MITSUBISHI ELECTRIC

MELSOFT

MELSOFT
FR Configurator SW3
INSTRUCTION MANUAL

INVERTER SETUP SOFTWARE

FR-SW3-SETUP-WE

CC-Link Seamless

-Windows®(English) Version-

OUTLINE 1

WHEN USING FOR THE FIRST TIME 2

SETTING WIZARD 3

FUNCTION 4

TROUBLE INDICATION 5

INTRODUCTION

Thank you for choosing this Mitsubishi Inverter Setup Software.
This Instruction Manual gives handling information and precautions for the use of this software. Incorrect handling might cause an unexpected fault. Before using the software, please read this manual carefully to use the software to its optimum performance.
Please forward this manual to the end user.

When reading this manual, note the following points.

- This manual is written on the basis that Windows® XP (English version) is the operating system.
- Drive D is described as the CD-ROM drive and Drive C as the hard disk drive.

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(1) The formal name of Windows® 2000 is Microsoft® Windows® 2000 operating system.

(2) The formal name of Windows® XP is Microsoft® Windows® XP operating system.

(3) The formal name of Windows Vista® is Microsoft® Windows Vista® operating system.

(4) The formal name of Windows® 7 is Microsoft® Windows® 7 operating system.

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⚠ For Maximum Safety

- This product has not been designed or manufactured for the use with any equipment or system operated under life-threatening conditions.
- Please contact our sales office when you are considering using this product in special applications such as passenger mobile, medical, aerospace, nuclear, power or undersea relay equipment or system.
- Although this product was manufactured under conditions of strict quality control, you are strongly advised to install safety devices to prevent serious accidents when it is used in facilities where breakdowns of the product are likely to cause a serious accident.

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<Abbreviation>

- **PU**: Operation panel and parameter unit (FR-PU04, FR-PU07)
- **Inverter**: Mitsubishi inverter
- **FR-A700** : Mitsubishi inverter FR-A700 series
- **FR-A701** : Mitsubishi inverter FR-A701 series
- **FR-E700** : Mitsubishi inverter FR-E700(SC)(NC) series
- **FR-F700** : Mitsubishi inverter FR-F700 series
- **FR-F700P** : Mitsubishi inverter FR-F700P series
- **Pr.** : Parameter Number (Number assigned to function)
- **PU operation**: Operation using the PU (FR-PU04/FR-PU07)
- **External operation**: Operation using the control circuit signals
- **Combined operation**: Operation using the PU (FR-PU04/FR-PU07) and External operation
- **Standard motor**: SF-JR
- **Constant torque motor**: SF-HRCA

<Mark>



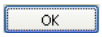
REMARKS: Additional helpful contents and relations with other functions are stated.



Note: Contents requiring caution or cases when set functions are not activated are stated.



POINT: Useful contents and points are stated.



: Indicates a button displayed in a window.



: Indicates a tab displayed in a window.

[ ] : Indicates a menu selected from menu bar.

" " : Indicates a title name of a window.

1 OUTLINE

This chapter explains the "OUTLINE" for use of this product.
Always read the instructions before using the software.

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1.1 Before Using This Software

●This software is an effective support tool for setting up the Mitsubishi transistorized inverter via CC-Link.
The following functions can be performed efficiently on the personal computer

- Startup ..... Desired function can be performed soon after starting up of this software
- Easy Setup ..... From station number to parameter setting, setting with wizard style dialog (interactive) is available
- Setting Wizard ..... Function setting without regard to parameter number
- Parameter List ..... Displaying parameter list, functional list, initial value change list and editing the parameters are available
- Diagnosis ..... Displaying faults history and parts life, and measuring main circuit capacitor life are available
- Batch Monitor ..... Displaying monitored items of the inverter at the same time is available
- Test Operation ..... Displaying the operation mode of the inverter and monitoring of the speed
- Help ..... Instruction manual of the inverter and this software can be displayed in a window

POINT

- Communication between FR Configurator and the inverter must be performed when the programmable controller is in STOP status. When FR Configurator is online, do not set the programmable controller in the RUN status. Doing so may affect the commands from the sequence program to the inverter.

Note

- **If a file name or folder name is using Unicode, system file writing or reading may not be performed correctly. Please use a file name and folder name without Unicode.**
- **The following functions of Windows® XP, Windows Vista® or Windows® 7 are not compatible with this software.**
  - **Application starting with Windows® compatibility mode**
  - **Starting using "Run As..."**
  - **Fast User Switching**
  - **Remote Desktop**
  - **Large font size (Advanced setting of screen property)**
  - **DPI setting other than the normal size (Advanced setting of screen property)**
  - **Windows XP Mode**
  - **Windows Touch**
- **A part of this software is using a function of Internet Explorer. This software may not function properly depending on the Internet Explorer setting.**
  For example, if the user assistant is set in "Option," file opening or selecting function in "Startup" window may become unavailable. Please change the Internet Explorer setting into a default setting, or select the desired function from a main screen of FR Configurator.
- **Do not use FR Configurator when operating the inverter with FR-PU07BB battery.**
  FR Configurator may not operate properly.
- **In FR Configurator CC-Link Seamless, the units for parameter settings and monitored items are not displayed, and their digits are shifted. A value in FR Configurator may be different from the value displayed on the operation panel. Check the units by referring to the Inverter Manual before setting parameters or reading monitored items.**
- **Communication between FR Configurator and the inverter must be performed when the programmable controller is in STOP status.**
- **FR Configurator CC-Link Seamless is not compatible with the PLC function. If a parameter setting of an inverter is *Pr. 544* ≥ "100", do not communicate with that inverter. Communication with an inverter with *Pr. 544* ≥ "100" setting may cause malfunction of the inverter PLC program.**
- **Do not use FR Configurator at the same time when other software (like MELSOFT Navigator) are executing a parameter processing function or a command execution of slave stations. FR Configurator may not operate properly if other software are executing these function at the same time.**

1.1.1 Product confirmation

After unpacking, check that the following items are contained in the package:

Item	Quantity
CD-ROM	1
Installation Manual	1

1.2 System Configuration

1.2.1 System requirement

Components	Description *1	
Personal computer *2	IBM PC/AT compatible computer with CD-ROM drive (for installation), and either a USB port, RS-232C port, or Ethernet port	
	OS *3	· Windows® 7 (32-bit Edition and 64-bit Edition) · Windows Vista® SP1 or later (32-bit Edition) · Windows® XP Professional SP2 or later (32-bit Edition) · Windows® XP Home Edition SP2 or later · Windows® 2000 Professional SP4 or later
	Processor	· Pentium® 133MHz or more (Windows® 2000 Professional) · Pentium® 300MHz or more (Windows® XP Professional, Windows® XP Home Edition) · 1GHz or more of 32-bit (x86) processor (Windows Vista®) · 1GHz or more of 32-bit (x86)/64-bit (x64) processor (Windows® 7)
	Memory	· 32MB or more (Windows® 2000 Professional) · 128MB or more (Windows® XP Professional, Windows® XP Home Edition) · 512MB or more (Windows Vista®) · 1GB or more (Windows® 7 32-bit Edition) · 2GB or more (Windows® 7 64-bit Edition)
	Hard disk	Free area of 200MB or more
Software	Internet Explorer 5.0 or more	
Display	Applicable to display at resolution of 1024 x 768 or more, and 256 colors or more. Compatible with the above personal computer.	
Keyboard	Compatible with the above personal computer.	
Mouse	Compatible with the above personal computer.	
Printer	Compatible with the above personal computer.	

*1 Windows is a registered trademark of Microsoft Corporation in the United States and other countries.
Pentium is a registered trademark of Intel Corporation.

*2 FR Configurator may not function properly depending on the using personal computer, peripheral devices, and software.

*3 Operation of this software is not guaranteed for OS not written above.

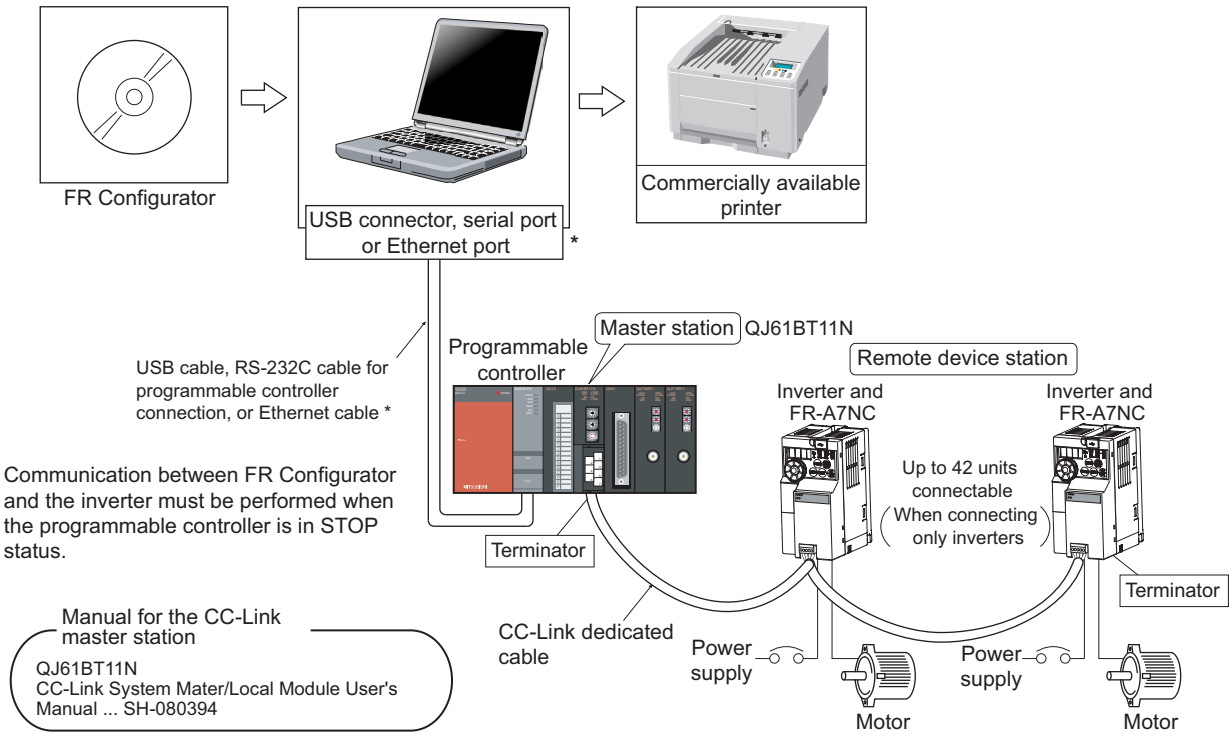
1.2.2 Compatible inverters

FR Configurator is compatible with the following inverters.

Series	Model	Capacity			
		JP	NA	EC	CH/CHT/CHT1
FR-A700 series	FR-A720	0.4K to 90K	00030 to 03460	-	-
	FR-A740	0.4K to 500K	00015 to 09620	00023 to 12120	0.4K to 500K
	FR-A760	-	00017 to 06630	-	-
FR-A701 series	FR-A721	5.5K to 55K	-	-	-
	FR-A741	5.5K to 55K	-	-	-
FR-E700 series	FR-E720	0.1K to 15K(SC)(NC)	008 to 600(SC)	-	-
	FR-E740	0.4K to 15K(SC)(NC)	016 to 300(SC)	016 to 300(SC)	0.4K to 15K
	FR-E720S	0.1K to 2.2K(SC)(NC)	008 to 110	008 to 110(SC)	0.1K to 2.2K
	FR-E710W	0.1K to 0.75K	008 to 050	-	-
FR-F700 series	FR-F720	0.75K to 110K	00046 to 04750	-	-
	FR-F740	0.75K to 560K	00023 to 12120	00023 to 12120	0.75K to S630K-CH S75K to S630K-CHT, 0.75K to 55K-CHT1
FR-F700P series	FR-F720P	0.75K to 110K	-	-	-
	FR-F740P	0.75K to 560K	-	-	-

1.2.3 System configuration

The following devices are required to use FR Configurator. Setup the system in accordance with the instruction manuals of each device.



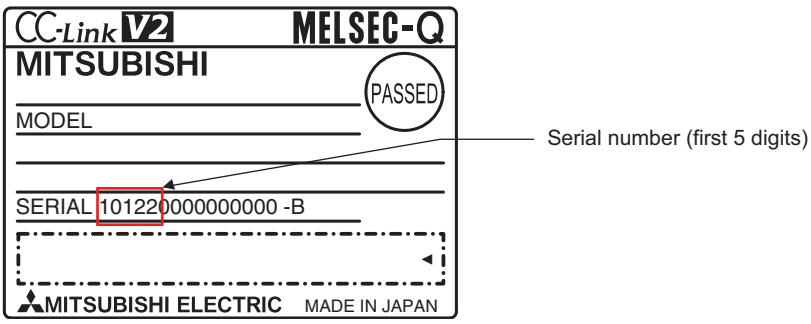
* *Refer to page 9* for the connection and connection cable between the personal computer and the programmable controller.

●Version check of the master module

CC-Link communication module QJ61BT11N that supports FR Configurator have the following serial numbers or later.

QJ61BT11N with the first five digits of the serial 10122 or later.

Find the serial number on the rating plate, which is located on the side of the module.



●Compatible CPU modules

FR Configurator is compatible with the following programmable controller CPUs.

Connected to	Compatible programmable controller CPUs
USB port	Q00CPU, Q00UCPU, Q00JCPU, Q00UJCPU, Q01CPU, Q01UCPU, Q02(H)CPU, Q02UCPU, Q02PHCPU, Q03UDCPU, Q03UDECPU, Q04UDHCPU, Q04UDEHCPU, Q06HCPU, Q06PHCPU, Q06UDHCPU, Q06UDEHCPU, Q10UDHCPU, Q10UDEHCPU, Q12HCPU, Q12PHCPU, Q12PRHCPU, Q13UDHCPU, Q13UDEHCPU, Q20UDHCPU, Q20UDEHCPU, Q25HCPU, Q25PHCPU, Q25PRHCPU, Q26UDHCPU, Q26UDEHCPU, Q50UDEHCPU, Q100UDEHCPU
RS-232C port	
Ethernet port	Q03UDECPU, Q04UDEHCPU, Q06UDEHCPU, Q10UDEHCPU, Q13UDEHCPU, Q20UDEHCPU, Q26UDEHCPU, Q50UDEHCPU, Q100UDEHCPU

For the programmable controller CPUs without Ethernet ports, use the Ethernet interface module to establish Ethernet connection.

1.3 Installation and Uninstallation

1.3.1 Installation of FR Configurator

To use FR Configurator (FR-SW3-SETUP-WE), the files included on the setup disk (CD-ROM) or the downloaded file must be installed onto the personal computer.
Check the following points before the installation.

- Close any other applications that have already been started.
- For the installation, log on as an administrator (Administrator account) and start installation.
- If the programmable controller is connected via USB, disconnect the USB cable.
- Installation files are compressed. Copying the files does not start FR Configurator yet. Install the software using the setup program.
- To install the software, follow the installation procedure in Windows screen.
- If VFD Setup Software (FR-SW1-SETUP-WE) of an older version (CD-ROM) is installed after the installation of FR Configurator, FR Configurator does not operate. In this case, please uninstall FR Configurator *(Refer to page 8)*, and then install FR Configurator again.
- If an older version of FR Configurator has been installed, the older version will be uninstalled during the installation.
- In an operation system with antivirus/security software, a warning may appear when installing FR Configurator. If a warning appears, permit the installation of FR Configurator according to the setting procedure of your antivirus/security software.
- FR-SW3-SETUP-WE and FR-SW3-SETUP-WE CC-Link Seamless are in the same software package. When FR-SW3-SETUP-WE is installed, FR-SW3-SETUP-WE CC-Link Seamless is installed together.

Installation procedure

The following section describes the procedures of installing FR Configurator.

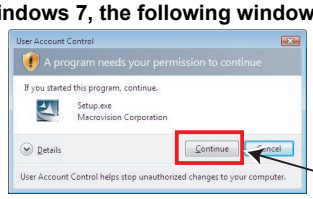
(1) Insert the CD-ROM to an available CD-ROM drive. Installation starts automatically.

REMARKS

Installation can be started with double-clicking the icon of CD-ROM drive or the following procedure.
1) Choose the [Run...] command from [Start] menu.
2) "Run" window appears
3) Type "D:\SETUP" (with one-byte characters) in "Open" field and click OK. (When CD-ROM drive is D drive)

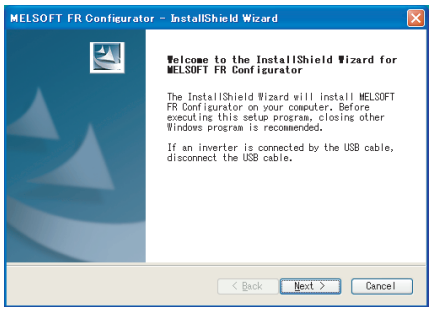
Note

When using Windows Vista or Windows 7, the following window may appear during the installation. Click "Continue."

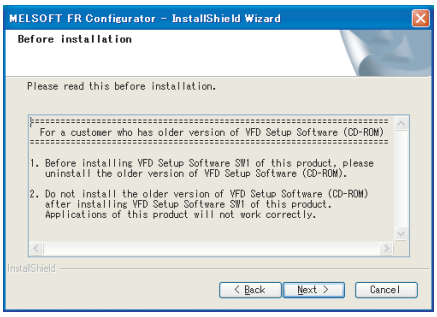


Select "Continue"

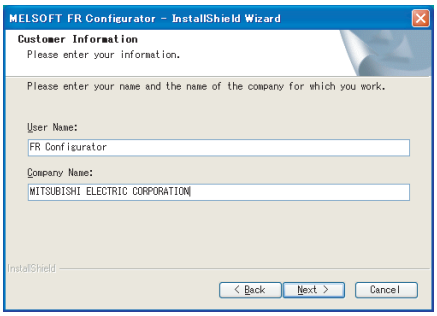
(2) The window shown on the right is displayed. Click Next > .



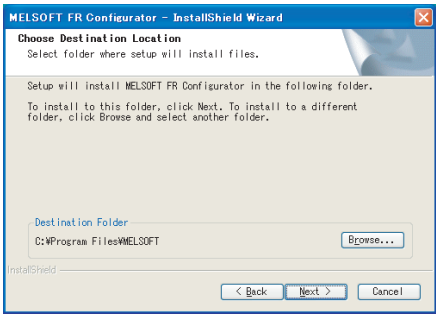
(3) The window shown on the right is displayed.
Click Next > .

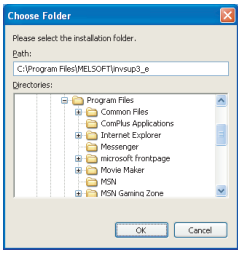


(4) Enter user name and company name.
Click Next > after entering.
(User name and company name is required to proceed to the next step.)

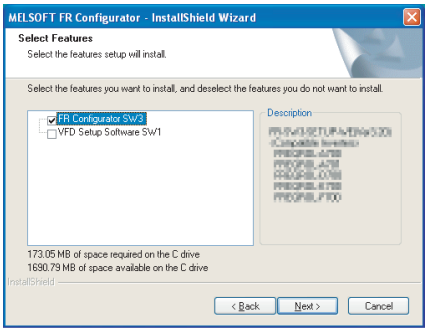


(5) Check the installation folder and click Next > .
To change the installation folder, click Change... and select an installation folder. A new folder "invsup3" is created at the selected installation folder. This software is installed there.
(If the installation folder is not changed, the software is installed at
"C:\Program Files\MELSOFT\invsup3_e")



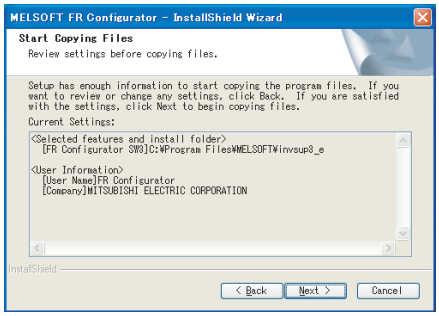


(6) Check the installing application, and click Next > .
(FR Configurator is already selected when this window is shown.)



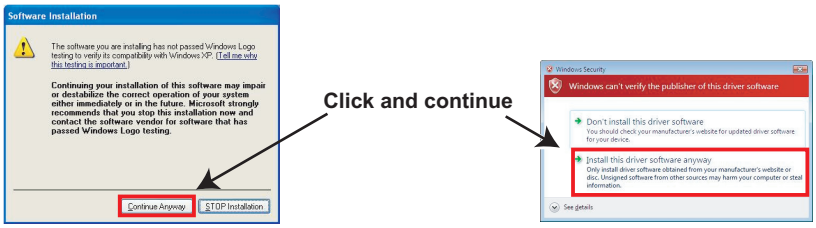
(7) Review the installation setting, and click Next > .

To change the setting, click < Back , and correct the setting.



Note

The following window may appear during the installation.

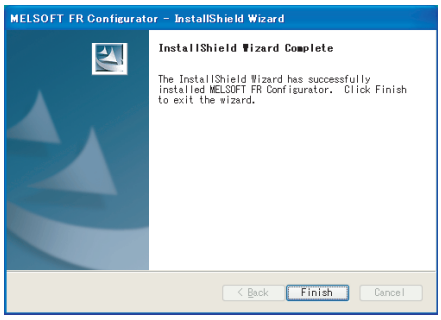


For Windows XP **For Windows Vista or Windows 7**

Continue the installation by clicking Continue Anyway for Windows XP and "Install this driver software anyway" for Windows Vista or Windows 7.

(8) Installation is completed.

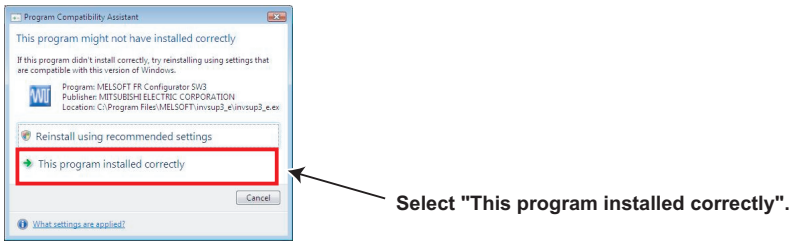
Click Finish to close the window. Restart the personal computer before using the software.



(9) A shortcut is created in [Start] menu of Windows after installation is completed.

Note

When using Windows Vista or Windows 7, the following window may appear when completing the installation. If the window appears, select "This program installed correctly."



REMARKS

- If the user is not an administrator (Administrator account), the installation cannot be performed. Log in as a user with administrator permission, and start the installation again.
- When installer is overwriting an older version of FR Configurator with the newer version of FR Configurator, a backup of the older version parameter file will be created.The backup is stored in the following folder.

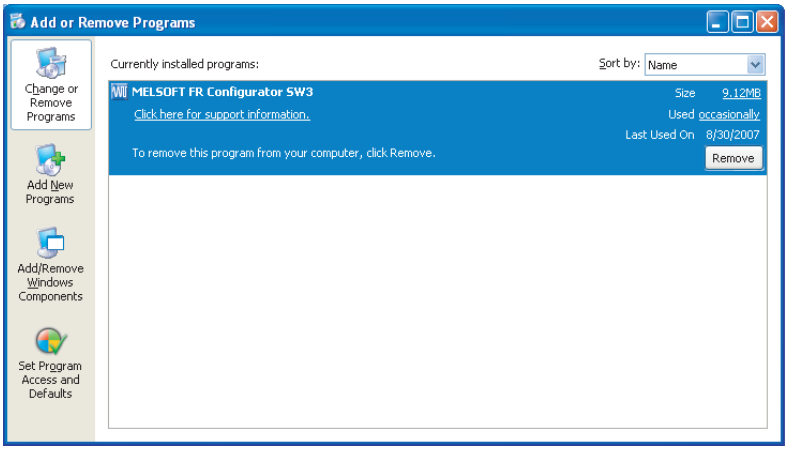
  For Windows 2000 and Windows XP
  C:\Documents and Settings\<User name>\Local Settings\Temp\SW3PrBk_YYYYMMDDhhmmss
  For Windows Vista and Windows 7
  C:\Users\<User name>\AppData\Local\Temp\SW3PrBk_YYYYMMDDhhmmss
  (YYYYMMDDhhmmss indicates a date and time of installation.)

  Example: Overwriting installation at 15:30:09 on May 10, 2009
  C:\ Documents and Settings\<User name>\Local Settings\Temp\SW3PrBk_20090510153009 (when using Windows XP)

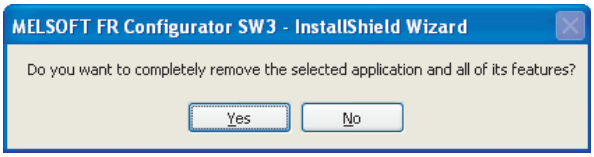
1.3.2 Uninstallation of FR Configurator

Open the [Start] menu of Windows, and then click [Control panel]. "Add or Remove Programs" in the "Control panel" window.

When "Add or Remove Programs" window is displayed, select "MELSOFT FR Configurator SW3" and click Remove to start uninstallation.

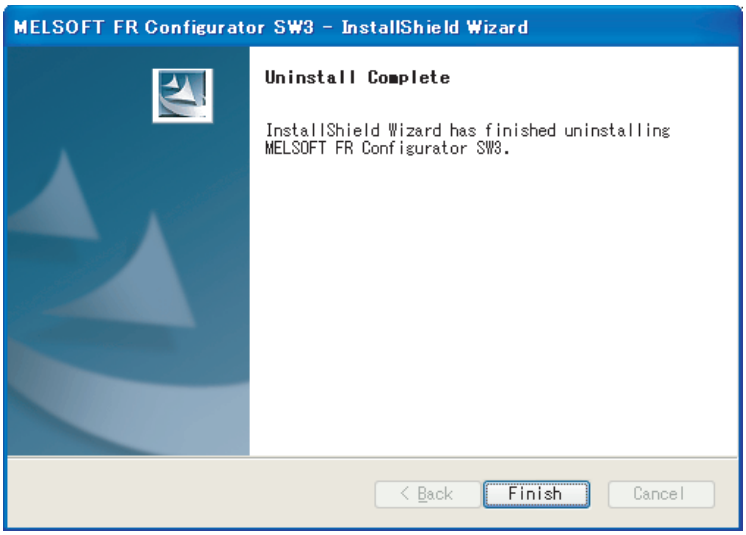


Click Remove , and the following dialog appears.



Click Yes to proceed the uninstallation. (Click No to cancel the uninstallation.)

The following window is displayed when the uninstallation is completed. Click Finish to close the window.



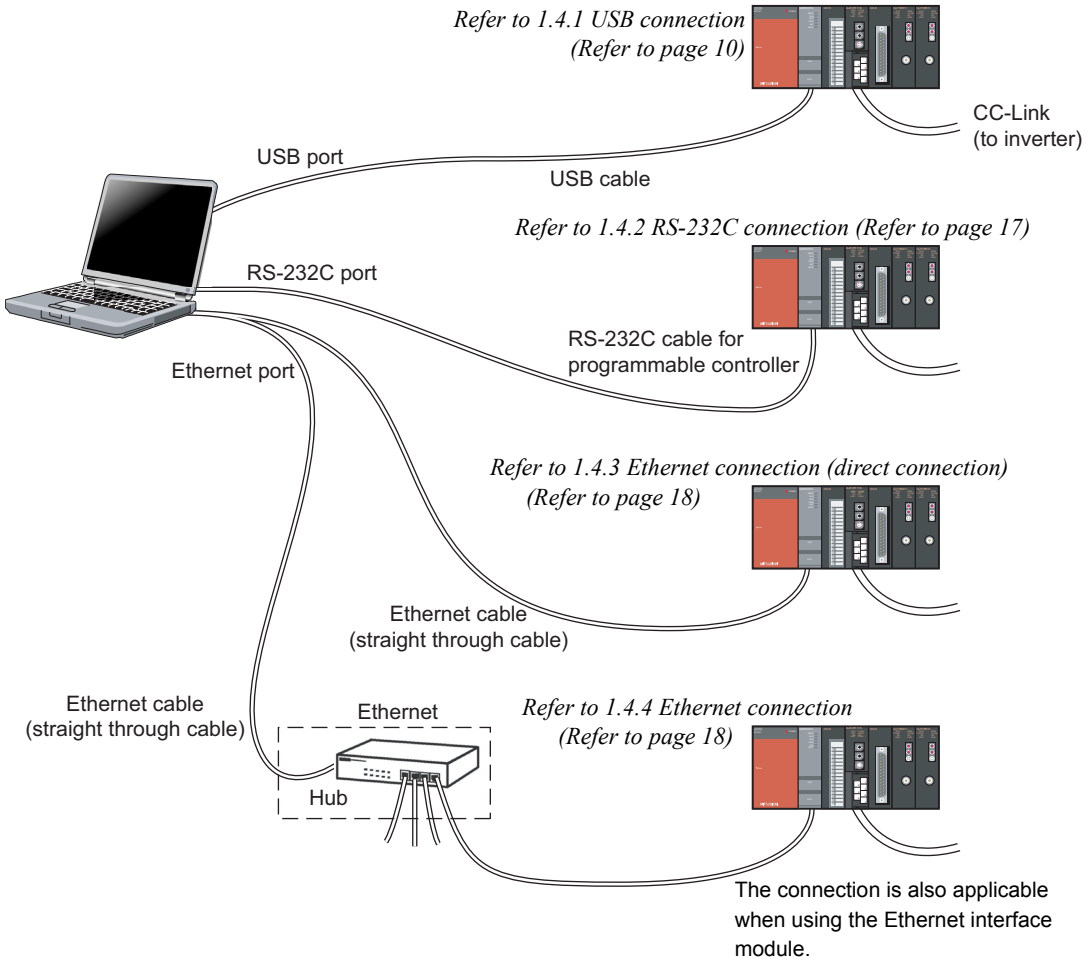
Note

- **Uninstallation is unavailable while the application is running. Perform the uninstallation after closing the application.**
- **When using Windows Vista or Windows 7, uninstall FR Configurator in the following procedure.**
  1. **Open "Uninstall a program" window.**
  2. **Double click FR Configurator SW3.**
- **FR-SW3-SETUP-WE and FR-SW3-SETUP-WE CC-Link Seamless are in the same software package. When FR-SW3-SETUP-WE CC-Link Seamless is uninstalled, FR-SW3-SETUP-WE is uninstalled together.**

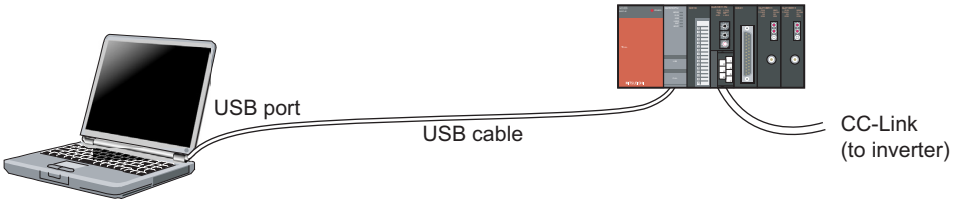
1.4 Connection

Using FR Configurator, a personal computer can be connected to the programmable controller through its USB port, RS-232C port, or the Ethernet port. One personal computer is connected to one programmable controller. Multiple programmable controllers cannot be connected at once. Perform communication setting on FR Configurator after connecting the personal computer to the programmable controller. *(Refer to page 37)*

For the connection method of the programmable controller and the inverter, refer to the Instruction Manuals of the CC-Link master module and FR-A7NC (CC-Link option).



1.4.1 USB connection



Connect the built-in USB port of the programmable controller to the USB port of the CPU personal computer. One personal computer is connected to one programmable controller. Connection using a USB hub is not supported.

REMARKS

- Recommended cable for the connection between a personal computer and a programmable controller

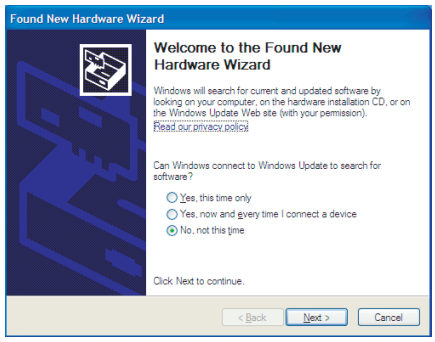
	Model	Specification
USB cable (For the universal model QCPU)	MR-J3USBCBL3M Cable length 3m	PC connector A-connector — Programmable controller connector mini B-connector (5 pin)
	GT09-C30USB-5P Cable length 3m	

(For other cables, refer to the instruction manual of the programmable controller.)

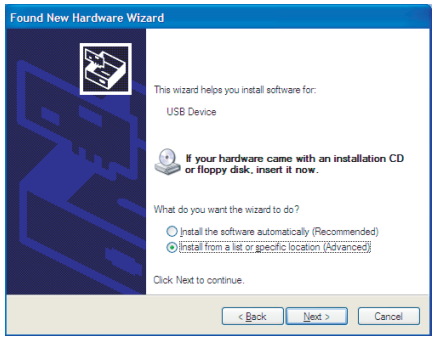
• When connecting USB for the first time

- Windows XP
  When a personal computer and the programmable controller are connected via USB for the first time while the programmable controller power is ON, "Found New Hardware Wizard" window appears.

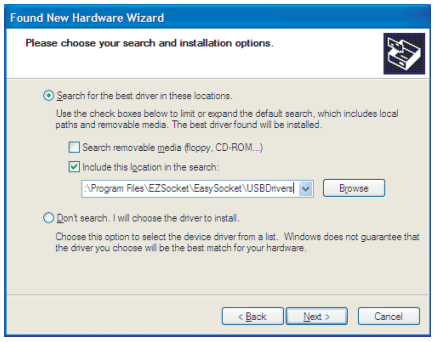
1) Check "No, not this time", and click Next > .



2) Check "Install from a list or specific location [Advanced]" and click Next > .

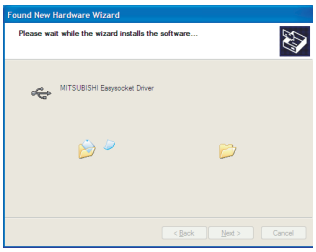


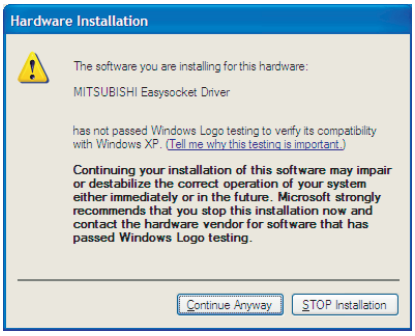
3) The screen shown on the right is displayed.
Select "Search for the best driver in these locations."
Check "Include this location in the search:" and enter "EZSocket\Easysocket\USBDrivers" in the "Program Files" folder. After setting, click Next > .



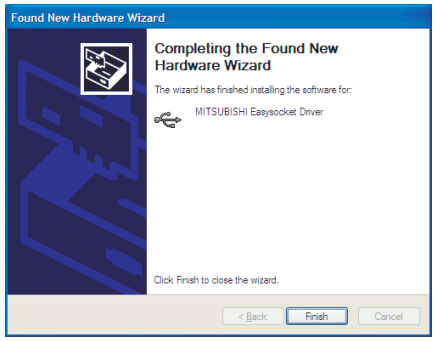
If several MELSOFT products have been installed, set the installation folder of the product that is installed first.

4) After the screen shown on the right is displayed, click Continue Anyway to proceed with the installation.



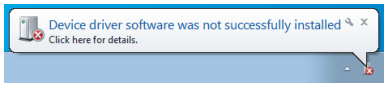


5) The installation of the driver is completed.
Click Finish close the window.

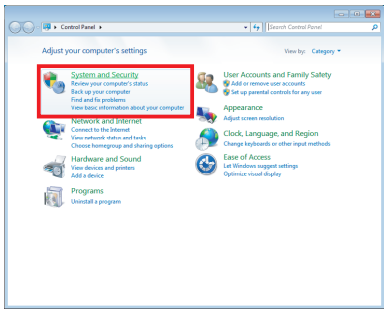


- Windows 7

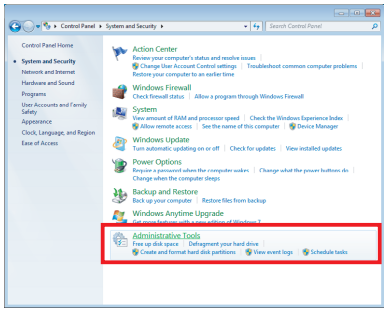
1) When a personal computer and the programmable controller are connected via USB cable, a notification shown on the right appears on the task bar.



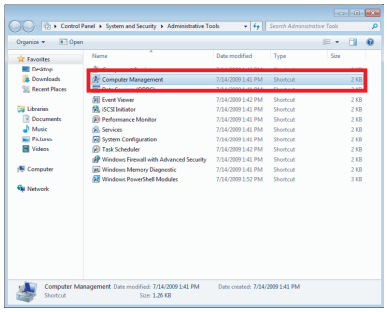
2) Open Control Panel, and select [System and Security].



3) Select [Administrative Tools].

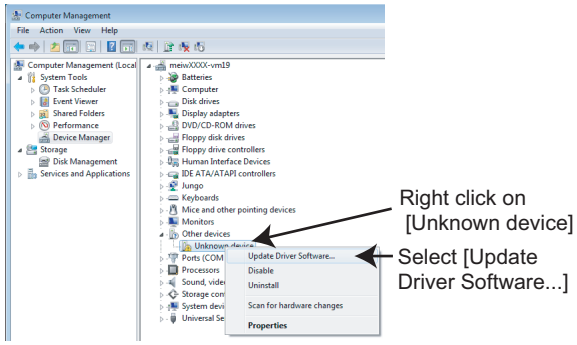


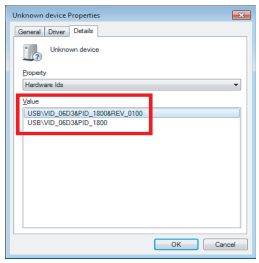
4) Select and double click [Computer Management].



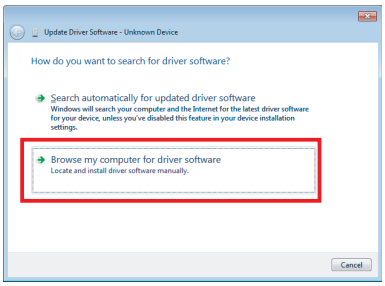
5) Right click on [Unknown Device] in "Device Manager", and select [Update Driver Software] in the pop-up menu.

If there are multiple unknown devices, right click on an unknown device and select [Properties] to check a hardware ID in "Details" tab of a property window. The hardware ID in "Details" tab should be "USB\VID_06D3&PID_1800"



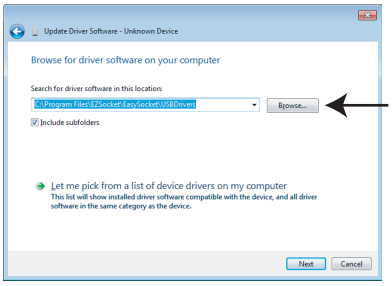


6) Select [Browse my computer for driver software].



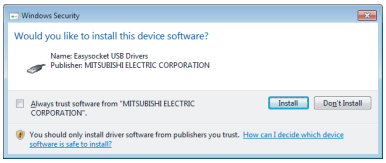
7) Enter "EasySocket\USBDrivers" of "Program Files" to [Search for driver software in this location] field.
(Or click [Browse...] to select the above location.)
Click Next after setting.

If several MELSOFT products (GX developer for example) have been installed, set the installation folder of the first-installed product.

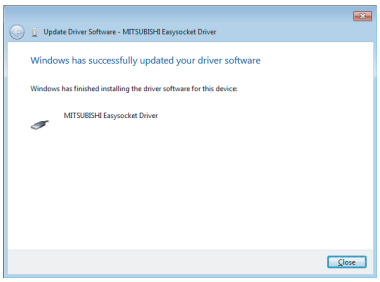


Click to select the folder.

8) After the screen shown on the right is displayed, click Install to start the installation.



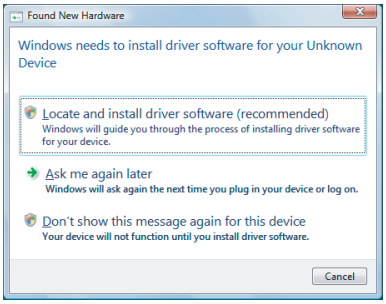
9) Installation is completed. Click Close to close the window.



- Windows Vista

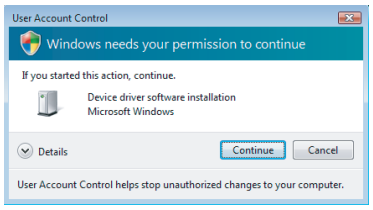
  When a personal computer and the programmable controller are connected via USB for the first time while the programmable controller power is ON, "Found New Hardware Wizard" window appears.

1) Select [Locate and install driver software (recommended)].

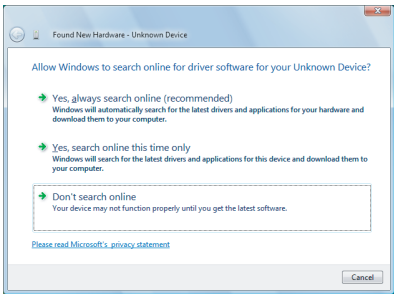


2) If the user account control in Windows Vista is valid, the screen shown on the right is displayed.

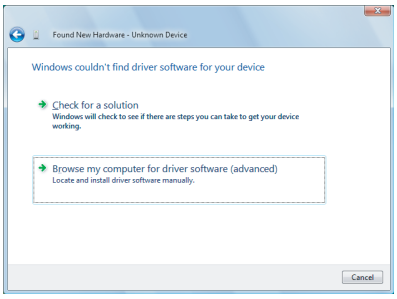
   Click Continue.



3) Select [Don't search online].



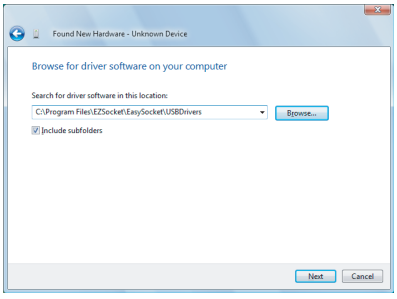
4) Select [Browse my computer for driver software (advanced)].



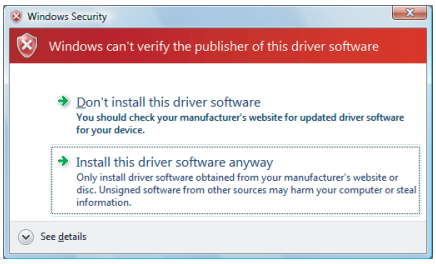
5) Enter "EZSocket\Easysocket\USBDrivers" of the "Program Files" folder in the window shown on the right.

   After setting, click Next.

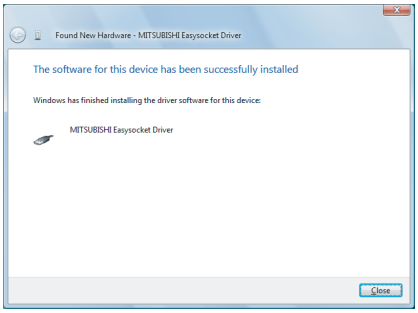
   If several MELSOFT products have been installed, set the installation folder of the first-installed product.



6) Select [Install this driver software anyway].



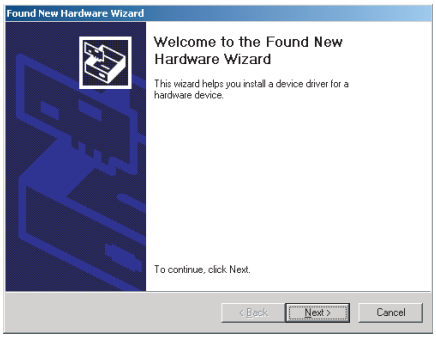
7) Installation is completed. Click Close to close the window.



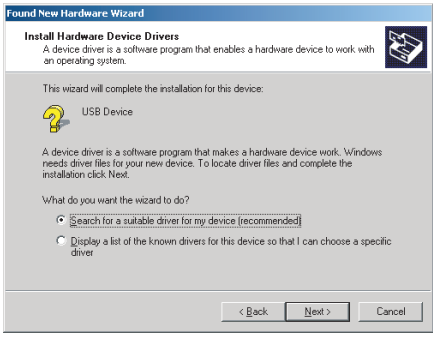
- Windows 2000

When a personal computer and the programmable controller are connected via USB for the first time while the programmable controller power is ON, "Found New Hardware Wizard" window appears.

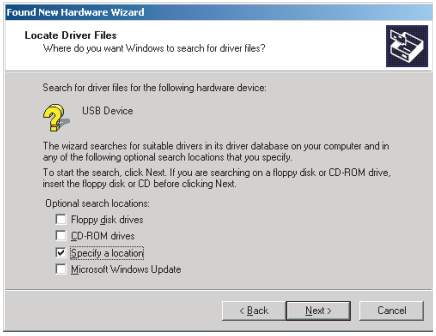
1) After the screen shown on the right is displayed, click Next > .



2) Select [Search for a suitable driver for my device (recommended)] and click Next > .

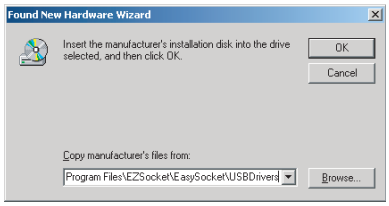


3) The screen shown on the right is displayed.
Select [Specify a location].

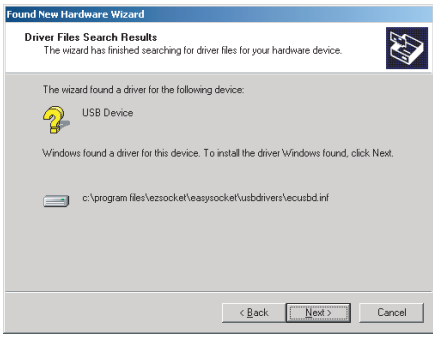


4) After the screen shown on the right is displayed, enter "EZSocket\Easysocket\USBDrivers" in the "Program Files" folder.
After setting, click [OK].

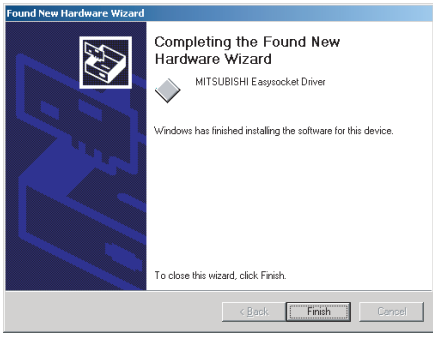
If several MELSOFT products have been installed, set the installation folder of the product that is installed first.



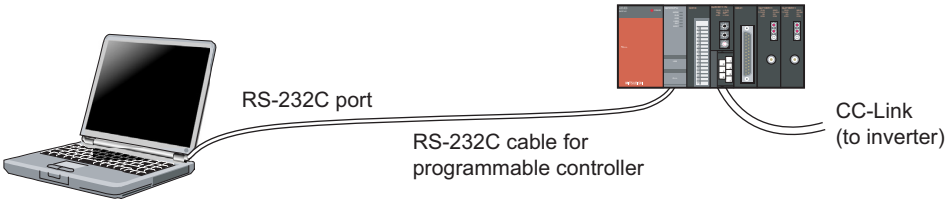
5) Click [Next >] to install the driver.



6) The installation of the driver is completed.
Click [Finish] to close the window.



1.4.2 RS-232C connection



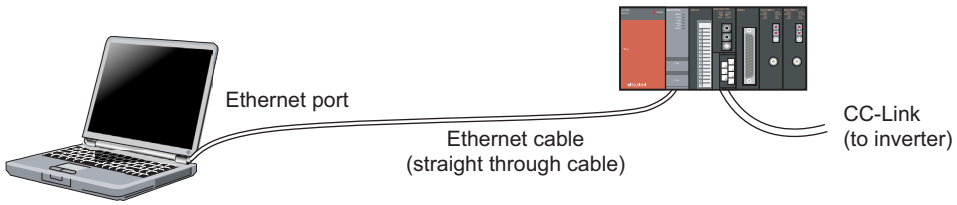
Connect the built-in RS-232C port of the programmable controller to the RS-232C port of the personal computer. Dedicated RS-232C cable QC30R2 is available.

REMARKS

- Recommended cable for the connection between a personal computer and a programmable controller

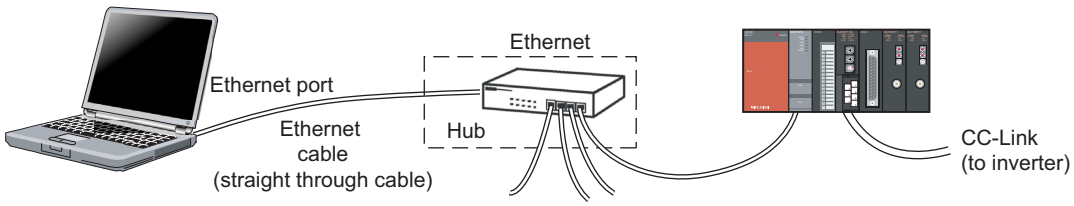
	Model	Specification
RS-232C cable	QC30R2 Cable length 3m	PC connector D-sub 9-pin Programmable controller connector Mini-DIN6P

1.4.3 Ethernet connection (direct connection)



Connect the built-in Ethernet port of the programmable controller to the Ethernet port of the personal computer. Connection is available with one Ethernet cable (straight cable is available), and a hub is not required. IP address setting does not need to be specified. Communication is available by specifying the destination programmable controller CPU.
In FR Configurator, go to "Communication Method," then go to Programmable Controller Side Port Detail. Select "Ethernet Port Direct Connect." *(Refer to page 37)*

1.4.4 Ethernet connection



Connect the built-in Ethernet port of the programmable controller to the Ethernet interface module using the Ethernet port of the personal computer. (Straight through cable is available.) Use a hub satisfying IEEE802.3 10BASE-T or IEEE802.3 100BASE-TX standard.

REMARKS

- Connection setting for the Ethernet interface module
  To connect from FR Configurator to the Ethernet interface module via TCP/IP communication method, select "MELSOFT connection" as the open method in the network parameter (Ethernet open setting) of the programmable controller.
  For the details, refer to the description on network parameter in the GX Developer operating manual. This setting is not required when connecting to the Ethernet port built into the programmable controller CPU. (In CPU, "MELSOFT connection" is selected in the initial status.)
- Specifications of the connectable cables

	Specification
When 10BASE-T is connected	Ethernet standard complying cable category 3 or higher (STP/UTP cable)
When 100BASE-T is connected	Ethernet standard complying cable category 5 or higher (STP cable)

1.5 Setting of Operation Mode of the Inverter

The inverter has three operation modes.

(1) PU operation [PU]..... Controls the inverter from the key of the control panel (FR-DU07) mounted on the inverter.

(2) External operation [EXT]..... Controls the inverter by switching ON/OFF external signals connected to the control circuit terminals of the inverter. (The inverter is initially-set to this mode.)

(3) Network operation [NET] ..... Controls the inverter with instructions from the network via a communication option. (The operation signal and running frequency can be entered from the control circuit terminals depending on the *Pr. 338 Communication operation command source* and *Pr. 339 Communication speed command source* setting.)

Pr. 340 Setting *4	*Pr. 79* Setting *4	Operation Mode at Power ON, at power restoration, or after a reset.	Operation Mode Switchover
0 (Initial value)	0 (Initial value)	External operation mode	Switching among the External, PU, and NET operation mode is enabled *1
	1	PU operation mode	PU operation mode fixed
	2	External operation mode	Switching between the External and NET operation mode is enabled. Switching to PU operation mode is disabled
	3, 4	External/PU combined operation mode	Operation mode switching is disabled
	6	External operation mode	Switching among the External, PU, and NET operation mode is enabled while running.
	7	X12 (MRS) signal ON..... External operation mode	Switching among the External, PU, and NET operation mode is enabled *1
		X12 (MRS) signal OFF ... External operation mode	External operation mode fixed (Forcibly switched to External operation mode)
1, 2 *2	0	NET operation mode	Same as *Pr. 340* = "0" setting
	1	PU operation mode	
	2	NET operation mode	
	3, 4	External/PU combined operation mode	
	6	NET operation mode	
	7	X12 (MRS) signal ON..... NET operation mode	
		X12 (MRS) signal OFF ... External operation mode	
10, 12 *2	0	NET operation mode	Switching between the PU and NET operation mode is enabled *3
	1	PU operation mode	Same as *Pr. 340* = "0" setting
	2	NET operation mode	NET operation mode fixed
	3, 4	External/PU combined operation mode	Same as *Pr. 340* = "0" setting
	6	NET operation mode	Switching between the PU and NET operation mode is enabled while running. *3
	7	External operation mode	Same as *Pr. 340* = "0" setting

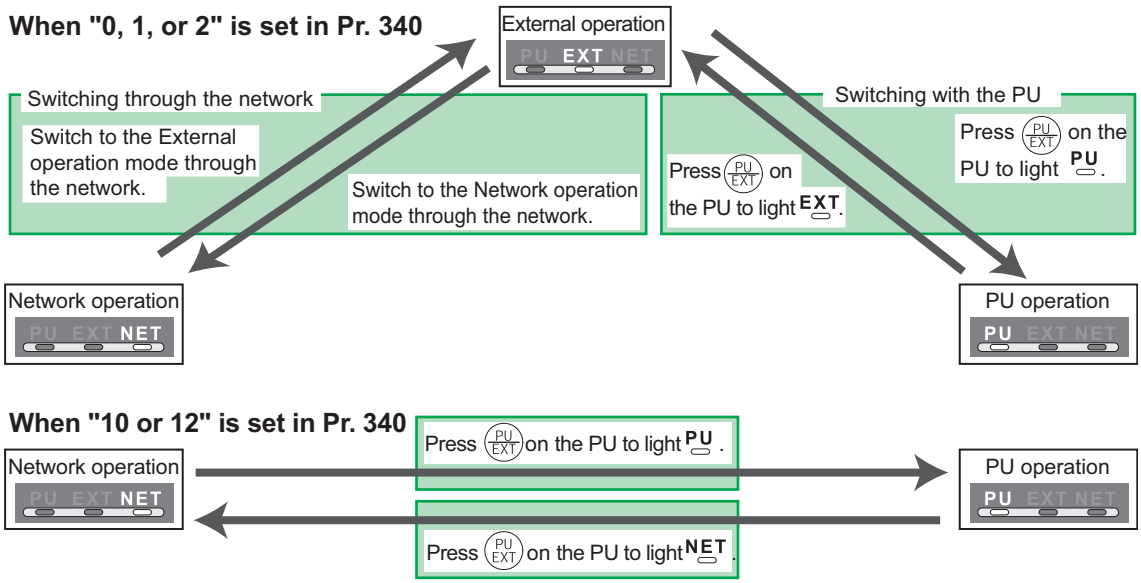
*1 Operation mode cannot be directly changed between the PU operation mode and Network operation mode.

*2 Use *Pr. 340* = "2 or 12" setting to perform communication with the RS-485 terminals of the inverter.
When *Pr. 57 Restart coasting time* is not "9999(automatic restart after instantaneous power failure)", the inverter saves the operation status immediately before the stop at an instantaneous power failure occurrence.
If a power failure occurs while *Pr. 340* = "1 or 10" and the start signal is being input through communication, the start signal remains OFF at power restoration.

*3 Switching between the PU and NET operation modes is available with PU/EXT on the operation panel (FR-DU07) and the X65 signal.

*4 Availability of the parameter and its setting range differ for the FR-E700-NC CC-Link communication model. For details, refer to *the Instruction Manual (Applied) of the inverter*.

· Operation mode switching method



For details on how to change the operation mode using the external terminals, refer to *the Instruction Manual (Applied) of the inverter.*

Note

- **Set *Pr. 340* ≠ "0" to start in the Network operation mode at power-ON or after an inverter reset.**
- **Ensure that the other inverter parameters are set before setting *Pr. 340* ≠ "0."**

Refer to the following table to select the appropriate operation mode for the connection. Switching of the operation mode is available at "Test Operation" window *(Refer to page 63)* in Navigation area
Refer to the Inverter Manual (Applied) for details of each parameters.

Controllability through communication

· Monitoring and parameter read can be performed from any operation regardless of the operation mode.

●FR-A700, A701, F700, F700P series

Operation Location	Operation Mode / Item	PU Operation	External Operation	External/PU Combined Operation Mode 1 (*Pr. 79* = 3)	External/PU Combined Operation Mode 2 (*Pr. 79* = 4)	NET Operation (when RS-485 terminals are used) *5	NET Operation (when communication option is used) *6
Communication option (via communication)	Run command (Start, stop)	×	×	×	×	×	○*1
	Running frequency setting	×	×	×	×	×	○*1
	Monitor	○	○	○	○	○	○
	Parameter write	×*4	×*4	×*4	×*4	×*4	○*3
	Parameter read	○	○	○	○	○	○
	Inverter reset	×	×	×	×	×	○*2
External terminals at the control circuit	Inverter reset	○	○	○	○	○	○
	Run command (Start, stop)	×	○	○	×	×*1	×*1
	Frequency setting	×	○	×	○	×*1	×*1

○: Enabled, ×: Disabled

*1 As set in *Pr. 338 Communication operation command source and Pr.339 Communication speed command source*
*2 At occurrence of RS-485 communication error, the inverter cannot be reset from the computer.
*3 Some parameters may be write-disabled according to the *Pr. 77 Parameter write selection* setting and operating status.
*4 Some parameters are write-enabled independently of the operation mode and command source presence/absence. When *Pr. 77* = "2", write is enabled. Parameter clear is unavailable.
*5 When *Pr. 550 NET mode operation command source selection* = "1" (RS-485 terminals valid) or *Pr. 550 NET mode operation command source selection* = "9999" and the communication option is not fitted.
*6 When *Pr. 550 NET mode operation command source selection* = "0" (communication option valid) or *Pr. 550 NET mode operation command source selection* = "9999" and the communication option is fitted.

●FR-E700(SC) series

Operation Location	Operation Mode / Item	PU Operation	External Operation	External/PU Combined Operation Mode 1 (*Pr. 79* = 3)	External/PU Combined Operation Mode 2 (*Pr. 79* = 4)	NET Operation (when using PU connector) *5	NET Operation (when using communication option) *6
Communication option (via communication)	Run Command (Start, stop)	×	×	×	×	×	○ *1
	Running frequency setting	×	×	×	×	×	○ *1
	Parameter write	× *4	× *4	× *4	× *4	× *4	○ *3
	Inverter reset	×	×	×	×	×	○ *2
External terminals at the control circuit	Inverter reset	○	○	○	○	○	○
	Run Command (Start, stop)	×	○	○	×	× *1	× *1
	Frequency Setting	×	○	×	○	× *1	× *1

○: Enabled, ×: Disabled

*1 As set in *Pr. 338 Communication operation command source* and *Pr. 339 Communication speed command source*
*2 At occurrence of RS-485 communication error from PU connector, the inverter cannot be reset from the computer.
*3 Some parameters may be write-disabled according to the *Pr. 77 Parameter write selection* and operating status.
*4 Some parameters are write-enabled independently of the operation mode and command source presence/absence. When *Pr. 77* = "2", write is enabled. Parameter clear is unavailable.
*5 When *Pr. 550 NET mode operation command source selection* = "2" (PU connector valid) or *Pr. 550 NET mode operation command source selection* = "9999" and the communication option is not fitted.
*6 When *Pr. 550 NET mode operation command source selection* = "0" (communication option valid) or *Pr. 550 NET mode operation command source selection* = "9999" and the communication option is fitted.

●FR-E700-NC series

Operation Location	Operation Mode / Item	PU Operation	NET Operation
CC-Link communication	Run command (Start, stop)	×	○
	Running frequency setting	×	○
	Parameter write	× *2	○ *1
	Inverter reset	×	○

○: Enabled, ×: Disabled

*1 Some parameters may be write-disabled according to the *Pr. 77 Parameter write selection* setting and operating status.
*2 Some parameters are write-enabled independently of the operation mode and command source presence/absence. When *Pr. 77* = 2, write is enabled. Parameter clear is unavailable.

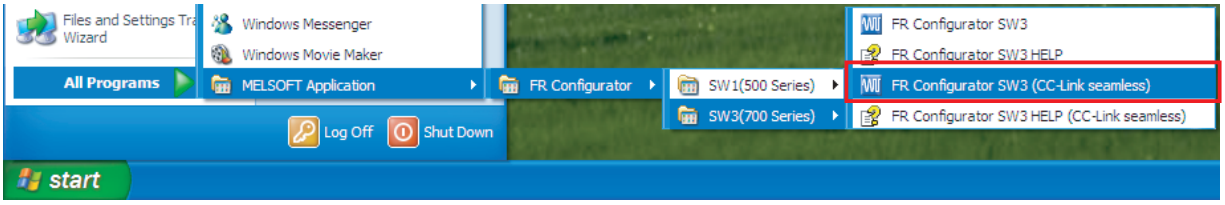
1.6 Start and Close

1.6.1 Starting FR Configurator

There are the following ways to start FR Configurator.

(1) Start from Start menu

Click [Start] on the Taskbar of Windows, and go to [All Programs], [MELSOFT Application], [FR Configurator], [SW3(700 Series)], then click [FR Configurator SW3 (CC-Link seamless)] to start FR Configurator.

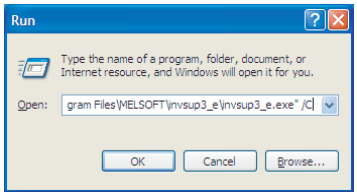


(2) Start from system file (mec)

Double-click (or type Enter key) a desired system file (mec) to start FR Configurator with reading the setting of the system file. [Startup] window is not displayed. (*Refer to page 60* for the system file (mec))

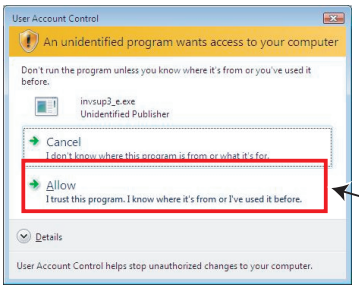
(3) Start from command line

An argument "/c" can be specified to the FR Configurator execution file (invsup3_e.exe) for the starting FR Configurator from [Run...] in [Start] menu of Windows.



Note

- **When using Windows Vista or Windows 7, the following window may appear at the start up of FR Configurator. If the window appears, select "Allow."**



Select "Allow"

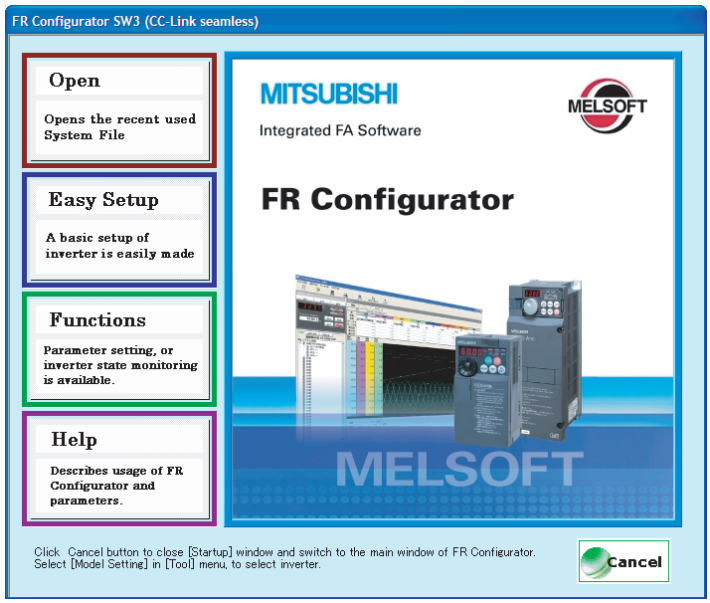
- **In an operation system with antivirus/security software, a warning may appear at start up of FR Configurator. If a warning appears, permit FR Configurator according to the setting procedure of your antivirus/security software.**
- **If files shown in [Recent Items] of Windows Vista and [Recent] of Windows 7 are stored in system folders (Program Files for example), the files may not be opened correctly.**

1.6.2 Start flow of FR Configurator

After FR Configurator is started, the splash screen appears, and the start up is proceeded.



The "Startup" window is displayed when FR Configurator is started. Each function can be directly selected from the "Startup" window. (*Refer to page 34* for the detail of "Startup.") Click Cancel to close the "Startup" window and switch to the main window of FR Configurator.



1.6.3 Closing FR Configurator

There are following ways to close FR Configurator.

(1) Close from menu

Select [Exit] in [File] menu to close FR Configurator.
(Press Alt + F to open [File] menu, and press Ctrl + X also to close FR Configurator)

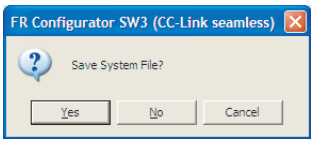
(2) Close from title bar

Click on the right end of the title bar to close FR Configurator.



REMARKS

If a system file (mec) is not saved yet when closing FR Configurator, the dialog box is displayed to confirm the closing.



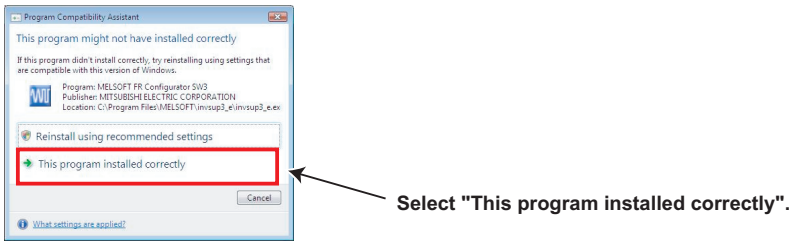
Click [Yes] to open "Save As" window for saving the system file (mec).

Click [No] to close FR Configurator without saving the system file (mec).

Click [Cancel] to cancel the closing of FR Configurator, and switch to the Main frame window.

Note

When using Windows Vista or Windows 7, the following window may appear at the exit from FR Configurator. If the window appears, select "This program installed correctly."



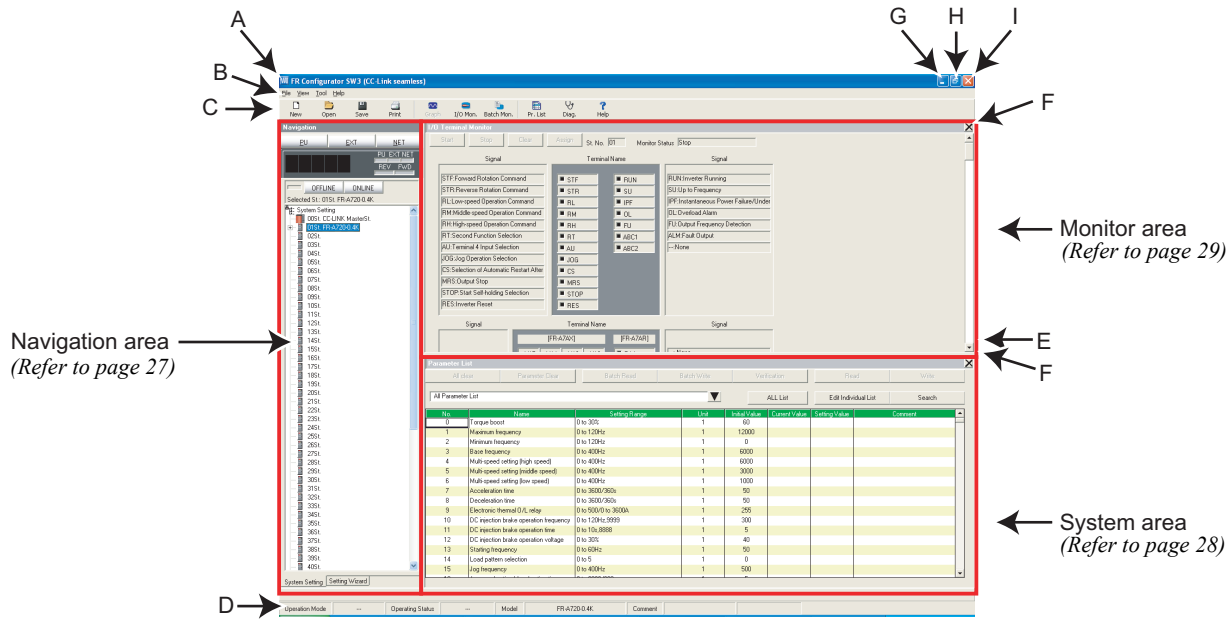
1.7 Explanation of Window

The following section describes FR Configurator window.

1.7.1 Main frame

The Main frame (main window) of FR Configurator consists of three areas.

- Navigation area (*Refer to page 27*)
  An area for showing information of the registered inverter, or for making settings. "Test Operation," "System Settings," and "Setting Wizard" are available in this area.
- Monitor area (*Refer to page 29*)
  An area for showing obtained monitor data of the inverter. "Batch Monitor" is available in this area.
- System area (*Refer to page 28*)
  An area for showing and reading/writing parameters, or for diagnosis of the inverter. "Parameter List" and "Diagnosis" are available in this area.

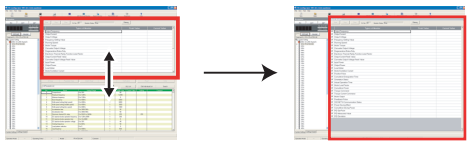


• Explanation of Main frame

No.	Name	Function and Description	Refer to Page
A	Title bar	"FR Configurator SW3 (CC-Link seamless)" is displayed on the title bar.If a system file has been read, or has been saved, the file name is displayed.	—
B	Menu bar	Each function is available by selecting from the menu.	30
C	Tool bar	Each function is available by clicking icons of the tool bar.	30
D	Status bar	The model name, Operating status, etc. are shown.	32
E	Split line	Adjustment of System area size and Monitor area size is available.	—
F	Conceal button	Conceals the Monitor area and System area.	—
G	Minimize button	Minimizes the Main frame window size of FR Configurator.	—
H	Maximize button	Maximizes the Main frame window size of FR Configurator.	—
I	Close button	Closes FR Configurator.	—

REMARKS

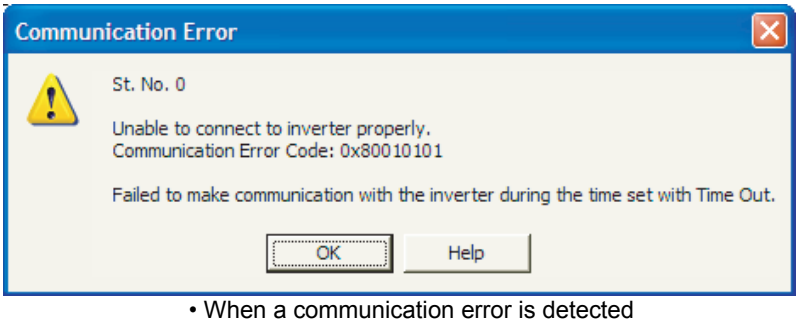
Adjustment of System area size and Monitor area size is available with using the split line. You can adjust the area size to enlarge the currently using area.



Point the mouse cursor on the boundary. An arrow pointing to a size-adjustable direction appears.
If only one area is displayed, size adjustment is unavailable.
Adjusting window size beyond the maximum size or minimum size of each window is unavailable.

- **Communication error detection**

FR Configurator checks the operating status of the connected inverter and detects communication errors (*Refer to page 88*). If a communication error is detected, the following dialog appears. Click Help to show a related Help information.

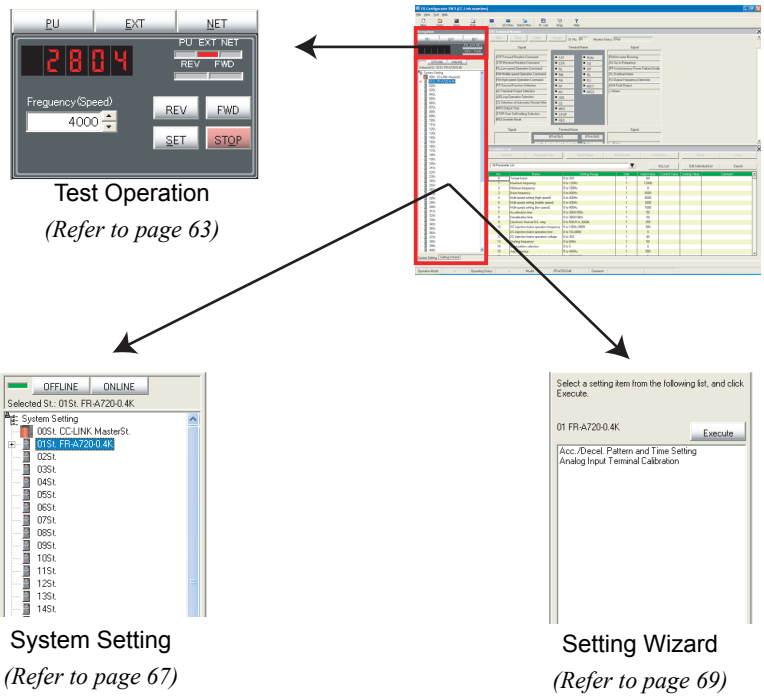


• When a communication error is detected

1.7.2 Navigation area

The Navigation area is for showing registered inverter information and starting Setting Wizard. "Test Operation," "System Settings," and "Setting Wizard" are available in this area.

The upper part of the Navigation area displays "Test Operation" *(Refer to page 63)*, and the lower part displays "System View" (*Refer to page 66*).
Select [System Setting] or [Setting Wizard] under [View] menu to switch the function displayed in "System View."



Test Operation
(Refer to page 63)

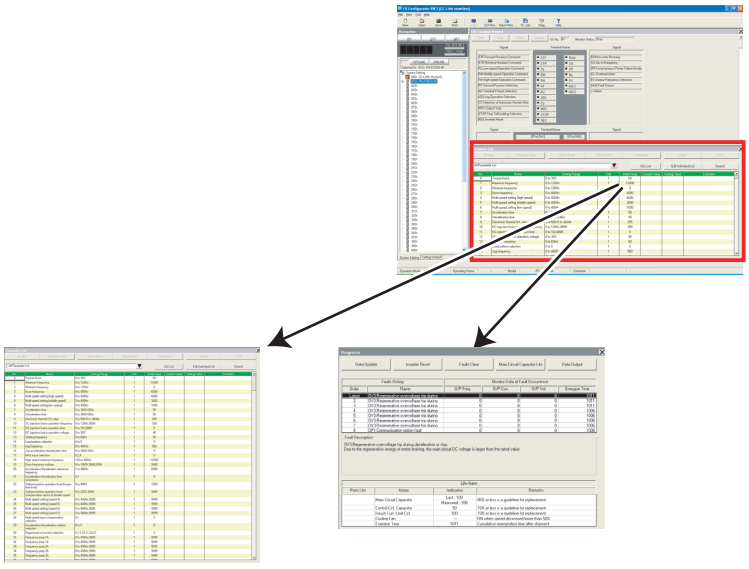
System Setting
(Refer to page 67)

Setting Wizard
(Refer to page 69)

1.7.3 System area

The System area is for showing and reading/writing parameters, or for diagnosis of the inverter. "Parameter List" and "Diagnosis" are available in this area.

Select [Parameter List] or [Diagnosis] under [View] menu, or click icons on the tool bar to switch the function displayed in the System area.



Parameter List
(Refer to page 70)

"Diagnosis"
(Refer to page 78)

1.7.4 Monitor area

The Monitor area is for showing obtained monitor data of the inverter. "I/O Terminal Monitor" and "Batch Monitor" are available in this area.

Select [I/O Terminal Monitor] or [Batch Monitor under [View] menu, or click icons on the tool bar to switch the function displayed in the Monitor area.



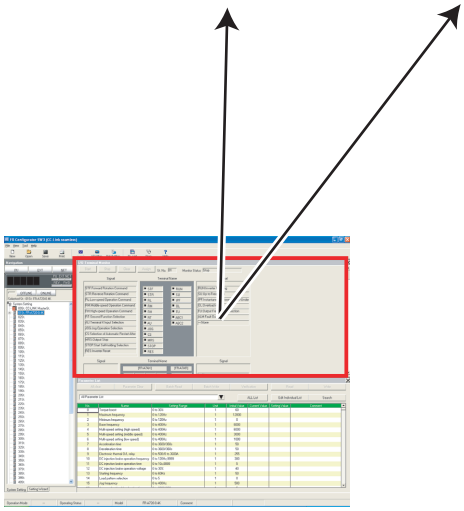
I/O Terminal Monitor

(Refer to page 82)



Batch Monitor

(Refer to page 80)



1.7.5 Menu and tool bar

Desired function is available by selecting it from the menu or the tool bar.

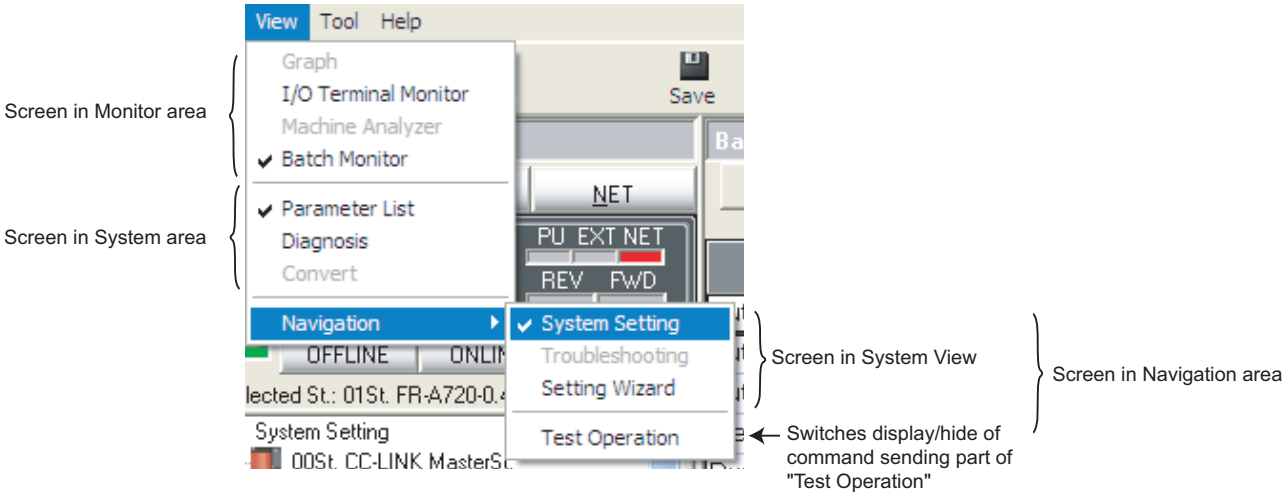
(1) Menu/Tool bar list

Following functions are available from the menu.

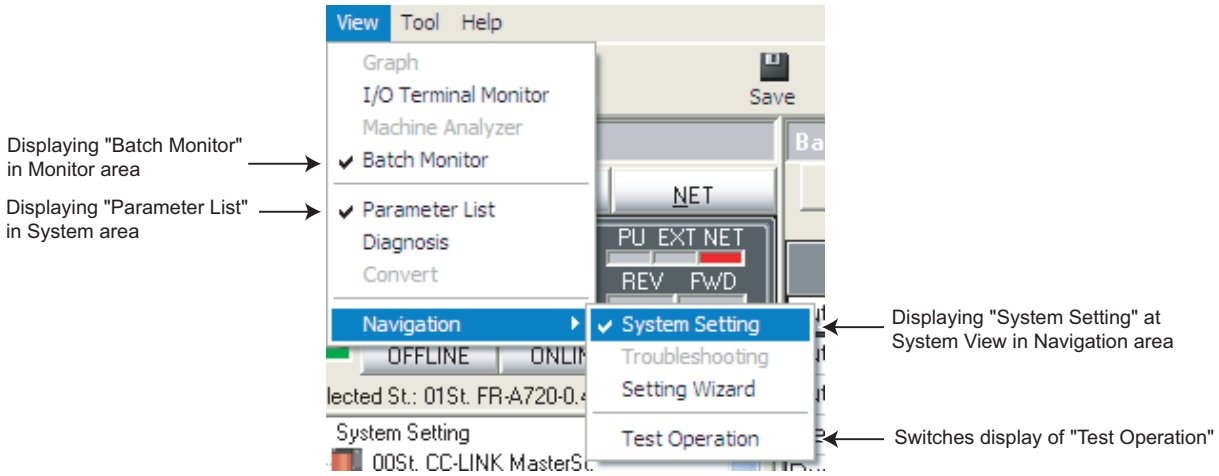
Menu	Pull-down menu		Tool bar Icon	Function/Operation	Refer to Page
File	New ...			Clears the all current settings to create a new setting. Confirmation dialog for new setting appears, and then displays "Startup" window.	23
	Open ...			Opens the system file (mec).	60
	Save			Overwrites the system file (mec) by current data. When the system file (mec) has not been read or not created yet, then "Save As" window is displayed, and saving the system file (mec) is available.	60
	Save As...		—	Puts a name and creates a new system file (mec) from the current setting.	60
	Property		—	Checks and edits system name, application and comments.	36
	Import...		—	Imports an exported saved file of the currently using function. Confirmation dialog for erasing the current data appears, and then the import window is displayed.	61
	Export ...		—	Exports the data of currently using function and creates a file.	61
	Print ...			Prints a whole window.	62
	Exit		—	Closes FR Configurator.	—
View	I/O Terminal Monitor			Displays "I/O Terminal Monitor" window in Monitor area.	82
	Batch Monitor			Displays "Batch Monitor" window in Monitor area.	80
	Parameter List			Displays "Parameter List" window in System area.	70
	Diagnosis			Displays "Diagnosis" window in System area.	78
	Navigation	System Setting	—	Displays "System Setting" window in System View of Navigation area.	67
		Setting Wizard	—	Displays "Setting Wizard" window in System View of Navigation area.	69
		Test Operation	—	Displays or hides the command sending part of "Test Operation."	63
Tool	Model Setting...		—	Displays "Model Setting" window.	58
	Options...		—	Displays "Option" window.	59
	All St. parameter setting	Read...	—	Reads all parameter settings of the registered models.	67
		Write...	—	Writes all parameter settings to the registered models.	67
Help	Help			Displays "Help" window.	83
	About FR Configurator SW3		—	Displays "About FR Configurator SW3" window.	85

(2) [View] menu and Main frame

Each function screen of FR Configurator is displayed from [View] menu. [View] menu is divided into three segments. Function screens in Monitor area are on top, screens in System area are in the middle, and screens in Navigation area are on the bottom.



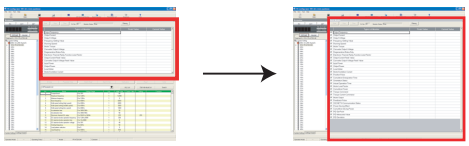
A check mark appears on the left of the item inside the [View] menu for each screen displayed in each area. One function each from Monitor area, System area and Navigation area can be displayed. Check on the [Test Operation] under [Navigation] menu to display the command sending part of "Test Operation".



To close a currently displayed function, click and uncheck the name of the function. To hide the Navigation area itself, click and uncheck the item of the System View under [Navigation] menu.
When a function in Monitor area is performing monitoring, all functions in Monitor area are unavailable. Stop the monitoring, and then select a menu.

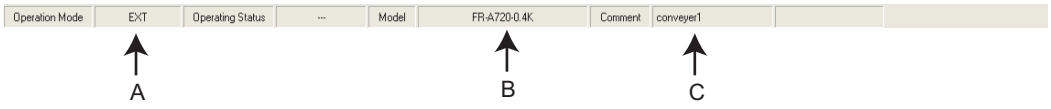
REMARKS

- Depending on the connected inverter, with or without of Model Setting, or ONLINE/OFFLINE condition, some functions are unavailable. If an item in menu is displayed in gray, the item is unavailable.
- When functions in both Monitor area and System area are checked, click and uncheck one of them will maximize the window size of another.



1.7.6 Status bar

Status bar shows operation mode of the inverter and model information, etc.



No.	Name	Function and description
A	Operation Mode	Shows the operation mode of the selected inverter (station). When model setting (system setting) has not been set, "---" is displayed. At an occurrence of warning, both operation mode and warning are displayed. Example: Stall prevention (overcurrent) occurred at External operation mode "EXT(OL)"
B	Model	Shows a model of the selected inverter (station).
C	Comment	Shows a comment.

1.7.7 Communication manager

When FR Configurator is started, an icon appears at Windows taskbar indicating the communication state. When FR Configurator is closed, the icon disappears.



The icon displays ONLILNE/OFFLINE status of FR Configurator.

Indication	Status	Connection
	OFFLINE	—
	ONLINE	RS-232C connection via a programmable controller (Blue)
		USB connection via a programmable controller (Green)
		Ethernet connection via a programmable controller (Yellow)

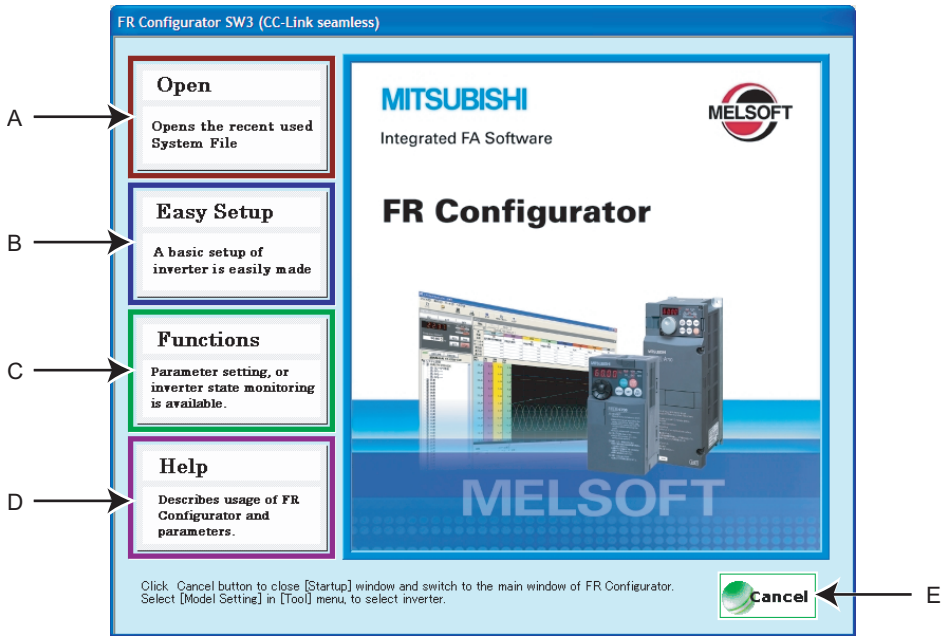
2 WHEN USING FOR THE FIRST TIME

This chapter explains the "Startup" and "Easy Setup" of this product.
Always read the instructions before using the software.

2.1 Startup..... 34
2.2 Easy Setup..... 35

2.1 Startup

"Startup" windows is displayed when FR Configurator is started. Each function can be directly selected from the "Startup" window.



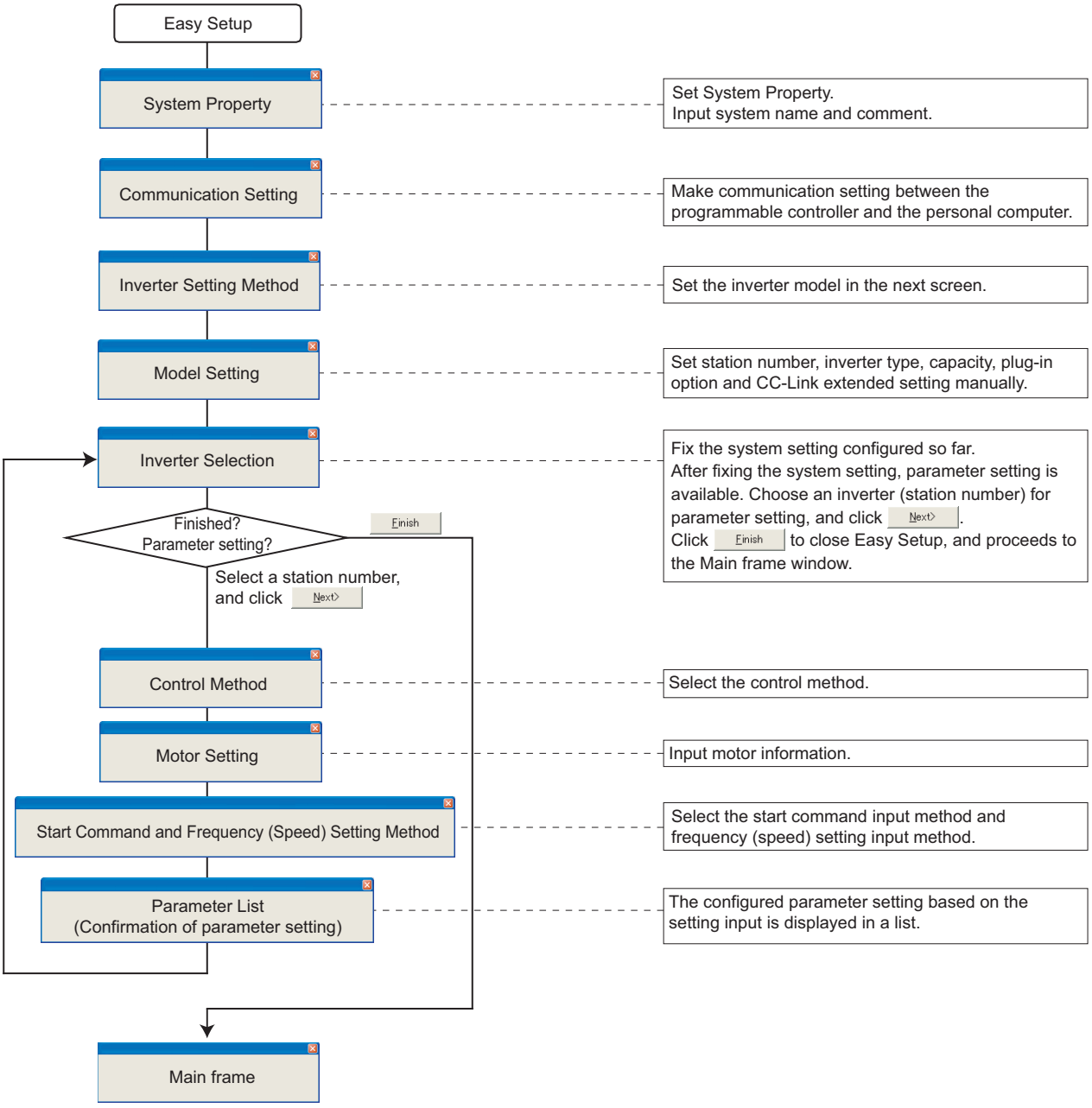
No.	Name	Function and description
A	Open	Shows up to five recent used files. Point a cursor on "Open", and five recent used files are shown. Click a file name, then "Startup" window is closed, and Main frame is displayed with the file contents reflected.
B	Easy Setup	Click to start Easy Setup. From System Property setting to Model setting and parameter setting, the system setting up is easily made with the wizard style (interactive). *(Refer to page 35)*
C	Functions	Shows a list of functions.
D	Help	Displays Help window. *(Refer to page 83)*
E	Cancel	Click to close this window, and returns to Main frame.

Note

You cannot open a file inside a folder without an access permission even when a system file (mec) may appear in the "Open" screen.

2.2 Easy Setup

Setting from system setting to parameter setting is easily performed with Easy Setup. Even without FR Configurator knowledge, without regard to the parameter number, system setting and basic parameter setting is easily performed.



REMARKS

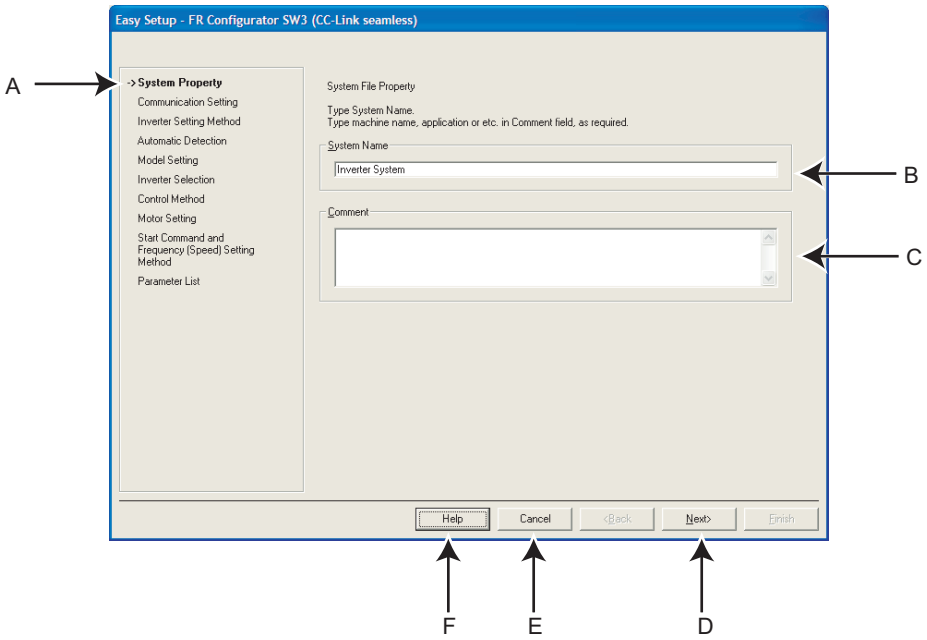
When Cancel is clicked in each setting window, the setting input so far becomes invalid, and the window returns to "Startup."

(Communication setting is saved even when Cancel is clicked.)

2.2.1 System property

Input an information for creating a system file.

Type a system name (up to 32 one byte characters) for this system file. Click Next> after inputting the system name. When Next> is clicked, the screen proceeds to "Communication Setting."



No.	Name	Function and description
A	Setting procedure	Shows description of current setting and next/previous setting in Easy Setup.
B	System Name	Type a system name up to 32 one-byte characters.
C	Comment	A field for comments (up to 256 one-byte characters) to describe the system.
D	Next>	Proceeds to "Communication Setting." *(Refer to page 37)*
E	Cancel	Closes Easy Setup with the invalid setting.
F	Help	Displays Help window. *(Refer to page 83)*

2.2.2 Communication setting

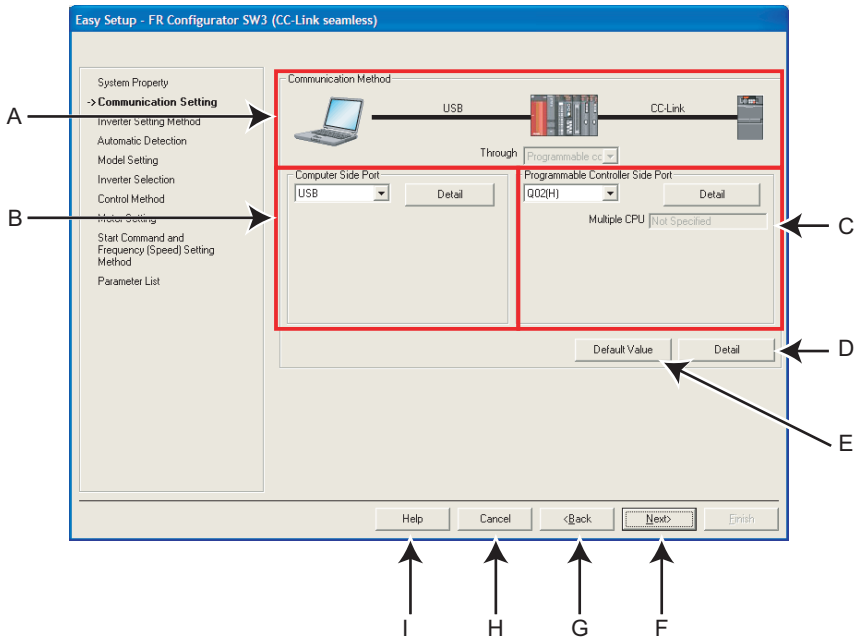
Adjust the communication setting between a personal computer and a programmable controller.

Select the port to be used in "Computer Side Port" field. Click [Detail] to set the detail of the selected port. *(Refer to page 38)*

After setting the Computer Side Port, adjust settings at the Programmable Controller Side Port. *(Refer to page 39)*

After completing the communication setting, click [Next>].

(1) Explanation of the screen

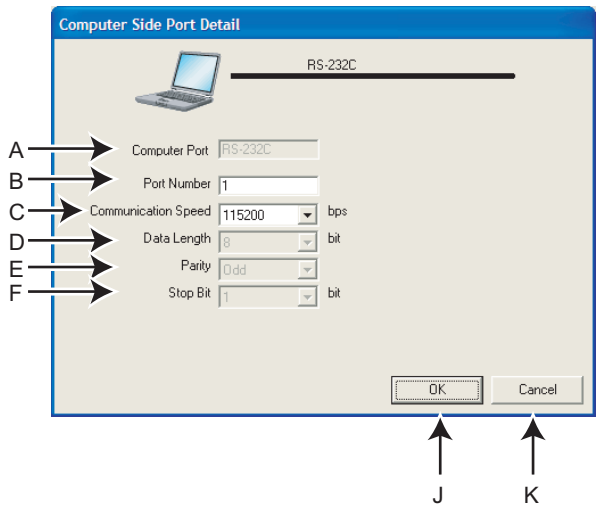


No.	Name	Initial setting	Function and description
A	Communication Method		Displays the connection between the personal computer, the programmable controller, and the inverter.
B	Computer Side Port setting	USB	Select the port to be used at the PC side. Click [Detail] to set the detail of the PC side port. *(Refer to page 38)* The detail of the current setting is displayed under the setting section.
C	Programmable Controller Side Port setting	Q02(H)	Select the programmable controller CPU to be connected. Click [Detail] to set the detail of the programmable controller side. *(Refer to page 39)* The detail of the current setting is displayed under the setting section.
D	Detail		Displays "Detail" window. Time out and retry numbers can be set. *(Refer to page 40)*
E	Default Value		Returns the communication setting to the initial values.
F	Next >		Proceeds to "Inverter Setting Method." *(Refer to page 41)*
G	<Back		Returns to "System Property" display. *(Refer to page 36)*
H	Cancel		Closes Easy Setup with the invalid setting.
I	Help		Displays Help window. *(Refer to page 83)*

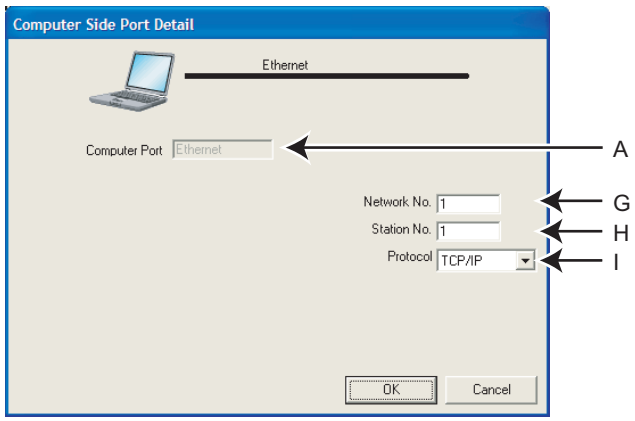
(2) PC Side Port Setting

Click Detail of the "Computer Side Port" to display "Computer Side Port Detail."

When using RS-232C port



When using Ethernet port



	No.	Name	Initial setting	Function and description
-	A	Computer Port		Displays the PC Side Port selected in "Communication Setting."
When using RS-232C port	B	Port Number	1	Displays the communication port of the personal computer.
	C	Communication Speed	115200	Displays the communication speed setting at the PC side.
	D	Data Length	8	Data length is fixed to "8."
	E	Parity	Odd	Parity bit is fixed as "Odd."
	F	Stop Bit	1	Stop bit is fixed to "1."
When using Ethernet port	G	Network No.	1	Displays the connected Network No.
	H	St. No.	1	Set the station number.
	I	Protocol	TCP/IP	Set the protocol.
-	J	OK		Applies the setting and returns to "Communication Setting."
	K	Cancel		Does not apply the setting and returns to "Communication Setting."

* Depending on the computer side port, some items cannot be displayed nor set.

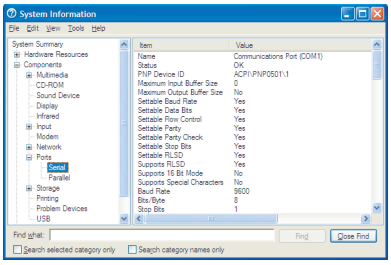
POINT

- Communication Setting is also available from [Option] in [Tool] menu.

REMARKS

Check the Port Number for the RS-232C port in the following procedure.

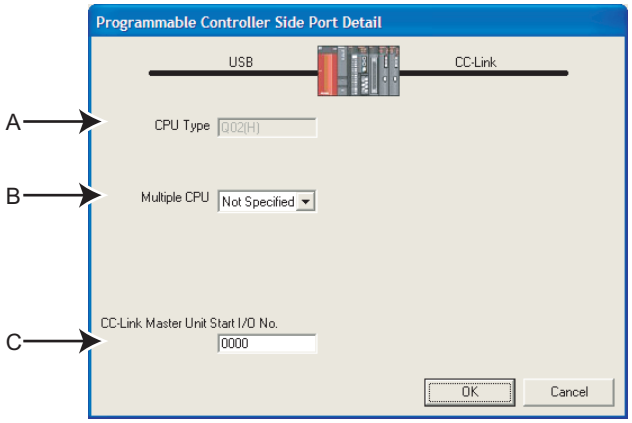
1. Click [Start] of the taskbar of Windows, and point to [All Programs], point to [Accessories], point to [System Tools], and then click [System Information]. [System Information] window shown on the right is displayed.
2. Select [Serial] in [Ports] folder of [Components] in the left pane.
3. Check the [COM] number of "Communication port" displayed in the right pane. Example: "1" for "Communication port (COM1)"
4. Set the checked value ("1" in this example) to "Port Number."



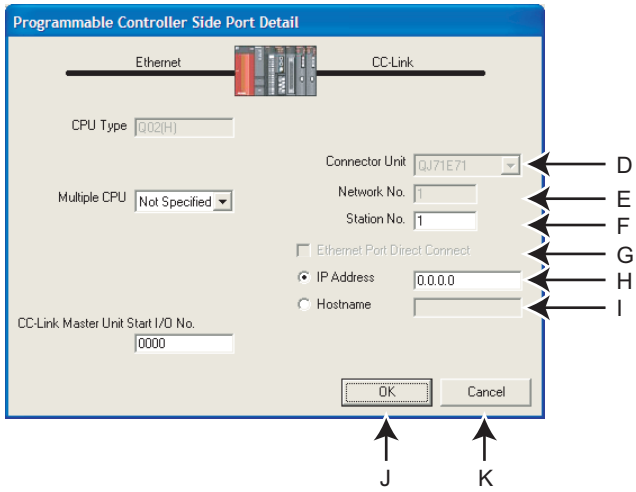
(3) Programmable Controller Side Port Detail

Click [Detail] of the "Programmable Controller Side Port" to display "Programmable Controller Side Port Detail."

When using USB port or RS-232C port



When using Ethernet port



	No.	Name	Initial setting	Function and description
-	A	CPU type		Displays the programmable controller CPU selected in "Communication Setting."
	B	Redundant CPU	Not Specified	Perform the setting for the Redundant CPU.
		Multiple CPU	Not Specified	Perform the setting for the Multiple CPU.
	C	CC-Link Master Unit Start I/O No.	0000	Set the Start I/O No. of the CC-Link master module. Enter in hexadecimal number.
When using Ethernet port	D	Connector Unit	QJ71E71	Perform the setting for the Connector Unit. When the personal computer is connected to an Ethernet interface module, select the connected interface module.
	E	Network No.	1	Displays the connected Network No.
	F	St. No.	1	Displays the station number of the programmable controller CPU. When the personal computer is connected to an Ethernet interface module, set the station number of the connected interface module.
	G	Ethernet Port Direct Connect	OFF	Set this when the personal computer is directly connected to the programmable controller CPU. *(Refer to page 18)*
	H	IP Address		Set the IP address allocated to the connected programmable controller CPU module. (This cannot be set at the same time with Hostname.)
	I	Hostname		Enter the name for the connected programmable controller CPU module, which is set in the host file within 63 characters. (This cannot be set at the same time with IP address.)
-	J	OK		Applies the setting and returns to "Communication Setting."
	K	Cancel		Does not apply the setting and returns to "Communication Setting."

* Depending on the computer side port and the connected programmable controller CPU, some items cannot be displayed nor set.

REMARKS

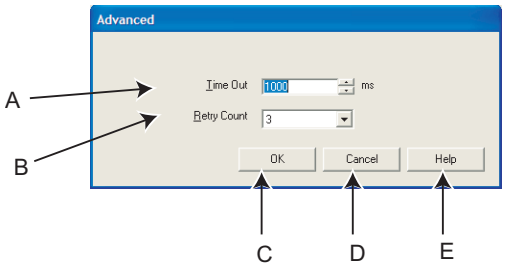
• Connection setting for the Ethernet interface module

To connect from FR Configurator to an Ethernet interface module via TCP/IP communication method, select "MELSOFT" as the open method in the network parameter (Ethernet open setting) of the programmable controller.

For the details, refer to the description on network parameter in the GX Developer operating manual. This setting is not required when connecting to the Ethernet port built into the programmable controller CPU. (In CPU, "MELSOFT" is selected in the initial status.)

(4) Detail

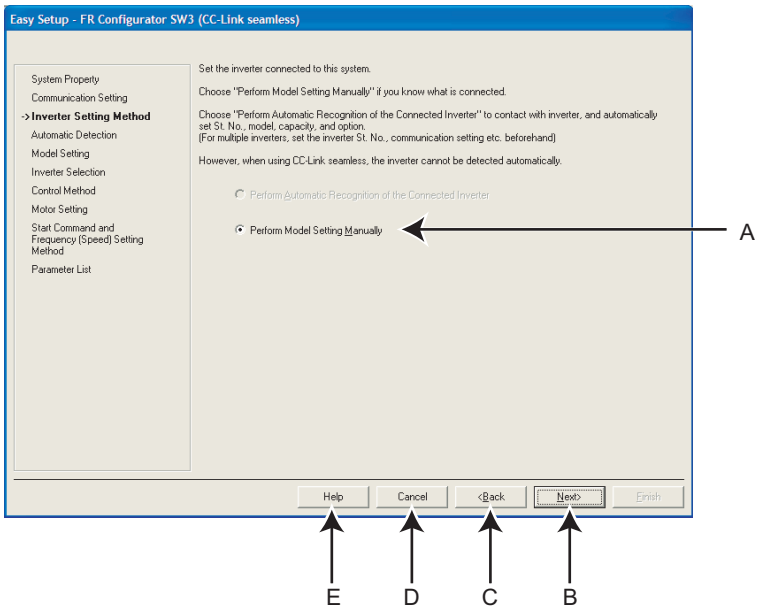
Click Detail on the Communication Setting screen to open the "Advanced" window.



No.	Name	Initial setting	Function and description
A	Time out	1000ms	Set the time period between when the data is transmitted from PC to the programmable controller and when the data is replied from the programmable controller to PC. If no reply is received for the set time period or longer, an error "Time Out Occurrence" occurs.
B	Retry Count	1	Set the retry count for communicating to the programmable controller. When the communication is unstable due to EMI and other causes, set a larger number. Note that setting it too large may affect the communication response.
C	OK		Applies the setting and returns to "Communication Setting."
D	Cancel		Does not apply the setting and returns to "Communication Setting."
E	Help		Displays Help window. *(Refer to page 83)*

2.2.3 Inverter setting method

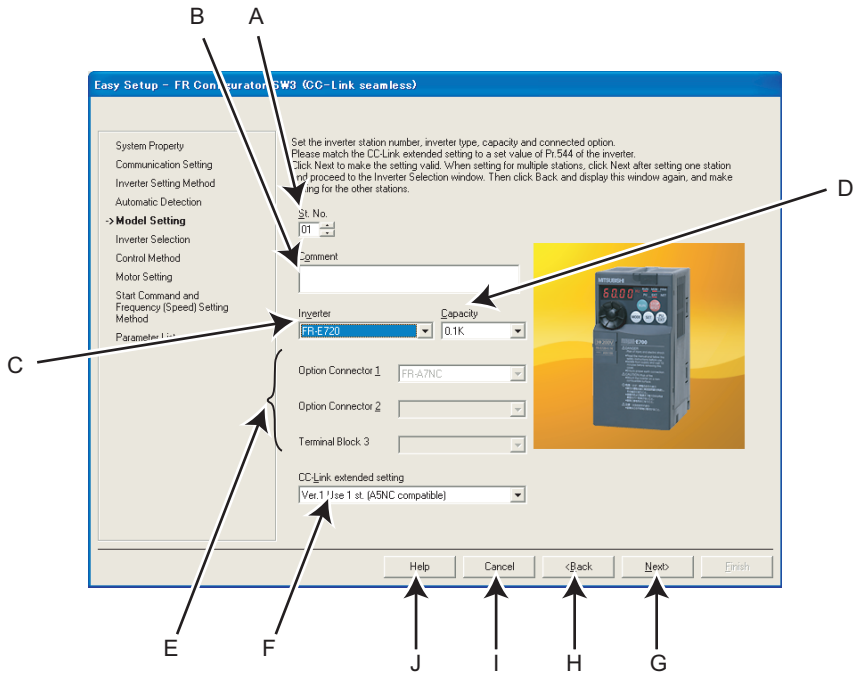
Click Next>. (Model setting is performed in the next screen.)



No.	Name	Function and description
A	Perform model setting manually	Model setting is manually performed. *(Refer to page 42)*
B	Next>	Proceeds to "Model Setting" display. *(Refer to page 42)*
C	<Back	Returns to "Communication Setting" display. *(Refer to page 37)*
D	Cancel	Closes Easy Setup with the invalid setting.
E	Help	Displays Help window. *(Refer to page 83)*

2.2.4 Model setting

Make the inverter model setting manually.



No.	Name	Function and description
A	St. No.	Set the inverter station number from 0 to 64.
B	Comment	A field for comments.
C	Inverter	Select the connected inverter model.
D	Capacity	Select the connected inverter capacity.
E	Option Connector 1 to 3, Terminal Block 3	Select the options connected to the option connectors of the inverter. (The option connector, which is connected to FR-A7NC, is not available.)
F	CC-Link extended setting	Set the CC-Link extended setting to the inverter. Set this section in accordance with the *Pr. 544 CC-Link extended setting*.
G	Next>	Proceeds to "Inverter Selection." *(Refer to page 43)*
H	<Back	Returns to "Inverter Setting Method." *(Refer to page 41)*
I	Cancel	Closes Easy Setup with the invalid setting.
J	Help	Displays Help window. *(Refer to page 83)*

REMARKS

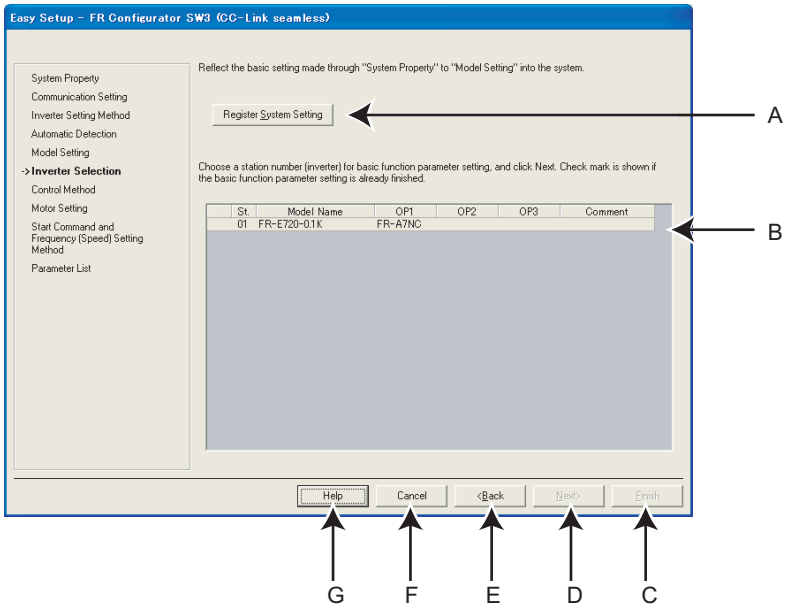
- "Model Setting" is also available from [Model Setting] in a [Tool] menu.
- Use Option Connector 2 on the Model Setting window to select a network option connected to an F700-NA or EC, which is equipped with only one option connector. No network option is selectable in Option connector 1.
  The connected network option will be automatically set to Option Connector 2 when the Automatic Recognition is performed for an F700-NA or EC, which is equipped with only one option connector. The connected network option will be also automatically set in Option Connector 2 when a MEL file set to an F700-NA or EC is read.

2.2.5 Inverter selection

Click [Register System Setting] to register the system setting, then the parameter setting becomes available.

Choose an inverter (station number) for parameter setting, and click [Next>]. After parameter setting is finished, the window returns to "Inverter Selection" again. To set parameters for several inverters, set the parameters for one inverter, then select another inverter (station number) in this screen.

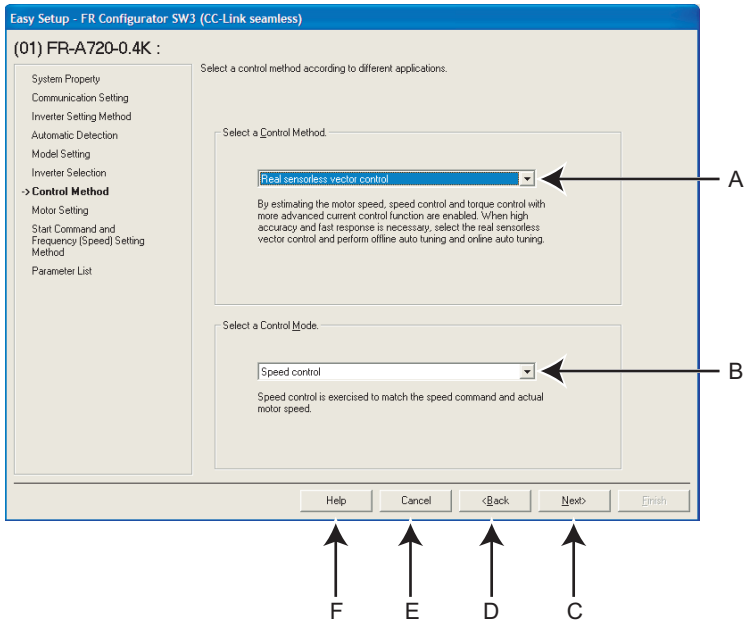
Click [Finish] to close Easy Setup, and proceeds to the Main frame window.



No.	Name	Function and description
A	Register System Setting	Register the system setting configured in Easy Setting.
B	Inverter Selection	Shows the inverter reflected into the system setting. Choose a station number for parameter setting, and click [Next>]. A check mark is displayed on the station number if the parameter setting has been already configured. Click [Register System Setting] to register the system setting first, and the field becomes available.
C	Finish	Click to close Easy Setup, and proceeds to the Main frame window.
D	Next>	Proceeds to "Control Method." *(Refer to page 44)*
E	<Back	Returns to "Model Setting" *(Refer to page 42)* or "Parameter List" *(Refer to page 48).*
F	Cancel	Closes Easy Setup with the invalid setting.
G	Help	Displays Help window. *(Refer to page 83)*

2.2.6 Control method

Set a control method of the inverter. Select the control method, and click Next>.



(Example of FR-A700)

No.	Name	Function and description
A	Select a Control Method.	Select the control method.
B	Select a Control Mode	Select the control mode. (FR-A700, A701 only)
C	Next>	Proceeds to "Motor Setting." *(Refer to page 45)*
D	<Back	Returns to "Inverter Selection." *(Refer to page 43)*
E	Cancel	Closes Easy Setup with the invalid setting.
F	Help	Displays Help window. *(Refer to page 83)*

* Some models have fixed settings.

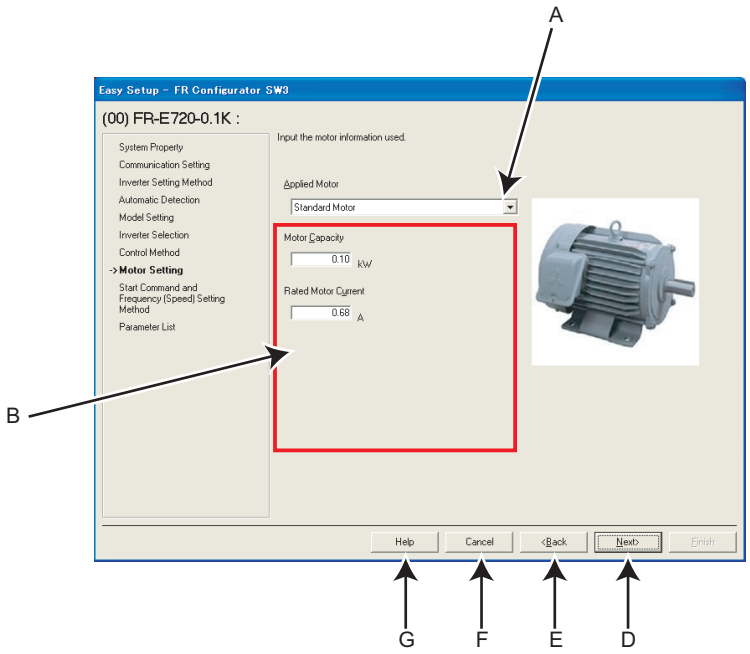
- **Changing parameter**

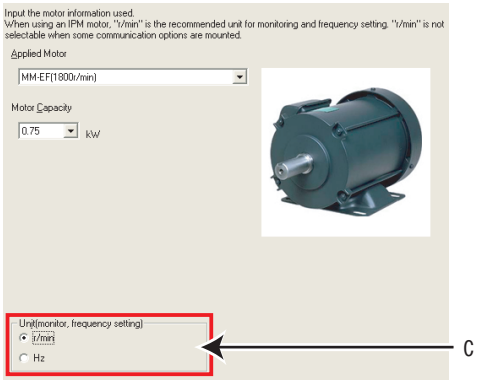
Parameters related to control methods. (Refer to the Inverter Manual for details of the parameters.)

Parameter Number	Name
60	Energy saving control selection
71	Applied motor
80	Motor capacity
81	Number of motor poles
800	Control method selection

2.2.7 Motor setting

Adjust the settings for the motor connected to the inverter. Click Next> after inputting the motor information.





"Unit (monitor, frequency setting)" setting screen
(Example for IPM motor control)

No.	Name	Function and description
A	Applied Motor	Select a type of motor. Selectable motor types are different according to the control method selected in "Control Method" window (or the *Pr. 71* setting).
B	Motor information	Fill in the motor information. Required motor information to fill in is different according to the control method setting selected in "Control Method" window.
C	Unit (monitor, frequency setting)	Change the Hz unit in the monitor display and the frequency setting to rpm when necessary. This section is enabled when "IPM motor control" or "PM sensorless vector control" has been selected in the "Control Method" window. (According to the mounted communication option, the unit for monitor display and frequency setting may always be Hz.)
D	Next>	Proceeds to "Start Command and Frequency (Speed) Setting Method." *(Refer to page 47)*
E	<Back	Returns to "Control Method." *(Refer to page 44)*
F	Cancel	Closes Easy Setup with the invalid setting.
G	Help	Displays Help window. *(Refer to page 83)*

* Some models have fixed settings.

- **Changing parameter**

Parameters related to the motor setting. (Refer to the Inverter Manual for details of the parameters.)

Parameter Number	Name
9	Electronic thermal O/L relay
71	Applied motor
80	Motor capacity
81	Number of motor poles
83	Rated motor voltage
84	Rated motor frequency
359	Encoder rotation direction
369	Number of encoder pulses

- **Parameters to be adjusted for the IPM motor control**

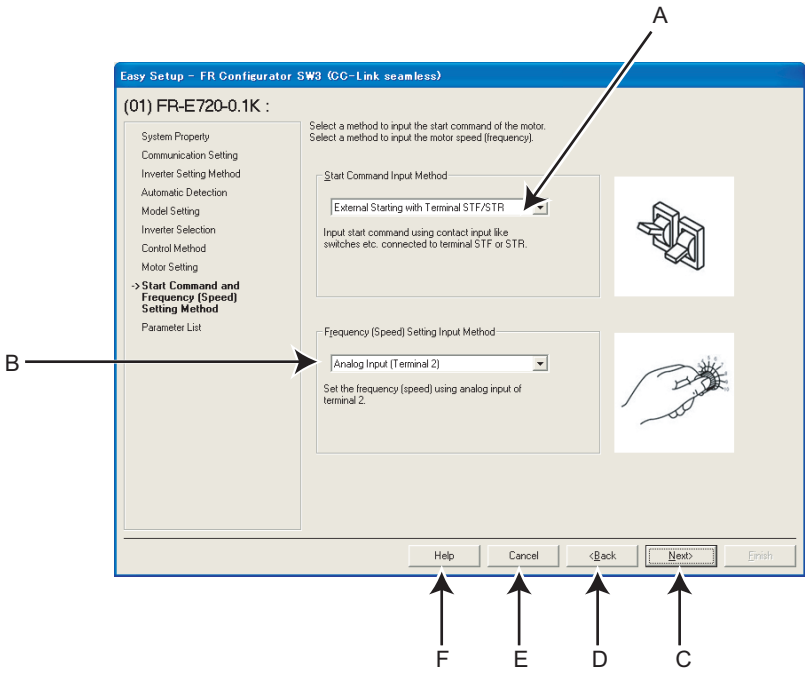
The following parameters are related to the IPM motor control.(Refer to the Instruction Manual of the inverter for the parameter details.)

Parameter Number	Name	FR-A700	FR-F700P
1	Maximum frequency	○	○
4	Multi-speed setting (high speed)	○	○
9	Electronic thermal O/L relay	○	○
13	Starting frequency	○	○
15	Jog frequency	○	○
18	High speed maximum frequency	○	○
20	Acceleration/deceleration reference frequency	○	○
22	Stall prevention operation level	○	○
37	Speed display	○	○
55	Frequency monitoring reference	○	○
56	Current monitoring reference	○	○
71	Applied motor	○	○
80	Motor capacity	○	○
81	Number of motor poles	○	–
84	Rated motor frequency	○	–
125	Terminal 2 frequency setting gain frequency	○	○
126	Terminal 4 frequency setting gain frequency	○	○
144	Speed setting switchover	○	○
240	Soft-PWM operation selection	○	○
260	PWM frequency automatic switchover	–	○
263	Subtraction starting frequency	×	○
266	Power failure deceleration time switchover frequency	○	○
374	Overspeed detection level	○	○
386	Frequency for maximum input pulse	○	–
390	% setting reference frequency	○	○
505	Speed setting reference	○	○
557	Current average value monitor signal output reference current	○	○
820	Speed control P gain 1	○	×
821	Speed control integral time 1	○	×
824	Torque control P gain 1	○	–
825	Torque control integral time 1	○	–
870	Speed detection hysteresis	○	○
885	Regeneration avoidance compensation frequency limit value	○	○
893	Energy saving monitor reference (motor capacity)	○	○
C14(918)	Terminal 1 gain frequency (speed)	○	–
C24(923)	Frequency setting voltage gain frequency (built-in potentiometer)	–	–

○ : Related parameters, × : Non-related parameters, – : No parameter

2.2.8 Start command and frequency (speed) setting method

Select an input method of start command and frequency (speed) setting.



No.	Name	Function and description
A	Start Command Input Method	Select the start command input method of the inverter.
B	Frequency (Speed) Setting Input Method	Select the frequency (speed) setting input method of the inverter.
C	Next>	Proceeds to "Parameter List." *(Refer to page 48)*
D	<Back	Returns to "Motor Setting." *(Refer to page 45)*
E	Cancel	Closes Easy Setup with the invalid setting.
F	Help	Displays Help window. *(Refer to page 83)*

- **Changing parameter**

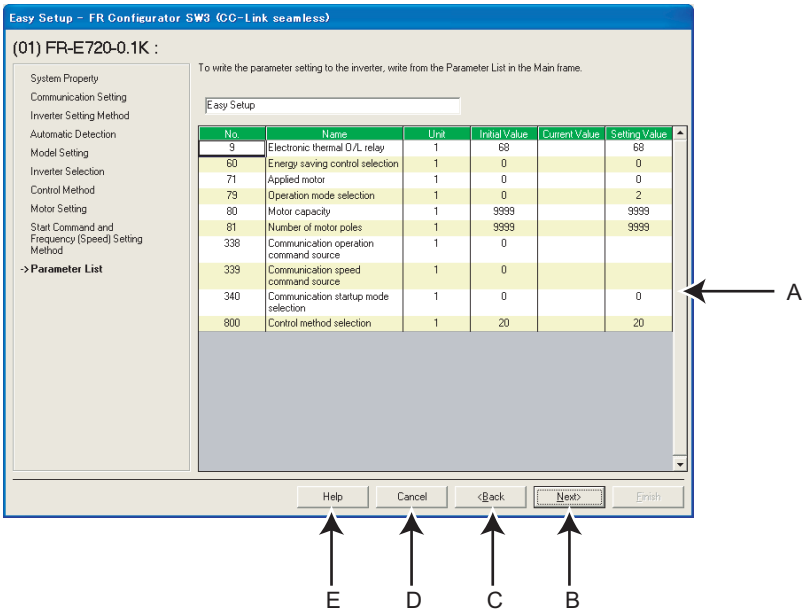
Parameters related to "Start Command and Frequency (Speed) Setting Method." (Refer to the inverter manual for details of the parameters.)

Parameter Number	Name
79	Operation mode selection
338	Communication operation command source
339	Communication speed command source
340	Communication startup mode selection

2.2.9 Parameter list

After the required items are all set, parameter setting is configured based on the input setting. Parameter name and configured value are displayed in the Parameter List. To write the parameter setting to the inverter, write from the Parameter List in the Main frame. *(Refer to page 70)*

Click Next> to proceed to "Inverter Selection" window. *(Refer to page 43)* To close Easy Setup, click Finish in "Inverter Selection" window. To set parameters for several inverters, select another inverter in "Inverter Selection" and set parameters.



No.	Name	Function and description
A	Parameter setting field	Shows the parameter setting configured by Easy Setup in the list.
B	Next>	Proceeds to "Inverter Selection." *(Refer to page 43)*
C	<Back	Returns to "Start Command and Frequency (Speed) Setting Method." *(Refer to page 47)*
D	Cancel	Closes Easy Setup with the invalid setting.
E	Help	Displays Help window. *(Refer to page 83)*

3 SETTING WIZARD

This chapter explains the "Setting Wizard" of this product. Always read the instructions before using the software.

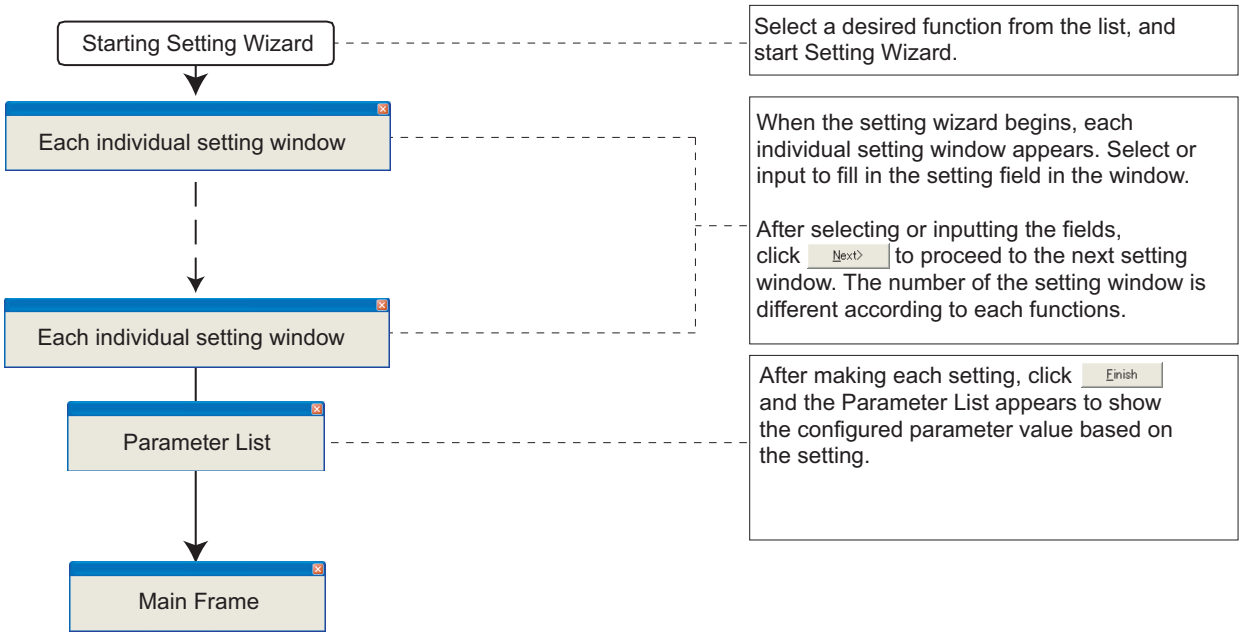
3.1 Overview of Setting Wizard 50
3.2 Details of Setting Wizard 53

3.1 Overview of Setting Wizard

Setting Wizard can set parameters with wizard style dialog (interactive). Inputting or selecting required items for each function, and parameter setting is configured without regard to the parameter number.

Double-click a desired function in the "Setting Wizard" *(Refer to page 69)* in System View (or select a function and click Execute) to start the Setting Wizard of the selected function. Parameter setting is configured based on the input setting after the required item in each window is filled in. Configured parameter setting is displayed in Parameter List *(Refer to page 52)* when every setting is finished. Configured setting can be written to the inverter from Parameter List.

(1) Basic flow of Setting Wizard



Note

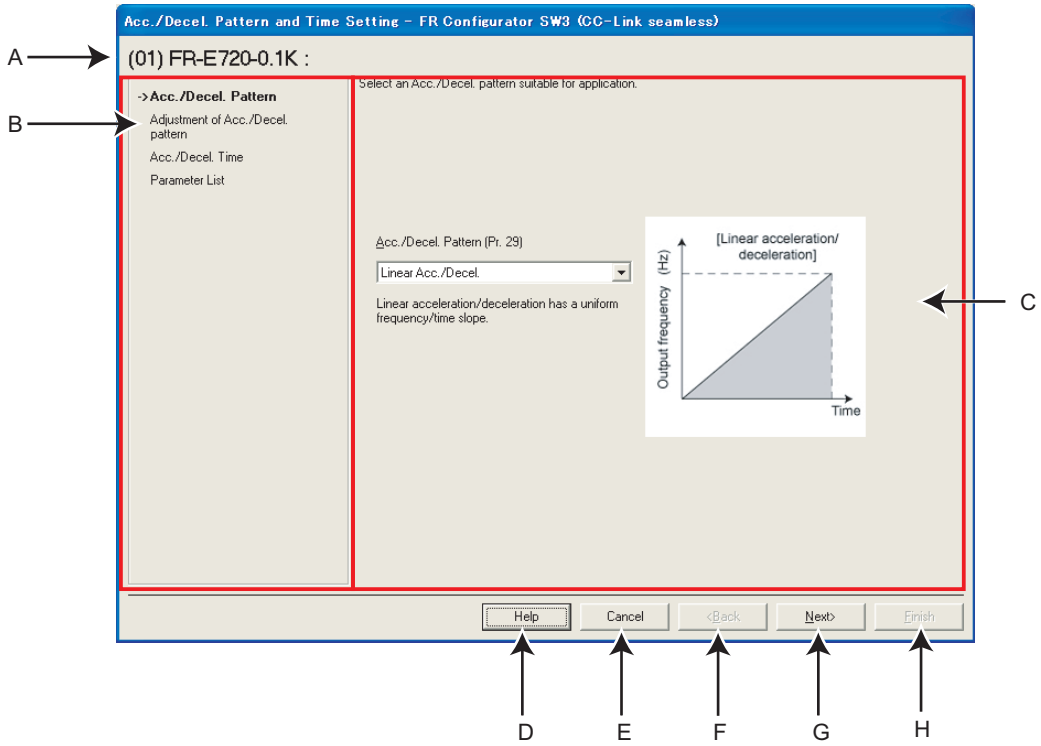
In the setting wizard, the units for parameter settings and monitored items are not displayed, and their digits are shifted. A value in FR Configurator may be different from the value displayed on the operation panel. Check the units by referring to the inverter manual before setting parameters or reading monitored items.

(2) Functions available for Setting Wizard

Function Name	Setting Item	Refer to Page
Acceleration/deceleration pattern and time setting	Acceleration/Deceleration Pattern Adjustment of Acceleration/Deceleration Pattern (when backlash measures are selected for FR-A700, A701, F700 and F700P) Acceleration/Deceleration Time	53
Analog Input Terminal Calibration	Calibrating Terminal and Method Calibration Method(1) Calibration Method(2)	54

3.1.1 Individual setting window of setting wizard

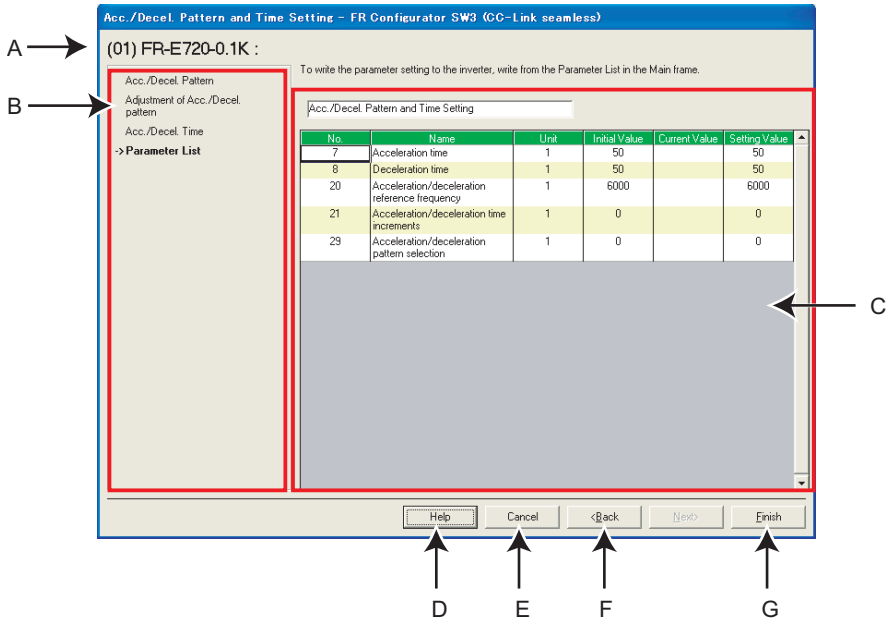
Select a desired function of the "Setting Wizard" *(Refer to page 69)* in System View, and start the Setting Wizard. Input or select in a required field of each individual setting window, and click Next> to proceed to the next individual setting window. Number of the items required to fill in is different according to the selected Setting Wizard.



No.	Name	Function and description
A	Selected station number	Shows the selected station number, inverter model and a comment.
B	Setting procedure	Shows current setting description and next/previous setting in Setting Wizard.
C	Setting item field	Make a setting input. (Setting items are different according to each Setting Wizard and individual setting window.)
D	Help	Displays Help window. *(Refer to page 83)*
E	Cancel	Closes the window with the invalid setting.
F	<Back	Returns to the previous setting window.
G	Next>	Proceeds to the next window.
H	Finish	Applies the settings entered up to this point and shows "Parameter List." (Parameter writing is not performed here.)

3.1.2 Parameter list

Click Finish after the required item in each setting is filled in, and then the parameter setting is configured based on the inputted setting. Configured parameter settings are displayed in Parameter List after all individual settings are completed.
To write the parameter setting to the inverter, write from the Parameter List in the Main frame. *(Refer to page 70)*



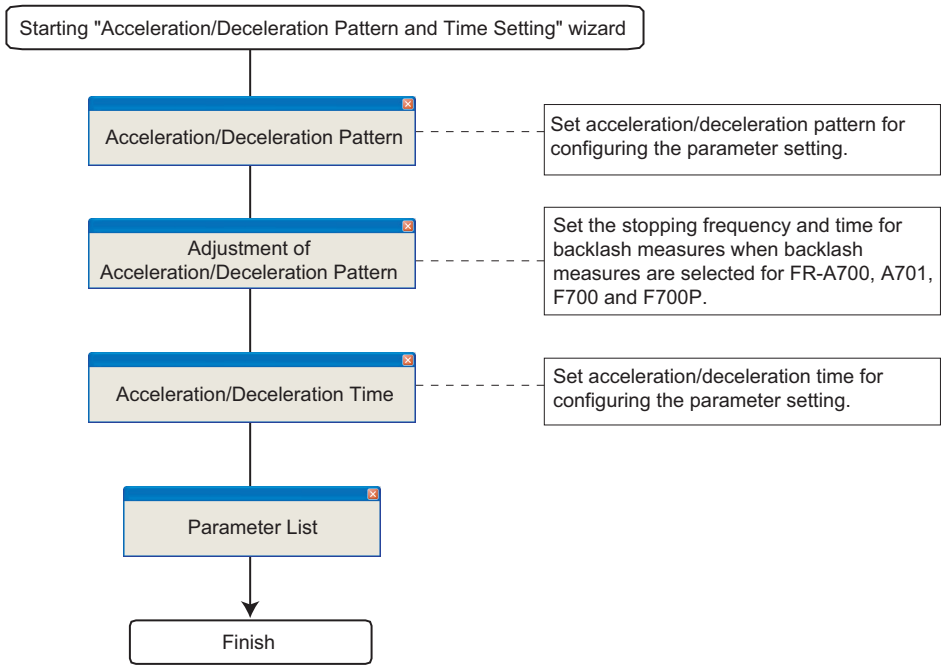
No.	Name	Function and description
A	Selected station number	Shows the selected station number, inverter model and a comment.
B	Setting procedure	Shows the past settings in Setting Wizard.
C	Parameter setting field	Shows the parameter setting configured in Setting Wizard in the list.
D	Help	Displays Help window. *(Refer to page 83)*
E	Cancel	Closes the window with the invalid setting.
F	<Back	Returns to the previous setting window.
G	Finish	Closes Setting Wizard with the valid setting. Configured setting by Setting Wizard is applied to Parameter List. (Parameter writing to the inverter is not performed.)

3.2 Details of Setting Wizard

3.2.1 Acceleration/Deceleration pattern and time setting

Select "Acceleration/Deceleration Pattern and Time Setting" from "Setting Wizard" *(Refer to page 69)* in System View to start the wizard of "Acceleration/Deceleration Pattern and Time Setting." Make acceleration/deceleration pattern and acceleration/deceleration time setting.

(1) Setting flow



(2) Related parameters

Refer to the Inverter Manual for details of the parameters.

- **Parameters related to "Adjustment of Acceleration/Deceleration Pattern"**

Parameter Number	Name
29	Acceleration/deceleration pattern selection

- **Parameters related to "Acceleration/Deceleration Pattern"**

Parameter Number	Name
140	Backlash acceleration stopping frequency
141	Backlash acceleration stopping time
142	Backlash deceleration stopping frequency
143	Backlash deceleration stopping time

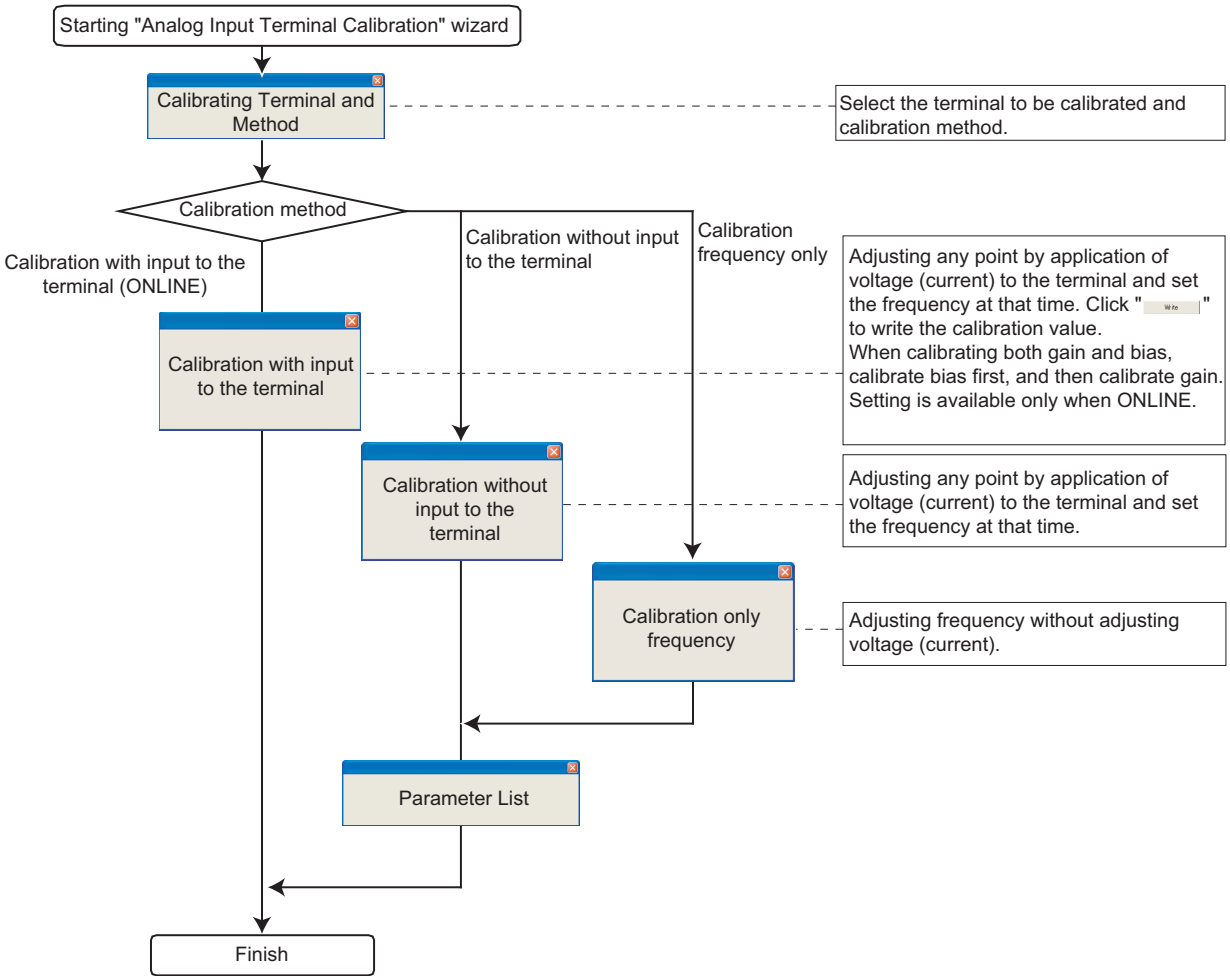
- **Parameters related to "Acceleration/Deceleration Time"**

Parameter Number	Name
7	Acceleration time
8	Deceleration time
20	Acceleration/deceleration reference frequency
21	Acceleration/deceleration time increments

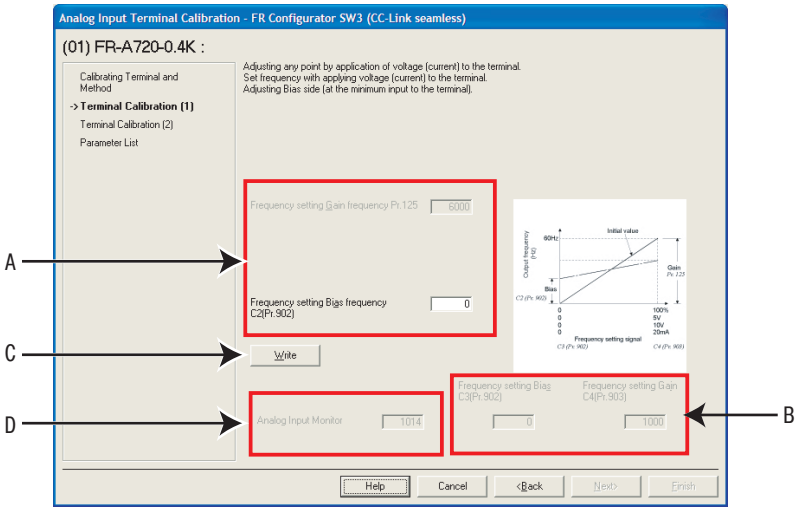
3.2.2 Analog input terminal calibration

Select "Analog Input Terminal Calibration" from "Setting Wizard" *(Refer to page 69)* in System View to start "Analog Input Terminal Calibration." Terminal 2 and terminal 4 are calibrated.

(1) Setting flow



(2) Window explanation of Analog Input Terminal Calibration



No.	Name	Function and description
A	Window explanation of Analog Input Terminal Calibration	Set the frequency on the gain side and bias side.
B	Frequency setting Bias, Gain	Set the converted % of the voltage (current) on the gain or bias side. Available when making calibration without inputting to terminal.
C	Write	Writes a calibration value. (Available when making calibration without inputting to terminal.)
D	Analog Input Monitor	Monitors input to terminal 2 and terminal 4 at intervals. Displays when making calibration with inputting to the terminal.

(3) Related parameters

Refer to the Inverter Manual for details of the parameters.

- **Parameters related to "Analog Input Terminal Calibration"**

Parameter Number	Name
73	Analog input selection
125	Terminal 2 frequency setting gain frequency
126	Terminal 4 frequency setting gain frequency
241	Analog input display unit switchover
267	Terminal 4 input selection
C2(902)	Terminal 2 frequency setting bias frequency
C3(902)	Terminal 2 frequency setting bias
C4(903)	Terminal 2 frequency setting gain
C5(904)	Terminal 4 frequency setting bias frequency
C6(904)	Terminal 4 frequency setting bias
C7(905)	Terminal 4 frequency setting gain

MEMO

4 FUNCTION

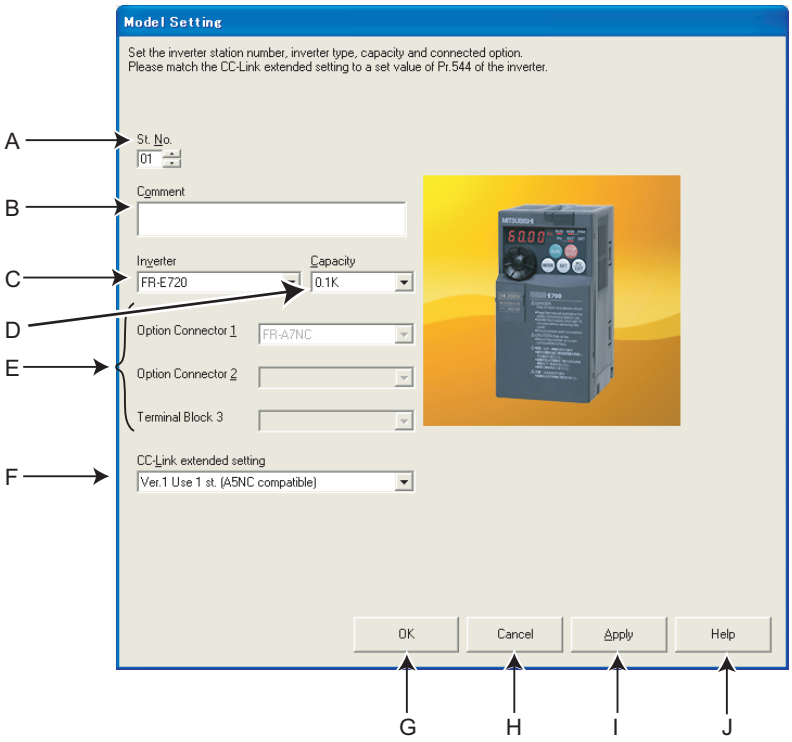
This chapter explains the "FUNCTION" for use of this product.
Always read the instructions before using the software.

4.1 Model Setting 58
4.2 Options 59
4.3 File Management and Print 60
4.4 Test Operation (Navigation Area) 63
4.5 System View (Navigation Area) 66
4.6 Parameter List (System Area) 70
4.7 Diagnosis (System Area) 78
4.8 Batch Monitor (Monitor Area) 80
4.9 I/O Terminal Monitor (Monitor Area) 82
4.10 Help 83

4.1 Model Setting

Make setting of inverter model in "Model Setting" window.
There are the following ways to display "Model Setting" window.

(1) Select [Model Setting] in [Tool] menu.
(2) Double-click a station number in "System Setting" of System View.



No.	Name	Function and description
A	St. No.	Set the inverter station number from 1 to 64.
B	Comment	A field for comments.
C	Inverter	Select the connected inverter model.
D	Capacity	Select the connected inverter capacity.
E	Option Connector 1 to 3, Terminal Block 3	Select the option connected to the option connector of the inverter. (The option connector, which is connected to FR-A7NC, is not available.)
F	CC-Link extended setting	Set the CC-Link extended setting to the inverter. Set this section in accordance with the *Pr. 544 CC-Link extended setting*.
G	OK	Applies the Model Setting into the system, and closes the "Model Setting" window.
H	Cancel	Returns to the Main frame with the invalid setting.
I	Apply	Applies the Model Setting into the system. When connecting several inverters, click Apply after every inverter setting to apply it to the system.
J	Help	Displays Help window. *(Refer to page 83)*

REMARKS

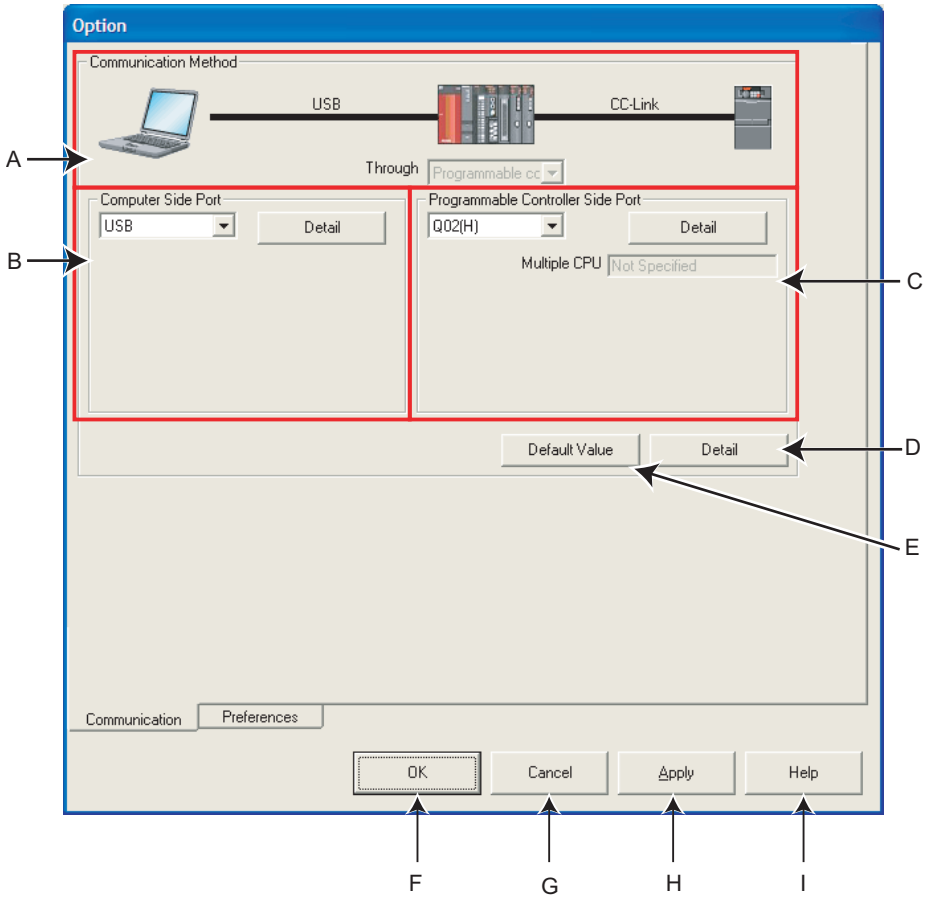
- Inverter model changes if capacity or option setting field is changed, therefore current value, setting value and comment in "Parameter List" are also cleared. If you want to reuse the current value, setting value and comment, export the "Parameter List" data beforehand, then change the model setting. After adjusting model setting, import the exported data from the "Parameter List" window to reuse the current setting, setting value and comment.
- Use Option Connector 2 on the Model Setting window to select a network option connected to an F700-NA or EC, which is equipped with only one option connector. No network option is selectable in Option connector 1.
  The connected network option will be automatically set to Option Connector 2 when the Automatic Recognition is performed for an F700-NA or EC, which is equipped with only one option connector. The connected network option will be also automatically set in Option Connector 2 when a MEL file set to an F700-NA or EC is read.

4.2 Options

Communication setting is available in "Option" window.
Select [Options] in [Tool] menu to display "Option" window.

4.2.1 Communication

Communication setting can be adjusted here. Settings for Computer Port *(refer to page 38)*, Programmable Controller Side Port *(refer to page 39)*, and Detail *(refer to page 40)* are available.



No.	Name	Initial setting	Function and description
A	Communication Method		Displays the connection between the personal computer, the programmable controller, and the inverter.
B	Computer Side Port setting	USB	Select the port to be used at the PC side. Click [Detail] to set the details of the PC side port. *(Refer to page 38)* The detail of the current setting is displayed under the setting section.
C	Programmable Controller Side Port setting	Q02(H)	Select the programmable controller CPU to be connected. Click [Detail] to set the detail of the programmable controller side. *(Refer to page 39)* The detail of the current setting is displayed under the setting section.
D	Detail		Displays "Detail" window. Timeout and retry numbers can be set. *(Refer to page 40)*
E	Default Value		Returns the communication setting to the initial values.
F	OK		Applies the setting, and closes the Option window
G	Cancel		Closes the Option window without saving the setting.
H	Apply		Applies the setting without closing the window.
I	Help		Displays Help window. *(Refer to page 83)*

REMARKS

Communication setting window is active only when OFFLINE. During ONLINE, every item is turned gray and unavailable for making setting.

4.3 File Management and Print

4.3.1 Type of files

Extension	Description	Corresponding screen	Open	Save	Import	Export	Refer to page
*.mec	Manages System Setting, Model Information, data of Parameter List with a single file	All screen	Available	Available	-	-	-
*.pr3	Saves the exported parameter list in a text format. Used to copy the parameter setting to another inverter.	Parameter List	-	-	Available	Available	70
*.xls	Saves the data of Parameter List and Batch Monitor in Microsoft Excel format.	Parameter List Batch Monitor	-	-	-	Available	70

4.3.2 Open

"Open" is a command to read data such as model information and other functions in system file (mec), and apply to each screen. (*.pr3 file can be read using [Import] on the Parameter List window. *Refer to page 61*)

Select [Open] in [File] menu to display "Open" window.Select the desired file, and click Open to read the saved data. Whether each function screen is currently displayed or not, data in the file is applied to each function.

REMARKS

- When copying the current value of the parameter to other station or other inverter, use import and export of data (*.pr3). (A *xls file exported from Parameter List is not available for importing.)
- When several station settings exist, it may take several tens of seconds to open a system file.

4.3.3 Save

Select [Save As...] in [File] menu to display "Save As" window. Check the saving location, put a name on a file, and save. Select [Save] in [File] menu to save the file with the same name. When saving a file for the first time, the same window as "Save As" is displayed.

REMARKS

- When you try to save a file by clicking "Save As..." , the folder where FR Configurator is installed appears at first. (When the installed folder is unchanged, c:\Program Files\MELSOFT\invsup3_e is displayed.)
  If the system file (mec) needs to be shared with another user, place it in the folder where another user has access to.

4.3.4 Data import and export (file input and output)

File input and output of "Batch Monitor" and "Parameter List" data are available. To copy parameter settings to another inverter, export the Parameter List data, and import it to another inverter.

(1) Import (file input)

Exported "Parameter List" data can be read (imported) and reflected into the screen.
Select [Import] in [File] menu to display a window for selecting the importing file.

Note

- **Import of "Parameter List" data is available when the exported inverter model matches the inverter model to be imported.**
  (FR-A700 data can be imported to the FR-A701. The "Parameter List" data of the FR-F700 and FR-F700P can both be imported to either the FR-F700 or FR-F700P.)

(2) Export (file output)

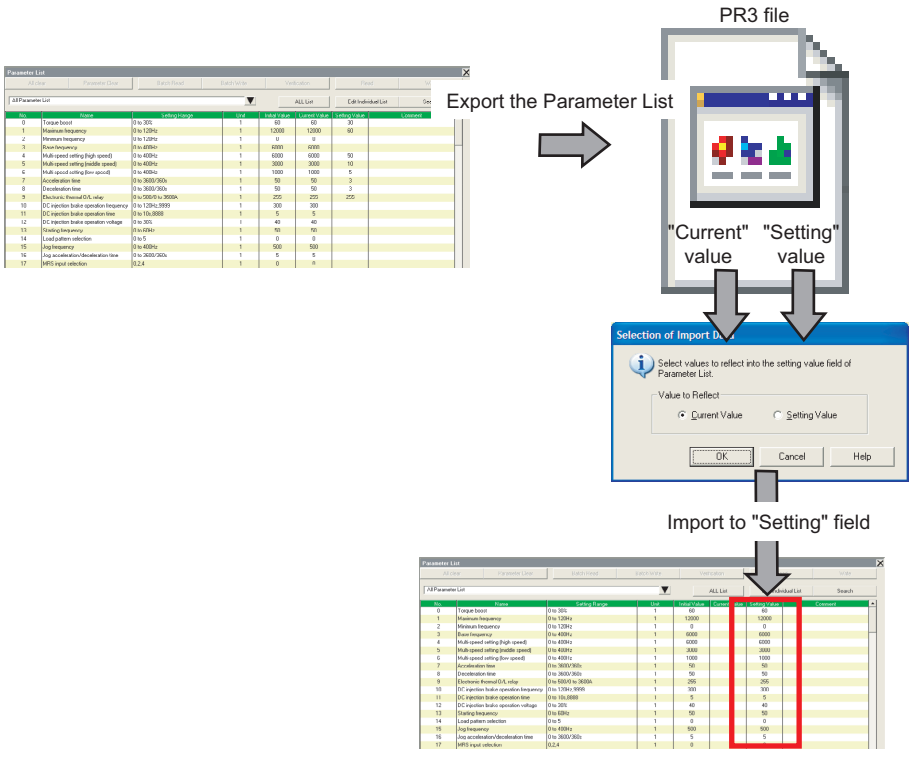
"Batch Monitor" and "Parameter List" data can be output (exported) into a file other than the system file (mec).
Select [Export] in [File] menu to display a window for selecting the exporting file.
The exported file can be imported (displayed) with "Parameter List." ("Batch Monitor" data is for export only.)

Note

- **Exported file is saved in a text format. If the contents of the file is edited, the file may not be read correctly when importing. Do not edit the contents of the exported file.**

REMARKS

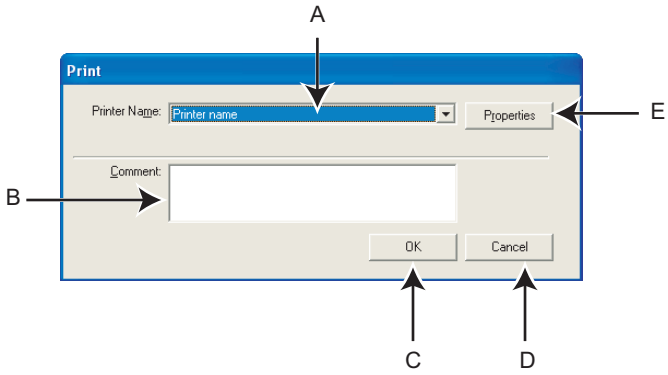
- Parameter file (*.prm) of older version S/W (FR Configurator SW2) can be also imported. Note that the exported file is *.pr3 file type.
- Import and export of "Parameter List"
  Exported file of Parameter List contains both "Current" field data and "Setting" field data.
  When importing the exported file, select which data to be imported between "Current" value or "Setting" value in the file ("Selection of Import Data" window is displayed after selecting a file). And the selected data is applied to "Setting" field of the Parameter List.

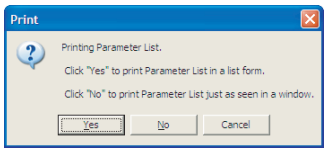


4.3.5 Print

The FR Configurator window can be printed as it is. The Parameter List can be printed as a list. Select [Print...] from the [File] menu or click 

of the tool bar.



No.	Name	Function and description
A	Printer Name	Select a printer.
B	Comment	A field for comments to describe the contents of the printing. (up to 100 characters, line feed available)
C	OK	Click to start printing. The following window appears when printing Parameter List.  Click Yes to print Parameter List in a list format. Click No to print the window as it is.
D	Cancel	Cancels the printing, and closes the window.
E	Property	Displays a printer property window of the selected printer.

POINT

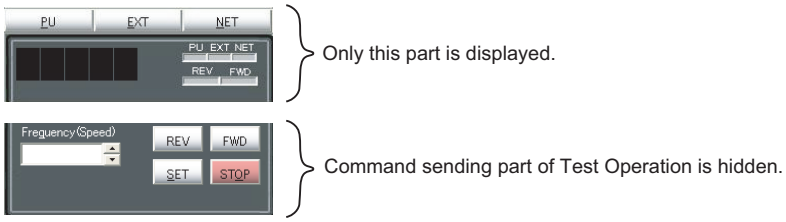
- For printing a specific section, hide unused sections, and print only the section you want. *(Refer to page 30)*
- As for the parameter list, you can select between printing in a list form and printing as is displayed. Select in the window displayed at printing.

4.4 Test Operation (Navigation Area)

Displaying the speed and operation mode, switching the operation mode and writing set frequency are available for the selected inverter.

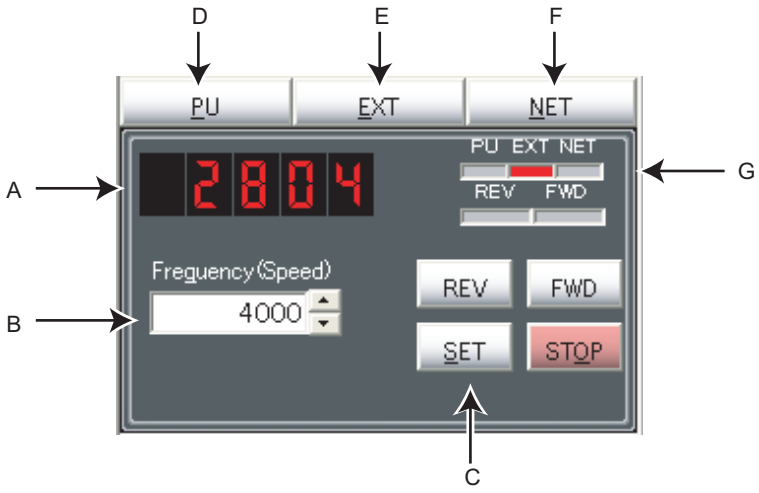
Note

- **For safety issue, command sending part of Test Operation is hidden at start up of FR Configurator. When performing Test Operation, check [Test Operation] sub-menu under [Navigation] of [View] menu to display the command sending part of Test Operation.**



- **Clicking the operation buttons, FWD, REV, and STOP, does not activate any action.**

4.4.1 Test operation screen



No.	Name	Function and description
A	Speed display	Shows the speed of the selected inverter.
B	Set frequency (speed) input field	Input the set frequency and click SET to write the set frequency to the selected inverter. Pressing SET while the field is empty shows the output frequency of the selected station.
C	SET	Writes the value of "Frequency (speed) input" field as the set frequency of the selected inverter.
D	PU	Changes the operation mode of the selected inverter to PU operation mode.
E	EXT	Changes the operation mode of the selected inverter to External operation mode.
F	NET	Changes the operation mode of the selected inverter to Network operation mode.
G	Operation mode indication	Shows the operation mode of the selected inverter in red.

4.4.2 Indication of the inverter speed

The speed of the selected inverter can be displayed. When model setting of the selected station has been set and and the inverter is ONLINE, the speed is displayed. During OFFLINE or when the model setting of the selected station has not been set, nothing appears in the display.
JOG, PS(PU STOP), Pr.CL(Parameter clear), PCPY(Copy), Warning, Alarm, and Fault are not displayed.



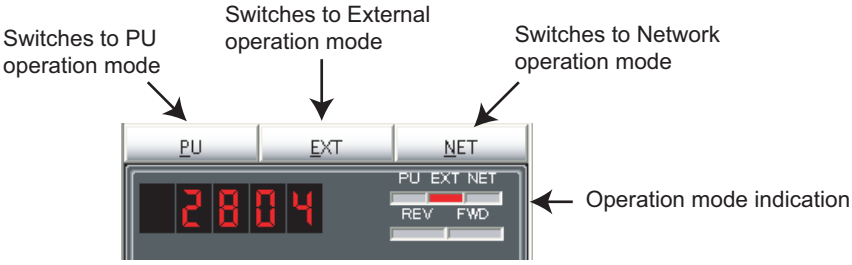
At communication error occurrence



OFFLINE

4.4.3 Indication of operation mode and switching

Click PU , EXT , or NET button to switch the operation mode.
Operation mode of the selected inverter is shown at the operation mode indicating part.

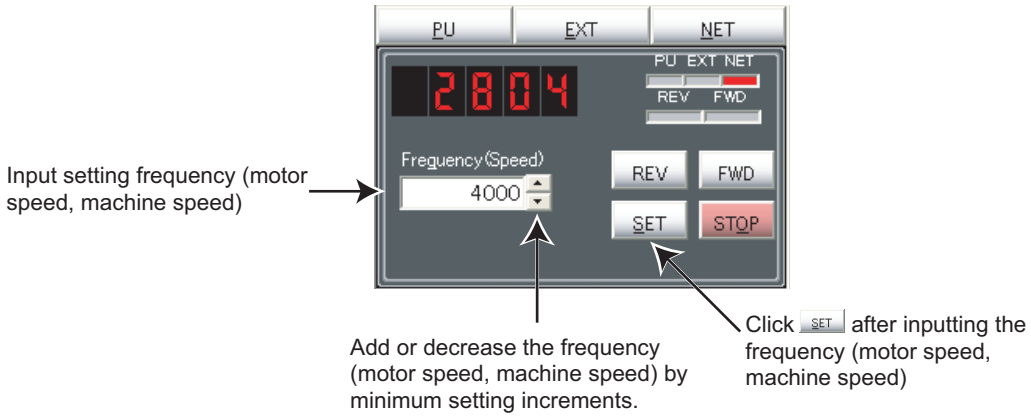


REMARKS

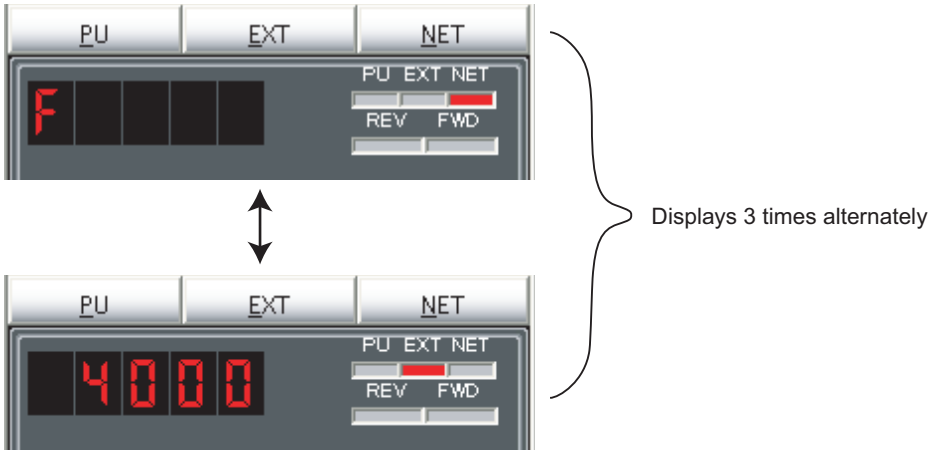
- Depending on the current operation mode or parameter setting, some operation modes are unavailable for change. For example, at the initial state, switching between PU operation mode and Network operation mode is unavailable. (*Refer to page 19* or the Inverter Manual for details.)

4.4.4 Setting of running frequency (speed, machine speed)

Input a set frequency (speed, machine speed) in "Frequency (Speed) input" field, and click SET to write the set frequency (speed, machine speed) into the inverter. Use the buttons on the right of the input field to add or decrease the setting frequency (speed, machine speed) by minimum setting increments. (Available only when ONLINE.)

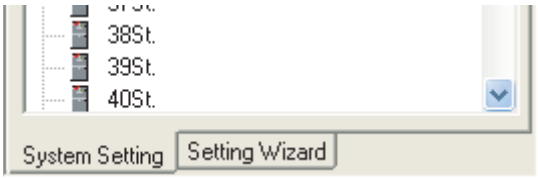


When the set frequency is written, "F" and the "set frequency (speed, machine speed)" is displayed alternately 3 times. After displaying 3 times, the display shows output frequency (speed, machine speed).



4.5 System View (Navigation Area)

"System Setting" *(Refer to page 67)* and "Setting Wizard" *(Refer to page 69)* can be displayed in System View by switching tabs.

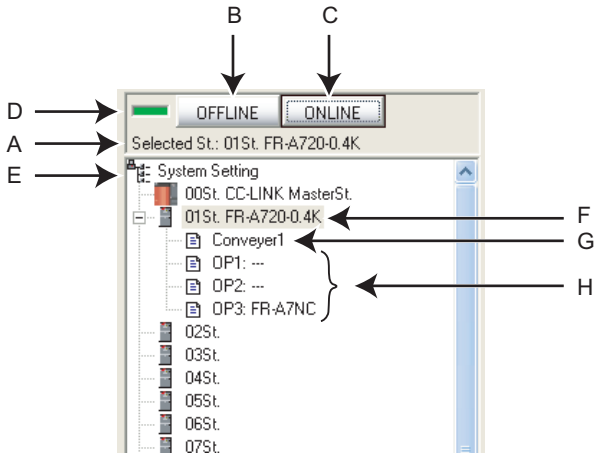


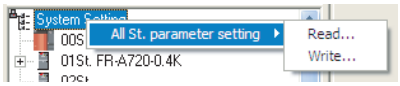
Click tabs to switch the screen

Switching of the display is also available using [Navigation] sub-menu in [View] menu.

4.5.1 System setting

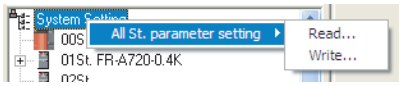
Function for browsing setting information of all 64 stations. Click System Setting in System View or select [System Setting] submenu under [Navigation] of [View] menu to display "System Setting."



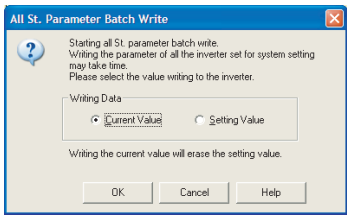
No.	Name	Function and description
A	Station number, inverter type	Shows the station number and the inverter model.
B	OFFLINE	Changes to OFFLINE. (Disconnect all inverters registered to the system.)
C	ONLINE	Changes to ONLINE. (Connect to all inverters registered to the system.)
D	ON, OFF indicator	Shows ONLINE or OFFLINE state.  When ONLINE When OFFLINE
E	System Setting	Right-click on "System Setting" to display a pop-up menu. From the pop-up menu, batch reading/batch writing of the parameters of all the stations set in the system setting are available. *(Refer to page 68)* 
F	Station number, inverter model	Shows the inverter model on the right of station number if model setting has been already set to that station number. Clicking the station number selects the station number. (Press ↑ or ↓ to select the station number set upward or downward. Click ⊞ on the left of the icon to open a tree view for checking a detail of the model setting. Double-click on the station number to display Model Setting window.
G	Comment	Displays a comment.
H	OP1 to OP3	Shows the name of the plug-in option installed to the selected inverter.

4.5.2 All St. parameter setting

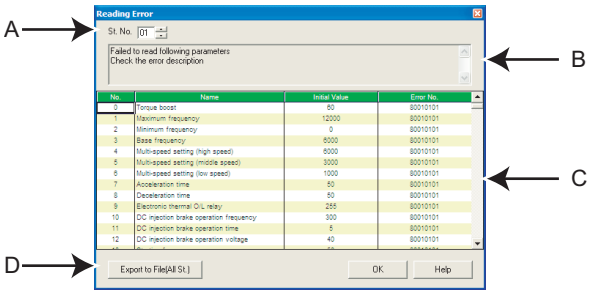
FR Configurator can batch read/batch write the parameters of all the stations set in the system setting at the same time.
To perform batch read/batch write, right-click on "System Setting", and select "Read" or "Write" from "All St. parameter setting". Or select [Read...] or [Write...] in [All St. parameter setting] under [Tool] menu.



The following window appears when performing All St. parameter write.



Select "Current value" or "Setting value." FR Configurator starts parameter writing to the all stations with the selected value. (Writing with the current value will erase all the value in the setting value column.)
A confirmation window will appear at an error occurrence of batch read/batch write of All St. parameter read/write.



No.	Name	Function and description	
A	St. No.	Shows the station number of the error display.	
B	Result message	Shows the result message	
C	Result list	Read	Shows the parameter number, name, initial value, and error number of the reading error parameters.
		Write	Shows the parameter number, name, data, and error number of the writing error parameters.
D	Export to File(All St.)	Saves the result in a text format.	

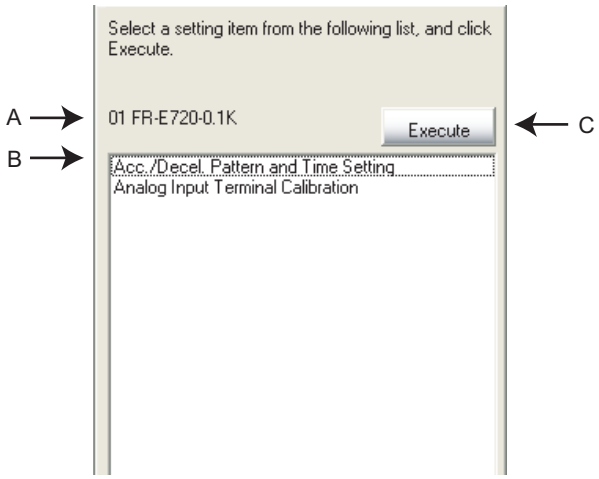
Note

- **When changing some parameters (*Pr. 21 Acceleration/deceleration time increments*, *Pr. 71 Applied motor*, etc.) with FR Configurator, setting value of the related parameters may also change.**
  For example, if the *Pr. 21* setting has been changed, the setting values of acceleration/deceleration time parameters (*Pr. 7*, *Pr. 8*, *etc.*) also change. (When *Pr. 21* = "0" and *Pr. 7* = "5.0s," changing the *Pr. 21* setting to "1" will automatically change the setting of *Pr. 7* to "0.5s".)
  If parameter writing is performed with All St. parameter batch write which causes a change of related parameters, please perform All St. parameter read or batch read from Parameter List.
- **When "*Pr. 342 Communication EEPROM write selection* = 1", the parameter settings from FR Configurator are written into RAM only (the settings cannot be written into EEPROM). If the *Pr. 342* setting is changed from "0" to "1" during batch writing, only the settings of *Pr. 77 Parameter write selection*, *Pr. 122 PU communication check time interval*, *Pr. 336 RS-485 communication check time interval* are written into RAM (*Pr. 77*, *Pr. 122*, *Pr. 336* settings cannot be written into EEPROM). In this case, to change the setting value of *Pr. 77*, *Pr. 122*, *Pr. 336*, set from a parameter unit or the operation panel.**
- **All St. parameter setting may take longer than batch write/batch read of Parameter List since FR Configurator performs reading/writing to the all stations.**
- **According to the *Pr.77 Parameter write selection* and *Pr.79 Operation mode selection* settings, writing to *Pr.122 PU communication check time interval*, *Pr.336 RS-485 communication check time interval*, and *Pr.342 Communication EEPROM write selection* may fail during parameter batch write.**

4.5.3 Setting wizard

Setting Wizard is a function to make parameter setting without regard to parameter number. Double-click a desired function in the "Setting Wizard" (or select the function and click Execute) to start the Setting Wizard of the selected function.

Click Setting Wizard in System View or select [Setting Wizard] submenu under [Navigation] of [View] menu to display "System Wizard."



No.	Name	Function and description
A	Inverter type information	Shows the station number, inverter model, capacity and comment of the selected inverter.
B	Setting Wizard item	Shows Setting Wizard items. Select a desired function (↑ key and ↓ key are also available) and double-click (or click Execute) to start the Setting Wizard of the selected function. *(Refer to page 50)* (If Model Setting has not been set yet, color turns gray and unavailable to select.)
C	Execute	Click to start the Setting Wizard of the selected function. *(Refer to page 50)* (If Model Setting has not been set yet, color turns gray and unavailable to select.)

4.6 Parameter List (System Area)

"Parameter List" has the following functions.

- Showing parameters (all list, functional, individual, changed parameter, verification result parameter)
- Editing Individual List
- Reading and batch reading of parameter setting value
- Input, writing and batch writing of parameter setting value
- Parameter clear and all parameter clear
- Parameter verification (verifies parameter values set on FR Configurator and values already written into the inverter)
- Parameter searching
- File output of parameter verification results, batch read, and batch write.
- Writing of comment
- Parameter copy (use import/export. *Refer to page 61*.)

Select [Parameter List] under [View] menu, or click 

on the tool bar to display "Parameter List".

The functions available in "Parameter List" are different between ONLINE or OFFLINE.

Function	ONLINE	OFFLINE
All Parameter Clear	○	–
Parameter Clear	○	–
Batch Read	○	–
Batch Write	○	–
Verification	○	–
Read	○	–
Write	○	–
Input of parameter setting value	○	○
Edit Individual List	○	○
Search	○	○
Display list selection	○	○
Writing of comment	○	○

○: Available, – : Not available

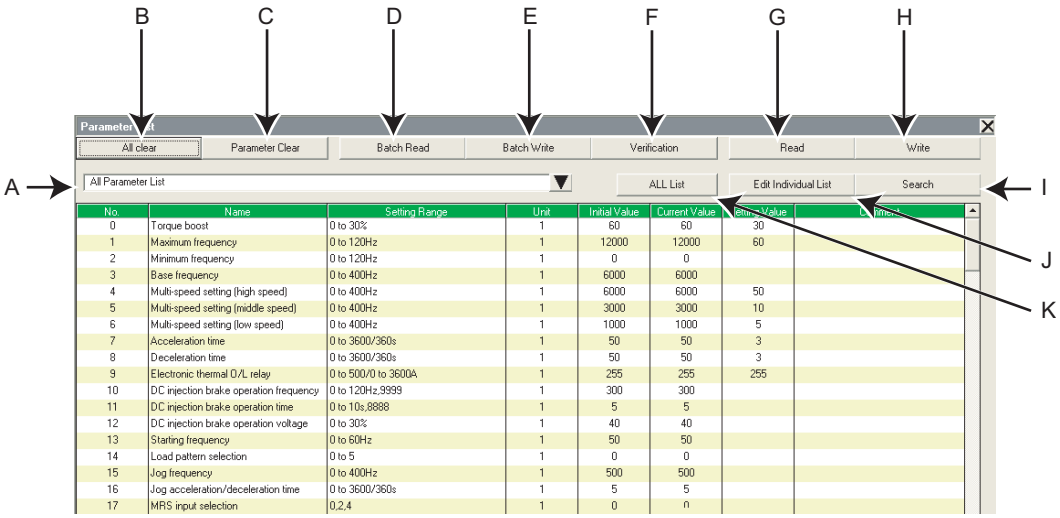
Note

- **The parameter list of FR Configurator is supporting the newest inverters. For the inverter manufactured before the version up, the setting range, initial value, and number of parameters may differ from the parameter list of FR Configurator.**
- **Parameter name in an Inverter Manual and the one in FR Configurator may be different, but the function of each parameter is the same.**
- ***Pr. 296 and 297* are not shown in Parameter List. *Pr. 296 and 297* do not change when importing parameter setting from other inverters. Change the *Pr. 296 and 297* settings from the operation panel or parameter unit.**
- **In Parameter List, the units for parameter settings and monitored items are not displayed, and their digits are shifted. A value in FR Configurator may be different from the value displayed on the operation panel. Check the displayed units by referring to the Inverter Manual before setting parameters.**
- **For the parameters which have setting range of "8888" or "9999", values like "88.88Hz" and "99.99s" are regarded as "8888" and "9999" ("65520"(HFFF0) and "65535"(HFFFF) of CC-Link communication) when using FR Configurator CC-Link Seamless.**

  Example: For *Pr. 24 Multi-speed setting (speed 4)* (Setting range: "0 to 400Hz, 9999")
  When writing "99.99Hz" from FR Configurator CC-Link Seamless, a setting value "9999" will be written to the inverter.
  When the setting value of the inverter is "99.99Hz", FR Configurator CC-Link Seamless will read the setting value as "9999".

When using FR Configurator CC-Link Seamless, do not set values like "88.88Hz" or "99.99s".

4.6.1 Explanation of screen



No.	Name	Function and description
A	Parameter List display format	Select a "Parameter List" display format. Click ▼ to select the display format of "Parameter List" from the menu. *(Refer to page 72)*
B	All clear	Performs all parameter clear with the selected inverter.
C	Parameter Clear	Performs parameter clear with the selected inverter.
D	Batch Read	Reads all parameter settings of the selected inverter.
E	Batch Write	Writes values of Setting value field into the selected inverter.
F	Verification	Verifies parameter values set on FR Configurator and values already written into the inverter. *(Refer to page 75)*
G	Read	Reads a current value of the selected parameter from the connected inverter.
H	Write	Writes a setting value of the selected parameter into the connected inverter.
I	Search	Displays Search window. *(Refer to page 77)*
J	Edit Individual List	Click to edit parameter Individual List. *(Refer to page 77)*
K	ALL List	Returns display format of the Parameter List to All Parameter List.

Item	Function and description	Edit availability
No.	Shows parameter numbers. When the current value and parameter initial value are different, " >" appears in front of the number and the color turns green. (Calibration parameters, *Pr. 902, 903, 904, 905, etc.* are displayed with ( ).)	–
Name	Shows parameter names.	–
Setting Range	Shows setting ranges.	–
Unit	Shows "1" when the minimum setting increment is selected.	–
Initial Value	Shows initial parameter values.	–
Current Value	Shows the value read from the inverter or the value written to the inverter.	–
Setting Value	Input a value desired to write to the inverter. Click Write or Batch Write to write the value into the inverter. (Only the numeric values up to 6 characters can be input.)	○
Comment	A field for comments. Available to write one byte code up to 128 characters (2 byte code up to 64 characters).	○

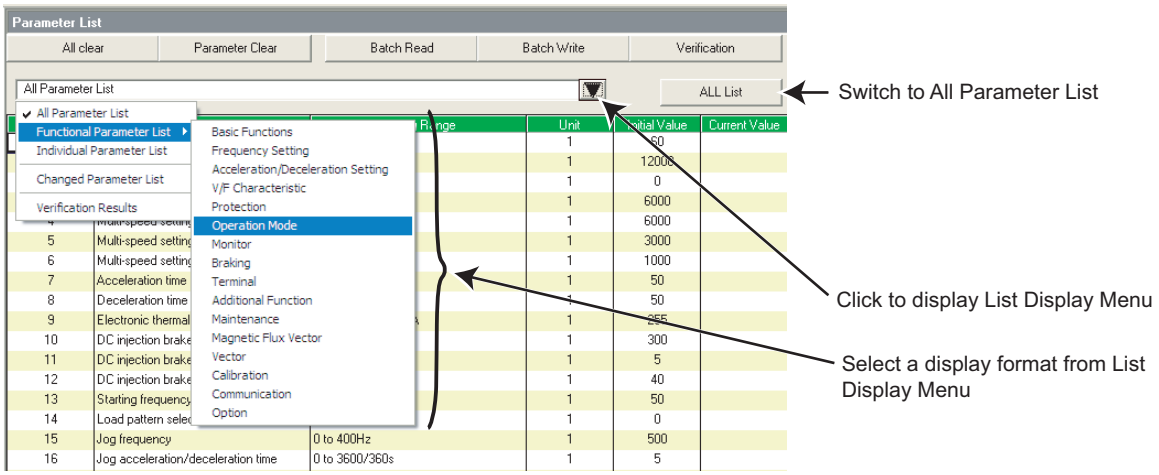
○: Available, – : Not available

REMARKS

Double-click a parameter name, or select a parameter and push F1 key to display a description of the selected parameter in the help window.

4.6.2 Parameter list display format

Display format of "Parameter List" can be changed to other display format according to your purposes. Click ▼ and select a display format from the list menu to change the display.



Display Format	Description
All Parameter List	Displays all parameters of the selected inverters. (Option parameter of the selected inverter is displayed when selecting Option.)
Functional Parameter list	Select a desired function from the sub-menu to display related parameters. "Functional parameters" - "function name" are displayed on the list field.
Individual Parameter List	Displays parameters set in the individual list.
Changed parameter List	Displays parameters whose setting is different from the initial value. (Displays parameters which have ">" at parameter number.)
Verification Results	Displays parameters of verification result. Displays verification result performed last time. *(Refer to page 75)*

Changed Parameter List and Verification Results can be displayed along with other display format.

Parameter List items according to the FR-A700 and A701 series functions

Function	Description
Basic Functions	Basic function parameters
Frequency Setting	Parameters related to frequency
Acceleration/ Deceleration Setting	Parameters related to acceleration/deceleration
V/F Characteristic	Parameters related to V/F characteristic
Protection	Parameters related to protective function
Operation Mode	Parameters related to operation mode
Monitor	Parameters related to monitor function
Braking	Parameters related to frequency, time, etc. at brake operation
Terminal	Parameters related to control circuit terminals
Additional Function	Other parameters
Maintenance	Parameters related to maintenance
Magnetic Flux Vector	Parameters related to Advanced magnetic flux vector control
Vector	Parameters related to vector control
Calibration	Parameters for calibrating terminal FM, AM and setting bias/gain of frequency (speed) setting voltage and current.
Communication	Parameters related to communication
Options	Parameters related to option

Parameter List items according to the FR-E700(SC)(NC), F700 and F700P series functions

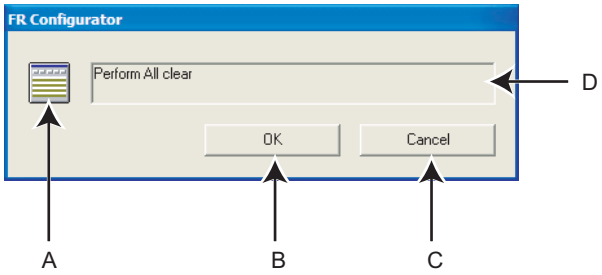
Function	Description
Motor/Torque	Parameters related to motor and torque
Frequency Setting	Parameters related to frequency
Acceleration/ Deceleration Setting	Parameters related to acceleration/deceleration
Protection	Parameters related to protective function
Monitor	Parameters related to monitor function
Braking	Parameters related to frequency, time, etc. at brake operation
Terminal Assignment	Parameters related to control circuit terminals
Magnetic Flux Vector	Parameters related to Advanced magnetic flux vector control (General-purpose magnetic flux vector control)
Intelligent	Parameters related to the intelligent mode which automatically set appropriate parameters and operate.
Calibration	Parameters for calibrating terminal FM, AM and setting bias/gain of frequency (speed) setting voltage and current.
Option/Network *	Parameters related to option/network
Special Operation	Parameters related to special operation such as communication and PID operation

* Available for FR-E700-NC.

4.6.3 Parameter clear and all parameter clear

Performing parameter clear or all parameter clear can initialize parameter setting value.

Click Parameter Clear or All clear to display the following dialog to confirm the parameter clear or all parameter clear. Refer to the inverter manual for the availability of parameter clear and all parameter clear for each parameter.



No.	Name	Function and description
A	Icon display of clearing	Icon display switches during parameter clear. 
B	OK	Click to perform parameter clear. (The button turns gray during parameter clear, and it is unavailable to use.)
C	Cancel	Click to cancel parameter clear. (The button turns gray during parameter clear, and it is unavailable to use.)
D	Message	Shows a message to confirm parameter clear, and shows a message during parameter clear.

REMARKS

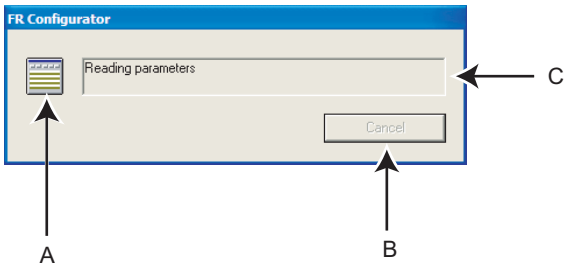
- When parameter clear or all parameter clear were performed from FR Configurator, the following communication parameters are not cleared. Refer to the Inverter Manual or communication option manual for details of each parameter.

Pr. 117, Pr. 118, Pr. 119, Pr. 120, Pr. 121, Pr. 122, Pr. 123, Pr. 124, Pr. 331, Pr. 332, Pr. 333, Pr. 334, Pr. 335, Pr. 336, Pr. 337, Pr. 338, Pr. 339, Pr. 340, Pr. 341, Pr. 345, Pr. 346, Pr. 347, Pr. 348, Pr. 349, Pr. 409, Pr. 431, Pr. 434, Pr. 435, Pr. 436, Pr. 438, Pr. 439, Pr. 440, Pr. 452, Pr. 500, Pr. 502, Pr. 539, Pr. 541, Pr. 542, Pr. 543, Pr. 544, Pr. 547, Pr. 548, Pr. 549, Pr. 550, Pr. 551

4.6.4 Read (Batch Read), write (Batch Write) and verification

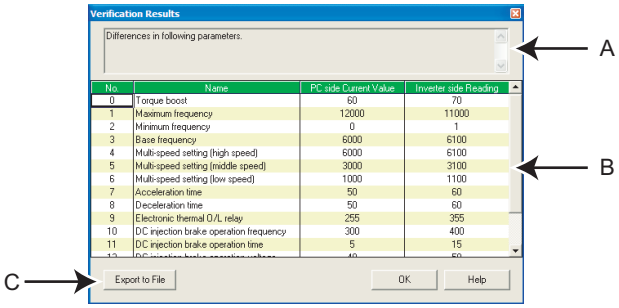
Performing Read or Write gains access to inverter parameter, and parameter reading and writing is performed. Performing Verification verifies the parameter values set on FR Configurator and the ones already written in the inverter.

Click Batch Read, Batch Write, Verification, Read, or Write to display the following dialog.



No.	Name	Function and description
A	Icon display during access	Icon display switches during parameter access. 
B	Cancel	Click to cancel batch read, batch write or verification. If Cancel is clicked, access is canceled and the data already processed are displayed.
C	Message	Shows a message during parameter access.

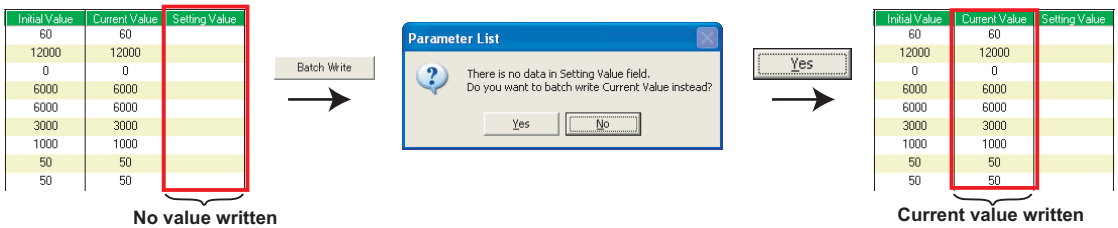
After verification, the following dialog appears. The results can be saved as a text file. (The dialog also appears at reading errors and writing errors.)



No.	Name	Function and description	
A	Result message	Shows the result message	
B	Result list	Read	Shows the parameter number, name, initial value, and error number of the reading error parameters.
		Write	Shows the parameter number, name, data, and error number of the writing error parameters.
		Verification	Shows the parameter number, name, FR Configurator current value, and inverter read value of unmatched parameters between FR Configurator and the inverter.
C	Export to File	Saves the result in a text format.	

REMARKS

- If current value fields are empty when batch write is selected, below confirmation message appears. Click Yes to batch write the current values.



No value written

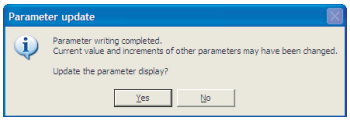
Current value written

- With All St. parameter setting, batch writing from and batch reading to all the connected inverters are available. (*Refer to page 68*)

Note

- When changing some parameters (*Pr. 21 Acceleration/deceleration time increments*, *Pr. 71 Applied motor*, etc.) with FR Configurator, setting values of the related parameters may also change.
  For example, if the *Pr. 21* setting has been changed, the setting values of acceleration/deceleration time parameters (*Pr. 7*, *Pr. 8*, *etc.*) also change. (When *Pr. 21* = "0" and *Pr. 7* = "5.0s," changing the *Pr. 21* setting to "1" will automatically change the setting of *Pr. 7* to "0.5s".)

  If parameter writing is performed with Batch Write or Write which causes a change of related parameters, or if Parameter Clear or All clear is performed, the following dialog is displayed. Please perform update of parameter display.

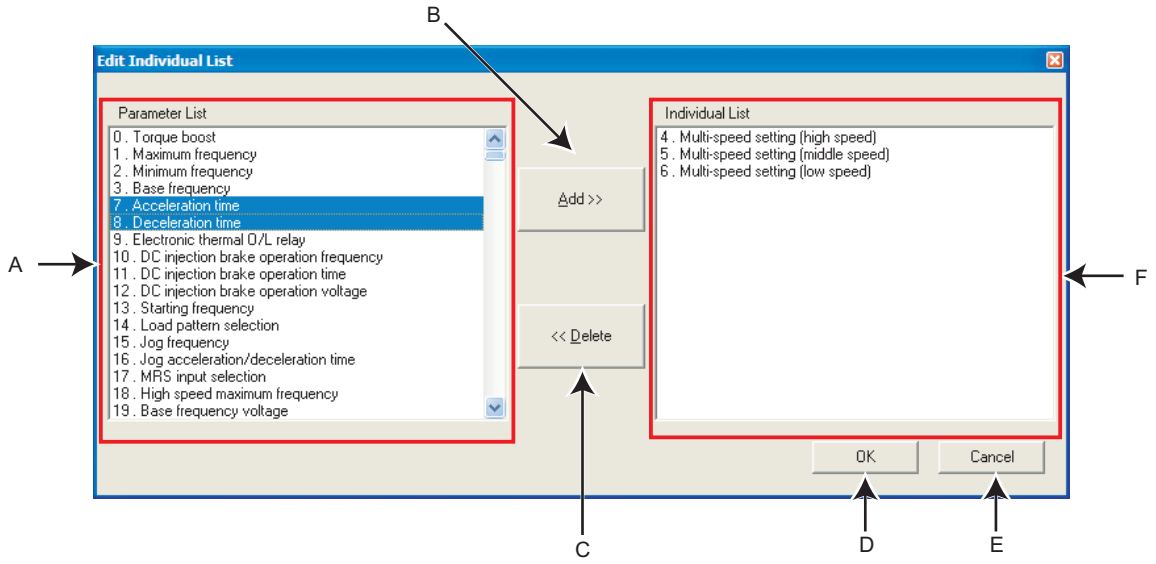


- When the *Pr. 342* setting is changed from "0" to "1," only the settings of *Pr. 77 Parameter write selection*, *Pr. 122 PU communication check time interval*, *and Pr. 336 RS-485 communication check time interval* are written into RAM (not written to EEPROM). To change the *Pr. 77*, *Pr. 122*, *and Pr. 336* settings, use the operation panel or the parameter unit.
- According to the *Pr.77 Parameter write selection* and *Pr.79 Operation mode selection* settings, writing to *Pr.122 PU communication check time interval*, *Pr.336 RS-485 communication check time interval*, and *Pr.342 Communication EEPROM write selection* may fail during parameter batch write.

4.6.5 Edit Individual list

Select and add parameters desired to register into the individual parameter list.

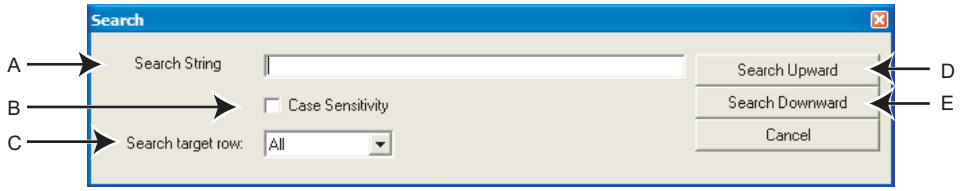
Click Edit Individual List in "Parameter List" window to display the following window.



No.	Name	Function and description
A	Parameter List	Displays number and name of all parameters. Select a parameter and click Add >> to add it in the individual parameter list. Several parameters can be selected.
B	Add >>	Adds parameters selected in the Parameter List in the Individual list.
C	<< Delete	Move the selected parameter from Individual List to Parameter List.
D	OK	Saves edited information of the individual list and returns to the Parameter List window.
E	Cancel	Parameters set in the individual list become invalid and returns to the Parameter List.
F	Individual List	Displays parameters added from the Parameter List. Parameters selected from the list are displayed in the individual Parameter List.

4.6.6 Parameter search

Parameter name can be searched. Input a searching character string to jump to the matching parameters. Click Search in "Parameter List" window to display the following window.



No.	Name	Function and description
A	Search String	Input a character string you like to search. Up to 64 double-byte characters can be input.
B	Case Sensitivity	Check when distinguishing between upper case and lower case.
C	Search target row	Select the target column in Parameter List for the search.
D	Search Upward	Click to search the parameter list upward.
E	Search Downward	Click to search the parameter list downward.

4.7 Diagnosis (System Area)

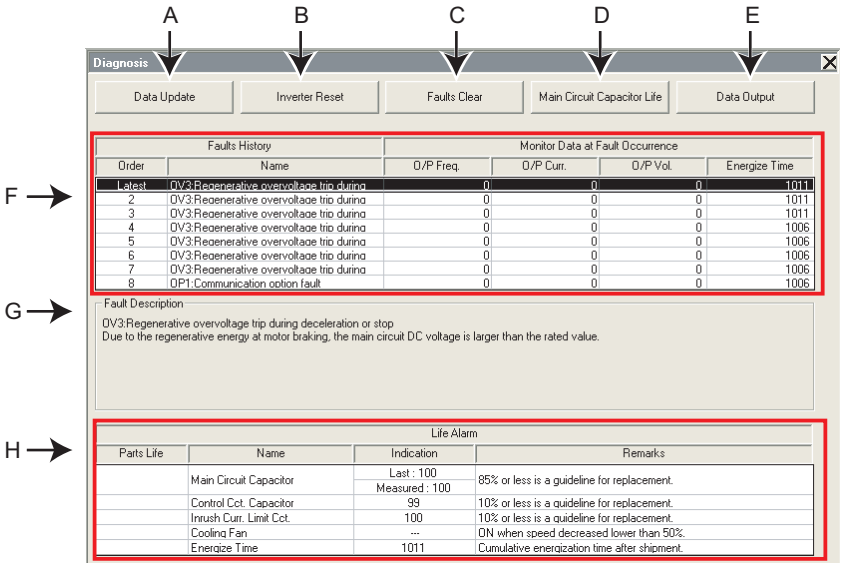
"Diagnosis" displays fault information and parts life information of the inverter. Use "Diagnosis" to operate the following functions. (Available only when ONLINE.)

Select [Diagnosis] under [View] menu, or click 

on the tool bar to display "Diagnosis".

- Displays the faults history and monitor value of each fault occurrence.
- Inverter reset
- Faults history clear
- Measuring of the main circuit capacitor life
- Display of parts life and alarm
- File output of diagnosis data

4.7.1 Explanation of screen



No.	Name	Function and description
A	Data Update	Reads faults history and parts life information from the selected inverter and updates display. (Available only when ONLINE.)
B	Inverter reset	Resets the selected inverter. Confirmation window appears. Click OK to proceed. (Available only when ONLINE.)
C	Faults Clear	Clears the faults history of the selected station. Confirmation window appears. Click OK to proceed. (Available only when ONLINE.)
D	Main Circuit Capacitor Life Measuring	Starts life measuring of the main circuit capacitor. *Refer to page 79* for the measuring procedure.
E	Data Output	Outputs diagnosis data of the selected inverter to a file (text format). Specify the file name and save the diagnosis data file.
F	Faults history	Displays faults history read from the inverter in a list. Displays the following items also when the CC-Link extended setting is set as Ver.2-compatible and 1-station-occupation with the quadruple or octuple setting: output frequency, output current, output voltage and energization time at a fault occurrence.
G	Fault Description	Displays description of the selected fault.
H	Parts Life	Displays parts life information read from the inverter. A check mark is shown in the parts life alarm field for the parts recommended to be replaced.

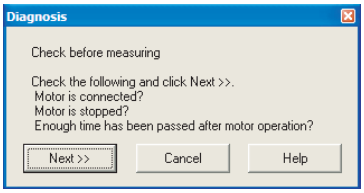
* At a fault occurrence, the units for the monitored items and the parts life are not displayed, and their digits are shifted. A value in FR Configurator may be different from the value displayed on the operation panel. Check the displayed units by referring to the Inverter Manual.

Note

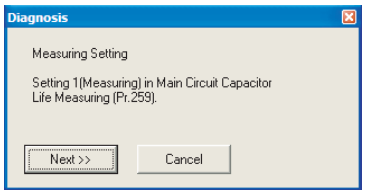
When an inverter reset is performed from FR Configurator, FR Configurator does not detect completion of the reset. After an inverter reset, check the completion of the inverter reset.

4.7.2 Procedure of main circuit capacitor life measuring

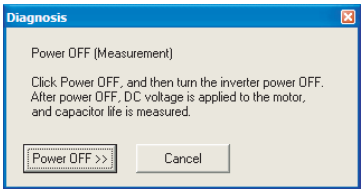
(1) Confirmation window appears before measuring. Check the following items, and click Next> .
- Motor is connected?
- Motor is stopped?
- Enough time has been passed after the motor operation?



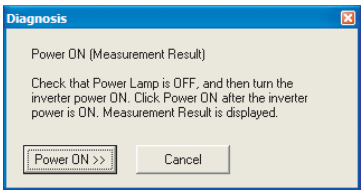
(2) Performs parameter setting for measuring the main circuit capacitor life. Click Next> .



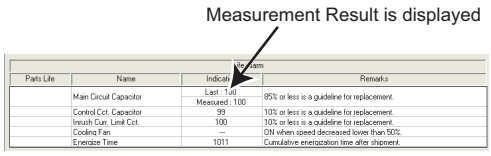
(3) Click Power OFF >> , and then turn the inverter power OFF.



(4) After making sure that the POWER lamp of the inverter is OFF, switch ON the power supply again. Click Power ON >> after powering ON the inverter.



(5) Displays the measuring result of the main circuit capacitor life in "Measured Value".
(Displays a previous value in "Last Value" if the main circuit capacitor life value measured last time is stored in the inverter when updating diagnostic information.)



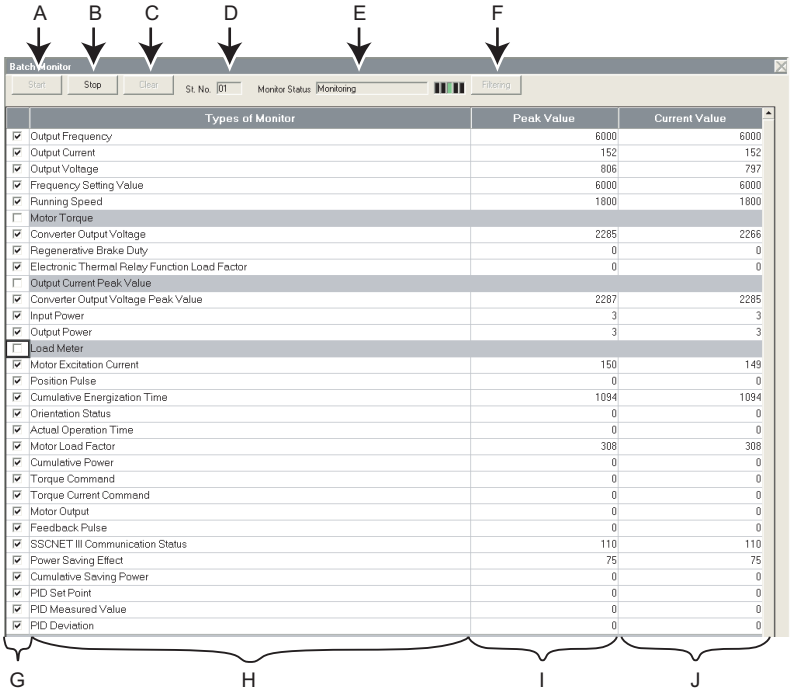
REMARKS

- When the main circuit capacitor life is measured under the following conditions, "forced end" (*Pr. 259* = "8") or "measuring error" (*Pr. 259* = "9") occurs or it remains in "measuring start" (*Pr. 259* = "1"). Therefore, do not measure in such case. Proper measurement is not performed when "measuring" (*Pr. 259* = "3") appears under the following conditions.
  (a) FR-HC, MT-HC, FR-CV, or a sine wave filter is connected.
  (b) Terminals R1/L11, S1/L21 or DC power supply is connected to the terminal P/+ and N/-.
  (c) The power supply is switched ON during measurement.
  (d) The motor is not connected to the inverter.
  (e) The motor is running (coasting).
  (f) The motor capacity is two ranks smaller as compared to the inverter capacity.
  (g) The inverter is tripped or a fault occurred when power is OFF.
  (h) The inverter output is shut off with the MRS signal.
  (i) The start command is given while measuring.
  (j) The parameter unit (FR-PU04/FR-PU07) is connected. (FR-E700 series only)
  (k) Terminal PC is used as power supply. (FR-E700(SC) series only)
  (l) An I/O terminal of the control terminal block or the plug-in option is ON (conduction). (FR-E700 series only)
  (m) A plug-in option is fitted. (only for the 0.75K or less of the FR-E700(SC) series)
  (n) Test operation is being performed. (*Pr.800* = "9") (FR-A700, F700P series only)
  (o) "EV" is displayed on the operation panel. (The main circuit power supply is OFF and the 24V external power supply is ON.) (When using the safety stop function model with FR-E7DS mounted.)
- Turning ON the power supply before LED of the operation panel turns OFF during measurement may cause the "measuring" status (*Pr. 259* = "2") to persist. In that case, perform life measurement again.

4.8 Batch Monitor (Monitor Area)

"Batch Monitor" is for monitoring various data of a selected station. Export of monitored data into *.xls file is also available. *(Refer to page 61)*

Select [Batch Monitor] in [View] menu to display "Batch Monitor."



No.	Name	Function and description
A	Start	Starts monitoring.
B	Stop	Stops monitoring.
C	Clear	Clears Peak Value and Current Value.
D	St. No.	Displays the station number being monitored.
E	Monitor status	Shows a state of monitor. If an error occurs, the color changes to red to indicate an error stop. During monitoring, the following indication appears to indicate monitoring. 
F	Filtering, All items	Hides unselected monitored items (filtering) or displays all. (This button is valid when batch monitoring is in stop.)
G	Monitored item selection	Select the monitored items that are displayed when [Filtering] is clicked. (All items are checked in the initial status.)
H	Types of Monitor	Displays monitored items
I	Peak Value	Displays the maximum value detected in each monitored item.
J	Current Value	Displays the current monitoring value being measured in each monitored item.

* The units for Peak Value and Current Value are not displayed, and their digits are shifted. A value in FR Configurator may be different from the value displayed on the operation panel. Check the displayed units by referring to the Inverter Instruction Manual.

· Monitored item list

Refer to the Inverter Manual for details of monitored items.

Sampling Item	Model Name			
	A700	A701	F700(P)	E700
Output Frequency	○	○	○	○
Output Current	○	○	○	○
Output Voltage	○	○	○	○
Frequency Setting Value	○	○	○	○
Running Speed	○	○	○	–
Motor Torque	○	○	–	○
Converter Output Voltage	○	○	○	○
Regenerative Brake Duty	○	–	○*1	○
Electronic Thermal Relay Function Load Factor	○	○	○	○
Output Current Peak Value	○	○	○	○
Converter Output Voltage Peak Value	○	○	○	○
Input Power	○	○	○	–
Output Power	○	○	○	○
Load Meter	○	○	○	–
Motor Excitation Current	○	○	–	–
Position Pulse	○	○	–	–
Cumulative Energization Time	○	○	○	○
Orientation Status	○	○	–	–
Actual Operation Time	○	○	○	○
Motor Load Factor	○	○	○	○
Cumulative Power	○	○	○	○
Torque Command	○	○	–	–
Torque Current Command	○	○	–	–
Motor Output	○	○	–	–
Feedback Pulse	○	○	–	–
SSCNET III Communication Status	○	○	–	–
Motor Temperature	○*2	–	–	–
Power Saving Effect	○	○	○	–
Cumulative Saving Power	○	○	○	–
PID Set Point	○	○	○	○
PID Measured Value	○	○	○	○
PID Deviation	○	○	○	○
Motor Thermal Load Factor	–	–	–	○
Inverter Thermal Load Factor	–	–	–	○
PTC Thermistor Resistance	–	–	○*3	–
Comulative Regenerative Power	–	○*2	–	–
PID measured value 2	–	–	○*3	–
BACnet reception status	–	–	○*3	–
BACnet token pass counter	–	–	○*3	–
BACnet valid APDU counter	–	–	○*3	–
BACnet communication error counter	–	–	○*3	–
Terminal CA output level	–	–	○*3	–
Terminal AM output level	–	–	○*3	–

○: Available, – : Not available

*1 Monitoring is available only for 75K or higher.

*2 Depending on the production year and month of the inverter, the monitor may not be available. For the details, refer to *the Appendices of the Instruction Manual (Applied) of the inverter*.

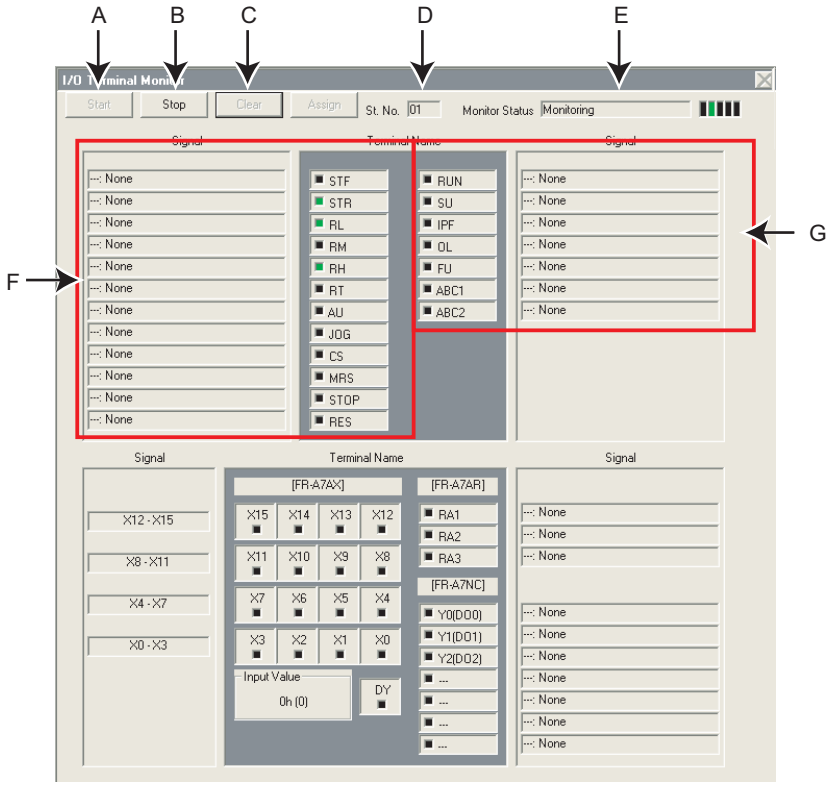
*3 Available for the FR-F700-NA and FR-F700-EC models.

Note

- **If a communication error occurs, a batch monitor stops. To perform batch monitor again, solve the cause of the communication error first, set the system OFFLINE once, and then ONLINE.**
- **When an inverter fault has occurred during Batch Monitor, the monitored value of Output Frequency, Output Current, Output Voltage at fault occurrence are held.**

4.9 I/O Terminal Monitor (Monitor Area)

ON/OFF status of the inverter I/O terminals can be checked. The monitor turns green when the terminal is ON and turns black when the terminal is OFF. Select [I/O Terminal Monitor] in [View] menu to display "I/O Terminal Monitor."



No.	Name	Function and description
A	Start	Starts monitoring of I/O terminal.
B	Stop	Stops monitoring of I/O terminal. (I/O terminal state is held at the monitor stop.)
C	Clear	Clears signal status (ON/OFF state) of I/O terminal.
D	St. No.	Displays the station number of the monitoring inverter.
E	Monitor status	Shows a state of monitor. If an error occurs, the color changes to red to indicate an error stop. During monitoring, the following indication appears to indicate monitoring.
F	Inverter input terminal state	Displays input terminal state of the inverter. ("---:" is displayed in the Signal name section.")
G	Inverter output terminal state	Displays output terminal state of the inverter. ("---:" is displayed in the Signal name section.")

4.10 Help

4.10.1 Help

Checking a software manual and inverter manual is available using Help function.
There are the following ways of displaying Help.

(1) Select [Help] in [Help] menu to display.

(2) Click 

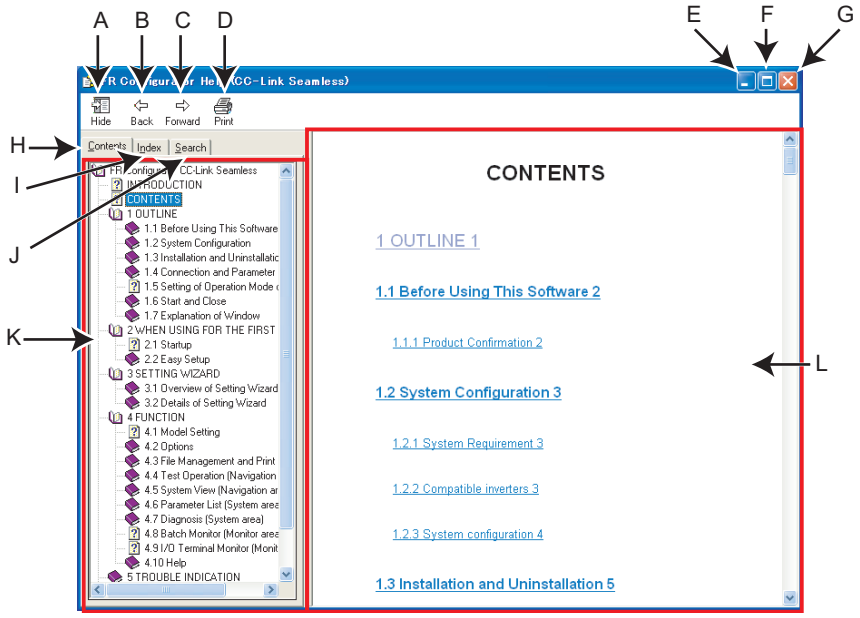
on the tool bar to display.

(3) Press F1 key on the keyboard to display.

(4) Click 

on the current window to display.

(5) Press F1 key when selecting a parameter on the parameter list or double-click a parameter name to display Help. Description of the selected parameter appears.



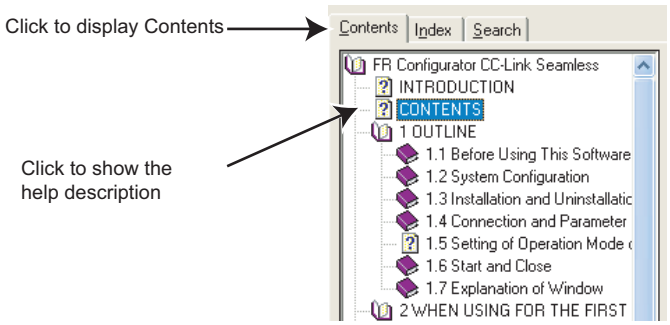
No.	Name	Function and description
A	Hide	Hides the navigation panel, Contents, Index, and Search tabs. While hiding the navigation panel and the tabs, the button changes to Show. Click Show to display the navigation panel and the tabs again.
B	Back	Returns to the previous help description.
C	Forward	Click to read forward the help description again after using Back and returned to the previous description.
D	Print	Prints help description.
E	Minimize button	Click to minimize the help window.
F	Maximize button	Click to maximize the help window.
G	Close button	Click to close the help window.
H	Contents	Click when checking the contents. Displays Contents in the navigation panel.
I	Index	Click when checking the index. Displays Index in the navigation panel.
J	Search	Click when using the search function. Displays Search in the navigation panel.
K	Navigation	Displays Contents, Index and Search.
L	Contents	Shows help description.

- **HTML format and link**

Help description is displayed in the contents panel. Help description is displayed in HTML format. Hyperlink is available to jump to the related help description. Hyperlink in description is shown in blue and underline.

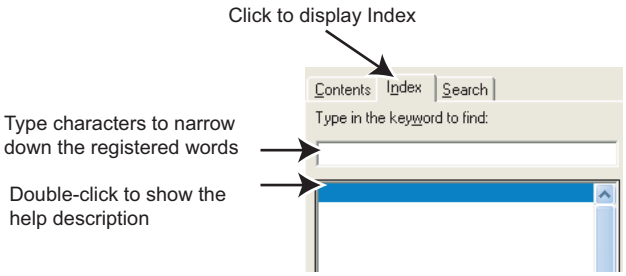
- **Index**

Click Contents to display a list of content.Click a desired item in the list to show the help description.



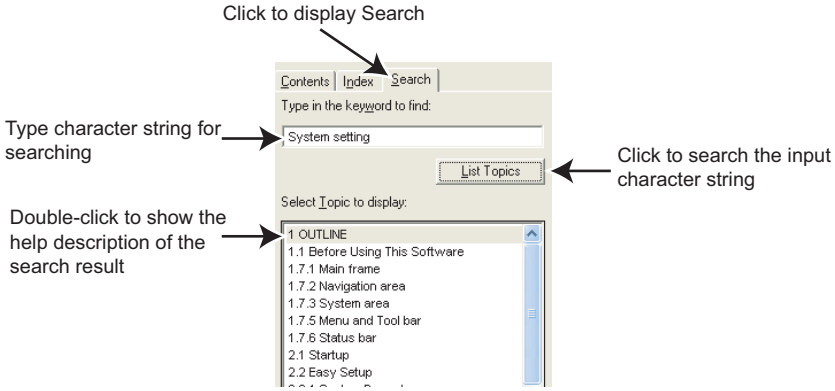
- **Index**

Click Index to display an index of registered words.
Type characters to narrow down the registered words. Double-click the desired word in the list to show the help description of that word.



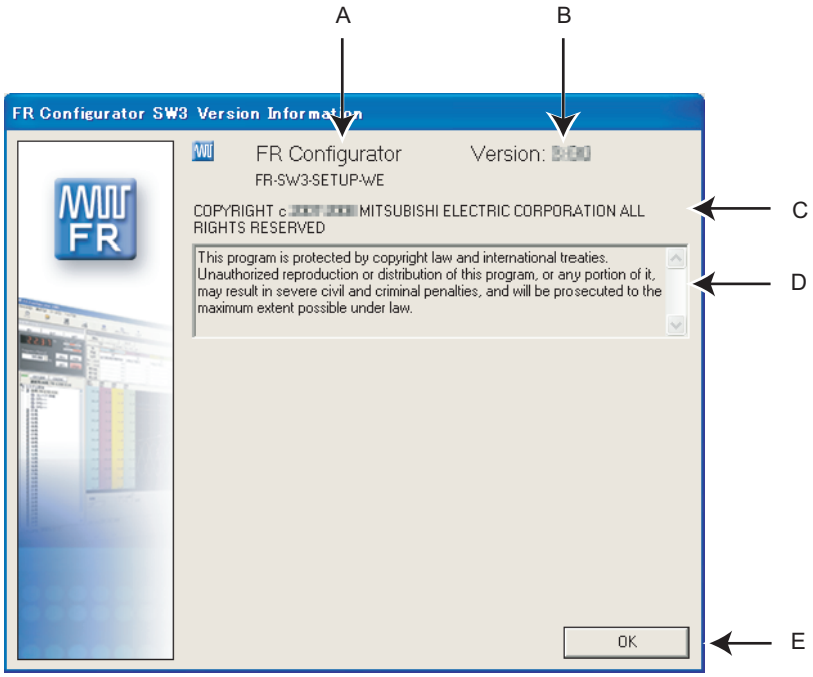
- **Search**

Click Search to display the search panel. Type character string and click List Topics to perform full-text search with the character string. Double-click the desired topic in the search result to show the help description of that topic.



4.10.2 Version information

Select [About FR Configurator SW3...] in [Help] menu to display copyright, product name, type name, version information and license of FR Configurator.



No.	Name	Function and description
A	Product name	Shows the product name.
B	Version	Shows version information.
C	Copyright information	Shows copyright information.
D	Copyright description	Shows copyright description.
E	OK	Click to close the version information window.

MEMO

5 TROUBLE INDICATION

This chapter explains the "Trouble indication" of this product.
Always read the instructions before using the software.

5.1 Error Code 88
5.3 Error Display on a Dialog 96

5.1 Error Code

If a communication error is detected, the following communication error code and error message appears in the communication error dialog *(Refer to page 25)*.

5.1.1 Communication error with the inverter

POINT

If a Time Out error occurs, set FR Configurator to OFFLINE. Please check a communication cable connection, etc. to fix the error and then set FR Configurator to ONLINE again.

Error Code (HEX)	Error Message	Cause	Countermeasure
0x80A00101	Failed to open a communication line.	1. Communication setting is not set for USB while connecting with USB. 2. No communication port existed on the personal computer. Or not recognized.	1. Check for connection configuration at [Options] in [Tool] menu. *(Refer to page 59)* 2. Check that communication port exists on the personal computer.
0x80A00104 0x80A00107 0x80A0010A	An unexpected error occurred to S/W.	Please contact your sales representative.	
0x80010000	Errors from computer in a row are more than the retry count.	1. Electromagnetic interference 2. Cable breakage	Replacement of the cable
0x80010001	The parity check result does not match the specified parity.	1. Electromagnetic interference 2. Cable breakage	Replacement of the cable
0x80010002	The sum check code in the computer does not match that of the data received by the inverter.	1. Communication setting is different between the inverter and the software. 2. Data is corrupted due to electromagnetic interference, etc.	1. Make a same communication setting. 2. Check for electromagnetic interference and wiring.
0x80010003	Data received by the inverter is in the wrong protocol, or data receive is not completed within the given time.	1. Electromagnetic interference 2. Cable breakage	Replacement of the cable
0x80010004	The stop bit length differs from the initial setting.	1. Electromagnetic interference 2. Cable breakage	Replacement of the cable
0x80010005	Due to wiring error, next data intruded before data reception is completed.	1. Electromagnetic interference 2. Cable breakage	Replacement of the cable
0x80010007	The character received is invalid (other than 0 to 9, A to F, control code).	1. Electromagnetic interference 2. Cable breakage	Replacement of the cable
0x8001000A	A mode error occurred.	Test operation was performed in the operation mode, such as the External operation mode (EXT), which does not provide the start command source to FR Configurator.	Change the operation mode to the PU operation mode (or NET). Check the setting values of *Pr. 338 Communication operation command source, Pr. 550 NET mode operation command source selection, Pr. 551 PU mode operation command source selection.* (Operation command source changes according to inverter communication connection. *Refer to page 9 and 19*)

Error Code (HEX)	Error Message	Cause	Countermeasure
0x8001000C	An unexpected error occurred to S/W.	Please contact your sales representative.	
0x80010011	You cannot write a value out of range to parameter.	Tried to write a value out of setting range of the parameter.	Set a value within the setting range, and write. If a writing error occurs even if a value is written within the setting range, check for writing requirements of each parameter. Refer to *the Instruction Manual of the inverter* for writing requirements.
0x80010012	A mode error occurred.	1. *Pr. 79 Operation mode selection* is not set for NET. 2. Parameter setting or frequency setting was performed in the operation mode, such as the External operation mode (EXT), which does not provide the parameter setting and speed command source to FR Configurator.	1. Change the *Pr. 79* setting to the NET operation mode. 2. Change the operation mode to the NET operation mode. Check the setting values of *Pr.339 Communication speed command source, Pr. 550 NET mode operation command source selection, Pr. 551 PU mode operation command source selection.* (Speed command source changes according to inverter communication connection. *Refer to page 9 and 19*.)
0x80010013	Parameter writing during inverter operation is unavailable.	Parameter writing was attempted during inverter operation.	Perform parameter writing after inverter is stopped.
0x80010014	Parameter writing to a write disabled parameter is unavailable.	1. Writing is disabled by *Pr. 77 Parameter write selection.* *Pr. 77* = "1 (write disabled)" 2. Password lock is activated.	1. Change the *Pr. 77 Parameter write selection* setting to other than "1." 2. Enter the password in *Pr. 297* to unlock the password lock.
0x80010016	Can not read/write an nonexistent parameter.	1. Version of inverter and version of setup software parameter file is not corresponding. 2. Simple mode is set by *Pr. 160 User group read selection.* 3. Password lock is activated.	1. Reinstallation of the software 2. Change the *Pr. 160* setting to other than the simple mode setting. 3. Enter the password in *Pr. 297* to unlock the password lock.
0x80010017	Specified option is not installed in the inverter.	Reading of option parameter was attempted while the option is not installed.	Install the option to the inverter.
0x80010018	There is no difference between the analog settings of gain and bias.	There is only small difference between the analog settings of gain and bias.	Set larger setting between the analog settings of gain and bias.
0x8001001A	Unsupported model is connected.	Please contact your sales representative.	
0x80010021	Operation mode switching during inverter operation is unavailable.	Change the operation mode after the inverter stop.	Set "2" in *Pr. 77 Parameter write selection*. Stop the inverter.
0x80010022	When the forward rotation signal (STF) is ON, switching to External mode is unavailable.	Switching to External mode was attempted when the forward rotation signal (STF) is ON.	Change the operation mode after switching STF to OFF.
0x80010023	When the reverse rotation signal (STR) is ON, switching to External mode is unavailable.	Switching to External mode was attempted when the reverse rotation signal (STR) is ON.	Change the operation mode after switching STR to OFF.
0x80010024	Switching of operation mode is unavailable with current operation mode.	Attempted to switch the operation mode other than the one set in *Pr. 79 Operation mode selection.*	Change the setting of *Pr. 79 Operation mode selection.*
0x80010025	Reset is unavailable with current setting.	Reset is restricted by *Pr. 75 Reset selection/ disconnected PU detection/PU stop selection*.	Change the setting of *Pr. 75 Reset selection/ disconnected PU detection/PU stop selection*.
0x80010026	An unexpected error occurred to S/W.	Please contact your sales representative.	

Error Code (HEX)	Error Message	Cause	Countermeasure
0x80010101	Failed to make communication with the inverter during the time set with Time Out.	1. Electromagnetic interference 2. Cable breakage/damage 3. Personal computer port is set invalid/ port breakage	1. Set larger value for Time Out setting of the software. 2. Cable connection/replacement 3. Activate the port by using Device Manager/port replacement
0x80010102	Illegal data is included in the data received by the computer.	1. Electromagnetic interference 2. Inverter reset (or power-OFF) 3. Cable breakage	1, 3. Replacement of the cable 2. Do not reset the inverter or turn OFF the inverter power during communication.
0x80020001	An unexpected error occurred to S/W.	Please contact your sales representative.	
0x80020002	You cannot write a value out of range to parameter.	Tried to write a value out of setting range of the parameter.	Set a value within the setting range, and write. If a writing error occurs even if a value is written within the setting range, check for writing requirements of each parameter. Refer to *the Instruction Manual of the inverter* for writing requirements.
0x80020003 0x80020004	An unexpected error occurred to S/W.	Please contact your sales representative.	
0x80020005 0x80020006 0x80020007 0x80020008	Failed to obtain the received data.		
0x80030001	Wrong communication port is assigned.	1. Communication port is set invalid. 2. Other application is already using the same port.	1. Activate the port by using Device Manager. 2. Close other applications, and turn ONLINE.
0x80030002 0x80030003 0x80030004 0x80030005 0x80030006 0x80030007 0x80030008 0x80030009 0x8003000A 0x8003000B	An unexpected error occurred to S/W.	Please contact your sales representative.	
0x8003000C	Duplicated station number were found with USB communication.		
0x8003000D	An unexpected error occurred to S/W.	Please contact your sales representative.	
0x8003000E	Driver is not installed or broken.	Driver is not installed or broken.	Reinstallation of the software
0x8003000F 0x80030010	An unexpected error occurred to S/W.	Please contact your sales representative.	

5.1.2 Communication error with the programmable controller

POINT

If a Time Out error occurs, set FR Configurator to OFFLINE. Please check a communication cable connection, etc. to fix the error and then set FR Configurator to ONLINE again.

Error Code (HEX)	Error Message	Cause	Countermeasure
0x01800001	Unable to recognize the CPU.	The CPU setting is incorrect. The computer is not connected to the specified CPU.	Check that the computer is connected to the specified CPU.
0x01800002 0x01800003	Failed to allocate enough memory	Memory space is insufficient to run the software.	Close unnecessary software.
0x01801001 0x01801002	Failed to open a communication line.	The communication line is already occupied.	Check if the communication line has been used by the other software. Close unnecessary software.
0x01801005	Incorrect port number setting	The specified port number is incorrect.	Check the specified port number.
0x01801006	Incorrect module type setting	The module setting is incorrect. The computer is not connected to the specified module.	Check that the computer is connected to the specified module.
0x01801007	Incorrect CPU setting	The CPU setting is incorrect. The computer is not connected to the specified CPU.	Check that the computer is connected to the specified CPU.
0x01808001	Failed to open a communication line.	The communication line is already occupied.	Check if the communication line has been used by the other software. Close unnecessary software.
0x01808002 0x01808003	An unexpected error occurred to S/W.	Please contact your sales representative.	
0x01808004	An unexpected error occurred to S/W.	Failed to generate the overlapped event.	Run the software again.
0x01808005	An unexpected error occurred to S/W.	Failed to generate MUTEX.	Run the software again.
0x01808006	An unexpected error occurred to S/W.	Failed to generate the socket object.	Restart the OS.
0x01808007 0x01808008	Incorrect Ethernet setting.	Failed to open a communication line with the present Ethernet communication setting.	Check the Ethernet communication setting.
0x01808009	Incorrect RS-232C setting.	Failed to open a communication line with the present RS-232C communication setting.	Check the RS-232C communication setting.
0x0180800A	An unexpected error occurred to S/W.	Failed to set the buffer size.	Restart the OS.
0x0180800B	An unexpected error occurred to S/W.	Failed to obtain the COMM default value.	Restart the OS.
0x0180800C	Incorrect RS-232C setting.	Failed to open a communication line with the present RS-232C communication setting.	Check the RS-232C communication setting.
0x0180800D	Time out setting error	Please contact your sales representative.	
0x0180800E	An unexpected error occurred to S/W.	Failed to allocate enough memory.	Restart the OS.
0x10000001	Unable to recognize the CPU.	The CPU setting is incorrect. The computer is not connected to the specified CPU.	Check that the computer is connected to the specified CPU.
0x10000003 0x10000004	Failed to open a communication line.	The communication line is already occupied.	Check if the communication line has been used by the other software. Close unnecessary software.

5.1.3 Other communication error

POINT

If a Time Out error occurs, set FR Configurator to OFFLINE.Please check a communication cable connection, etc. to fix the error and then set FR Configurator to ONLINE again.

Error Code (HEX)	Error Message	Cause	Countermeasure
0x80110001	An unexpected error occurred to S/W.	GOT type error.	Check for the GOT type.
0x80110002 0x80110003	An unexpected error occurred to S/W.	Please contact your sales representative.	
0x80110004	Failed to make communication with the inverter during the time set with Time Out.	1. Communication protocol of the inverter and GOT are not the same. 2. Electromagnetic interference 3. Cable breakage/damage	1. Set communication protocol of the inverter and GOT same. 2. Set larger value for Time Out setting of the software. 3. Cable connection/replacement Check for communication cable and power supply of devices.
0x80110005	Failed to make communication with the inverter during the time set with Time Out.	FR Configurator is started and communication is attempted while GX drawing software is running.	After closing GX drawing software, try communication again.
0x80110006	Failed to make communication with the inverter during the time set with Time Out.	GX drawing software is started while FR Configurator is running.	After closing GX drawing software, try communication again.
0x80110007	An unexpected error occurred to S/W.	Communication line quality error	Lower the baud rate and communicate
0x80110008	An unexpected error occurred to S/W.	Unsupported baud rate	Check the supported baud rate of the connected device.
0x80110009	Failed to make communication with the inverter during the time set with Time Out.	1. Electromagnetic interference 2. Cable breakage/damage	1. Set larger value for Time Out setting of the software. 2. Cable connection/replacement Check for the continuity of the wiring.
0x8011000A	Failed to make communication with the inverter during the time set with Time Out.	Other process is ongoing in GOT and line is BUSY. (retry is performed in the EZSocket) A station not connected is being monitored.	Set a larger value for Time Out setting of the software. Monitor only the station which the GOT is connected. Check that the GOT is operating correctly and try again.
0x8011000B	An unexpected error occurred to S/W.	Protocol type error	Check for protocol type.
0x8011000C	An unexpected error occurred to S/W.	Host name error	Check for connected GOT host name.
0x8011000D	An unexpected error occurred to S/W.	Socket port number error	Check for the port number.
0x80111001 0x80111002 0x80111003 0x80111004 0x80111005 0x80111101 0x80111102 0x80111103 0x80111104 0x80111105 0x80111106 0x80111107 0x801111FF	Failed to make communication with the inverter during the time set with Time Out.	Electromagnetic interference, etc. are propagated when receiving GOT software.	Set a larger value for Time Out setting of the software and try again.

Error Code (HEX)	Error Message	Cause	Countermeasure
0x80112001	Wrong communication port is assigned.	Serial line open error	Check for the communication port setting.
0x80112002	An unexpected error occurred to S/W.	Serial line closed error	Try again.
0x80112003	An unexpected error occurred to S/W.	Serial line baud rate error	Try again.
0x80112004	An unexpected error occurred to S/W.	Serial line baud rate error	Try again.
0x80112005	Failed to make communication with the inverter during the time set with Time Out.	Occurred before starting the FR Configurator or during communication RS-232C cable is disconnected between GOT and personal computer.	Connect the cable.
0x80112201	An unexpected error occurred to S/W.	EZSocket GOT is installed, but the file is broken.	Install the software again.
0x80112202	Failed to make communication with the inverter during the time set with Time Out.	Before starting the FR Configurator 1. A cable between the GOT and personal computer is disconnected. 2. The GOT power is OFF.	1. Connect the cable. 2. Power ON the GOT.
0x80112203	Failed to make communication with the inverter during the time set with Time Out.	Electromagnetic interference, etc. are affecting between the personal computer and GOT.	Set a larger value for Time Out setting of the software and try again.
0x80112204	An unexpected error occurred to S/W.	USB line error (at the GOT device error communication ending)	Try again.
0x80112205	An unexpected error occurred to S/W.	USB line error (sending function is invalid)	Try again.
0x80112206	An unexpected error occurred to S/W.	USB line error (receiving function is invalid)	Try again.
0x80112207	An unexpected error occurred to S/W.	USB line error (cable disconnection registration failure)	After reconnecting with the GOT, try again.
0x80112208	Failed to make communication with the inverter during the time set with Time Out.	USB line error (cable was disconnected halfway) 1. When a cable between the GOT and personal computer was disconnected during communication. 2. When the GOT power turned OFF during communication	1. Check for cable connection. 2. Power ON the GOT.
0x80112401	An unexpected error occurred to S/W.	The GOT was not found on the network.	Check that the GOT is connected to the network
0x80112402	An unexpected error occurred to S/W.	Socket line open error (socket generation failed)	Check that specified port number is correct and specified IP address is for GOT.
0x80112403	An unexpected error occurred to S/W.	Please contact your sales representative.	
0x80112405	An unexpected error occurred to S/W.	Network error	Check that the GOT is connected to the network
0x80112406	An unexpected error occurred to S/W.	Connected socket forced disconnection	Check that the GOT is not making a communication in other connection method.

5.1.4 Other error (task busy)

Error Code (HEX)	Error Message	Cause	Countermeasure
Error code other than above	Task busy state. Try the operation again.	Processing could not be completed, due to increase in load of software processing or communication processing.	End unnecessary applications. Delete the setting of non-connected station.

5.2 Errors at the CC-Link Communication Module

The following table shows the error codes that are stored in the link special registers (SW) of the CC-Link communication module. When the standby master station is operating as the master station, detectability is identical to that of the master station.When the standby master station is operating as a local station, detectability is identical to that of the local station.

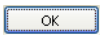
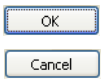
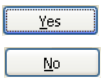
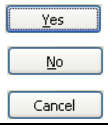
Error Code (HEX)	Error description	Cause	Countermeasure	Detection	
				Master station	Local station
B31C B31D	System error	Please contact your sales representative.		With	With
B31E	Status log start error	Status log start was requested while status log clear has been requested.	Request status log start after completing the status log clear request.	With	With
B31F	Status log clear error	Status log clear was requested while status log start has been requested.	Request status log clear after completing the status log start request.	With	With
B320	Invalid status log mode	Status log request or status log clear request was executed under the remote I/O net mode	Switch to the remote net mode, then execute.	With	With
B321 BF11 BF12 BF13 BF14 BF15 BF16 BF17 BF18 BF19 BF1A BF1B BF1C BF20	System error	Please contact your sales representative.		Yes	Yes
BB01	Concurrent execution error	One of the following requests was attempted to be executed to the same station. (Including the same requests) • Message transmission function • Remote device station initialize procedure registration function • RISEND/RIRCV instruction • Remote device station access from a peripheral	Execute a request after completion of another processing.	With	Without
BC57	Requests overlapped error	Executions of multiple requests for message transmission or remote device station access from a peripheral were attempted to the same station.	Execute a request after completion of another processing.	With	Without
BC70	No. of concurrent execution error (Remote device station access)	Too many remote device station accesses were requested from peripherals.	Execute four requests or less at the same time.	With	Without
BC71	Unsupported function error (Remote device station access)	Execution of the remote device station access function was attempted from other than the master station.	Execute the function from the master station.	Without	With

Error Code (HEX)	Error description	Cause	Countermeasure	Detection	
				Master station	Local station
BC72	Target station error (Remote device station access)	The target of remote device station access from the peripheral is any of the following. • Not exist among network parameters. • Not have the start station No. • Set as a reserved station. • Has a data link error. (including errors on all stations)	Check the parameters or operation of the target station.	With	Without
BC73	Target station specification error (Remote device station access)	The target of the remote device station access from the peripheral is a remote I/O station.	Check the specified target station No. and station type.	With	Without
BC74	Device No. error (Remote device station access)	Device No. for "RX," "RY," "RWw," or "RWr" is outside the valid range for the target station.	Check the parameters and valid device No. of the target station.	With	Without
BC75	All-stations data link error (Remote device station access)	An all-stations data link error occurred during execution of the remote device station access from the peripheral.	Issue the request after starting data link.	With	Without
BC76	Timeout (Remote device station access)	Timeout occurred during the remote device station access from a peripheral	Set a longer timeout time in the application on the request source, or check the operation of the target slave station.	With	Without
BF30	System error	Please contact your sales representative.		With	With
BF31				With	With
BF32				With	With
BF33				With	With
BF34				With	With
BF35				With	With
BF36				With	With
BF37				With	With
BF38	Execution result read error (Remote device station access)	An error is detected in the process of reading the execution result of the remote device station access from a peripheral.	• Check the application of the request source. • Check for remote device station access from another peripheral.	With	With
BF39	Request procedure error (Remote device station access)	An error in the request procedure is detected during the remote device station access from a peripheral.	• Check the application of the request source. • Check for remote device station accesses from multiple peripherals. • Check if any value is written in the system area.	With	With

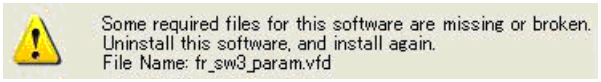
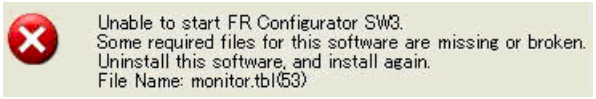
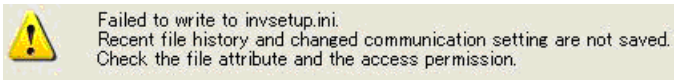
5.3 Error Display on a Dialog

When using or closing FR Configurator, or at fault occurrence, a message dialog appears for providing information or for warning.

There are four types of message dialog.

Icon	Error Type	Mainly Used Button	Description
	Warning		Appears if an attempted operation may have an affect on the human body, or may cause an inverter failure.
	Caution		Appears when a confirmation is required before the operation.
	Information		Appears to provide information about the operation.
	Inquiry		Appears when reply to the inquiry message is variable.

There are following messages for warnings and caution.

Display	Description
	Appears when FR Configurator has been already started.
	Appears when the display resolution is less than 800 x 600.
	Appears when the startup of the communication control task or the configuration of common memory is failed. Uninstall the software once, and set up again.
	Appears when starting up FR Configurator even though reading of the required files has failed.
	Appears when reading of the required files for the startup has failed, and startup of FR Configurator is unavailable.
	Appears when writing to the setting file is invalid (the file attribute is read-only or write-disabled.)

MEMO

REVISIONS

*The manual number is given on the bottom left of the back cover.

Print Date	*Manual Number	Revision
Sep. 2010	IB(NA)-0600439ENG-A	First edition (For Version 4.40)
Feb. 2012	IB(NA)-0600439ENG-B	Addition • Compatibility with FR-E700-SC series, FR-E700-NC series (For Version 4.80)
Mar. 2013	IB(NA)-0600439ENG-C	Addition • Compatibility with FR-F700P series • FR-A700 series' compatibility with the IPM motors (For Version 5.10)

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