DriveView v3.3 User's Manual
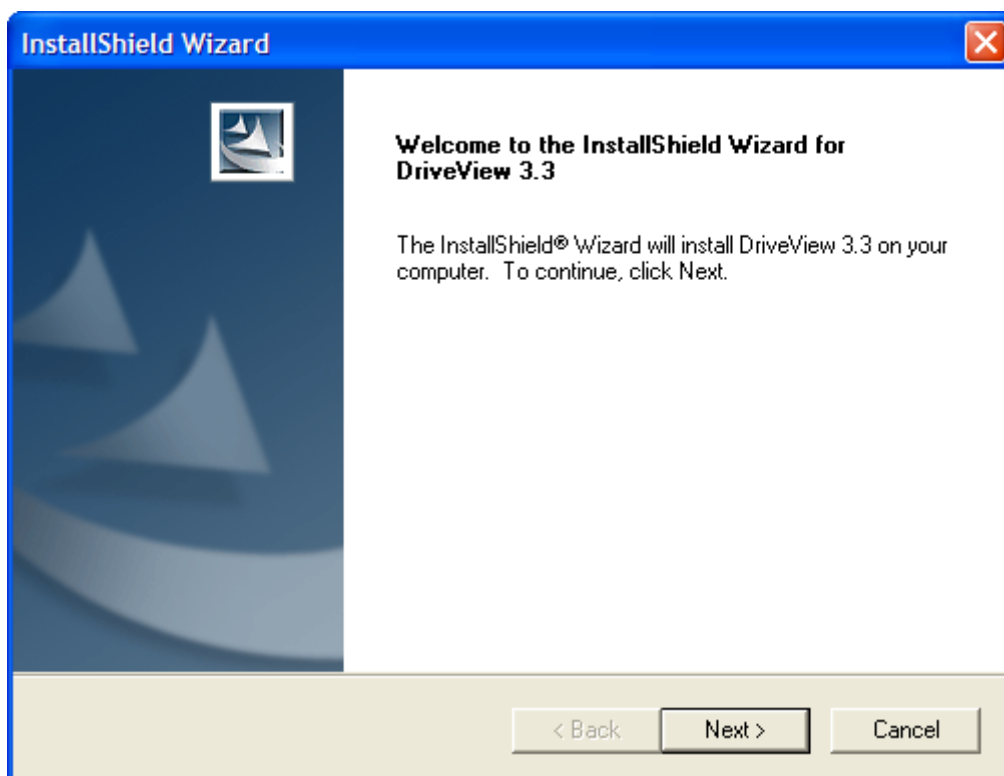
DriveView is basically operated under 'MS Window'. Please refer to the specification below.
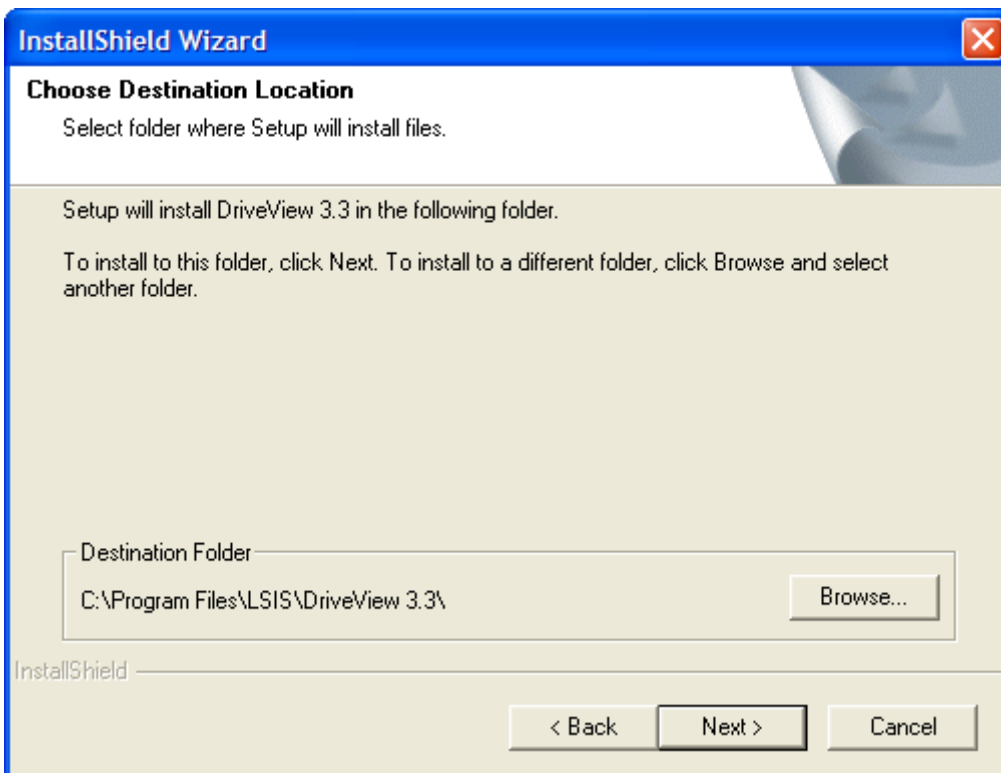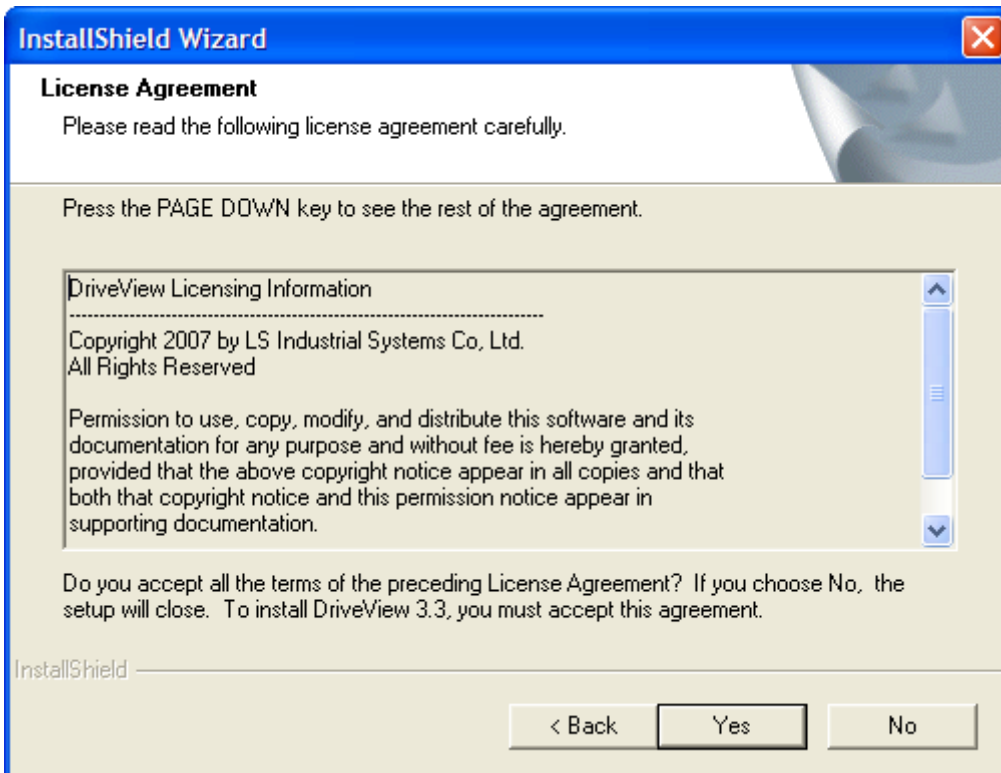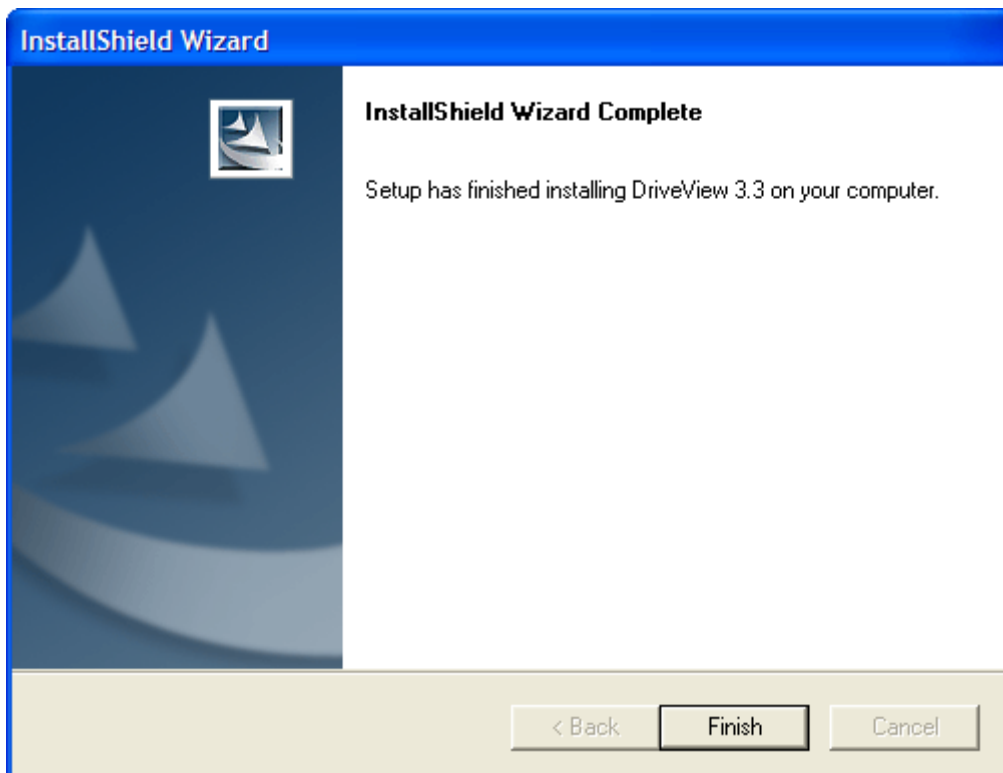
[Operating condition]
- Communication tool: RS485 (LS protocol, MODBUS-RTU)
- Communication speed: 1200, 2400, 4800, 9600, 19200, 38400 bps
- Max. number of Station: Max. 31 (No.1 ~ 255)
- LS drive selectable: SV-iS5, SV-iV5, SV-iC5, SV-iP5A, SV-iG5A
- Windows98/Me/2K/XP

6-1. Installation

Installation is very easy. Please open "Setup.exe" file, and then the wizard of DriveView InstallShield" should be shown. If you click "Next", the installation is completed.

InstallShield Wizard

License Agreement
Please read the following license agreement carefully.

Press the PAGE DOWN key to see the rest of the agreement.

DriveView Licensing Information

Copyright 2007 by LS Industrial Systems Co, Ltd.
All Rights Reserved

Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that copyright notice and this permission notice appear in
supporting documentation.

Do you accept all the terms of the preceding License Agreement? If you choose No, the
setup will close. To install DriveView 3.3, you must accept this agreement.

InstallShield

[< Back] [Yes] [No]

InstallShield Wizard

Choose Destination Location
Select folder where Setup will install files.

Setup will install DriveView 3.3 in the following folder.

To install to this folder, click Next. To install to a different folder, click Browse and select
another folder.

Destination Folder
C:\Program Files\LSIS\DriveView 3.3\   [Browse...]

InstallShield

[< Back] [Next >] [Cancel]

LS Industrial Systems

6-2. User's Manual

Please click the "DriveView" icon of program menu or main screen. You

can start "DriveView".

6-2.1 DriveView Composition

"DriveView" consists of 5 main screens.

- **Main Window**

  Display of integrated management and main operation status

- **Keypad**

  Monitoring and handling the data of inverter

- **Parameter Editor**

  Supporting ON-LINE & OFF-LINE mode and managing inverter parameters

- **Report**

  Reporting the parameter data edited in parameter editor, and saving them in

  Excel and HTML file format.

- **Graph Monitor**

  Monitoring graph type of inverter data
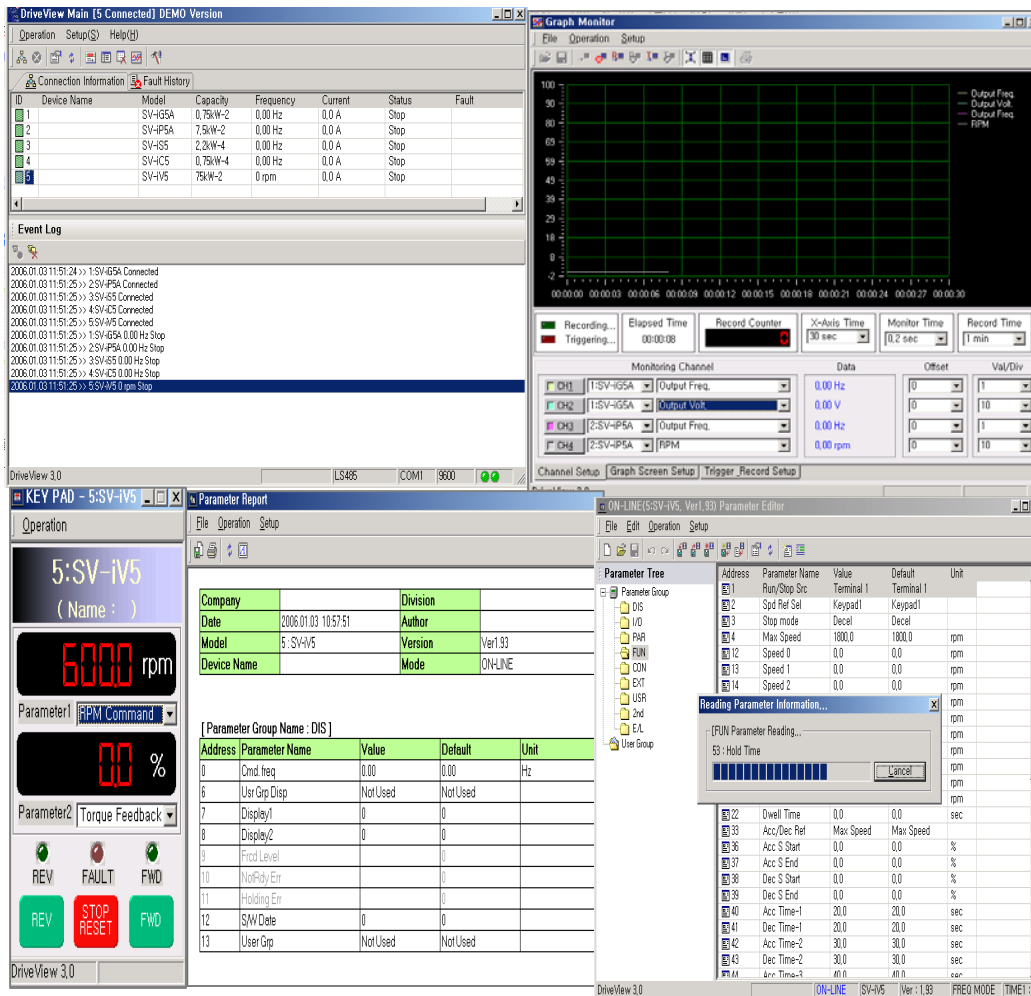
6-2.2 Main Window

Main Window is the superior scene which can manage sub window such as Keypad, On-line & Off-line parameter, Report and Graph monitoring. If you close the main window, every window is closed.

Main window can show and set up three menus, tool bar and event log of inverter's status connected presently.
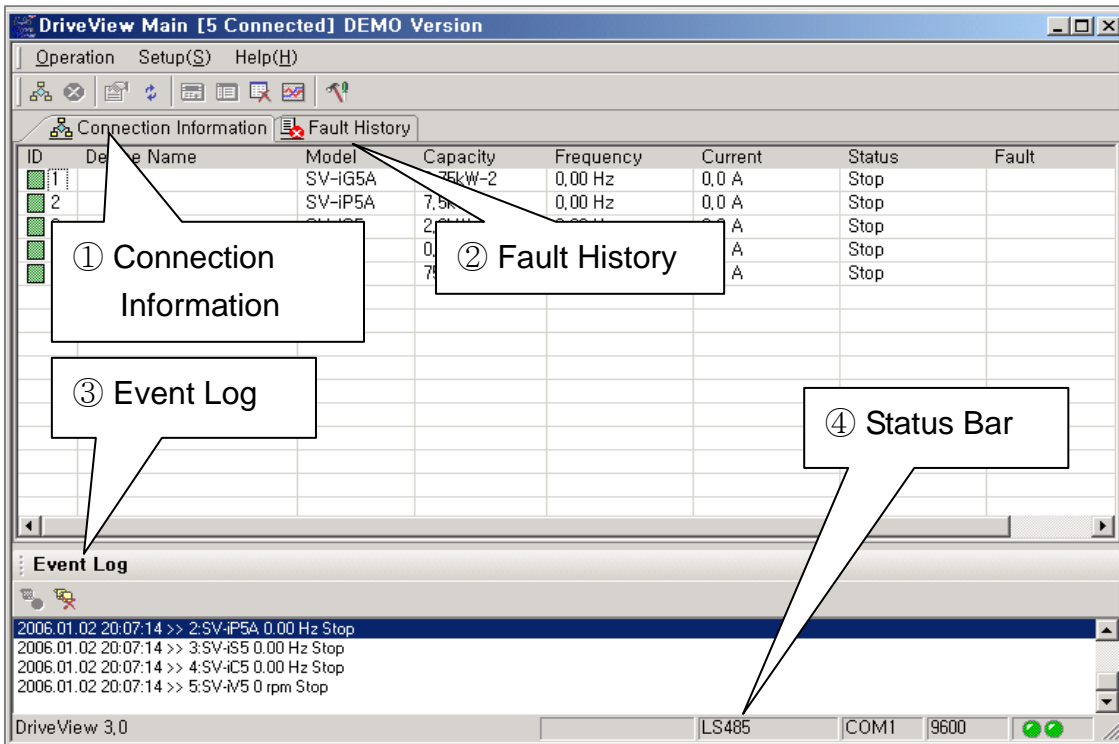
I. Connection Information

Shows information of inverters connected via communication network.

II. Fault History

Show and register the fault history which has happened after starting DriveView. It can display up to 200 fault history.
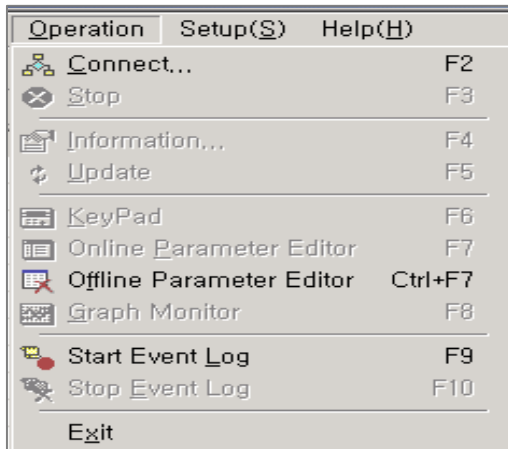
III. Event Log

Shows and registers the operation status of inverters connected via communication network
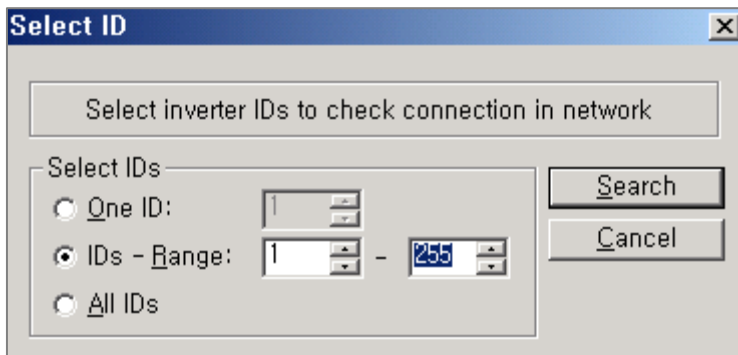
IV. Status Bar

Displays the status bar of search process, graph mode, protocol mode, communication mode, communication speed and communication status.

A. Operation

● **Select ID**

This searches the inverters connected via communication network, and shows main status of inverters on 'Select ID'.

    I.   Select ID: Checking inverter of one ID
    II.   IDs range: Checking inverters of certain range
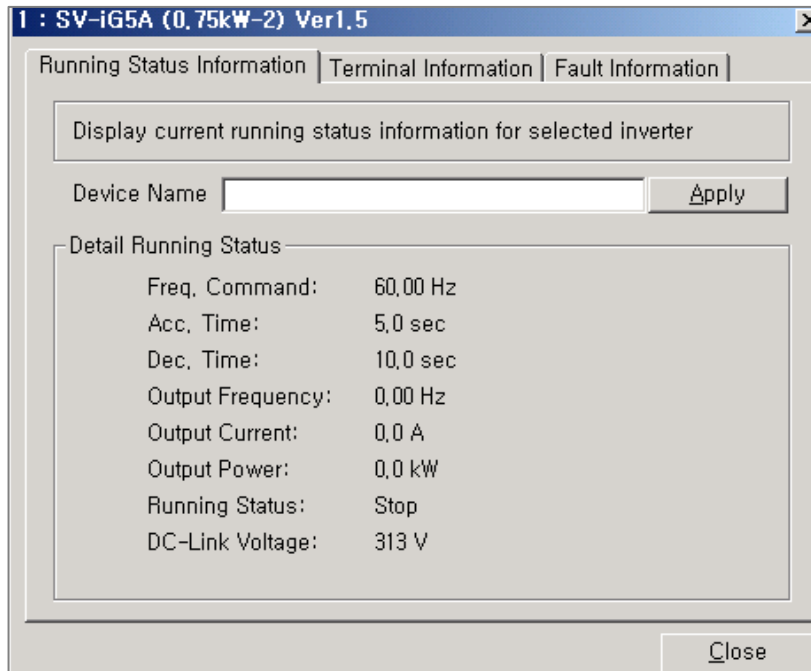   III.   All IDs: Checking inverters of all range (1 – 255)

● **Cancel 'Select ID'**
Makes 'Select ID' canceled.

● **Inverter Information**

① **This displays 'Running Status Information', 'Terminal Information', and 'Fault Information on inverter selected 'Connection Information'**
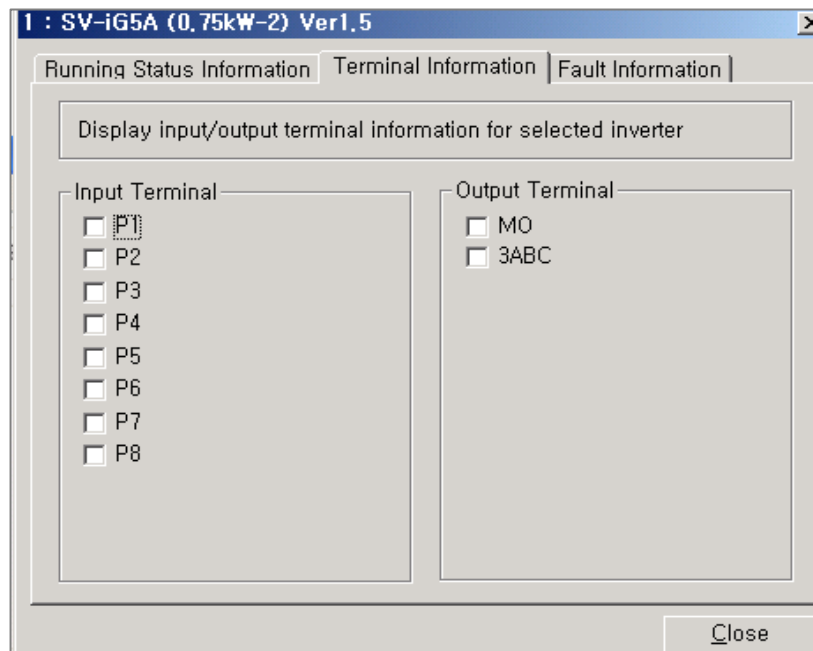
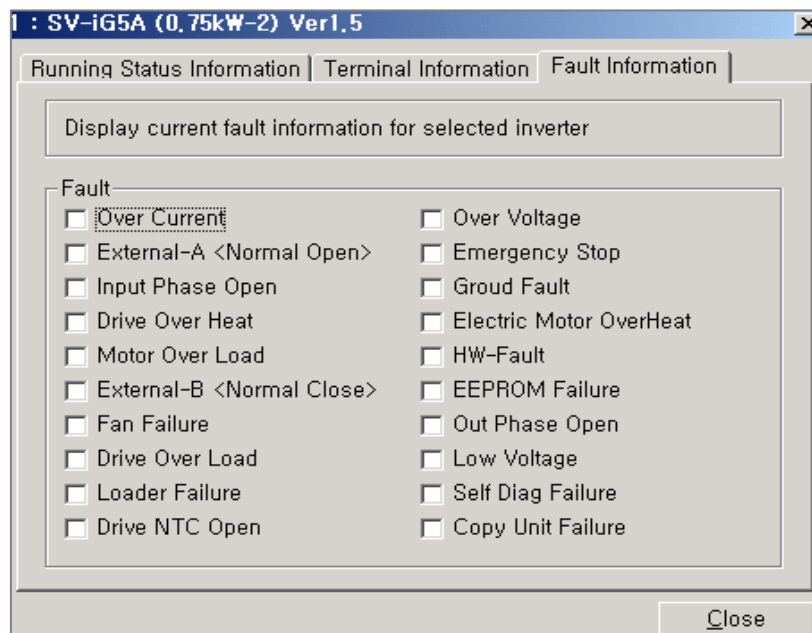I. **Running Status Information:** Displays current running status information of selected inverter

Device name: This is for naming inverter selected.
Please click 'Apply' after insert certain name

II. **Terminal Information: Display terminal information**

III. Fault Information: Display Fault History of selected inverter

- **Update**
  ① Re-operates 'Connect' for inverters related to connection information.

- **Keypad**
 ① Operates Keypad window for inverters related to connection information.

- **Online Parameter Editor**
  ① Operates Online parameter editor for inverters related to connection information (For only inverters connected successfully).

<Inverter Successful Connection?>

Inverter Successful Connection implies several conditions that can collect information (inverter model and version) which is needed and applicable LS inverters for Drive View and can read the corresponding data file successfully.

[ON-LINE Parameter Editor]
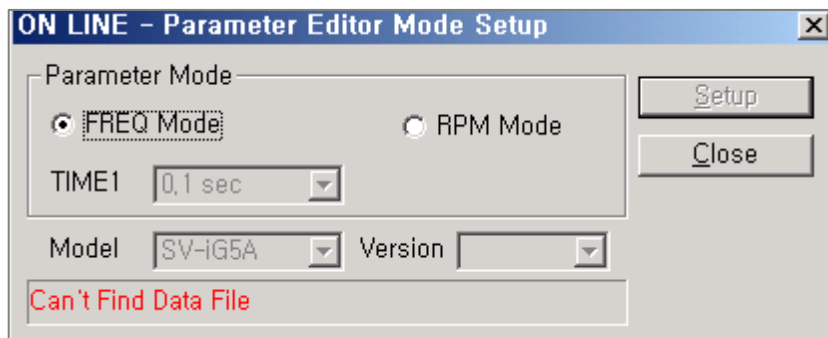
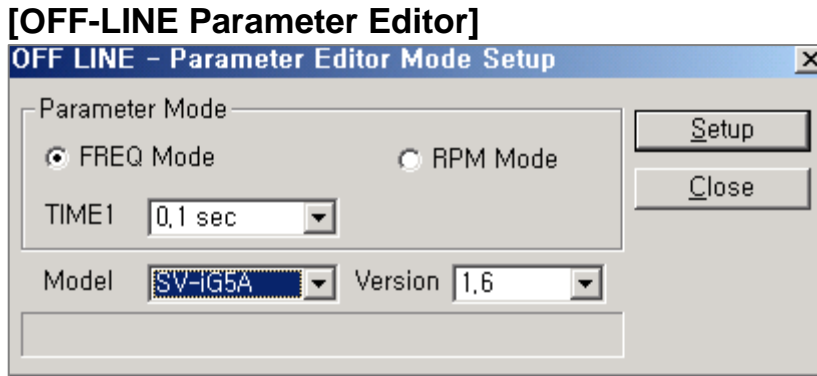I. **FREQ Mode**
II. **RPM Mode**

Some parameters of data file read during successful connection can be shown with units of Frequency or RPM. If you select one out of 2 units, every parameter is defined by the unit. The factory default is Freq.

III. **TIME1**

TIME1 displays the value read in TIME1 Scale during successful connection. Every parameter related to TIME1 Scale is processed by this unit.

● **Offline Parameter Editor**

Offline Parameter Editor is the tool which enable to edit and check parameters not related to connected inverters. DriveView 3.3 permits maximum 32 Offline Parameter Editor Windows.

[OFF-LINE Parameter Editor]

I. **FREQ Mode**

II. **RPM Mode**

Some parameters of data file of inverter's series and version which you want to work on can be shown with units of Frequency or RPM. If you select one out of 2 units, every parameter is defined by the unit. The factory default is Freq..

III. **TIME1**

TIME1 displays the value read in TIME1 Scale during successful connection. Every parameter related to TIME1 Scale is processed by this unit..

IV. **Inverter Series**

V. **Inverter Version**

Select the inverter series and version which you wand to work on.

VI. **Setup**

'Setup' button enables to read the data file following the selected items above. If error occurs during reading the data, error message appears at the low stage. In case the reading process is successful, parameters of inverter are initialized, the Parameter Editor window starts.

- **Graph Monitor**

  Over 1 inverter connected via communication network is necessary to start graph monitor. Graph Monitor is permitted on only one window, and it can show every items
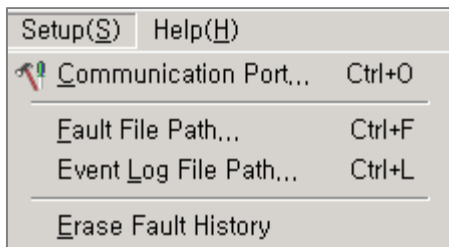
- **'Event Log' Start**

  Event Log registers and shows the operation status, connection status, and fault history of every inverter connected via network on 'Event Log' window.
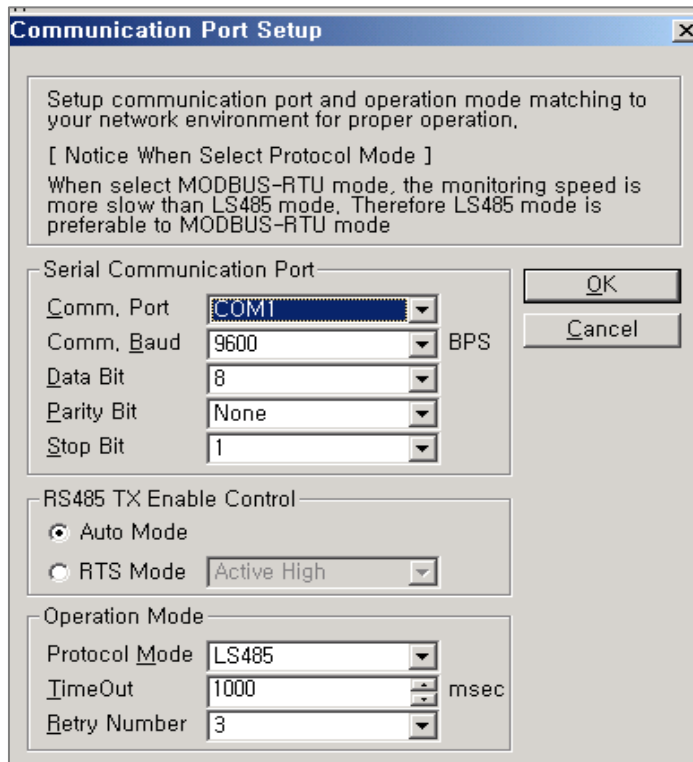
- **'Event Log' Stop**

  Makes 'Event Log' stop.

B. Setup

Setup(S)   Help(H)

🖊 Communication Port...   Ctrl+O

Fault File Path...   Ctrl+F
Event Log File Path...   Ctrl+L

Erase Fault History

- **Communication Port Setup**

  Sets up communication port.

Communication Port Setup

Setup communication port and operation mode matching to your network environment for proper operation.

[Notice When Select Protocol Mode]

When select MODBUS-RTU mode, the monitoring speed is more slow than LS485 mode. Therefore LS485 mode is preferable to MODBUS-RTU mode

Serial Communication Port

Comm. Port   COM1
Comm. Baud   9600   BPS
Data Bit   8
Parity Bit   None
Stop Bit   1

RS485 TX Enable Control
◉ Auto Mode
○ RTS Mode   Active High

Operation Mode
Protocol Mode   LS485
TimeOut   1000   msec
Retry Number   3

OK

Cancel

I. **Serial Communication Port**

Select serial communication port of user's computer which takes over 'Master' via communication network. The defaults of data bit, parity, and stop bit are each 8 bit, none, and 1 bit.

II. **RS485 TX Enable Control**

You can use RS232-485 to connect computer using RS-232C to inverter using RS-485. Please check out the most suitable converter satisfying your needs with best specification and performance.

Usual RS232-485 converters are having the function of Auto Tx Enable Control.

But some users are possessing old RS232-485 not supporting Auto Tx Enable Control. So DriveView 3.3 adopts this function with RTS signal of RS-232C.

[RS232-485 converter]
'Auto Tx Enable' type: CNV485A (RealSYS)
'RTS control Tx Enable' type : Transio A53 (MOXA)

III. **Operation Mode**
◉ **Protocol Mode**

Supporting LS485 & MODBUS-RTU

[Notice]
LS 485 protocol is more efficient and faster than MODBUS-RTU in data monitoring. Because LS485 protocol supports the useful function that enables to simultaneously monitor max. 8 discrete address data with monitor registration request and operation command. But MODBUS don't . So we recommend you use LS485 protocol for speedy and

◉ **TimeOut**

You can set TimeOut it takes to receive the response after sending operation request like reading and writing.
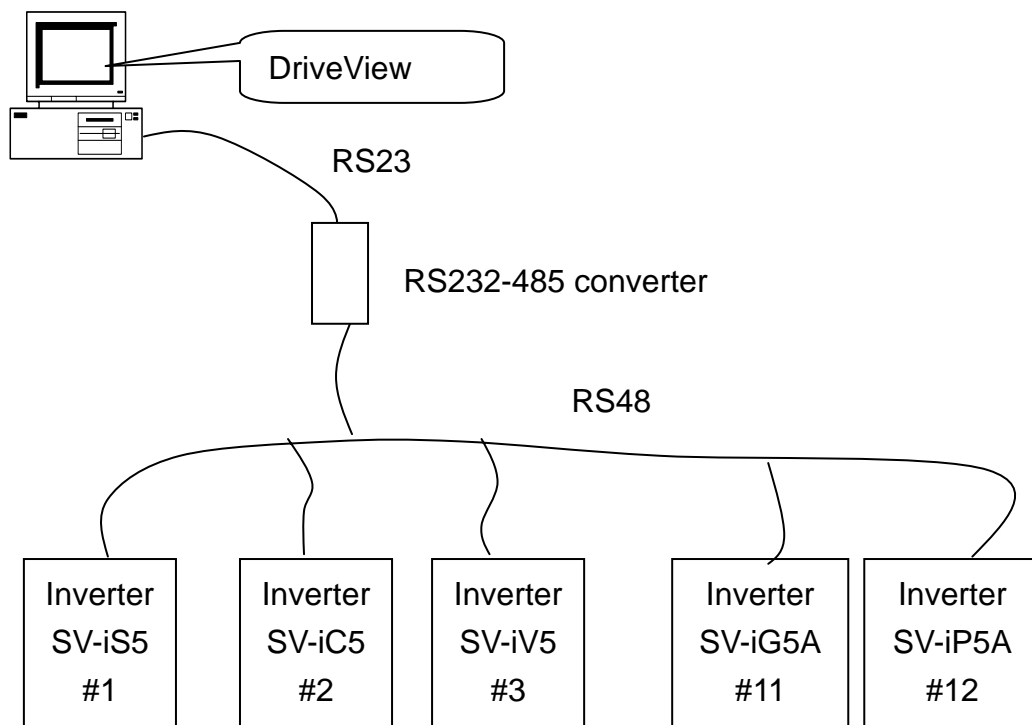
☑ **Retry Number**

Usually the response can't be delivered even though TimeOut passes by. For this state, you can set the number of requesting the same operation.

We recommend you select '3' making stable operation.

IV. Network Installation

Please connect RS-485 wire to (S+) and (S-) terminals. After checking the wiring completed, turn on the inverter.

- **Fault History file save**

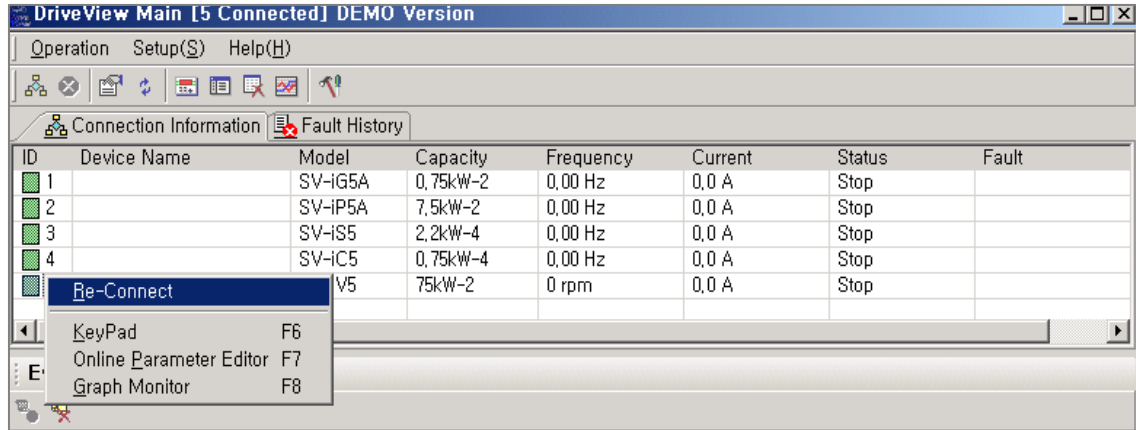 Sets the file directory of saving fault history. "history.log" of Log directory is the default in DriveView 3.3.

- **Event Log file save**

  Sets the file directory of saving Event Log file. "event. txt" of Log directory is the default in DriveView 3.3.

- **Fault History delete**

  Delete all fault history saved meantime.

C. Connection Information window

After clicking 'Connection', this window shows every inverter connected in communication network and displays operation status of them.

In order to operate 'Keypad', 'Online Parameter Editor' and 'Connection Information', you should select one ID and click one of them.
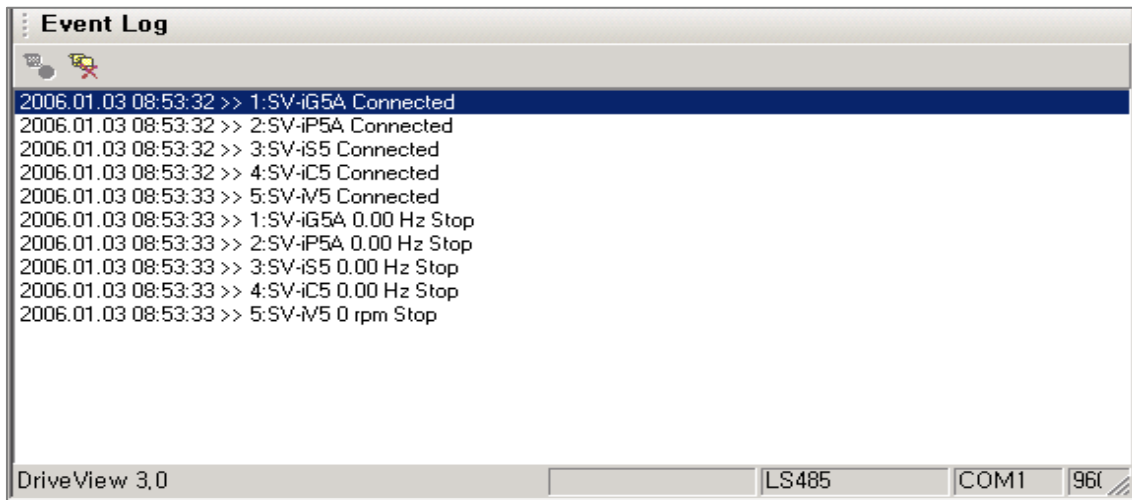
If you select one ID and click the right button of mouse, you can see the same window above.

D. Fault History

After starting DriveView 3.3, this window can display max. 200 fault history of inverters connected in communication network.

E. Event Log

After starting DriveView 3.3, this window can display max. 200 of operation status, connection status, and fault history of inverters connected in communication network.

After starting DriveView 3.3 each time, the previous Event Log is deleted automatically, and gets started newly.


F. Status bar

- **Status bar of 'Connect'**
  After clicking 'Connect', it displays the status of operation.
- **Graph mode**
  Shows the operation status of Graph mode from 'Graph Monitor' window.
- **Protocol mode**
  Shows communication Protocol used currently.
- **Communication port**
  Shows communication port used currently.
- **Communication speed**
  Shows communication speed on current communication network.
- **Communication transmission/reception status**
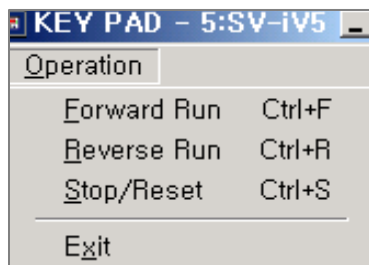 Shows current communication transmission and reception status.

6-2.3 Keypad

Keypad window is used for monitoring of common area of inverter except for Input/Output terminal and fault information. It has a function of Write parameter editing.

Select the inverter at Connection Information list of Main window and select 'Keypad'.
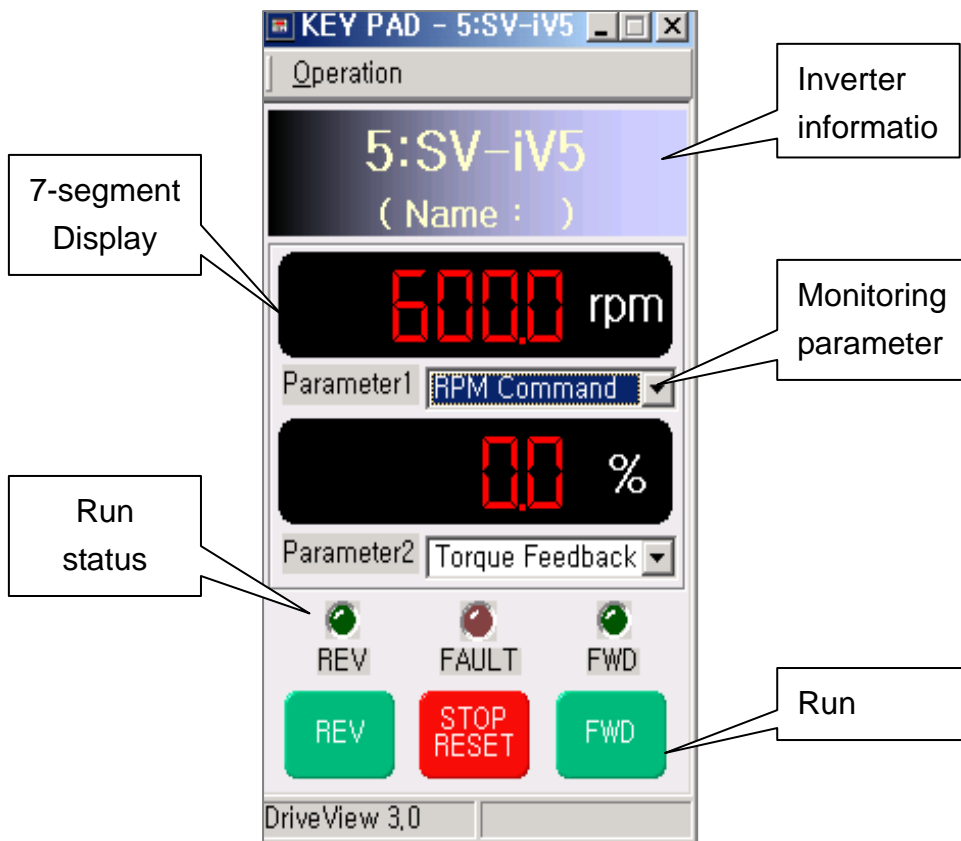
A. Operation

● Forward Run

It is same with 'FWD' button in upper figure. (Inverter operates Forward Run)

- Reverse Run

  It is same with 'REV' button in upper figure. (Inverter operates Reverse Run)

- Stop/Reset

  It is same with 'STOP/RESET button in upper figure. (Inverter is stop or reset)

B. Inverter Information

Displays communication station number model and device names of inverter.

C. 7-segment Display

Displays parameter data which is selected in **Monitoring Parameter**.

D. Monitoring Parameter

Select the parameter to monitor.

E. Run Status LED

Displays present status of inverter operation.

F. Run Button

Sets inverter operation.

G. Status Bar

DriveView 3.0

Displays Graph mode operation in **Graph Monitor Window**.

6-2.4 Parameter Editor

Parameter editor has a parameter Write/Edit function in inverter group and User Group. DriveView 3.3 supports ON-LINE mode and OFF-LINE mode. Select inverter on **Connection Information** list and then click **Online Parameter Editor** on the menu or toolbar.
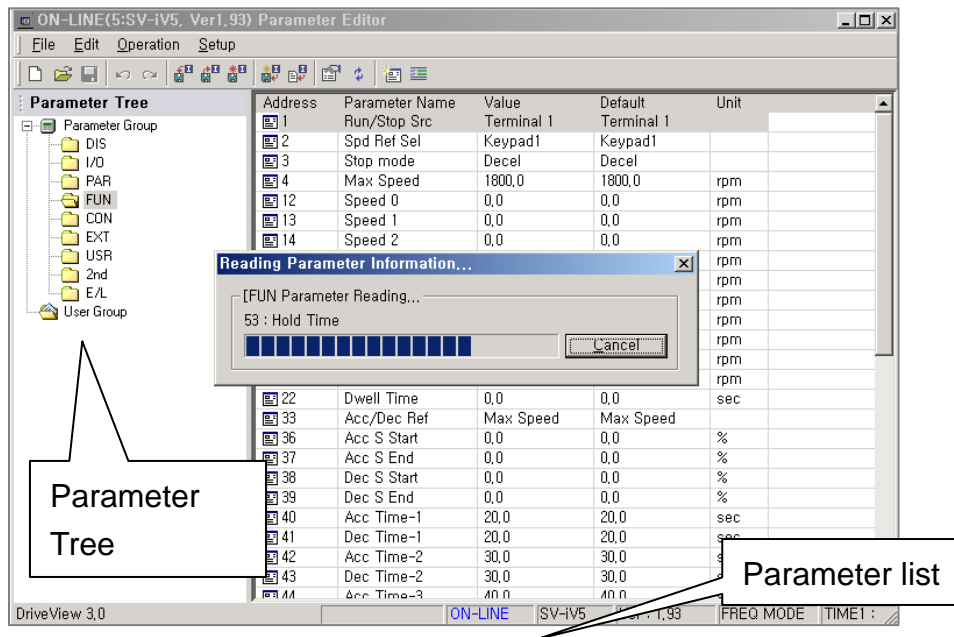
A. Parameter Tree

Displays Parameter Group of data file and User Group which are selected inverter's model and version.

- **Click the left mouse button on selected group**

  It displays the parameter in Parameter Group in parameter list.

- **Double click left mouse button on selected group**

  It reads the parameter of selected group from connected inverter at Online mode.

- **Selected item in parameter list is Drag & Drop to User Group in Parameter Tree**

  If new parameter will be add in User Group, Select parameter in parameter list. And then, Drag and Drop to User Group in Parameter Tree.

B. Parameter List

Displays the parameter of selected group in Parameter Tree.

- **Double click in Online mode**

  Used to edit the selected parameter. (Read/Write of corresponding parameter value   from connected parameter)

Input parameter

Parameter selection

Online parameter Read/Write button
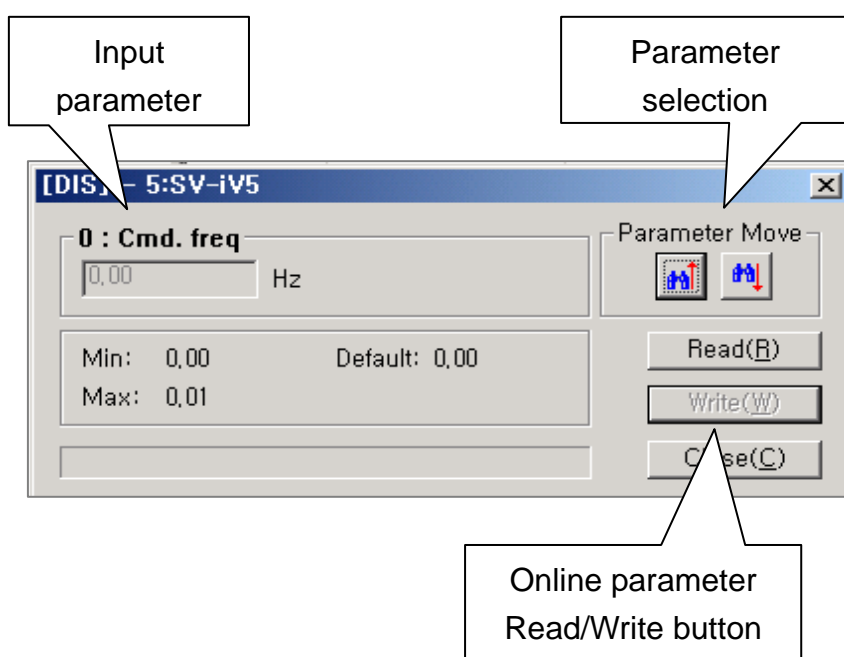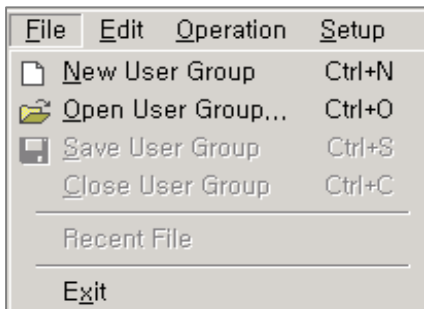
▣ **Up/Down button for Parameter Move**

Used to edit the upper/lower parameter of selected parameter in parameter list.

● **Double click in Offline mode**

Double click the 'Value' in parameter list, it is changed into Offline parameter editing mode.

C. **File**

● **New User Group**

Make new user parameter group that corresponds to the selected inverter type and version. After making a new parameter, select the parameter in the parameter list and then drag-and-drop.

●   **Open User Group**

Opens previous User Group file (*.usr) and adds file data of selected group file to User Group in Parameter Tree.

●   **Save User Group**

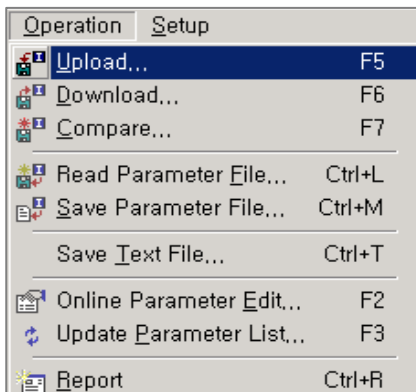Saves edited user Parameter Group in User Group file (*.usr).

- **Close User Group**

  Deletes the selected User Group item in Parameter Tree.

- **Recent File**

  Displays the path of User Group file which is recently opened.
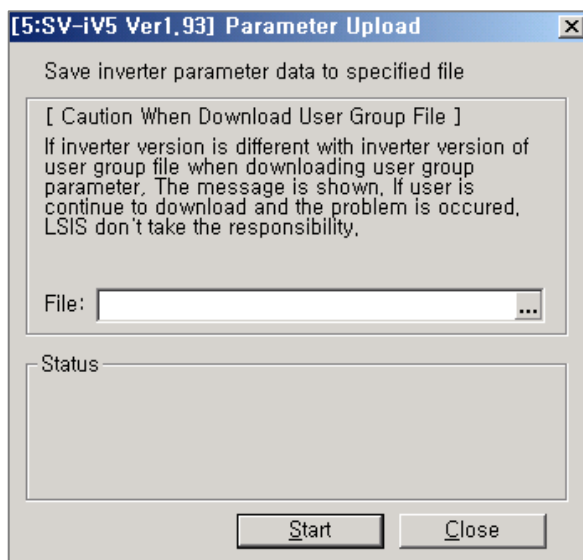
D. Operation

● **Parameter Upload**

Reads the parameter information of connected inverter in Online mode and saves in selected file.

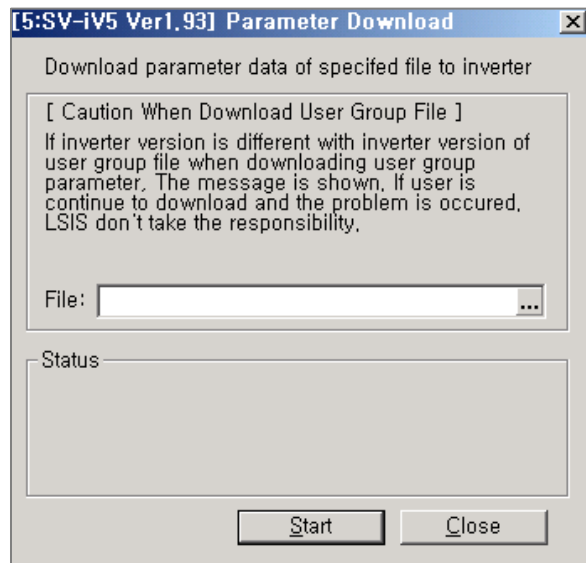◉ **In case of choosing Parameter file (*.par) path**

Reads all parameter information related to selected inverter type and version from connected inverter. And then, it saves parameter information in specified file path.

▣ **In case of choosing User Group file (*.usr)**
Opens specified User Group file and saves only parameter information in User Group in connected inverter.

● **Parameter Download**
Downloads parameter value in selected file in Online mode to connected inverter.

[5:SV-iV5 Ver1.93] Parameter Download

Download parameter data of specifed file to inverter

[Caution When Download User Group File]
If inverter version is different with inverter version of user group file when downloading user group parameter, The message is shown, If user is continue to download and the problem is occured, LSIS don't take the responsibility,

File: [   ] ...

Status

Start   Close

▣ **In case of choosing Parameter File (*.par) path**
Open the selected parameter file to check inverter type and version and then download the parameter information in inverter.

▣ **In case of choosing User Group file**
Open the selected User Group file to check inverter type and version and then download the parameter information in inverter.

< Warning >
If the version is different, dialog box is appeared asking whether or not to download. Check the selected parameter which is usable with present version and then download.

● **Parameter Compare**
Compares parameter value of selected file with correspondent parameter of connected inverter in Online mode. And it displays different parameter information.
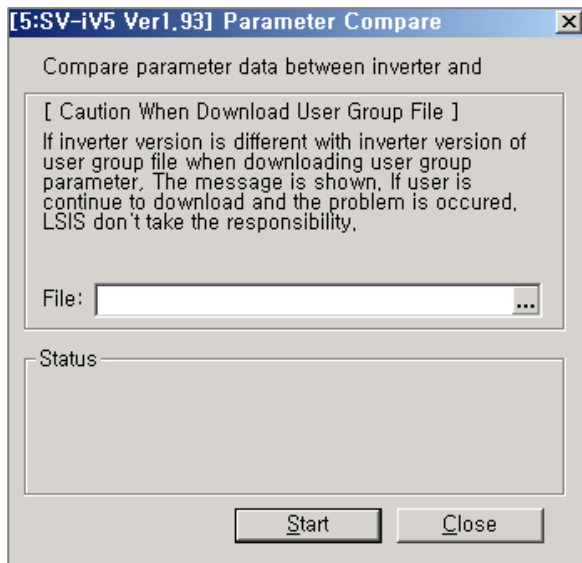
▣ **In case of choosing Parameter file (*.par) path**

Selected Parameter in Parameter is compared with connected inverter's parameter about inverter's type and version. And, compares parameter information in file is compared with inverter's correspondent parameter. And different Parameter information displays as list type.

▣ **In case of choosing User Group file (*.usr) path**

Selected User Group is compared with connected inverter's type and version. Then, parameter information in file is compared with and correspondent parameter in inverter. The result of different parameter information displays as list type.

● **Read Parameter File**

Open Selected parameter file (*.par), it is compared with current parameter about inverter's type and version in Parameter Editor and then it displays parameter in parameter list.

● **Save Parameter File**

Saves current parameter value of Parameter Editor in selected parameter file (*.par).

● **Save Text File**

▣ ON-LINE mode

All Parameter information of connected inverter is reflected in Parameter Editor and then saves as text file (.txt).

▣ OFF-LINE mode

All parameter information setting in Parameter Editor saves as text file (.txt)

● **Online Parameter Edit**

Used to change the selected parameter value at parameter list in ON-LINE mode.

● **Update Parameter List**

Used to update parameter in parameter list from selected Parameter Group and User Group at Parameter Tree in ON-LINE mode.
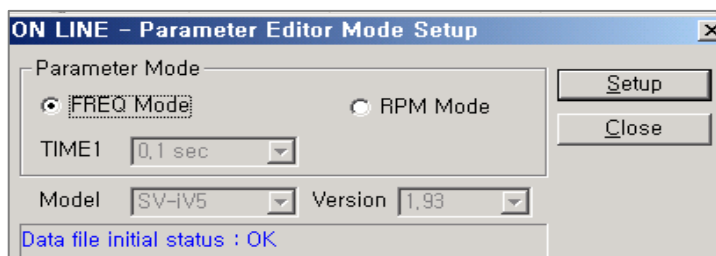
● **Parameter Report**

Displays the parameter of selected Parameter Group and User Group as Report type. Select the Parameter Group in Parameter Tree and then Use 'Report' function.
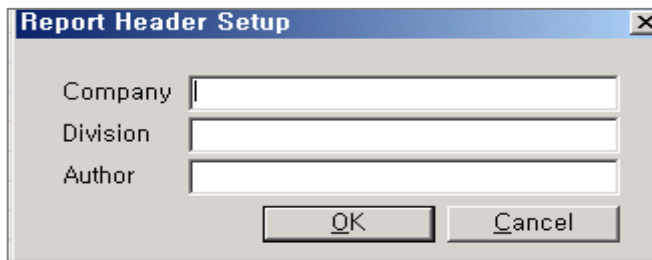
E. Setup
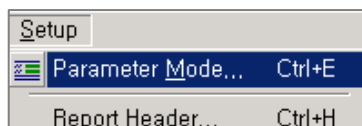
● **Parameter Editor Mode Setup**

Used to change the setups when Parameter Editor is executed. Please refer to page 8 for more details.

● **Report Header Setup**

Used to input the user information to display at Report View's header.

F. Status bar

It displays Graph mode operation status, ON/OFF-LINE status, Inverter type, Inverter version, Parameter Editor setting information (FREQ MODE and TIME1 value) and all parameter number of selected parameter group.

6-2.5 Parameter Report

Report window belongs to the parameter editor, and it shows the edited parameter data into a report format and provides the function to save the data into Excel or HTML format.

Select the parameter group to display on the Parameter Tree pain, and

click **Report** on the **Operation** menu or click **Report** 📇.
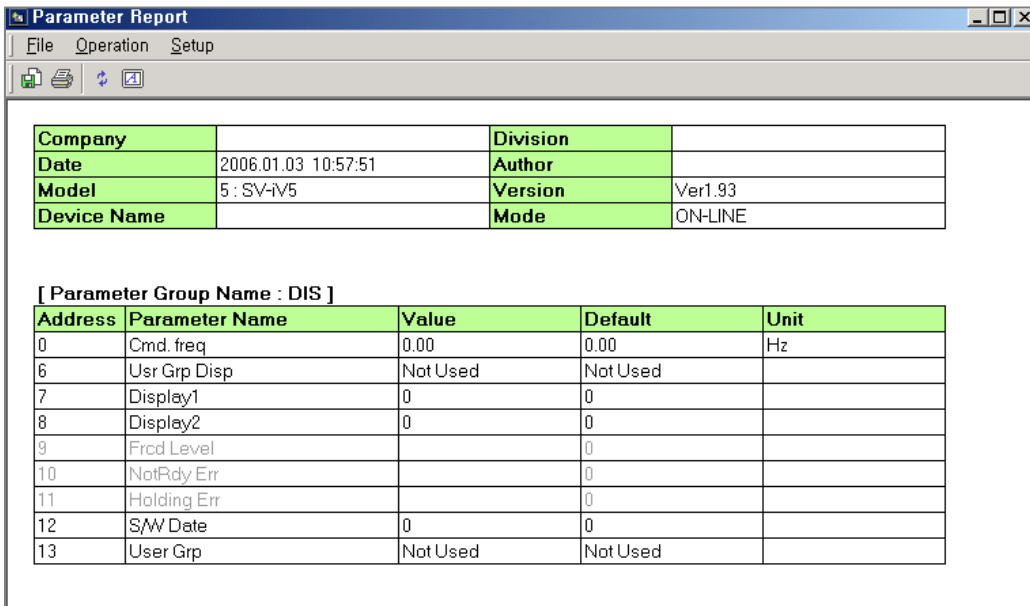
A. File
- **File Export**

  Allows user to export the selected parameter group data to an excel (*.xml) or HTML (*.htm) file.
- **Print**

  Prints the selected parameter group data as a report type.

B. Operation
- **Update**

  Updates the Report window based on the recent parameter data.

C. Setup
- **Report Header**

  Sets the report header information.

6-2.6 Graph Monitor

Graph Monitor window monitors inverter common area including input/output terminal and fault information, and these are displayed as a graph type and saved into a file. Monitoring can be paused, and the current screen can be saved while user customized trigger event is occurred.

The monitoring of the main and other sub windows can be paused or activated through **Graph Watch Mode,** and it enables a user to monitor data more accurately.

① Graph Window

② Monitoring Status Display and Time Settings

③ Monitoring Variables and Graph Settings
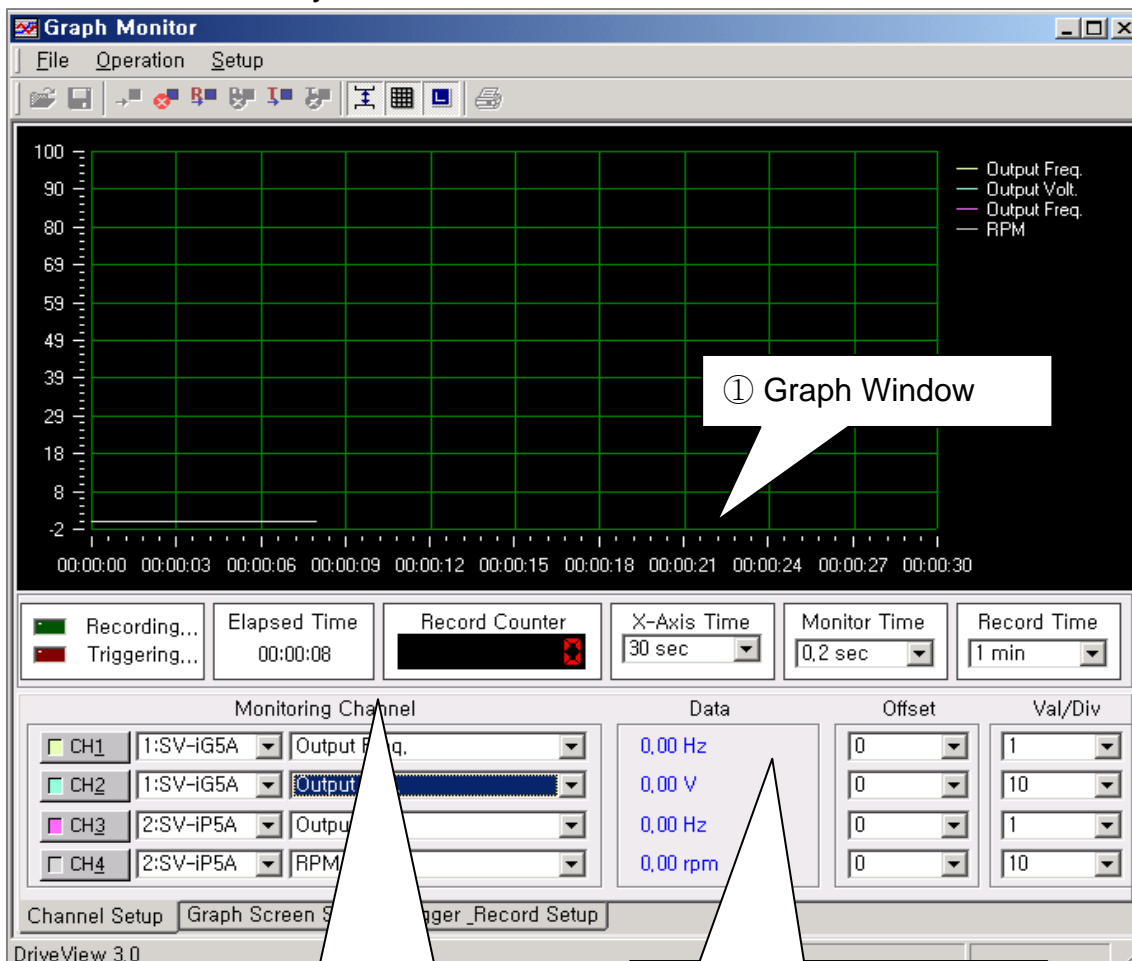
▣ **Graph Monitor Key Functions**

①**Graph Window**

Shows the collected parameter data of the selected monitoring channel. A different action is performed when mouse is clicked followed the screen mode selected on the **Graph Screen Mode** of the **Setup** menu. For more information, refer to the below description **Menu and Toolbar.**

②**Monitoring Status Display and Time Setting**

Recording... Triggering...	Elapsed Time 00:00:08	Record Counter	X-Axis Time 30 sec	Monitor Time 0.2 sec	Record Time 1 min

A. **Recording / Triggering**

Displays whether data is recorded and set trigger event is occurred.

B. **Elapse Time**

Displays elapsed time after monitoring. (Hour/Minute/Second)

C. **Record Counter**

Displays the total number of the recorded channel parameter data.

D. **X-Axis Time**

Set time for the X-axis that can be displayed on graph.
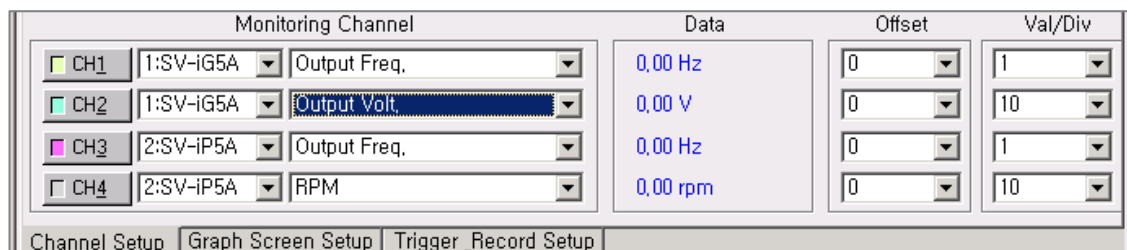
E. **Monitor Time**

Set time intervals to insert the displaying data into a graph. Do not get confused with the actual data collecting time via communication.

F. **Record Time**

Set the save interval.

③**Monitoring Variables and Graph Setting**

A. **Channel Setup (supports a total of 4 channels)**

Monitoring Channel			Data	Offset	Val/Div
CH1	1:SV-iG5A	Output Freq.	0.00 Hz	0	1
CH2	1:SV-iG5A	Output Volt.	0.00 V	0	10
CH3	2:SV-iP5A	Output Freq.	0.00 Hz	0	1
CH4	2:SV-iP5A	RPM	0.00 rpm	0	10

Channel Setup | Graph Screen Setup | Trigger _Record Setup |

■ **ON/OFF Button**

Check this button to turn on or off the corresponding channel monitoring. Inverter stations and parameter variable setting items are enabled or disabled following this selection. If the switch is turned off during monitoring, corresponding graph line will be disappeared from the graph window.

■ **Inverter Station Setup**

Select the inverter station to monitor.

■ **Parameter Variables Setup**

Select inverter parameter variables to monitor in a graph mode.

■ **Data**

Displays recently collected data value during monitoring, and the yellow cursor bar indicates the data value when the graph screen mode is activated as a cursor mode.

■ **Offset**

Means a certain value that is added to or subtracted from the collected channel parameter data. When several parameters are monitored, this is used to get a whole view of the graph by differing the Y-axis origin using the offset value.

■ **Val/Div**

Means a certain value that is multiplied to the collected channel parameter data. When several parameters are monitored, this is used to prevent the state that the graph line is displayed as a straight line for reason of one parameter value's unit is too big and the other is too small.

B. Graph Screen Setup

■ **Line Color**

Specifies the color of each channel's graph line.

◼ **Line Width**

Specifies the width of each channel's graph line.

◼ **Y-Axis Auto Scale**

Select this option to automatically display the calculated maximum value of the Y-axis when a new value is added during monitoring.

If this is not selected, data is displayed in the maximum and minimum range of the Y-axis.

◼ **Y-Axis Min./Max.**

Specifies the maximum and minimum of the Y-axis when **Y-Axis Auto Scale** is not used.

◼ **Show Grid**

Select this option to display or hide vertical and horizontal gridlines.

◼ **Show Label**

Select this option to display or hide the line color and parameter variable name.

◼ **Cursor**

The cursor pointing channel when **Cursor** is selected in **Graph Screen Mode**.

C. Trigger _Record Setup

◼ **Trigger Channel**

Specifies channel to set Trigger Event.

◼ **Trigger Value**

Specifies the parameter variable of the channel to trigger Event.

◼ **Edge Trigger**

Specifies Edge Trigger mode, rising or falling mode can be set. If **Rising** is selected, Trigger Event occurs when the collected data exceeds the specified trigger level, and if **Falling** is selected it occurs when the collected data is less than the specified trigger level.

■ **Save Image**

　Select this option to save the screen image when Trigger Event occurs.
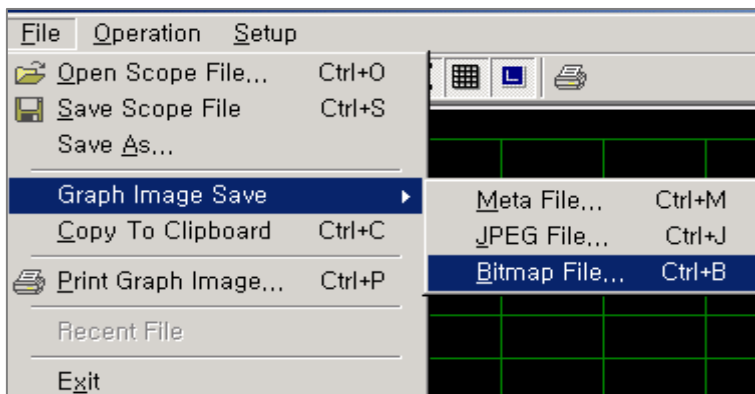
■ **Record File Path**

Specifies file directory to record the collected data.

■ **Trigger Graph Image File Path**

Specifies file directory to save the graph image when Trigger Event occurs in case **Save Image** is selected.

▣ **Menu and Toolbar**

A. <u>F</u>ile

■ **Open Scope File**

Opens the scope file and displays the graph environment and data.

■ **Save Scope File**

Saves the currently set graph environment and collected graph data into a file.

■ **Save As**

Saves the currently set graph environment and collected graph data as a different file.

■ **Graph Image Save**

Saves the active graph image into a specified file format.

■ **Copy To Clipboard**

Copies the active graph image into a window clipboard.
The image can be displayed by selecting **Paste** in a program like MS-Word and Paint.

■ **Print Graph Image**

Prints the active graph image.

B. Operation

< Graph Watch Mode? >

Previous DriveView programs reflect data irregularly because they collect data with other windows like Main Window Inverter Register, Keypad, Parameter Editor, Text Monitor, etc., during monitoring.
DriveView 3.3 provides "Graph Watch Mode" so to the user can get more accurate data. While this function is activated, other window's monitoring function is stopped except graph monitoring. (But Fault History is activated.)
Click **Graph Watch Mode,** and then click **Start Monitor.**

- ■ **Start Monitor**
  Starts data monitoring.
- ■ **Stop Monitor**
  Stops data monitoring.
- ■ **Start Record**
  Records data on the specified file.
- ■ **Stop Record**
  Stops data recording.
- ■ **Start Trigger**
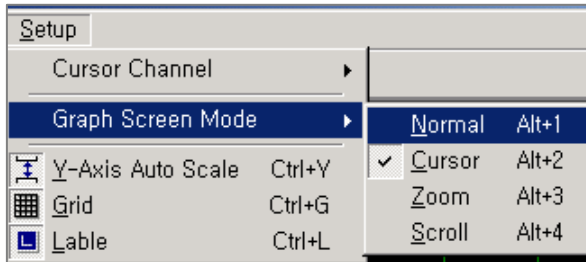 Starts Trigger Event monitoring.
- ■ **Stop Trigger**
  Stops Trigger Event monitoring.
- ■ **Graph Watch Mode**
  Determines whether to use **Graph Watch Mode**.

C. Setup

■ Cursor Channel

Point to **Graph Screen Mode** on the **Setup** menu, and then click **Cursor**.

■ Graph Screen Mode

A. Normal

Graph is normally displayed in this mode and when data is collected, the mode changes into Normal mode automatically. The screen turns to the initial graph screen if the mode changes from Cursor/Zoom/Scroll to Normal.

B. Cursor

Stop monitoring to activate this mode, and place the mouse cursor where to look, and then click or drag the cursor bar to display the data value.

C. Zoom

Stop monitoring to activate this mode, and select area by drag-and-drop to get a magnified view.

D. Scroll

Stop monitoring to activate this mode, and drag the mouse to scroll to the selected direction.

■ Y-Axis Auto Scale

Select this option to automatically display the calculated maximum value of the Y-axis when a new value is added during monitoring.

If this is not selected, data is displayed in the maximum and minimum range of the Y-axis.

■ Grid

Select this option to display or hide vertical and horizontal gridlines.

■ Label

Select this option to display or hide the line color and parameter variable name.