MELSEC FX Series

Programmable Controllers

Setup Manual

GX Developer-
FX Programming Software

01 07 2003
JY992D88301
Version C

Foreword

- This manual contains text, diagrams and explanations which will guide the reader in the correct installation and operation of the GX Developer-FX software. It should be read and understood before attempting to install or use the software.
- Further information can be found in the Associated manuals listed on page 1 chapter 1.
- If in doubt at any stage of the installation of GX Developer-FX or an associated system, always consult a professional electrical engineer who is qualified and trained to the local and national standards which apply to the installation site.
- If in doubt about the operation or use of GX Developer-FX please consult the nearest Mitsubishi Electric distributor.
- This manual is subject to change without notice.

GX Developer-FX Programming Software

SETUP MANUAL

Manual number : JY992D88301
Manual revision : C
Date : July 2003

FAX BACK

Mitsubishi has a world wide reputation for its efforts in continually developing and pushing back the frontiers of industrial automation. What is sometimes overlooked by the user is the care and attention to detail that is taken with the documentation. However, to continue this process of improvement, the comments of the Mitsubishi users are always welcomed. This page has been designed for you, the reader, to fill in your comments and fax them back to us. We look forward to hearing from you.

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Thank you for taking the time to fill out this questionnaire. We hope you found both the product and this manual easy to use.

Guidelines for the Safety of the User and Protection of the GX Developer-FX software

This manual provides information for the use of GX Developer-FX software. The manual has been written to be used by trained and competent personnel. The definition of such a person or persons is as follows;

a) Any engineer who is responsible for the planning, design and construction of automatic equipment using the product associated with this manual should be of a competent nature, trained and qualified to the local and national standards required to fulfill that role. These engineers should be fully aware of all aspects of safety with regards to automated equipment.

b) Any commissioning or service engineer must be of a competent nature, trained and qualified to the local and national standards required to fulfill that job. These engineers should also be trained in the use and maintenance of the completed product. This includes being completely familiar with all associated documentation for the said product. All maintenance should be carried out in accordance with established safety practices.

c) All operators of the completed equipment (see Note) should be trained to use that product in a safe manner in compliance to established safety practices. The operators should also be familiar with documentation which is associated with the operation of the completed equipment.

Note : the term 'completed equipment' refers to a third party constructed device which contains or uses the product associated with this manual.

Notes on the Symbols Used in this Manual

At various times throughout out this manual certain symbols will be used to highlight points of information which are intended to ensure the users personal safety and protect the integrity of equipment. Whenever any of the following symbols are encountered its associated note must be read and understood. Each of the symbols used will now be listed with a brief description of its meaning.

Hardware Warnings

1) Indicates that the identified danger **WILL** cause physical and property damage.

2) Indicates that the identified danger could **POSSIBLY** cause physical and property damage.

3) Indicates a point of further interest or further explanation.

Software Warnings

4) Indicates special care must be taken when using this element of software.

5) Indicates a special point which the user of the associate software element should be aware of.

6) Indicates a point of interest or further explanation.

- Under no circumstances will Mitsubishi Electric be liable responsible for any consequential damage that may arise as a result of the installation or use of this equipment.
- All examples and diagrams shown in this manual are intended only as an aid to understanding the text, not to guarantee operation. Mitsubishi Electric will accept no responsibility for actual use of the product based on these illustrative examples.
- Please contact a Mitsubishi distributor for more information concerning applications in life critical situations or high reliability.

Abbreviations

The following definitions or abbreviations will be used throughout this manual.

- GX Developer-FX will be referred to as the GX Developer-FX or SW□D5C-FXGPPW-EL/ -EL1/-EUL/-AEL.
- GX Developer will be referred to as the GX Developer or SW□D5C-GPPW-E.

Registration

- Microsoft® Windows®, MS, MS-Windows® 3.1, Windows® 95, Windows® 98, Windows® Millennium Edition, Windows NT® 4.0 Workstation, Windows® 2000 and Windows® XP are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
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1. Introduction

This operating manual describes the concept of the software SW□D5C-FXGPPW-EL/-EL1/ -EUL/-AEL (hereafter referred to as GX Developer-FX) and the construction of a hardware system.

In addition, this manual describes the differences between the standard GX Developer and GX Developer-FX software packages. It is designed to be used in conjunction with the current GX Developer manuals. See section 1.2

Please read this and corresponding manuals before installing the software.

1.1 Main Software Features

GX Developer-FX is a condensed version of the currently available SW□D5C-GPPW-E (hereafter referred to as GX Developer) from Mitsubishi Electric, and has been designed as a programming tool for the Mitsubishi programmable controller FX series.

GX Developer-FX includes all of the functionality offered by the full GX Developer software package, but is limited to those required when using an FX series PLC

1.2 Associated Manuals

The following are related manuals to this software package, those marked as recommended should be obtained and read before installation or use.

Manual name	Manual Number	Recommended
GX Developer Version 8 Operating Manual (startup)	SH-080372E	✔
GX Developer Version 8 Operating Manual	SH-080373E	✔
GX Developer Version 8 Operating Manual (SFC)	SH-080374E	✔
FX Programming Manual	JY992D48301	
FX Programming Manual II	JY992D88101	
FX2NC Hardware Manual (DSS/UL, DS/UL)	JY992D76401	
FX2NC Hardware Manual (D/UL)	JY992D87201	
FX2N Hardware Manual	JY992D66301	
FX1N Hardware Manual	JY992D89301	
FX1S Hardware Manual	JY992D83901	
FX Hardware Manual (FX/FX2C)	JY992D47401	
FX0/0N Hardware Manual	JY992D47501	
FX0(S) Hardware Manual	JY992D55301	

All of the manuals above are available in either paper or electronic format from your local Mitsubishi distributor, sales representative or regional/national sales office.

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2. System Configuration

2.1 Contents of product package

The GX Developer-FX product package contains the following items;

1) Software CD
2) This set up manual (JY992D88301).

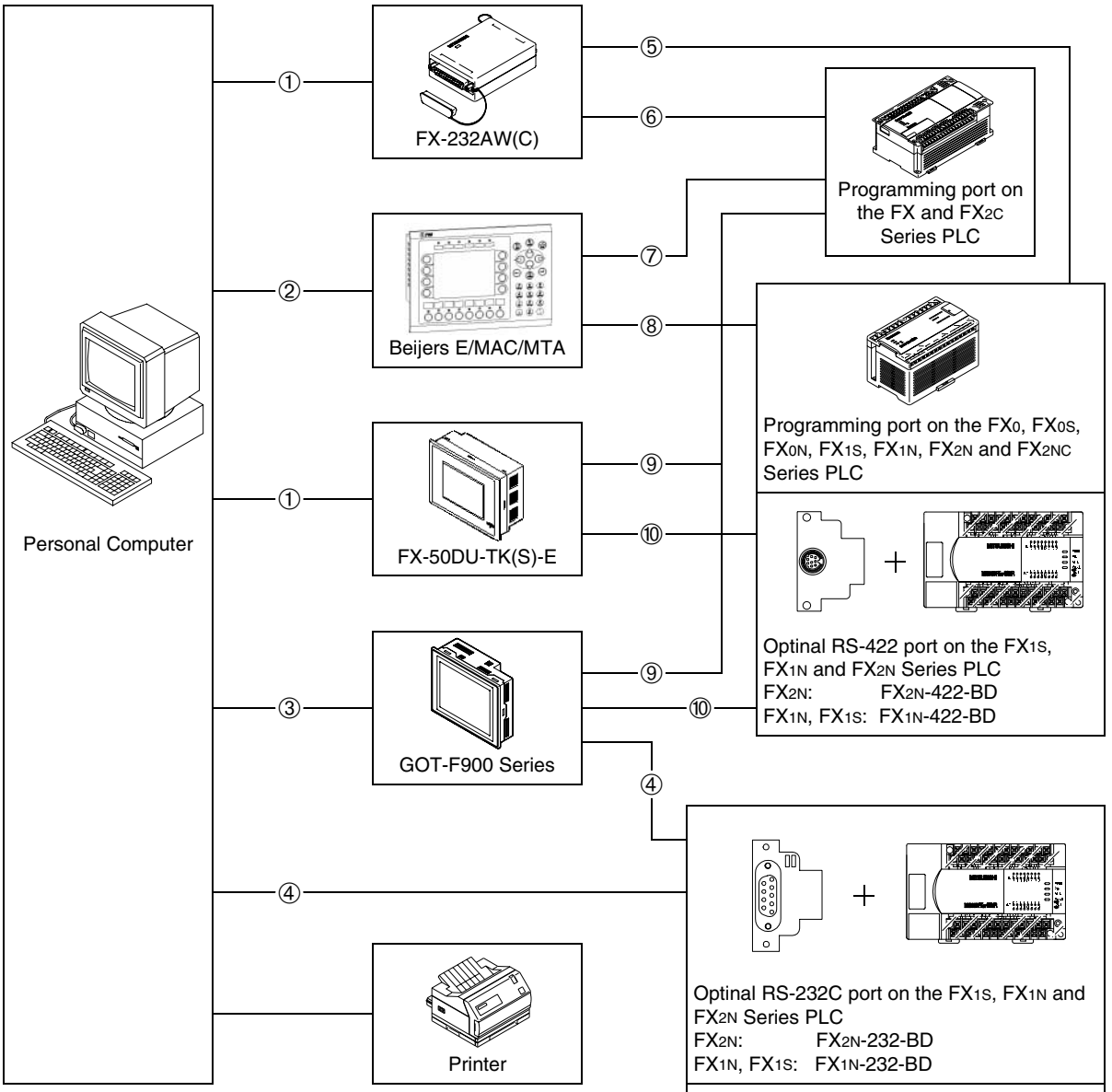
The cables connecting a computer to a programmable controller or an interface unit are optional. Prepare such cables and interface units appropriate to the specific system configuration shown on the following page.

2.2 Operating environment

Item		Description
Computer main unit		Microsoft® Windows® 95: CPU Pentium® 133MHz or better one Microsoft® Windows® 98: CPU Pentium® 133MHz or better one Microsoft® Windows® Millennium Edition: CPU Pentium® 150MHz or better one Microsoft® Windows NT® 4.0: CPU Pentium® 133MHz or better one Microsoft® Windows® 2000: CPU Pentium® 133MHz or better one Microsoft® Windows® XP: CPU Pentium® 300MHz or better one
Operating system		Microsoft® Windows® 95 English version*1 Microsoft® Windows® 98 English version*1 Microsoft® Windows® Millennium Edition English version*2 Microsoft® Windows NT® 4.0 Workstation English version*1 Microsoft® Windows® 2000 Professional English version*2 Microsoft® Windows® XP Professional or Home Edition English version*3
Required memory		Microsoft® Windows® 95: 32MB or more (recommended) Microsoft® Windows® 98: 32MB or more (recommended) Microsoft® Windows® Millennium Edition: 32MB or more (recommended) Microsoft® Windows NT® 4.0: 32MB or more (recommended) Microsoft® Windows® 2000: 64MB or more (recommended) Microsoft® Windows® XP: 128MB or more (recommended)
Required hard disk space	For installation	80MB or more
	For operation	80MB or more
Disk drive		CD-ROM drive
Monitor		Resolution 800 x 600 or higher
Mouse		Mouse or pointing device compatible with Windows
Printer		Printer compatible with Windows
Interface		RS-232C serial interface (COM1 to COM10 shall be able to be changed over.)
		Printer interface

*1 These operating system is supported version 5 or later.
*2 These operating system is supported version 7 or later.
*3 These operating system is supported version 8 or later.

2.3 System configuration



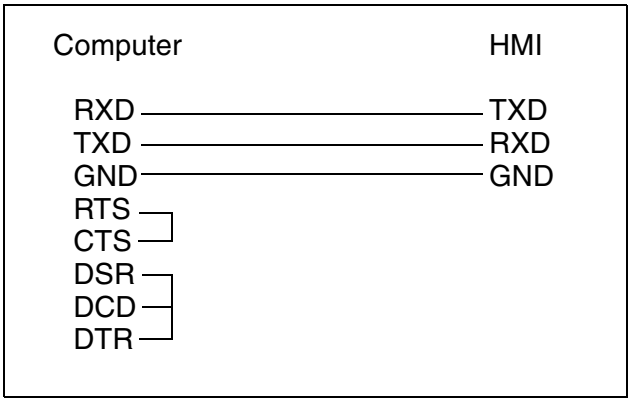
No.	Description
①	F2-232CAB-1
②	MAC-PROG/9CAB
③	FX-232CAB-1
④	Expansion Board, FX2NC-232ADP: FX-232CAB-1 FX0N-232ADP: F2-232CAB-1
⑤	FX-422CAB0
⑥	FX-422CAB
⑦	MAC40+CAB
⑧	FX-20P-CAB0
⑨	FX-40DU-CAB
⑩	FX-50DU-CAB0

Additionally a Beijers SC09 communications cable can be used between computer and FX series PLC.

2.4 Cable diagrams

2.4.1 Beijers MAC-PROG/9CAB

For sucessful communications between a computer and any of the E/MAC/MTA series HMI units from Beijer Electronics, use the following pin connections.



MEMO

3. Installation and Uninstallation

3.1 Installation

It is only possible to install either GX Developer **OR** GX Developer-FX, not both. Even if they are of different version numbers
Trying to install both software packages may lead to the original files becoming corrupt.

3.1.1 Installation procedure

Before starting installation, confirm the following.

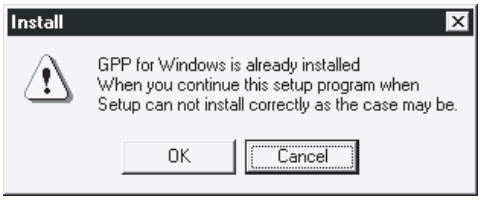
- Close all other applications running under Windows.
- If using NT4.0, log on with administrator attributes.
- Before installing GX Simulator, fully install GX Developer-FX.

To install the software, insert the SW□D5C-FXGPPW-EL/-EL1/-EUL/-AEL disk into the appropriate drive. Execute “setup.exe”.

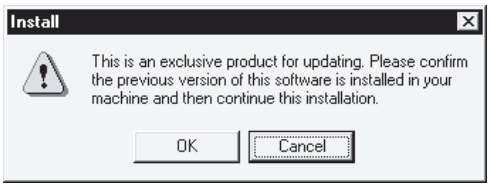
Perform installation in accordance with the Wizard. The procedure is equivalent to that for general windows applications.

3.1.2 Notes on Installation

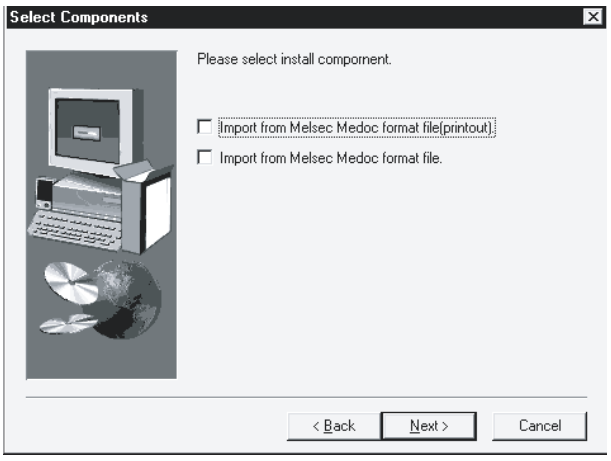
If the text box shown right appears, click ‘Cancel’, uninstall the software, and then re-install it.



If the text box shown right appears, you should be updating your current version of the software with a new one. If GX Developer-FX is not already installed, click ‘Cancel’ and install a full version.



During set-up the window shown right will appear, If you want to import data created in MELSEC MEDOC select the relevant box(s) and click ‘Next’.



3.2 Uninstallation

To uninstall the GX Developer-FX software, click the [install/Uninstall] option in the "My Computer:\Control Panel:\Add/Remove Programs'

Perform uninstallation in accordance with the wizard, delete SW□D5-FXGPPW.

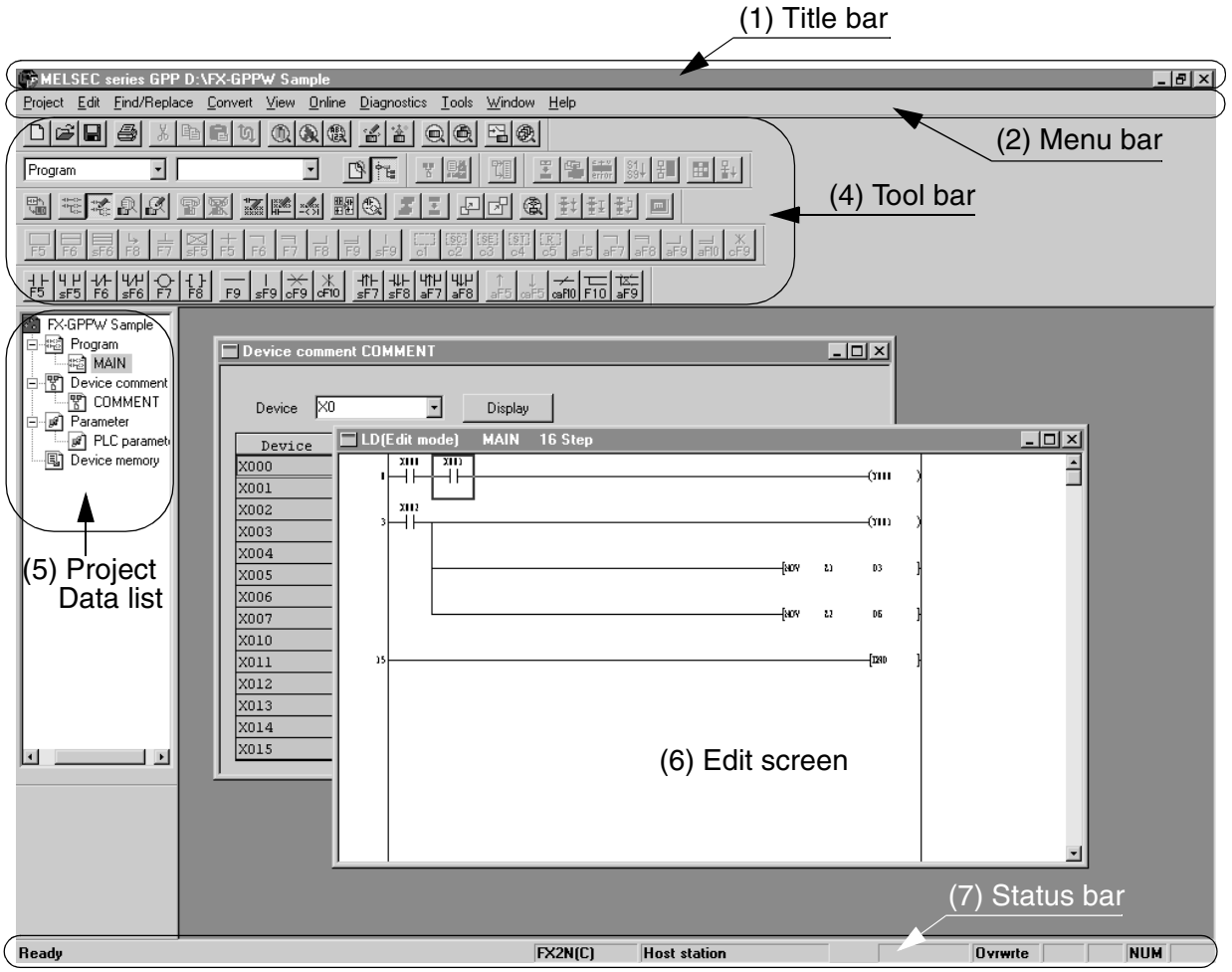
Follow the same process for uninstalling the Ladder logic testing software.

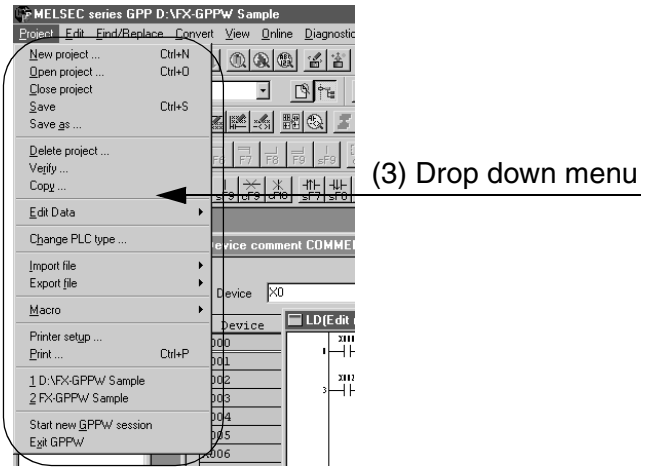
4. Orientation

This section outlines basic screen identification information necessary to the proper operation of the GX Developer-FX software. Please read and understand this section prior to using the software for the first time.

4.1 Screen Identification

The screen below shows the major elements of the software window, for the users reference. Following this are more details of each aspect.





(1) Title bar.

Indicates the name of the open project, and allows enlarging, reducing or minimizing of the program window. It also offers an exit button in the far right corner.

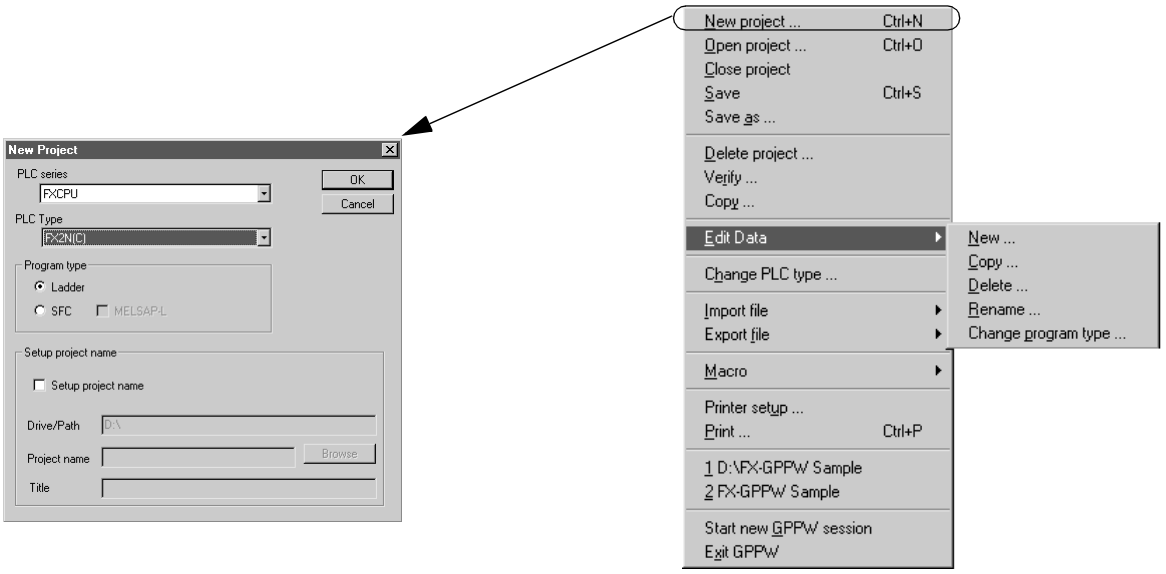
(2) Menu bar.

Displays the names of the GX Developer-FX menus. When a desired menu is selected, a drop down menu is displayed so that various functions can be utilized.

Please see the relavent sections in the GX Developer Operating manuals SH-080062 and SH-080063 (SCF Operations) for specific details of each menu command.

(3) Drop down menu

Displays the names of GX Developer-FX functions.
If there is an arrow at the right most end of the menu item, there is a further drop down menu to be displayed.
If there is a short dotted line displayed after the menu item, a set up window can be displayed by selecting the item.

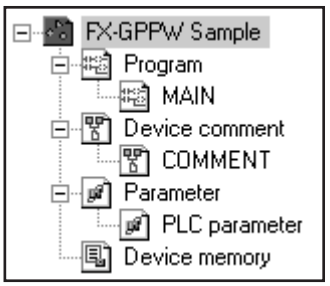


(4) Tool bar

Displays the buttons of frequently used functions assigned on the menu bar.

(5) Project Data list

Lists project data by class, and aids navigation through out the project. Each aspect on the list can be directly called.



(6) Edit Window

Displays various different types of windows for the creation, setting and monitoring of a PLC program

(7) Status bar

Displays status information for the GX Developer-FX software, including, information concerning the mouse or cursor position, project CPU type and destination CPU and current mode.

4.2 Further operation instructions.

For further instructions regarding the functionality of the software, and guidance on programming with GX Developer-FX, please refer to the GX Developer Operating manual.

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5. Functions

As stated earlier in this manual, GX Developer-FX software is a 'cut-down' version of the standard GX Developer software, available for programming all series of Mitsubishi Programmable controller.

5.1 Supported Functions

Function set	Description
Supported CPU	FX CPU
File Read/Write	GX Developer, MEDOC, FXGP(Win) and FXGP(DOS) format.
Programming Language	Ladder, Instruction list, SFC.
PLC type change	FX0(S), FX0N, FX, FX2C, FX1S, FX1N, FX2N(C)
Ladder edit	Ladder symbol input, Instruction input, Cut, Copy, Paste, Find, Replace, Convert, Cross reference list, List of used devices, Comment display, Comment edit on Ladder, Statement edit, Note edit, Change TC setting.
SCF edit	SFC symbol input, Cut, Copy, Paste, Find, Replace, Convert, Cross reference list, List of used devices, Comment display, Comment edit on SFC, Change TC setting.
Instruction edit	Instruction input, Cut, Copy, Paste, Find, Replace, Comment display, Statement display, Note display.
Documentation	Cut, Copy, Paste, Find, Replace.
Device memory edit	Edit, Find.
Parameter setting	Parameter setting
Monitor	Ladder monitor, Device batch monitor, Entry data monitor.
Test/Debug	Sampling trace, Bit device force ON/OFF, Change setting value.
Ladder Logic test	Step execution, Partial execution, Skip execution, Bit device force ON/OFF, Change setting value.
Diagnostics	PLC diagnostics
Print	Ladder, SFC, Instruction, Cross reference list, List of used devices, Device memory data list, Comment list, Parameter setting data, TC setting data.
Telephony	AT command, Call book, Connection, Disconnection, TEL data.
PLC Transfer	Write to PLC, Read from PLC, Verify with PLC, Remote operation, Keyword setup.
Merge data	Program merge, Comment merge.
ROM	Transfer to ROM writer.
Help	CPU error, Special relay/register.

For further details on each of these functions, please refer to the GX Developer operating manuals.

5.2 Functions available in GX Developer only.

The following list of functions are not supported in GX Developer-FX, they are primarily operations required for programming A, QnA or Q series PLC's from Mitsubishi. All of these functions are offered in the full version, GX Developer, but are unnecessary for use with the FX series of programmable controller.

This table is designed to be used by those familiar with GX Developer and its functionality.

Function
Import from GPPQ format file
Import from GPPA format file
Export to GPPQ format file
Export to GPPA format file
Write program memory to ROM card
Write to PLC (flash ROM)
Delete PLC data
Change PLC data attributes
Read PLC user data
Write PLC user data
Delete PLC user data
Monitor condition setup
Monitor stop condition setup

Function
Format PLC memory
Arrange PLC memory
Network diagnostics
CC-Link diagnostics
System monitor
Read IC memory card
Write IC memory card
Intelligent function utility list
Intelligent function utility session start
Replace statement/note type (ladder edit)
Macro instruction format display (ladder edit)
Block START step (without END check) [SFC]

SETUP MANUAL

GX Developer-FX Programming Software

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JY992D88301C
(MEE)

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