

Download, Upload and Keyword Entry Tool for the FX Series PLC (V1.11)

Outline

This package consists of three separate pieces of software.

The first application writes the PLC program generated by GX Developer to the FX Series PLC connected to a PC.

The second application reads the PLC program from the FX Series PLC connected to a PC.

The third software registers the keyword to the GX Developer project.

1 System Configuration

1.1 Hardware requirements

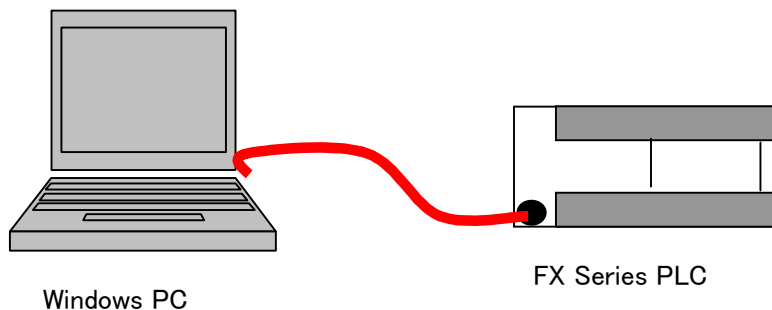
OS: Windows95/98/ME/NT4.0 (SP3 or higher) /2000/XP/Vista

PC: AT compatible machine capable of operating the above OS

Serial port: COM1 to COM63 can be used

Other: Mouse (or an equivalent pointing device) and keyboard

1.2 System configuration



Cable: FX-USB-AW

F2-232CAB-1 + FX-232AWC-H + FX-422CAB0
SC09

1.3 Applicable PLCs

All of the FX Series PLCs

1.4 Distributed files

Only three executable files (.EXE files) are distributed.

Executable file:

Download tool: FXDL.D.EXE

Upload tool: FXULD.EXE

Keyword Entry tool: FXKWP.EXE

1.5 Applicable file

Only the GX Developer project format are supported.

1.6 Data to be transferred

1) Parameter

2) Program (LD and SFC)

3) Device comment (only when area is set by parameter)

4) File register (only when area is set by parameter)

1.7 Installer

No dedicated installer is provided. Install by copying the executable files to an arbitrary folder.

2. Download Tool

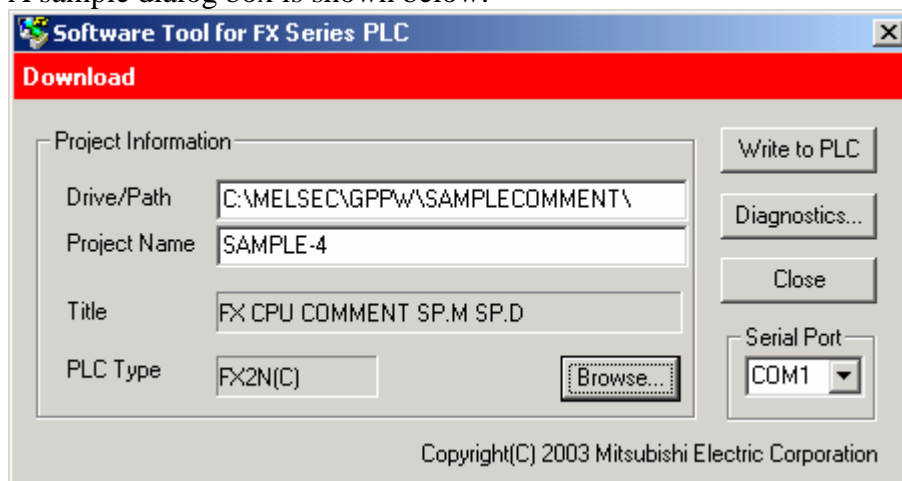
Outline

This application writes the PLC program created to the FX Series PLC connected to the PC. Download Tool can read both of a project without keyword and a project with keyword.

Functions in detail

2.1. Dialog box

A sample dialog box is shown below.

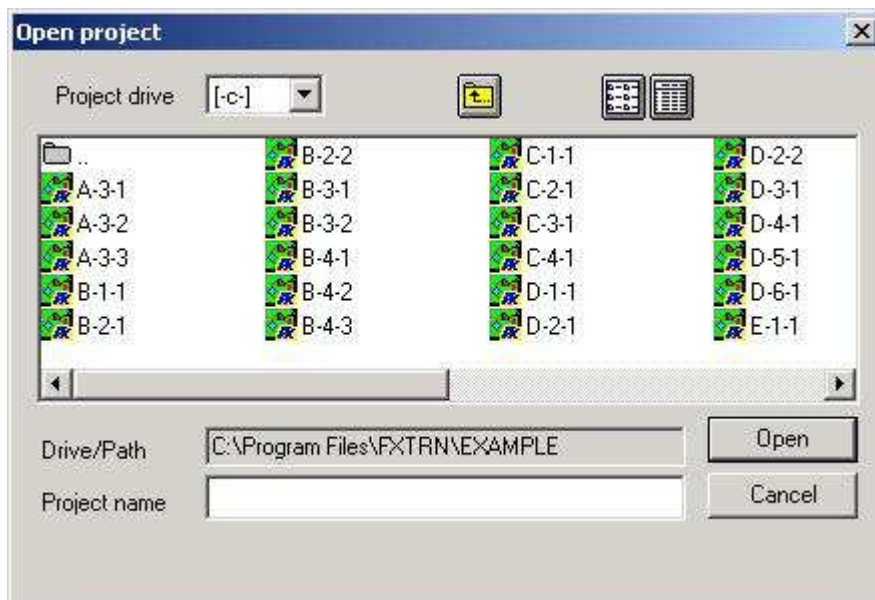


Items on the dialog box

Name	Type	Description
Drive/Path	Edit Box	Indicates the full path of the project to be transferred. Typing from a keyboard is also enabled. Usually blank, but if a project file is dragged to the icon to start the download tool, the path of the project is shown here.
Project Name	Edit Box	Indicates the name of the project to be transferred. Typing from a keyboard is also enabled. Initially blank, but if a project file is dragged to the icon to start the download tool, the name of the project is shown here.
Title	Static	Indicates a comment of the selected project. Blank if no project is selected.
PLC Type	Static	Indicates the PLC type of the selected project. Blank if no project is selected.
Write to PLC	Button	Transfers the project to the PLC. Disabled if no project is selected.
Diagnostics	Button	Starts the PLC diagnostics. Indicates the result of the PC diagnostics.
Browse	Button	Displays a dialog box for selecting a project.
Close / X	Button	Exits the application.
Serial Port	Combo Box	The PC's COM port can be selected here COM1 to COM63 are available.

2.2. Selecting the project

Clicking the Browse Button will display the dedicated dialog box. Select the GX Developer project. Do not open project files other than those for the FX Series PLC.



2.3. Transferring program

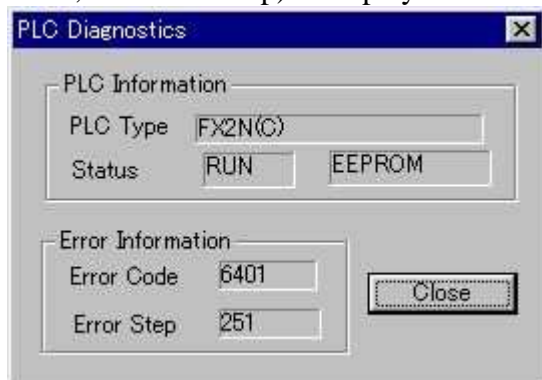
Program transfer cannot be executed if the GX Developer project is not opened.

The PLC is checked before program transfer is performed the same way as in GX Developer (Easy Socket).

In the case that the FX Series PLC is in RUN mode, it is possible to 'remote stop' the PLC in order to write the data and then 'remote start' it again when writing is completed (as with GX Developer). The progress bar is displayed while transferring data (as with GX Developer).

2.4. PLC diagnostics

When the [Diagnostics] button is pressed, the result of the PLC diagnosis (PLC Type, Status, Error Code, and Error Step) is displayed as follows.



2.5. Keyword check

- (1) When a project with a keyword is opened (Keyword Entry Tool is used):

Download is performed without displaying the keyword dialog box, when the keyword of the project and the keyword of PLC are same.

The PLC keyword is changed to the new keyword, when keyword change is set up.

When the keyword of the project and the keyword of PLC are not the same, the keyword dialog box is displayed and it prompts the user for the PLC keyword. Download is performed only when the keyword entered in the dialog box is the same as the PLC keyword.

The PLC keyword does not change.

- (2) When a project without a keyword is opened:

The keyword dialog is displayed and it prompts the user for the PLC keyword. Download is

performed only when the keyword entered in the dialog box is the same as the PLC keyword.
The PLC keyword does not change.

2.6. PLC type check

The program cannot be transferred if the PLC type of the GX Developer project and the connected PLC type is different.

3. Upload Tool

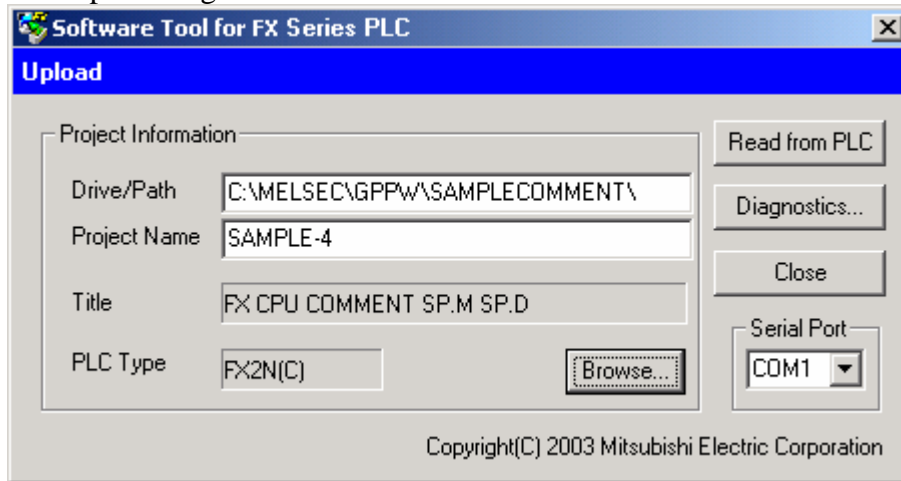
Outline

This application reads the PLC program from the FX Series PLC connected to a PC.
The program is read and saved on PC.

Functions in detail

3.1. Dialog box

A sample dialog box is shown below.



Items on the dialog box

Name	Type	Description
Drive/Path	Edit Box	Same as for the download tool.
Project Name	Edit Box	Same as for the download tool.
Title	Static	Same as for the download tool.
PLC Type	Static	Same as for the download tool.
Read from PLC	Button	Read data from the PLC.
Diagnostics	Button	Same as for the download tool.
Browse	Button	Same as for the download tool.
Close / X	Button	Same as for the download tool.
Serial Port	Combo Box	Same as for the download tool.

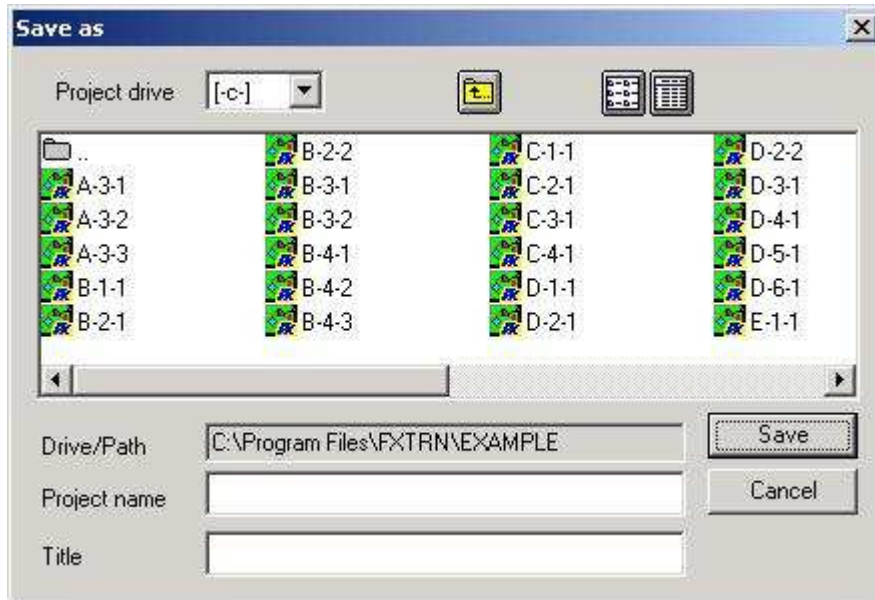
3.2. Reading the PLC program

Read is executed when the [Read from PLC] button is pressed.

The progress bar is displayed while transferring data (as with GX Developer).

3.3. Saving the project

The read program is saved as a new project on the dialog box shown below. Overwriting an existing project file is not possible.



3.4. PLC diagnostics

Same as for the download tool.

3.5. Keyword check

(1) When performing Upload after selecting a project with a keyword (Keyword Entry Tool is used):

When the keyword of the project and the keyword of the PLC are the same, the keyword dialog box is not displayed and Upload is performed. The uploaded program is saved as the project name with "_ULD" added to the end of the filename.

The PLC keyword is stored in the saved project automatically.

The saved project is different with GX Developer project.

When the keywords are not the same, the keyword dialog box is displayed without a keyword. Upload is performed only when the keyword entered in the dialog box is the same as the PLC keyword.

The PLC keyword is not stored in the saved project.

The saved project is compatible with GX Developer project.

(2) When performing Upload after selecting a project without the keyword:

The keyword dialog box is displayed. A keyword is required. Upload is performed only when the keyword entered in the dialog box is the same as the PLC keyword.

The PLC keyword is not stored in the saved project.

The saved project is compatible with GX Developer project.

(3) When Upload is performed without opening the project:

The keyword dialog box is displayed. A keyword is required. Upload is performed only when the keyword entered in the dialog box is the same as the PLC keyword.

The PLC keyword is not stored in the saved project.

The saved project is compatible with GX Developer project.

4. Keyword Entry tool

Outline:

The Keyword Entry tool adds the keyword information to the GX Developer project that will be used with the protected FX-PLC.

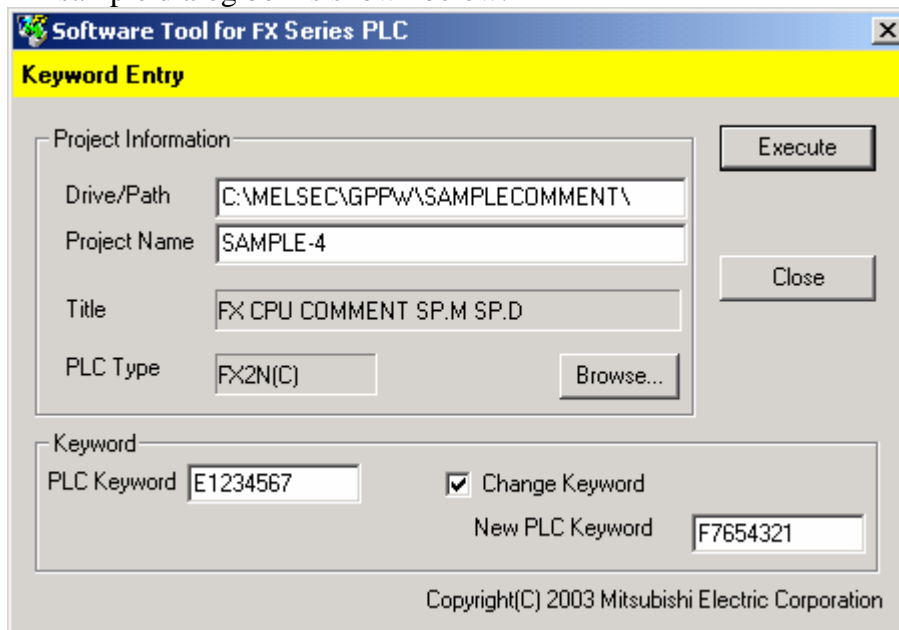
There is no prompt for a keyword if the GX Developer Project was processed with the Keyword Entry tool. This tool enables the Upload/Download tools to automatically transfer a project to/from a protected FX-PLC, without a prompt for a keyword.

GX Developer cannot read the program that is created by Keyword Entry Tool and contains keyword information, because it is incompatible with GX Developer project.

Functions in detail:

4.1. Dialog box

A sample dialog box is shown below.

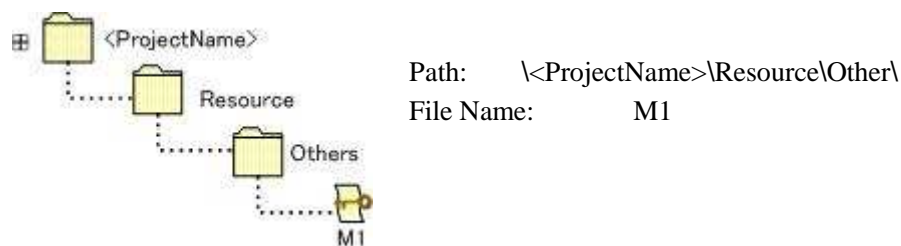


Items on the dialog box

Name	Type	Description
Drive/Path	Edit Box	Indicates the full path of the project to be transferred. Typing from a keyboard is also enabled.
Project Name	Edit Box	Indicates the name of the project to be transferred. Typing from a keyboard is also enabled.
Title	Static	Indicates the title/project comment of the project selected. Blank if no project is selected.
PLC Type	Static	Indicates the PLC type of the project selected. Blank if no project is selected.
Execute	Button	Stores the keyword in the GX Developer project when clicked. Disabled if no project is selected.
Browse	Button	Displays a dialog box for selecting a project.
Close / X	Button	Exits the application.
PLC Keyword	Edit Box	Input for the PLC keyword. Typing from a keyboard is enabled.
Change Keyword	Check box	Enables a keyword change. Display the new PLC keyword Edit Box.

New PLC Keyword	Edit Box	Input for the new PLC keyword. Typing from a keyboard is enabled.
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4.2. OEM Keyword file:



The PLC keyword information is contained inside the project files in the location indicated above. The file, M1, will be encoded to prevent direct access to the PLC keyword information.

4.3. Project with keyword information

The program data of the project with keyword information is saved with keyword information at the OEM keyword file (M1). The program file in the project is deleted. The program is not displayed, when GX Developer opens the project with keyword information, since the program file did not exist.

4.4. Restoration of the project with keyword information

Since GX Developer opens a project file with keyword information normally, the Keyword Entry Tool has the function which deletes the keyword information and restores the program.

The project with keyword information is chosen in the Keyword Entry Tool. The space between eight characters is inputted into the PLC keyword input column, and restoration of the project protected when the check of Change Keyword check box was turned OFF is performed.

The PLC keyword input dialog is displayed before execution. Restoration is performed when the registration keyword and the input keyword are in agreement.