecting can be done only when recording stops. During the recording, you can not select since it is inactive.

5) Captured Trigger Screen save folder

Select a folder to which the screen is saved during the triggering. Selection is possible only when triggering stops. During the triggering, you can not select since it is inactive.

8.1.3.4 Other

Once monitoring stops, the marker becomes active and last data can be seen. If you move your mouse after clicking the marker, the value will appear next to the marker. But, only one channel's value will be displayed next to the marker. The color of the marker is equal to that of channel. If you want to select other channel, select a marker and select other channel in the label to change the marker color with the selected channel color and to show the selected channel value.

8.2 Wizard

Wizard, a function to allow the user to setup main parameters step-by-step during the initial installation of the drive, is described.

8.2.1 Execute

- Menu: Select 'Drive → Wizard'.
- This menu becomes active only when the drive to apply is already selected.
- Wizard screen for each model will be displayed according to the selected models. (as of iS7)

1. Motor & Control

2. Speed & Torque

3. Xcel Time

4. Start & Stop

5. Digital Input

6. Multi-Step Speed

7. Digital Output

8. V1 Analog Input

9. I1 Analog Input

10. Analog Output

11. Install

Control Mode :

V/F

Parameter	Default	Max	Min	Value	Unit
Motor Capacity	0.75kW	90.0 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	200.0	1.0	3.6	A
No-load Curr	1.6	200.0	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

8.2.2 Step-by-step Setup

Parameters are setup through 10 Wizard steps (except installation step). To move between steps, click the relevant step button or click the previous or next button.

Steps and parameter types of each step may have different items according to models.

8.2.2.1 Motor & Control

Setup main parameters that belong to Motor & Control.

1.Motor & Control

Control Mode : Torque Control : ☐ Yes ☒ No

Parameter	Default	Max	Min	Value	Unit
Motor Capacity	0.75kW	90.0 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	200.0	1.0	3.6	A
No-load Curr	1.6	200.0	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 becomes inactive when the control mode is V/F, V/F PG or Slip.
- Click the setup value column in the list to edit each parameter.
- The next step is changed to Torque or Speed depending on Yes or No from SetupTorque Control.

8.2.2.2 Speed & Torque

2.Speed & Torque - Speed

Parameter	Default	Max	Min	Value	Unit
Cmd Frequency	0.00	600.00	0.00	0.00	Hz
Freq Ref Src	Keypad-1	PLC	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	600.00	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	%

- It is possible to set up Fwd Boost and Rev Boost when Torque Boost is in manual.

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	PLC	Keypad-1	Keypad-1	
Torque Lmt Src	Keypad-1	Binary Type	Keypad-1	Keypad-1	
Speed Lmt Src	Keypad-1	PLC	Keypad-1	Keypad-1	
FWD Speed Lmt	60.00	600.00	0.00	60.00	Hz
REV Speed Lmt	60.00	600.00	0.00	60.00	Hz
Speed Lmt Gain	500	5000	100	500	%

8.2.2.3 Time



- Parameters related to time will appear along with a graph.
- The graph will change according to the parameter values selected in the combo and the time range can be changed in the edit window.

8.2.2.4 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 up a parameter that conforms to 'Start & Stop'.
- When selecting DC-Start in the Start Mode, Dc-Start Time will appear.
- When selecting DC-Brake in the Stop Mode, Dc-Block Time, Dc-Brake Time and Dc-Brake Freq Parameter will appear.

8.2.2.5 Digital Input

5.Digital Input

P1 Define

Forward Run

P2 Define

Reverse Run

P3 Define

Emergency Stop

P4 Define

Reset

P5 Define

JOG

P6 Define

Speed-L

P7 Define

Speed-M

P8 Define

Speed-H

P1

P2

P3

P4

P5

P6

P7

P8

CM

Out Freq

FX

Speed-L

Speed-M

Speed-H

Speed-X

Out Freq

UP

Down

FX

Out Freq

FX

RX

3Wire

- Set up a parameter that conforms to ' Digital Input'.

8.2.2.6 Multi-Step Speed

6.Multi-Step Speed

60.0

40.0

20.0

0.0

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

Parameter	Default	Max	Min	Value	Unit
Step Freq- 1	10.00	600.00	0.00	10.00	Hz
Step Freq- 2	20.00	600.00	0.00	20.00	Hz
Step Freq- 3	30.00	600.00	0.00	30.00	Hz
Step Freq- 4	40.00	600.00	0.00	40.00	Hz
Step Freq- 5	50.00	600.00	0.00	50.00	Hz
Step Freq- 6	60.00	600.00	0.00	60.00	Hz
Step Freq- 7	60.00	600.00	0.00	60.00	Hz
Step Freq- 8	55.00	600.00	0.00	55.00	Hz
Step Freq- 9	50.00	600.00	0.00	50.00	Hz
Step Freq-10	45.00	600.00	0.00	45.00	Hz
Step Freq-11	40.00	600.00	0.00	40.00	Hz
Step Freq-12	35.00	600.00	0.00	35.00	Hz
Step Freq-13	25.00	600.00	0.00	25.00	Hz
Step Freq-14	15.00	600.00	0.00	15.00	Hz
Step Freq-15	5.00	600.00	0.00	5.00	Hz

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- Set up a parameter that conforms to ' Multi-Step Speed'.

8.2.2.7 Digital Output

7.Digital Output

Parameter	Default	Max	Min	Value	Unit
FDT Frequency	30.00	600.00	0.00	30.00	Hz
FDT Band	10.00	600.00	0.00	10.00	Hz

- Set up a parameter that conforms to 'Digital Output'.

8.2.2.8 V1 Analog Input

8.V1 Analog Input

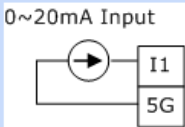
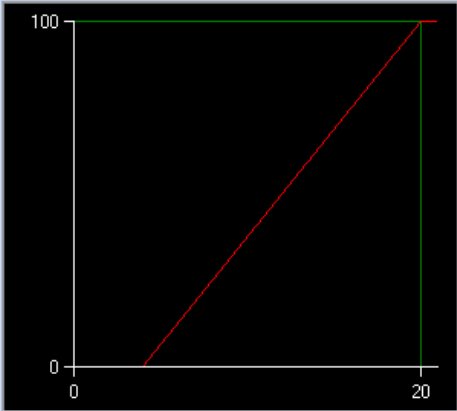
Parameter	Default	Max	Min	Value	Unit
V1 Filter	10	10000	0	10	msec
V1 Volt x1	0.00	10.00	0.00	0.00	V
V1 Perc y1	0.00	100.00	0.00	0.00	%
V1 Volt x2	10.00	10.00	0.00	10.00	V
V1 Perc y2	100.00	100.00	0.00	100.00	%
V1 -Volt x1'	0.00	0.00	-10.00	0.00	V
V1 -Perc y1'	0.00	0.00	-100.00	0.00	%
V1 -Volt x2'	-10.00	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 up a parameter that conforms to 'V1 Analog Input'.

8.2.2.9 I1 Analog Input

- Set up a parameter that conforms to 'I1 Analog Input'.

9.I1 Analog Input



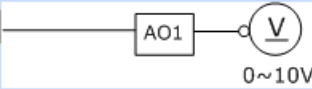
Parameter	Default	Max	Min	Value	Unit
I1 Filter	10	10000	0	10	msec
I1 Curr x1	4.00	20.00	0.00	4.00	mA
I1 Perc y1	0.00	100.00	0.00	0.00	%
I1 Curr x2	20.00	20.00	0.00	20.00	mA
I1 Perc y2	100.00	100.00	0.00	100.00	%
I1 Inverting	---- No ----	---- Yes ----	---- No ----	---- No ----	
I1 Quantizing	0.04	10.00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

8.2.2.10 Analog Output

10.Analog Output

AO1 Mode

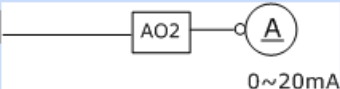
Frequency



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

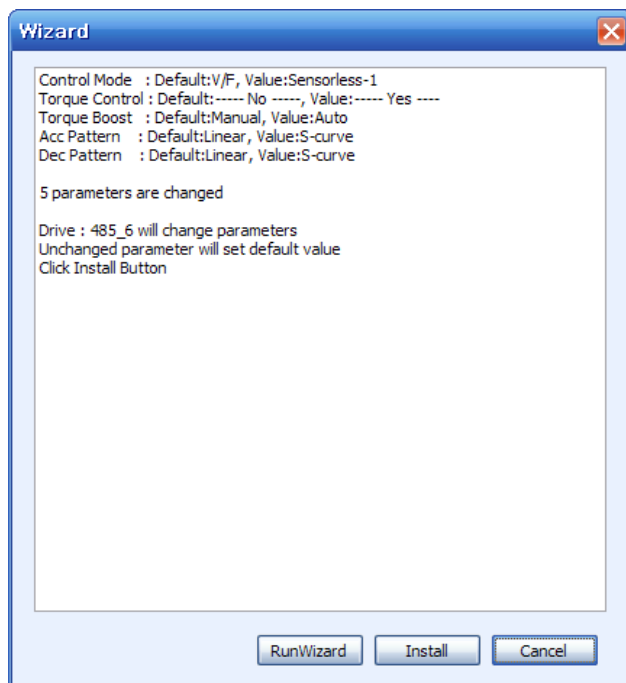


Parameter	Default	Max	Min	Value	Unit
AO2 Gain	100.0	1000.0	-1000.0	100.0	%
AO2 Bias	0.0	100.0	-100.0	0.0	%
AO2 Filter	5	10000	0	5	msec
AO2 Const %	0.0	100.0	0.0	0.0	%

- Set up a parameter that conforms to 'Analog Output'.

8.2.2.11 Install

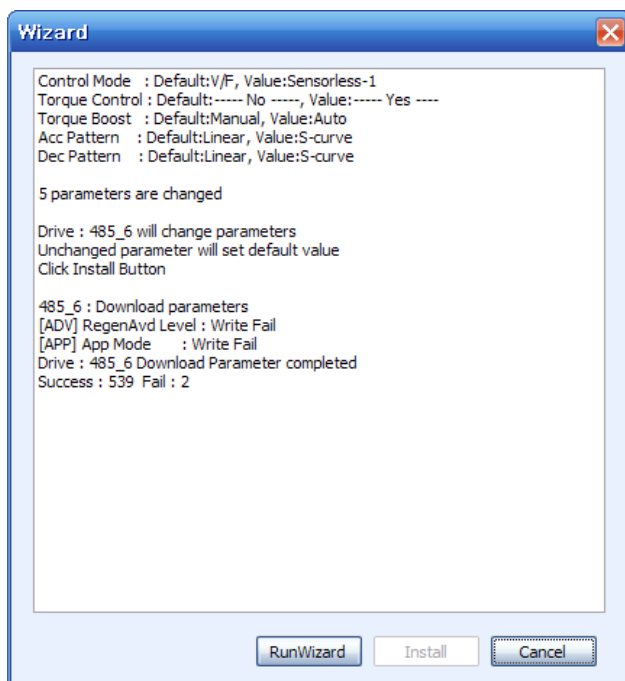
- Click the Install level button to display the installation window.



- The changed content of the parameter will be displayed.
- Run Wizard button: The screen turns into the screen to set up wizard. This function is used for additional change.
- Install button: The parameter content that are set up in Wizard will apply to the drive.

8.2.3 Download

- Click the Install button to download the parameter setup to the selected drive.



- The parameter that fails in writing will appear.
- The completion message will appear.

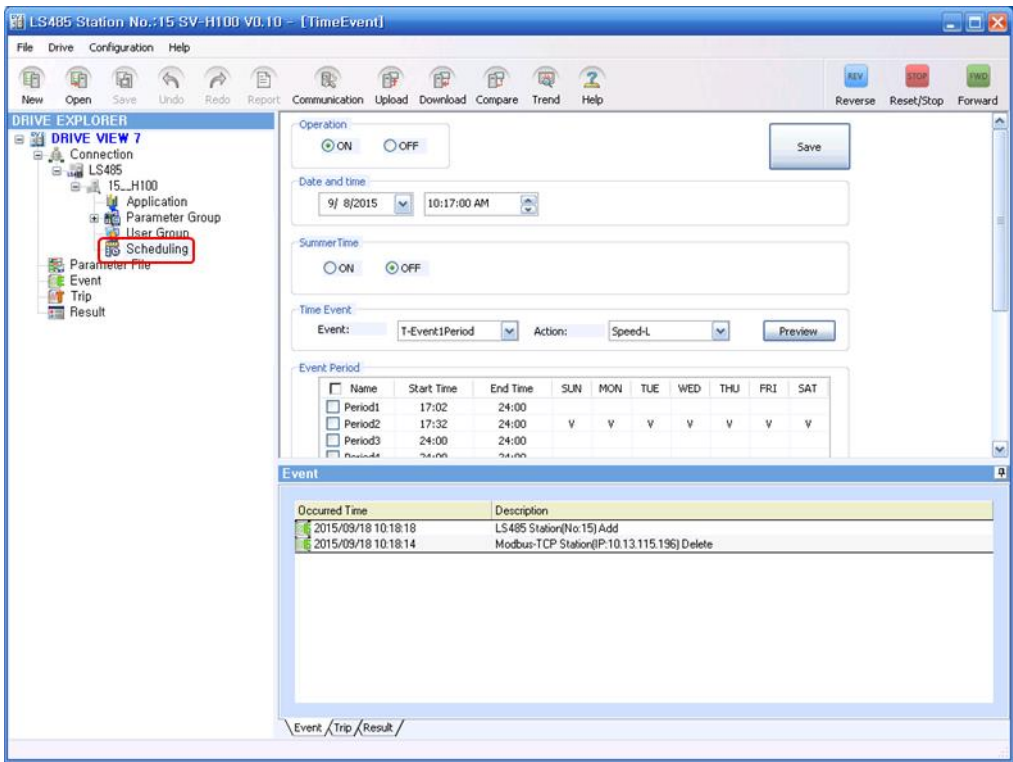
8.3 Time Event Scheduling

The function is the ability to operate at the desired time to the user using a function RTC (Real Time Clock). The priority should be to set the current date and time, Time Period Module (set-up time to a user operation), Time Event (set whether or not to perform any action), Exception Date (performed when prescribed set features a specific date and time you must set the priority is the highest). It consists of 4 Time Period and 8 Exception Day. This function is operated with a combination of that period.

※ H100 only model is the ability to work

8.3.1 Start Time Event

If you select a schedule from the tree information window driving driving schedule information screen it is displayed.
- If you double-click on the "Scheduling" in the tree information window reads the information stored on the drive, the screen is updated.



8.3.2 Function description

8.3.2.1 Date and time

Date and time provides information that is set in the read / write capabilities inverter.

Date and time

9/ 8/2015

10:17:00 AM

8.3.2.2 Summer Time

It provides the ability to set daylight saving time.

- ON: You can set daylight saving time, you can set the start and end dates of summer time periods applicable to the operation.

SummerTime

☒ ON

☐ OFF

Start Date

4

1

~

End Date

10

30

- OFF: Select if you do not use daylight saving time.

SummerTime

☐ ON

☒ OFF

※ If you select ON, and the same date of the StartDate and EndDate daylight saving time does not apply.

8.3.2.3 Event setting

It provides event registration / change / delete related functions.

Time Event

1

Event:

T-Event1Period

2

Action:

RX

3

Preview

4

T-Period

☐	Name	Start Time	End Time	SUN	MON	TUE	WED	THU	FRI	SAT
☒	Period1	00:00	08:00	V	V	V	V	V	V	V
☐	Period2	08:00	18:00	V	V	V	V	V	V	V
☐	Period3	18:00	24:00	V	V	V	V	V	V	V
☐	Period4	24:00	24:00							

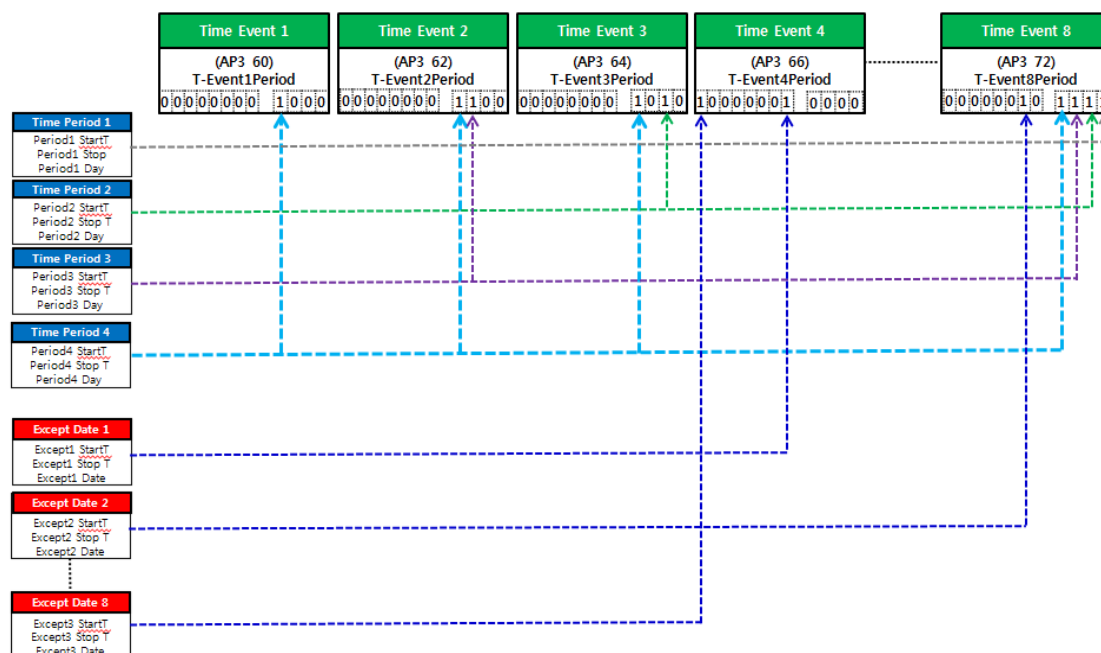
5

T-Exception

☐	Name	Start Time	End Time	Month	Day
☐	Exception1	24:00	24:00	2	29
☐	Exception2	24:00	24:00	3	31
☐	Exception3	24:00	24:00	8	31
☐	Exception4	24:00	24:00	12	31
☐	Exception5	24:00	24:00	1	01
☐	Exception6	24:00	24:00	1	01
☐	Exception7	24:00	24:00	1	01
☐	Exception8	24:00	24:00	1	01

1) Select an event connected

You can choose to connect eight. Four events period and 8 Exception Date can be registered for each connection.



2) Setting Event Actions

You can select the operation according to the event set.

Setting			
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 ItemClr
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

3) Preview Event Setting

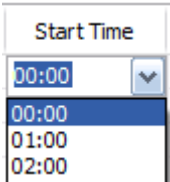
The display event period / exceptions to the calendar period, you can show with the selected event action.



4) Event Period

You can set up to 4 event periods. You can select specific / start / end time / day setting each period.

Start / End Time You can set time of day is expressed as a select list.



Double-clicking on the set day of the week is the day of that period will be the 'V' displays.

When unset, the 'V' mark disappears when you double-click again.

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

5) Event Exception

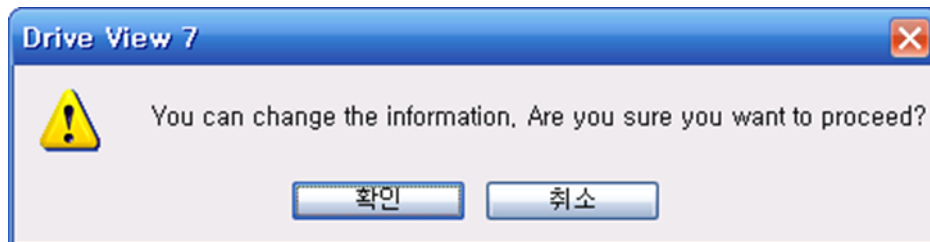
You can set the start / end time events, such as duration. Month / day setting is an event not to operate on due date.

8.3.2.4 Parameters save

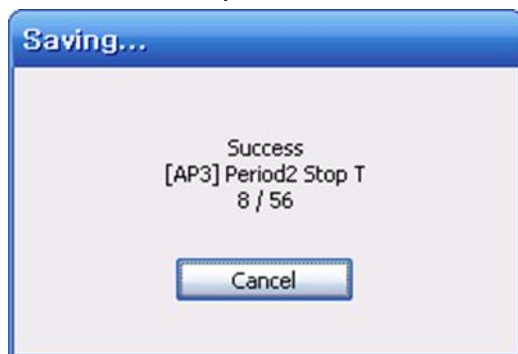
Try to download the parameter set to the inverter.



If you have information that has changed Check window appears.



Download the set parameters.



8.4 User Sequence

It may implement a simple sequence with a combination of function blocks. You can consist of up to 18 steps on the function blocks (29 kinds) and the void parameters (30 kinds).

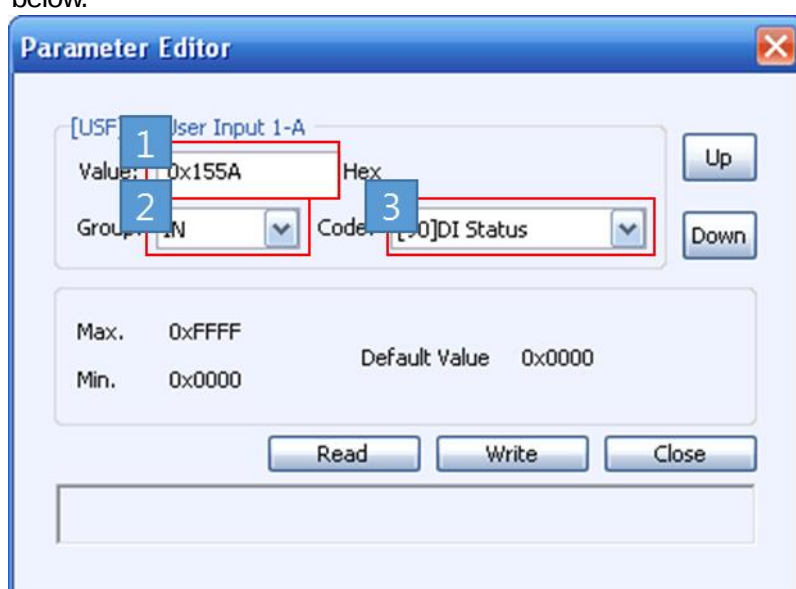
1 loop means a sequence of up to 18 steps to perform once. Loop time is the user can choose between the 10 ~ 1000ms.

Parameters are present in USS group and USF group.

※ S100 model is the only function that operates, Available only Code Ver. 1.00, IO S/W Ver. 0.11 or higher.

8.4.1 Parameters setting

Parameters for setting the communication address in USS/USF group may be set as shown in the image below.



1) Directly address input

You can enter the communication address directly. When the group / code changed, that is changed with.

If the common area Parameters, you must use that directly.

2) Select group

You can select a parameter's group.

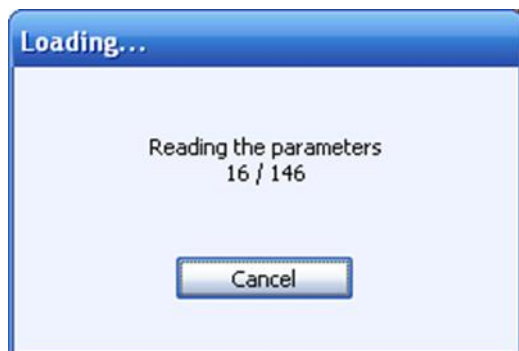
3) Select code

You can select a parameter in selected group.

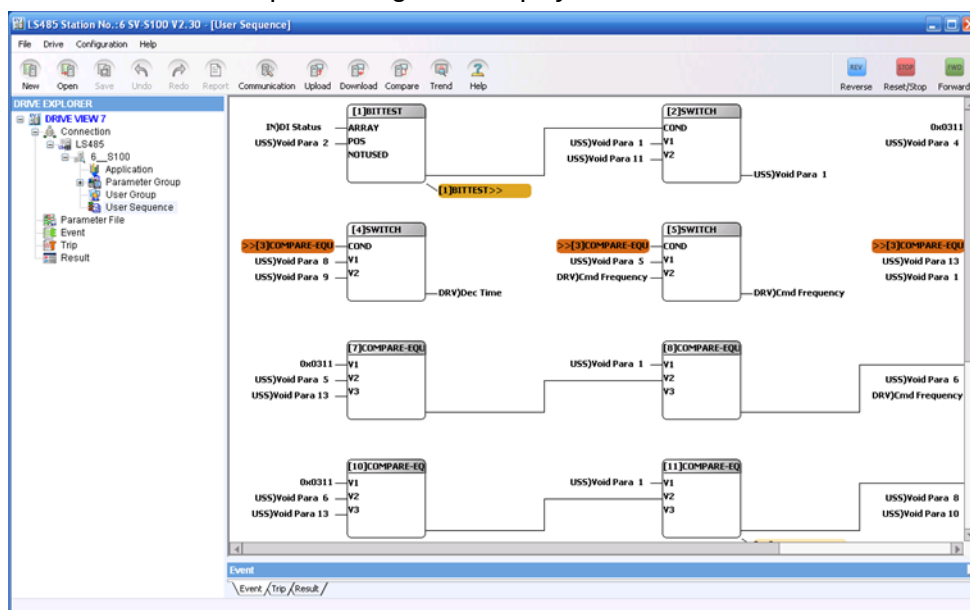
8.4.2 Diagram

You can double-click on the “User Sequence” in the tree information window. Then reads the information from the inverter, the screen is updated.

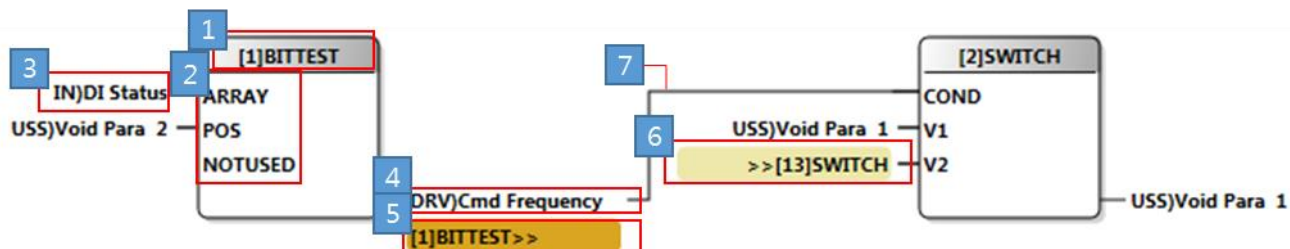
(This image is to read the Parameters in the USS/USF group from the inverter.)



After that, the user sequence diagram is displayed on the screen.



8.4.2.1 Block description



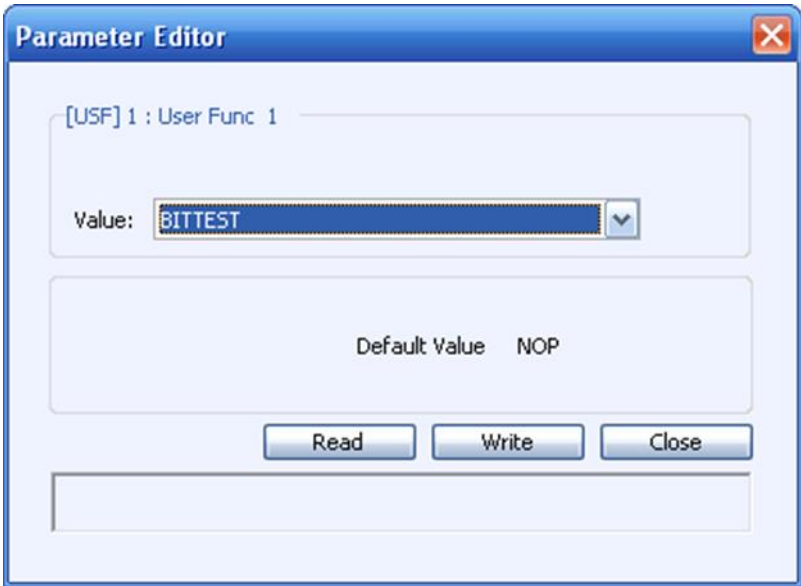
- 1) Function names that appear in the function block. (Numbers in parentheses show the block numbers)
- 2) Display input information of the function block.
- 3) Display input parameter's name.
- 4) Display output parameter's name.

- 5) Display is set the output parameters of the block as an input parameter in the other block. (For non-adjacent blocks)
- 6) Displayed when the set of input parameters to the output parameters of the block other blocks. (For non-adjacent blocks)
- 7) Displayed when the set of input parameters to the output parameters of the block other blocks. (For adjacent blocks)

8.4.2.2 Blocks setting

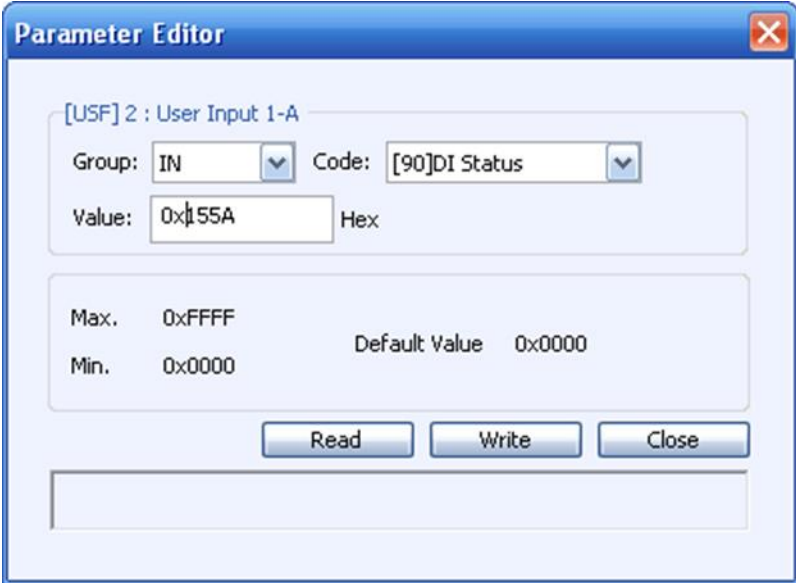
1) Function setting

You can change its function when clicked block. If you do not use the function block and select the NOP..

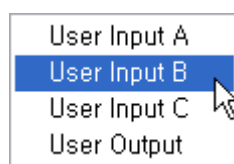


2) Input/Output parameter setting

Edit window appears when you select the parameter. You can change the parameter.



If you want to change the parameters that are not in the area, you should select the block and right-click. Edit window appears when you select the parameter you want to change in the menu.



8.4.3 Display setting

8.4.3.1 Display mode

Zoom In	Ctrl +
Zoom Out	Ctrl -
100%	Ctrl 0
Value Display Mode	

1) Zoom in

The diagram displayed on the screen appear larger by 10%. (Max 200%)

2) Zoom out

The diagram displayed on the screen appear smaller by 10%. (Min 10%)

3) 100%

Changes to the original size.

4) Value Display mode

The parameter information is displayed on the screen by changing the parameter name and value expression each other.

