Yaskawa Electric Corporation Device Data Copy Tool Guide

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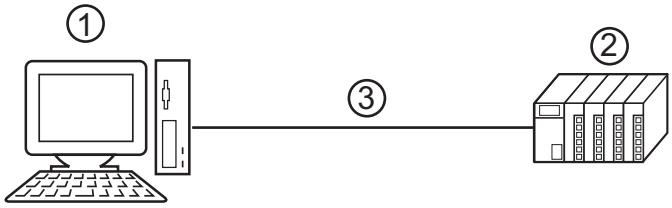
1 General Description

1.1 What is the Device Data Copy Tool

When transferring a ladder file to the External Device using a Windows application such as a ladder software, the ladder software needs to be connected to the External Device.

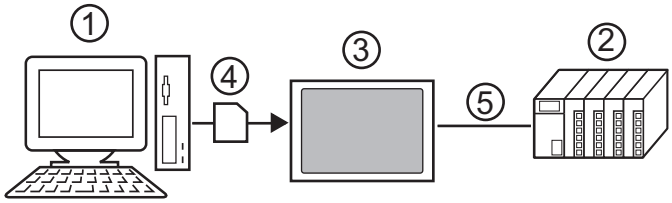
Example)



1 PC with an application such as ladder software installed.
2 External Device to be communicated with.
3 Cable for transfer

GP-Pro EX can transfer ladder files from the Display using the Device Data Copy Tool.

Example)



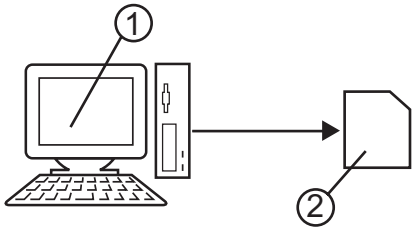
1 PC with an application such as ladder software installed.
2 External Device to be communicated with.
3 Display that executes transfer.
4 Storage device (USB storage or CF card)
5 GP-Pro EX driver corresponding to the External Device.

Using the Device Data Copy Tool eases tooling change work because ladder files can be transferred to the External Device without using a computer.

1.2 Mechanism of the Device Data Copy Tool

There are 2 procedures of the Device Copy Tool.

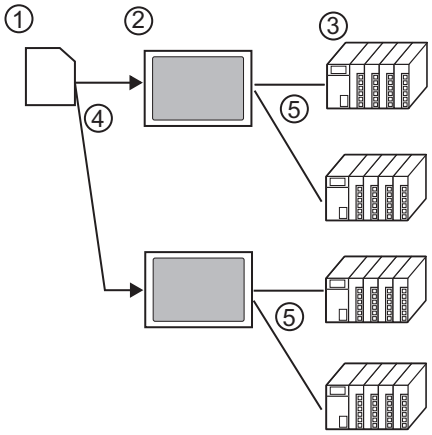
1 Store the ladder file and the External Device data transfer execution file to the storage device.



1 Computer in which the ladder software is installed.

2 The storage device to store the ladder file and the External Device data transfer execution file.

2 Transfer all ladder files storage in the storage device to the External Device.



1 Storage device that stores ladder files and External Device data transfer execution files.

2 Display that executes transfer.

3 External Device to be communicated with.

4 USB port or CF card slot.

5 GP-Pro EX driver corresponding to the External Device.

1.3 Operation Environment

The following environment is required to use the Device Data Copy Tool.

- Compatible driver

  Yaskawa Electric Corporation MP/SERVO Ethernet Driver
- Compatible External Device

  Compatible to the MP2000 Series that Yaskawa Electric Corporation MP/SERVO Ethernet Driver supports.

  Refer to the Yaskawa Electric Corporation MP/SERVO Ethernet Driver Manual for details.
- Compatible ladder software

  Yaskawa Electric Corporation MPE720 (Ver.6.04 or more)

  Yaskawa Electric Corporation MPE720 (Ver. 5.38 or more. New ladder is not supported.)
- Compatible OS

  Microsoft Windows 2000 Professional (SP4 or later)

  Microsoft Windows XP (SP2 or later)

  Microsoft Windows Vista (Home, Premium, Business)

2 Install

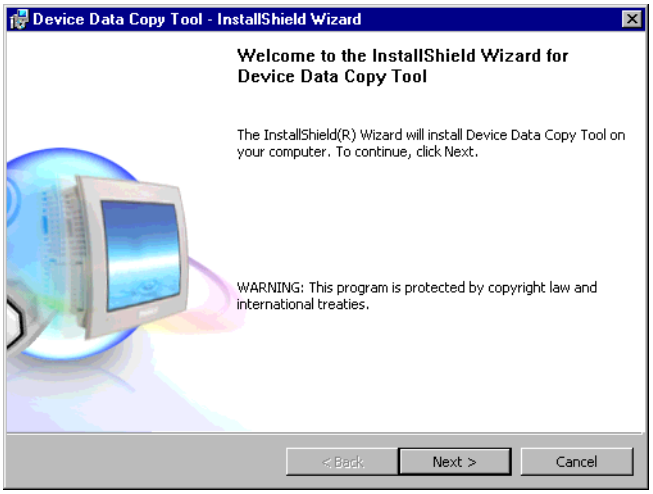
2.1 Install of Device Data Copy Tool

IMPORTANT
- Install the Device Data Copy Tool under the administrative privileges.
- Be sure to quit all application programs and close (disable) all resident programs, such as virus detection software.

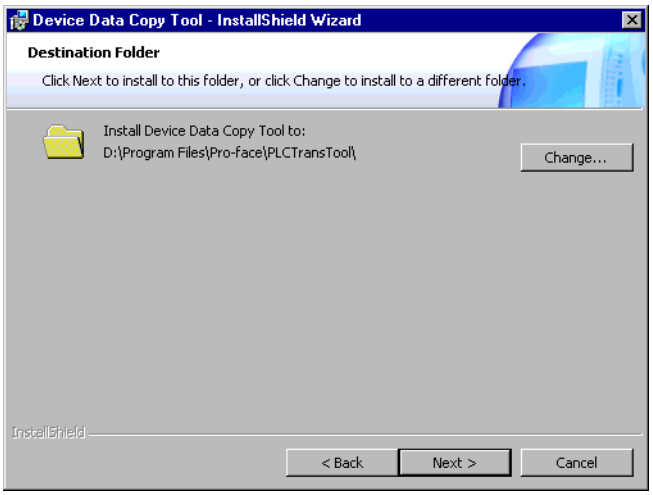
1 Start up the installer of GP-Pro EX.

2 When the install screen is displayed, click “Data Copy Tool.”

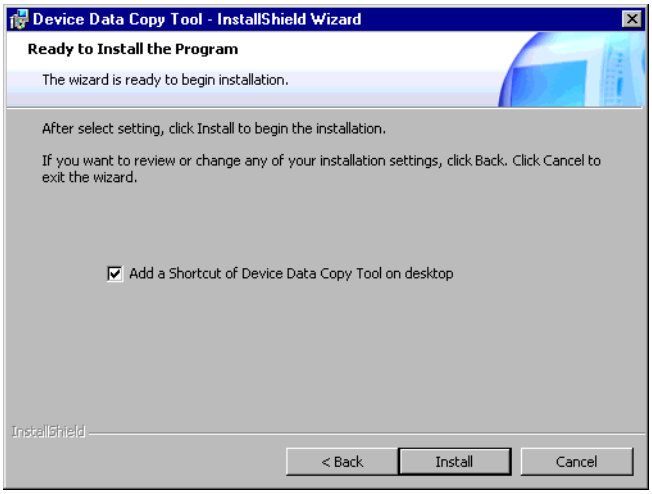
3 The dialog box, “Welcome to the InstallShield Wizard for Device Data Copy Tool” is displayed, and go forward with the installation following the directions of the wizard.



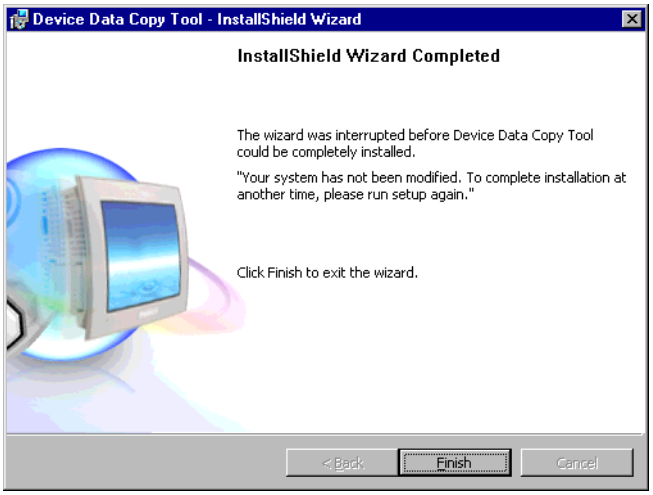
4 Select the install destination in the “Install Device Data Copy Tool to:” dialog box, and click [Next >].



5 Click [Install] to install the Device Data Copy Tool.



6 The dialog box, “InstallShield Wizard Completed” is displayed, and click [Finish].



3 External Device Data Copy

Ladder file transfer to the External Device is executed by the transfer Device/PLC program and the External Device data transfer. Each Special Action tool executes the following functions.

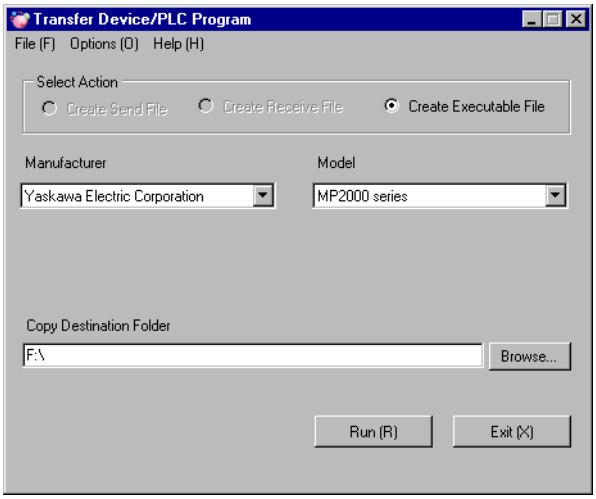
- Transfer Device/PLC Program: Sore Transfer Device/PLC Data execution file in the storage device.
- External Device Data Transfer: Load and dump ladder files.

3.1 Making Transfer Device/PLC Data start switch

Special switch for starting the External Device data transfer is made. Select “Transfer Device/PLC Data” from the [Special Action] on the special switch setting screen. Refer to the GP-Pro EX Reference Manual for how to set special switch.

3.2 Making Transfer Device/PLC Program

1 Select [Pro-face]-[Device Data Copy Tool] from the start menu to display the Transfer Device/PLC Program.



2 Set the setting items as shown below.

Setup Items	Setup Description
Select Action	Create Executable File
Manufacturer	Yaskawa Electric Corporation
Model	MP2000 series
Copy Destination Folder	X:\ (Select the drive letter of the storage device.)

3 Click [Run (R)] to make Transfer Device/PLC Data execution file in the storage device. Make a PLCTrans folder in the copy destination folder to copy the execution file.

IMPORTANT
- Without an execution file in the X:\PLCTrans folder, the program will not start up. (X is the drive letter of the storage device.)

3.3 Loading Ladder File

NOTE

- Although the screen layout varies depending on the Display to be used, the operation procedure is the same for all the Displays.
- USB storage is available only for GP-4100 series.

1 Make a ladder file to be loaded to the External Device using a ladder software.

- MPE720 (Ver. 6)

  Select [Transfer] from the [Online]menu of the MPE720 to display [Transfer] dialog box. Click the [Write into CF card] of the [Transfer] dialog box, and select the storage device in the displayed [Select Drive] dialog box.

  Click [Start] of the [Transfer Program] dialog box to write the ladder file. The ladder file is written in the \MP_BKUP\BACKUP folder of the selected drive. (The destination folder is fixed.)

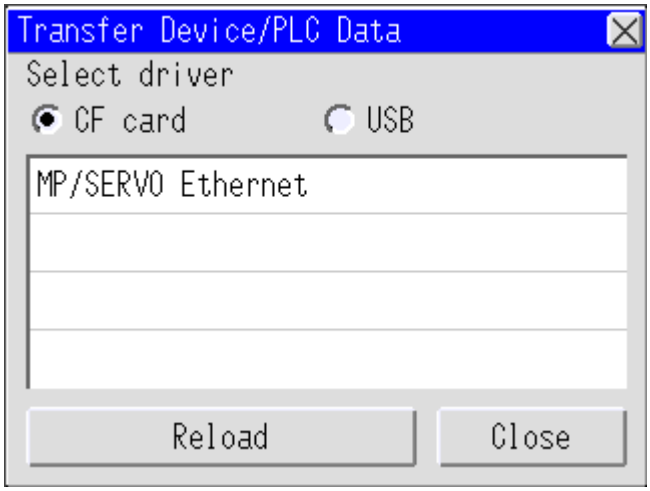
- MPE720 (Ver.5)

  Right click the PLC using the File Manager, and select [Transfer]-[All Files]-[From MPE720 to Controller] from the displayed menu to display [Execute] dialog box.

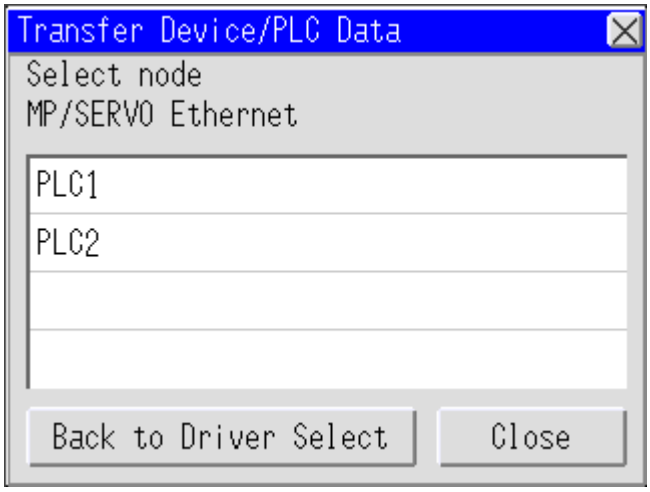
  Set the storage device in the [Destination] of the displayed dialog box, remove the check of the [Compression transmission], and click [OK] to save the ladder file.

2 Connect the storage device where the ladder file and Transfer Device/PLC Data execution file are saved to the Display, and touch the Transfer Device/PLC Data start switch.

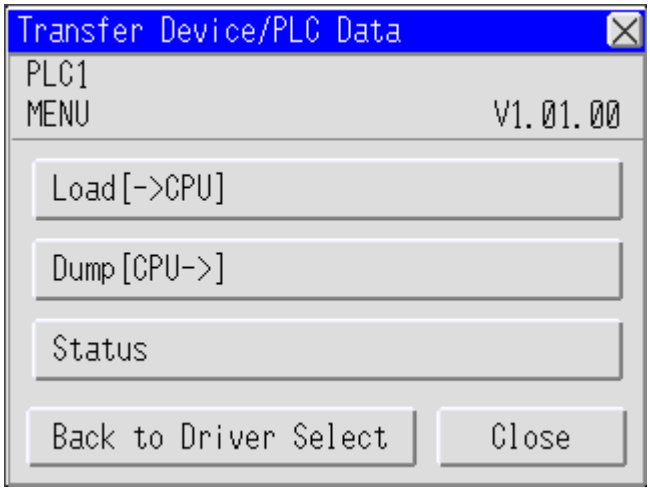
3 Select the type of storage device connected to the Display on the Driver Select Screen, and select the driver to be used.



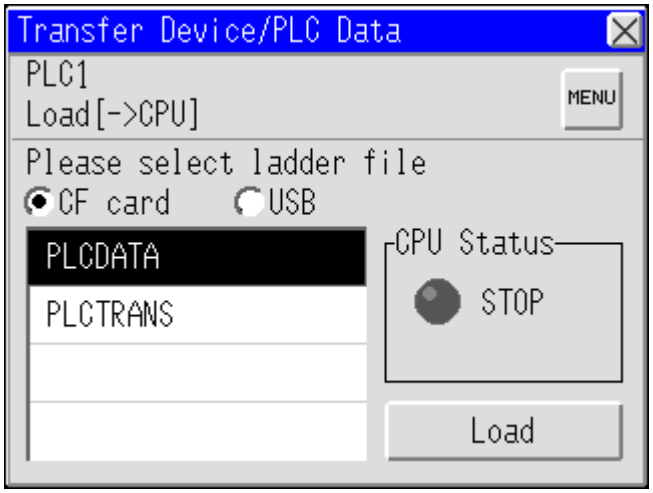
4 Select the External Device to be loaded on the Device/PLC Select Screen.



5 Select [Load [->CPU]] on the Transfer Menu Screen.



6 When the storage device is selected, the saved ladder files are displayed. Select the ladder file to be loaded, and touch [Load].



7 Enter the user name and password on the CPU Logon Screen, and touch [OK].

NOTE

- CPU should be at a stop to load the ladder file. If CPU is in operation, stop CPU on the screen displayed after the log on before loading.
- The message confirming the transfer of the register information is displayed while the ladder file is loaded. When you want to load the register information, touch [Yes].

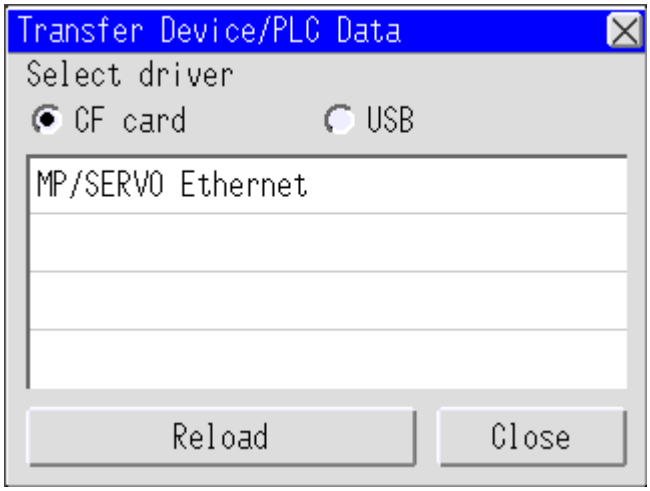
3.4 Dumping Ladder File

NOTE

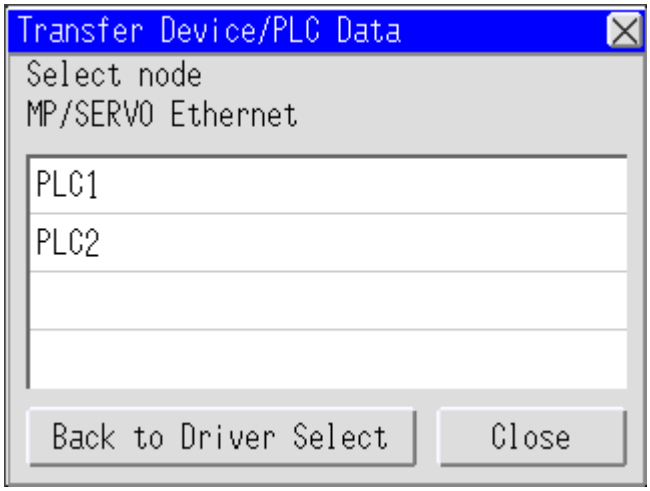
- Although the screen layout varies depending on the Display to be used, the operation procedure is the same for all the Displays.
- USB storage is available only for GP-4100 series.

1 Connect the storage device where Transfer Device/PLC Data execution file is saved to the Display, and touch the Transfer Device/PLC Data start switch.

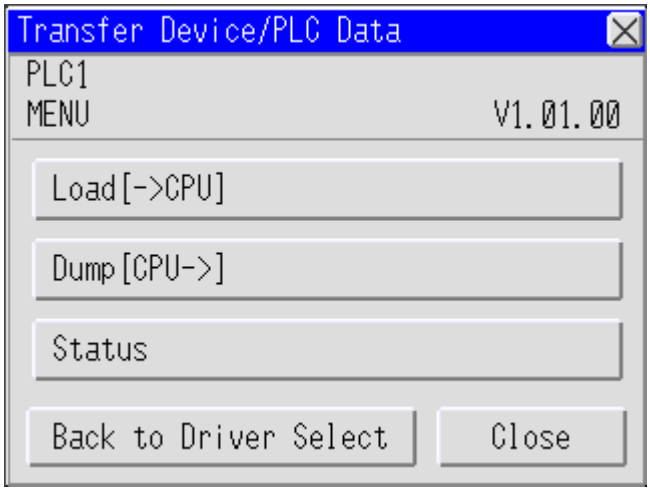
2 Select the type of storage device connected to the Display on the Driver Select Screen, and select the driver to be used.



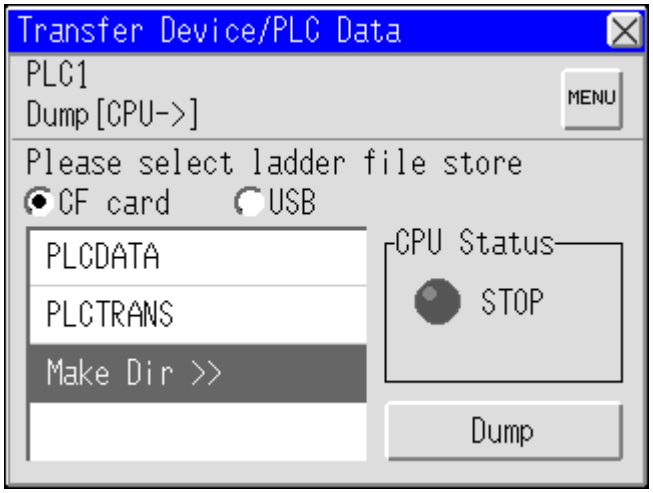
3 Select the External Device to be dumped on the Device/PLC Select Screen.



4 Select [Dump [CPU->]] on theTransfer Menu Screen.



5 Select the folder to save the dumped ladder file. Touch [Make Dir>>] to make a folder. Double touch the folder name to be moved for moving the ladder file in the folder.



IMPORTANT

- To read the ladder file received in MPE720 Ver.6, the received ladder file needs to be saved in the X:\MP_BKUP\BACKUP folder. If there is no received ladder file in the X:\MP_BKUP\BACKUP folder, the received file cannot be read. (X is the drive letter of the storage device.)

6 Touch [Dump] to dump the ladder file.

7 Connect the storage device to the computer to read the ladder file with ladder software.

- MPE720 (Ver. 6)

  Select [Transfer] from the [Online] menu of the MPE720 to display [Transfer] dialog box.

  Click the [Write into CF card] of the [Transfer] dialog box, and select the storage device in the displayed [Select Drive] dialog box.

  Click [Start] of the [Transfer Program] dialog box to write the ladder file. The ladder file is written in the \MP_BKUP\BACKUP folder of the selected drive. (The source folder is fixed.)

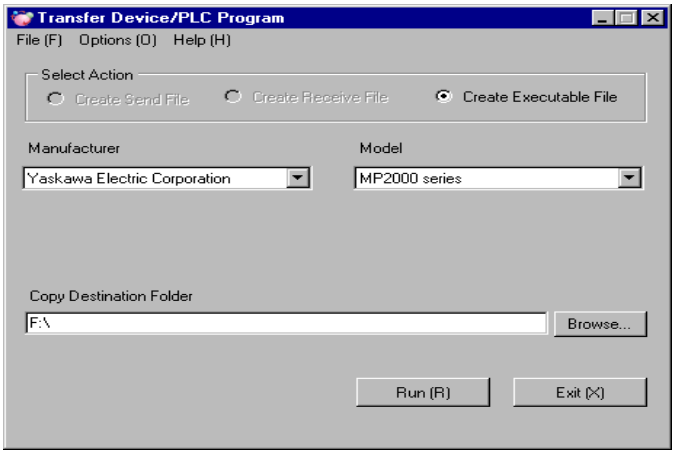
- MPE720 (Ver.5)

  Right click the PLC using the File Manager, and select [Transfer]-[All Files]-[From MPE720 to Controller] from the displayed menu to display [Execute] dialog box. Remove the check of the [Compression transmission], and set the folder where the ladder file was dumped in the [Source].

  Click [OK] to save the ladder file.

4 Setup Items

4.1 Transfer Device/PLC Program



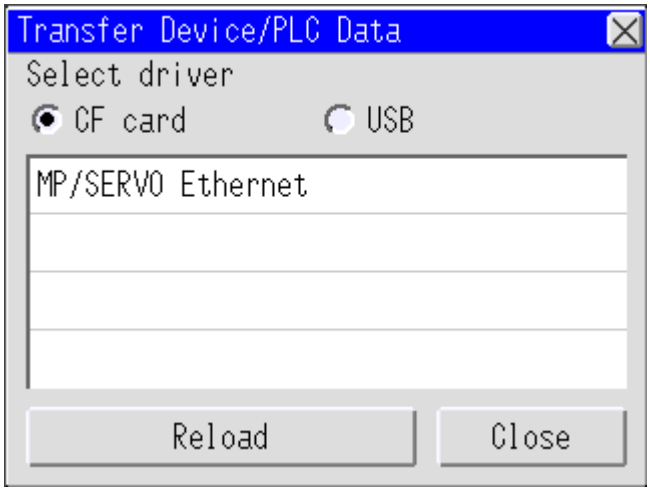
Setup Items	Setup Description
Menu bar	• [File (F)] Menu •[Run (R)] : Execute making an execute file. •[Exit (X)] : Exit the Transfer Device/PLC Program. • [Option (O)] Menu •[Change Language (L)] : Switch the displayed language to [English] or [Japanese]. When the language is switched, a confirmation message is displayed, so click [Yes] and reboot the Transfer Device/PLC Program. • [Help (H)] Menu •[Version Information (A)] : Display the version number of the Transfer Device/PLC Program.
Select Action	• Making Execution File Make Transfer Device/PLC Data execution file.
Manufacturer	Select the manufacturer name of the External Device.
Model	Select the series name of the External Device.
Copy Destination Folder	Enter the place to store the Transfer Device/PLC Data execution file (the CF card or a folder in the USB storage). e.g.) When the USB storage connected to the computer is displayed as "Removal disk (F:)" to store the Transfer Device/PLC Data execution file in the "PLCTrans" folder in the USB storage F:\ **NOTE** • The folder can be selected in the [Browse For Folder] dialog box that is displayed after clicking [Browse ...].
Run (R)	Make the Transfer Device/PLC Data execution file.
Exit (X)	Exit the Transfer Device/PLC Program.

4.2 External Device Data Transfer

NOTE

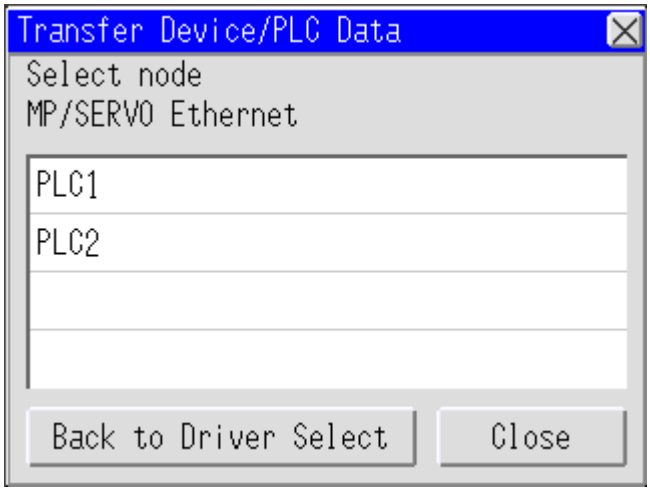
- Although the screen layout varies depending on the Display to be used, the operation procedure is the same for all the Displays.
- USB storage is available only for GP-4100 series.

■ Select driver screen



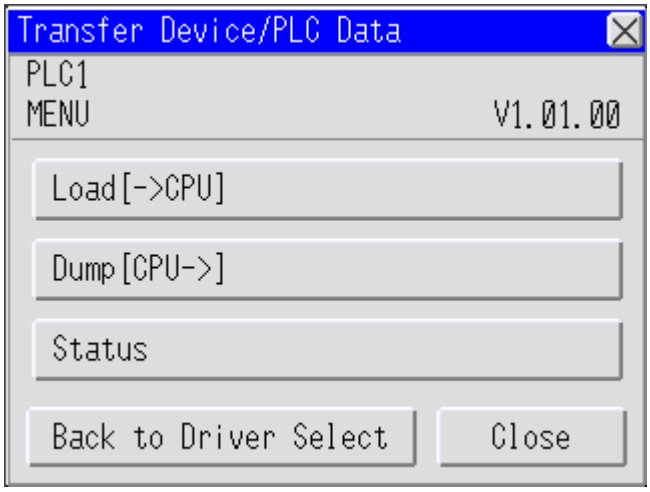
Setup Items	Setup Description
Select storage device	Select the storage device where the ladder file is stored from CF card or USB storage.
Select driver	Drivers stored in the storage device selected in the storage device selection operation. Touch the driver to display Device/PLC Select Screen.
Reload	The search in the storage device is searched again.
Close	Re-start the Display again.

■ Select node screen



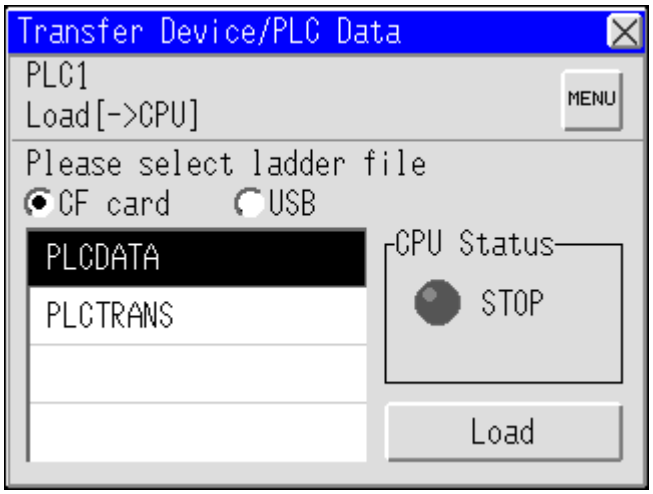
Setup Items	Setup Description
Select node	The External Devices in use are displayed on the list. When touching the External Device where the ladder file is transferred to, Transfer Menu screen is displayed. When there are many External Devices, touch the triangle arrow displayed up and bottom of the screen, then the list scrolls down and up.
Back to Driver Select	Return to the Driver Select Screen.
Close	Re-start the Display.

■ Transfer Menu screen



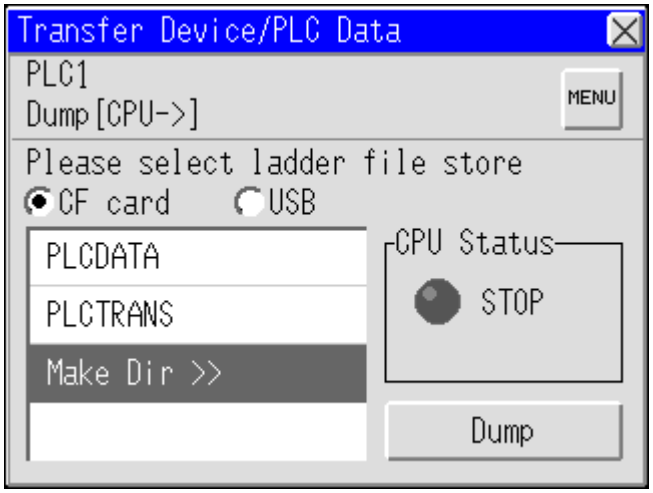
Setup Items	Setup Description
Load [->CPU]	Touch it when transferring the ladder file stored in the storage device to the External Device. Load Screen is displayed.
Dump [CPU->]	Touch it when storing the ladder file of the External Device in the storage device. Dump Screen is displayed.
Status	Touch it when switching RUN/STOP monitor or saving flash. Status Screen is displayed.
Back to Driver Select	Return to Driver Select Screen.
Close	Re-start the Display.

■ Load screen



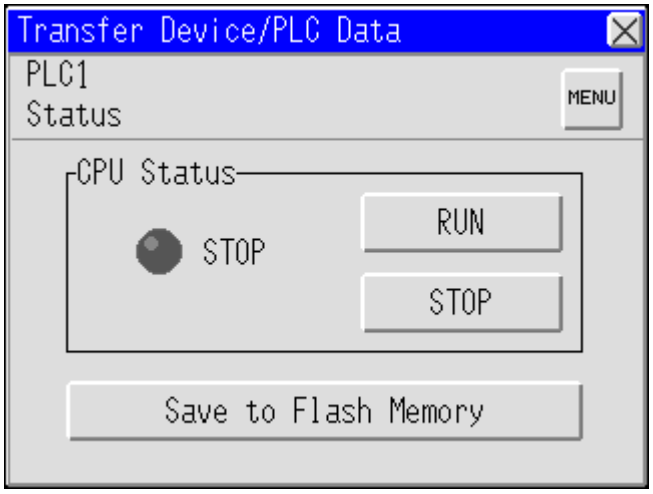
Setup Items	Setup Description
Select storage device	Select the storage device where the ladder files to be transferred to the External Device is stored from CF card and USB device.
Select ladder file	Select the ladder file to be transferred to the External Device.
CPU Status	Status of the External Device is displayed.
Load	Selected ladder file is transferred to the External Device.

■ Dump screen



Setup Items	Setup Description
Select storage device store	Select the storage device to store the ladder files of the External Device from CF card and USB device.
Select ladder file store	Select the folder to store the ladder file of the External Device. Touch [Make Dir>>] to make a folder.
CPU Status	Status of the External Device is displayed.
Dump	Ladder file of the External Device is transferred to the selected folder.

■ Status data screen



Setup Items	Setup Description
CPU Status	Status of the External Device is displayed. Touching [RUN] or [STOP] can switch operation/stop of the External Device.
Save to Flash Memory	Ladder file stored in the SRAM of the External Device is written to the flash ROM.

5 Error Messages

Error messages of the External Device Data transmission are as follows.

Error Message	Description
Response timed out has occurred	Check the communication setting.
Failed in connection to PLC	Check the communication setting.
Cannot acquire model information of PLC	Check the specified ladder file.
The ladder file does not match connected PLC	PLC specified in the ladder file differs from the connected PLC. Check the PLC.
%s:Failed in open the file	The file could not be opened during loading. Check the ladder file.
%s:The file is broken or illegal file format	Necessary information for transfer could not be obtained from the file during loading. Check the ladder file.
%s:Failed in save the file	File could not be saved during load. Check the access authority of the folder and capacity of the storage device.
%s:Failed in upload the file	File could not be acquired from the PLC during dump. Check if the file is transferred to PLC correctly.
Error has been responded from PLC.(%02XH)	Received an error response from PLC. Refer to the Yaskawa Electric Corporation MP/SERVO Ethernet Driver Manual for details of received error code.

6 Restriction

- The External Device needs to be re-started after the External Device data transfer is performed.
- The folder name displayed on the Transfer Device/PLC Data Screen is a short file name.
- A path that can access to the storage device is 80 characters or less. A path exceeding 80 characters cannot access the file resulting in an error. We recommend that you use a path with 20 or less characters for load and dump.
- Files that can transfer data are listed below.

	Load	Dump	Items (Transfer file)
1	❍	❍	User Management file
2	❍	❍	System definition
3	❍	❍	Module definition
4	❍	❍	Servo parameter (MECHATROLINK-II, MECHATROLINK-III)
5	❍	❍	Groupd definition
6	❍	❍	C Language
7	❍	❍	Table data
8	❍	❍	Drawing data, D register
9	❍	❍	Motion program
10	❍	❍	Sequence program
11	❍	❍	C table definition
12	❍	❍	Scan time definition
13	❍	❍	Application information
14	❍	❍	Data trace definition
15	❍	❍	M register
16	❍	❍	S register
17	-	❍	I register
18	-	❍	O register
19	❍	❍	C register

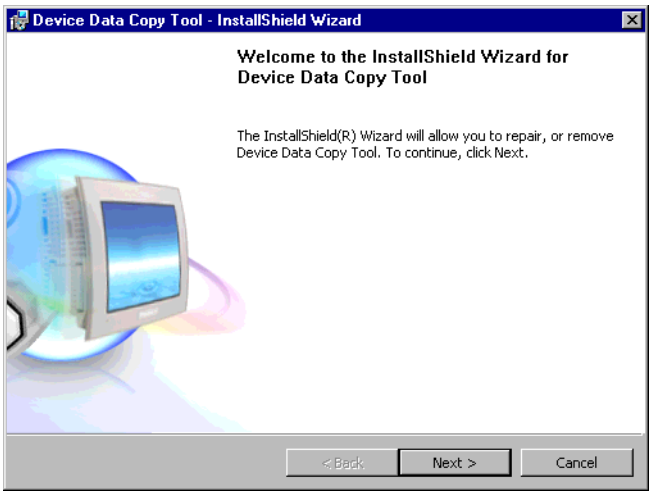
7 Appendix

7.1 Uninstall of Device Data Copy Tool

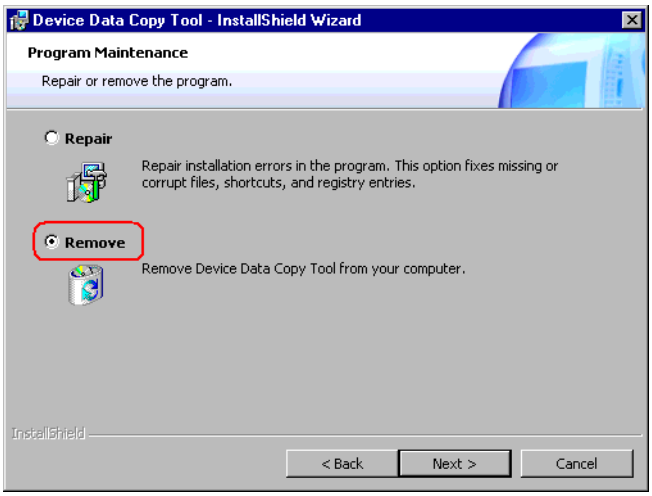
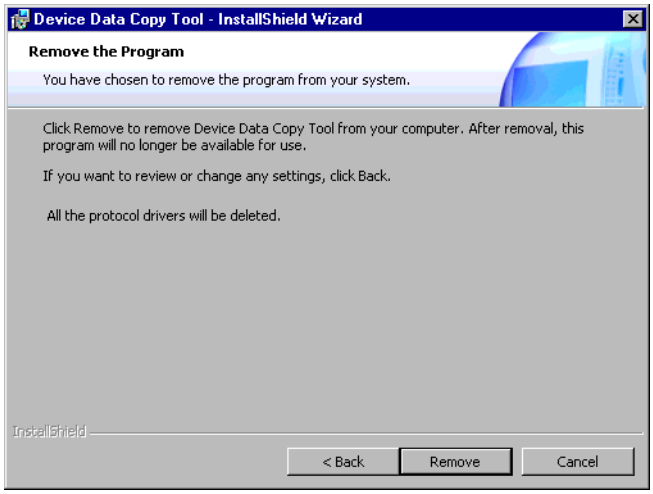
1 Start up the installer of GP-Pro EX.

2 When the install screen is displayed, click “Data Copy Tool.”

3 Displayed for wizard of “Uninstall”, and click to [Next >].



4 Select the [Remove], and click [Next >].



5 Click [Remove] to uninstall the Device Data Copy Tool.