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Supported Models

■ SP5000 Series

Box Module	Model	Type
Power Box	SP-5B10	PFXSP5B10
Open Box	SP-5B40	PFXSP5B40

■ GP4000 Series

Series Name	Model	Type
GP-4200 Series	GP-4201T	PFXGP4201TAD
	GP-4201TM(Modular Type) *1	PFXGM4201TAD
	GP-4203T	PFXGP4203TAD
GP-4300 Series	GP-4301T	PFXGP4301TAD
	GP-4301TM(Modular Type) *1	PFXGM4301TAD
	GP-4301TW	PFXGP4301TADW
	GP-4303T	PFXGP4303TAD
GP-4400 Series	GP-4401T	PFXGP4401TAD
	GP-4401WW	PFXGP4401WADW
GP-4500 Series	GP-4501T(Analog Touch Panel)	PFXGP4501TAA
		PFXGP4501TAD
	GP-4501T(Matrix Touch Panel)	PFXGP4501TMD
		PFXGP4501TMA
	GP-4501TW	PFXGP4501TADW
GP-4600 Series	GP-4601T(Analog Touch Panel)	PFXGP4601TAA
		PFXGP4601TAD
	GP-4601T(Matrix Touch Panel)	PFXGP4601TMA
		PFXGP4601TMD
	GP-4603T	PFXGP4603TAD
GP-Rear Module	GP-4000M(Rear Modular Type)	PFXGM4B01D

*1 You need to transfer a screen project file created in GP-Pro EX V3.10 or later.

■ GP3000 Series

Series Name	Model	Type
GP3000H Series	AGP-3300HL	AGP3300H-L1-D24
	AGP-3300HS	AGP3300H-S1-D24
	AGP-3310HT	AGP3310H-T1-D24
GP-3200 Series	AGP-3200A	AGP3200-A1-D24
	AGP-3200T	AGP3200-T1-D24
GP-3300 Series	AGP-3300L	AGP3300-L1-D24
	AGP-3300L-D81	AGP3300-L1-D24-D81K
		AGP3300-L1-D24-D81C
	AGP-3300L-FN1M	AGP3300-L1-D24-FN1M
	AGP-3300L-CA1M	AGP3300-L1-D24-CA1M
	AGP-3300S	AGP3300-S1-D24
	AGP-3300S-D81	AGP3300-S1-D24-D81K
		AGP3300-S1-D24-D81C
	AGP-3300S-CA1M	AGP3300-S1-D24-CA1M
	AGP-3300T	AGP3300-T1-D24
	AGP-3300T-D81	AGP3300-T1-D24-D81K
		AGP3300-T1-D24-D81C
	AGP-3300T-FN1M	AGP3300-T1-D24-FN1M
	AGP-3300T-CA1M	AGP3300-T1-D24-CA1M
	AGP-3300U	AGP3300-U1-D24
	AGP-3310T	AGP3310-T1-D24
	AGP-3360T	AGP3360-T1-D24
GP-3400 Series	AGP-3400S	AGP3400-S1-D24
	AGP-3400S-D81	AGP3400-S1-D24-D81K
		AGP3400-S1-D24-D81C
	AGP-3400S-CA1M	AGP3400-S1-D24-CA1M
	AGP-3400T	AGP3400-T1-D24
	AGP-3400T-D81	AGP3400-T1-D24-D81K
		AGP3400-T1-D24-D81C
	AGP-3400T-FN1M	AGP3400-T1-D24-FN1M
	AGP-3400T-CA1M	AGP3400-T1-D24-CA1M
	AGP-3450T	AGP3450-T1-D24

Series Name	Model	Type
GP-3500 Series	AGP-3500L	AGP3500-L1-D24
	AGP-3500L-D81	AGP3500-L1-D24-D81C
	AGP-3500S	AGP3500-S1-AF
		AGP3500-S1-D24
	AGP-3500S-D81	AGP3500-S1-AF-D81K
		AGP3500-S1-AF-D81C
		AGP3500-S1-D24-D81K
		AGP3500-S1-D24-D81C
	AGP-3500S-CA1M	AGP3500-S1-AF-CA1M
		AGP3500-S1-D24-CA1M
	AGP-3500T	AGP3500-T1-AF
		AGP3500-T1-D24
	AGP-3500T-D81	AGP3500-T1-AF-D81K
		AGP3500-T1-AF-D81C
		AGP3500-T1-D24-D81K
		AGP3500-T1-D24-D81C
	AGP-3500T-FN1M	AGP3500-T1-AF-FN1M
		AGP3500-T1-D24-FN1M
	AGP-3500T-CA1M	AGP3500-T1-AF-CA1M
		AGP3500-T1-D24-CA1M
	AGP-3510T	AGP3510-T1-AF
	AGP-3510T-CA1M	AGP3510-T1-AF-CA1M
	AGP-3550T	AGP3550-T1-AF
	AGP-3560T	AGP3560-T1-AF
GP-3600 Series	AGP-3600T	AGP3600-T1-AF
		AGP3600-T1-D24
	AGP-3600T-D81	AGP3600-T1-AF-D81K
		AGP3600-T1-AF-D81C
		AGP3600-T1-D24-D81K
		AGP3600-T1-D24-D81C
	AGP-3600T-FN1M	AGP3600-T1-AF-FN1M
		AGP3600-T1-D24-FN1M
	AGP-3600T-CA1M	AGP3600-T1-AF-CA1M
		AGP3600-T1-D24-CA1M
	AGP-3600U-CA1M	AGP3600-U1-D24-CA1M
	AGP-3650T	AGP3650-T1-AF
	AGP-3650U	AGP3650-U1-D24
GP-3700 Series	AGP-3750T	AGP3750-T1-AF
		AGP3750-T1-D24

■ WinGP

Series Name		Type
PS Series	PS-2000B Series	PS2000B-41
	PS-3000B Series	PS3000-BA
	PS-3001B Series	PS3001-BD
	PS-3450A Series	PS3450A-T41
		PS3450A-T41-24V
	PS-3451A Series	PS3451A-T41-24V
	PS-3650A Series	PS3650A-T41
		PS3650A-T42
		PS3650A-T42-24V
	PS-3651A Series	PS3651A-T41
		PS3651A-T42
		PS3651A-T42-24V
	PS-3700A Series	PS3700A-T41-ASU-P41
	PS-3710A Series	PS3710A-T41
		PS3710A-T42
		PS3710A-T41-PA1
		PS3710A-T42-24V
	PS-3711A Series	PS3711A-T41
		PS3711A-T42
		PS3711A-T41-24V
		PS3711A-T42-24V
	PS/PE-4*00 Series	PS4000 Series, PE4000 Series, PE4000B Series
PL Series	PL-3000B Series	APL3000-BA
		APL3000-BD
	PL-3600T Series	APL3600-TA
		APL3600-TD
	PL-3600K Series	APL3600-KA
		APL3600-KD
	PL-3700T Series	APL3700-TA
		APL3700-TD
	PL-3700K Series	APL3700-KA
		APL3700-KD
	PL-3900T Series	APL3900-TA
		APL3900-TD
PC/AT	PC/AT	-

■ LT4000 Series

Series Name	Model	Type
LT4000 Series	LT-420ITM (Modular Type Analog)	PFXLM420ITADAC
		PFXLM420ITADAK
	LT-420ITM (Modular Type DIO)	PFXLM420ITADDC
		PFXLM420ITADDK
	LT-430ITM (Modular Type Analog)	PFXLM430ITADAC
		PFXLM430ITADAK
	LT-430ITM (Modular Type DIO)	PFXLM430ITADDC
		PFXLM430ITADDK
	LT-4000M (Rear Module Analog)	PFXLM4B01DAC
		PFXLM4B01DAK
	LT-4000M (Rear Module DIO)	PFXLM4B01DDC
		PFXLM4B01DDK

■ LT3000 Series

Series Name	Model	Type
LT3000 Series	LT-3300L	LT3300-L1-D24-K
		LT3300-L1-D24-C
	LT-3300S	LT3300-S1-D24-K
		LT3300-S1-D24-C
	LT-3300T	LT3300-T1-D24-K
		LT3300-T1-D24-C

■ GP2000 Series/GP77R Series/GLC Series/Factory Gateway

Series Name	Model	Type	Built-in Ethernet	External Ethernet	Remarks		
GP2300 Series	GP-2300L	GP2300-LG41-24V	Available	Not Available	-		
	GP-2300T	GP2300-TC41-24V					
GP2400 Series	GP-2400T	GP2400-TC41-24V					
GP2500 Series	GP-2500T	GP2500-TC11	Not Available	Available	*1		
		GP2500-TC41-24V					
GP2501 Series	GP-2501S	GP2501-SC11				*2	
	GP-2501T	GP2501-TC11					
GP2600 Series	GP-2600T	GP2600-TC11			Available		*1
		GP2600-TC41-24V					
GP2601 Series	GP-2601	GP2601-TC11			Not Available		*2
GLC2300 Series	GLC2300L	GLC2300-LG41-24V			Available	Not Available	-
	GLC2300T	GLC2300-TC41-24V					
GLC2400 Series	GLC2400T	GLC2400-TC41-24V					
GLC2500 Series	GLC2500T	GLC2500-TC41-24V	Available	Available	*1		
		GLC2500-TC41-200V					
GLC2600 Series	GLC2600T	GLC2600-TC41-24V					
		GLC2600-TC41-200V					
GP77R Series	GP-377RT	GP377R-TC11-24V				Not Available	Available
		GP377R-TC41-24V					
	GP-477RE	GP477R-EG11					
		GP477R-EG41-24VP					
	GP-577RS	GP577R-SC11					
		GP577R-SC41-24VP					
GP-577RT	GP577R-TC11						
	GP577R-TC41-24VP						
IT2400 Series	IT2400 TypeA	IT2400-TC41-GP	Available	Not Available	-		
		IT2400-TC41-GP200V					
	IT2400 TypeB	IT2400-TC41-GLC					
		IT2400-TC41-GLC200V					
Factory Gateway	Factory Gateway	FGW-SE41-24V	Available	-	-		

*1 GP Ethernet I/F Unit or Multi Unit E is also applicable.

*2 GP Ethernet I/F Unit or Multi Unit E is necessary.

NOTE

- Using 'Pro-Server EX' with GP-2501 Series or GP-2601 Series requires an expansion Ethernet unit. Therefore, protocols that need expansion units cannot be used in this case.
- For GP-2501 Series and GP-2601 Series, 'Pro-Server EX' and Ethernet protocols cannot be used simultaneously.
- The IP addresses, port Nos., etc. are different when with only built-in Ethernet and when with an expansion Ethernet unit mounted.

OPERATING ENVIRONMENT

Confirm that the computer (PC/AT compatible machine) or display unit on which you will install this product meets the following operating requirements..

IMPORTANT

- This product must be installed and configured by qualified software installation staff with administrator rights.

Item	Requirements
OS	PC/AT Compatible Machine • Windows^(R) XP (Service Pack 3 or later) For 32-bit versions, Professional Edition • Windows Vista^(R) For 32-bit versions, Ultimate Edition, Professional Edition, Home Premium Edition, Home Basic Edition, Business Edition, Enterprise Edition • Windows Server^(R) 2003 R2 For 32-bit versions, Standard Edition, Enterprise Edition • Windows^(R) 7 For 32/64-bit versions, Ultimate Edition, Professional Edition, Home Premium Edition, Home Basic Edition, Business Edition, Enterprise Edition • Windows^(R) 8 For 32/64-bit versions, Windows 8, Windows 8 Pro, Windows 8 Enterprise • Windows^(R) 8.1 For 32/64-bit versions, Windows 8.1, Windows 8.1 Pro, Windows 8.1 Enterprise • Windows Server^(R) 2008 For 32/64-bit versions, Standard Edition, Enterprise Edition, DataCenter Edition • Windows Server^(R) 2008 R2 Standard Edition, Enterprise Edition, DataCenter Edition • Windows Server^(R) 2012 Foundation Edition, Essentials Edition, Standard Edition, Datacenter Edition • Windows Server^(R) 2012 R2 Foundation Edition, Essentials Edition, Standard Edition, Datacenter Edition SP5000 Series Open Box (SP-5B40) For 32-bit versions, Windows ^(R) Embedded Standard 7 PE4000B Series For 32-bit versions, Windows ^(R) Embedded Standard 7
CPU	1.30 GHz or faster x86 compatible processor
Resolution	SVGA 800x600 or more 256 colors or more is required. Only 96dpi font is supported.
Memory	Pro-Server EX Developer Operating Environment : 256 MB or more (2 GB or more is recommended) Pro-Server EX Runtime Operating Environment : 128 MB or more (2 GB or more is recommended)

Item	Requirements
Hard Disk Space*1	Pro-Server EX Developer Operating Environment : 1.1 GB (2.2 GB recommended) Pro-Server EX Runtime Operating Environment : 650 MB (1.3 GB recommended)
Others programs	• .NET Framework Ver.2.0*2 • Adobe^(R) Acrobat^(R) Reader^(R) Ver.6.0.3 or later • Microsoft^(R) Internet Explorer^(R) Ver.5.0 or later
Supported Language	English, Japanese
LAN Port	• Commercially available LAN cable (10BASE-2, 10BASE-5, 10BASE-T, 100BASE-T, 1000BASE-T) • HUB
DVD Drive	Compatible with the above operating systems (Use during installation.)
Mouse	Compatible with the above operating systems (Required.)
Printer	Compatible with the above operating systems (Required for printing.)
Other required environment	Environment for connecting to the Internet (Required for user registration and online updates.)

*1 Free space required for installation.

*2 Automatically installed in the PC without .NET Framework Ver.2.0

To install .NET Framework on Windows 8 / 8.1, a network connection or installation media for the operating system is required.

If you are connected to the network, follow the displayed messages to install the .NET Framework.

If you are not connected to the network, use the following procedure to install the .NET Framework.

1. Insert the installation media for the operating system into the drive.
2. From the command prompt, run [Execute as Administrator].
3. Launch the following command using the command prompt. "X:" specifies the DVD drive or drive letter for the installation media.
Dism /online /enable-feature /featurename:NetFx3 /All /Source:x:\sources\sxs /LimitAccess

■ Application Software

Depending on the Pro-Server EX feature you want to use, you may need to install one or all the following software.

- Microsoft^(R) Excel^(R) 2002, 2003, 2007, 2010, 2013
- Microsoft^(R) Access^(R) 2002, 2003, 2007, 2010, 2013
- Microsoft^(R) SQL Server^(R) 2000 / 2012 or Oracle^(R) database 8, 10g, 11g'

NOTE

- This product supports the 32-bit edition. Even if you use the 64-bit edition of the operating system (x64 Edition), you can only use the 32-bit version of Microsoft^(R) Office.
- The file format needed to be compatible with Microsoft^(R) Office 2003 or earlier for actions (except for Excel Form Action).
- For SQL Server^(R), use SQL Server authentication. Windows authentication is not supported.
- When using a 64-bit operating system, the Oracle^(R) databases above will not run. Use "Oracle ODBC Driver" version 8.0.5.5.0 or later.

■ User Application Development Environment

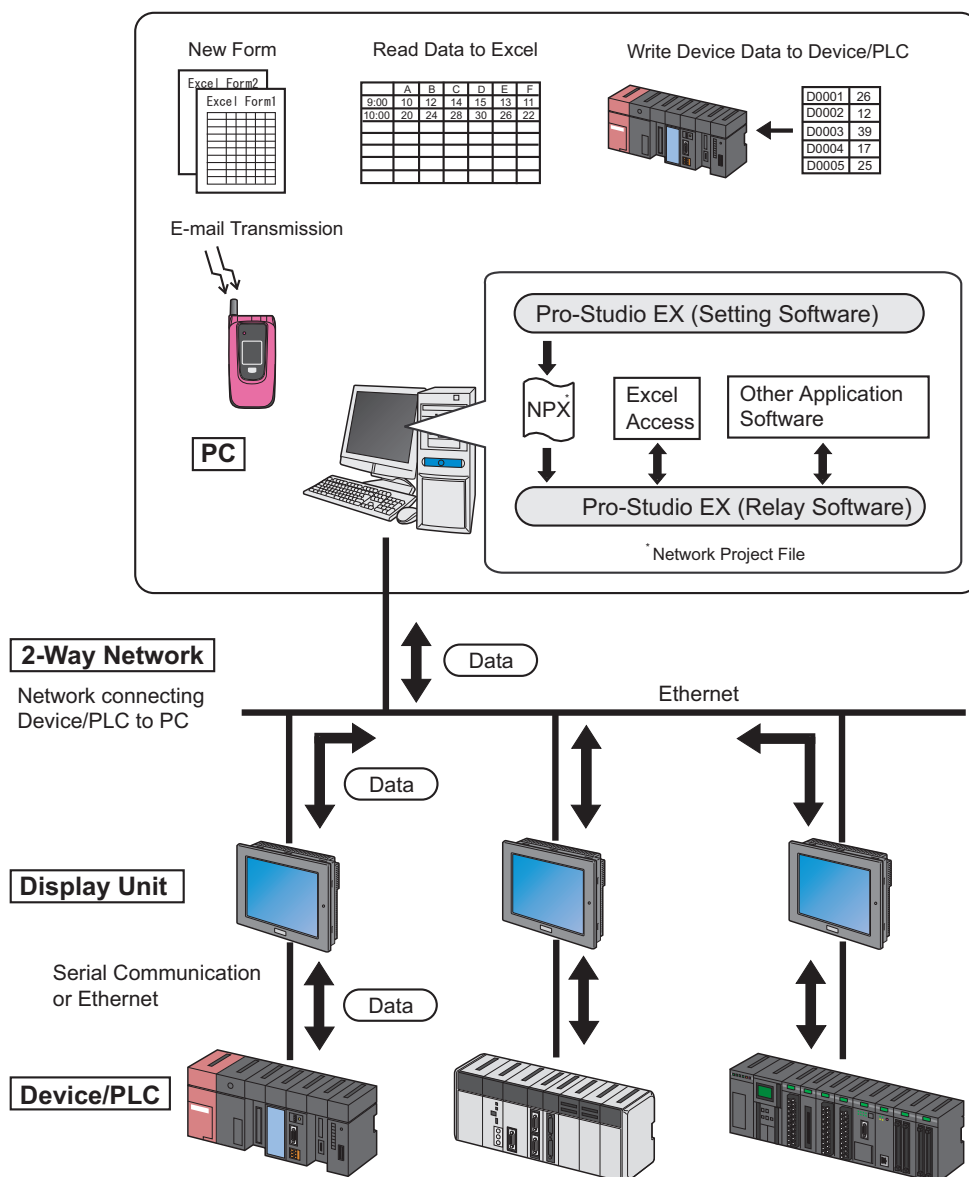
The following is a verified operational development environment.

- Microsoft^(R) Visual Basic^(R) Ver.6.0
- Microsoft^(R) Visual C++^(R) Ver.6.0 or Ver.7.0
- Microsoft^(R) Visual Studio^(R) .NET 2003
- Microsoft^(R) Visual Studio^(R) 2005

1.1 What is 'Pro-Server EX'?

'Pro-Server EX' is PC software to collect displayed data from the Display Units and measured data from the devices connected to the PC via a network (Ethernet) in the PC and execute various processing of the collected data.

'Pro-Server EX' is linked with various application software such as 'Microsoft^(R) Excel^(R)' (referred to as 'Excel'), and 'Microsoft^(R) Access^(R)' (referred to as 'Access'). This allows you to use the data as you desire utilizing various features of application software such as form creation and write of device data to the Device/PLC.

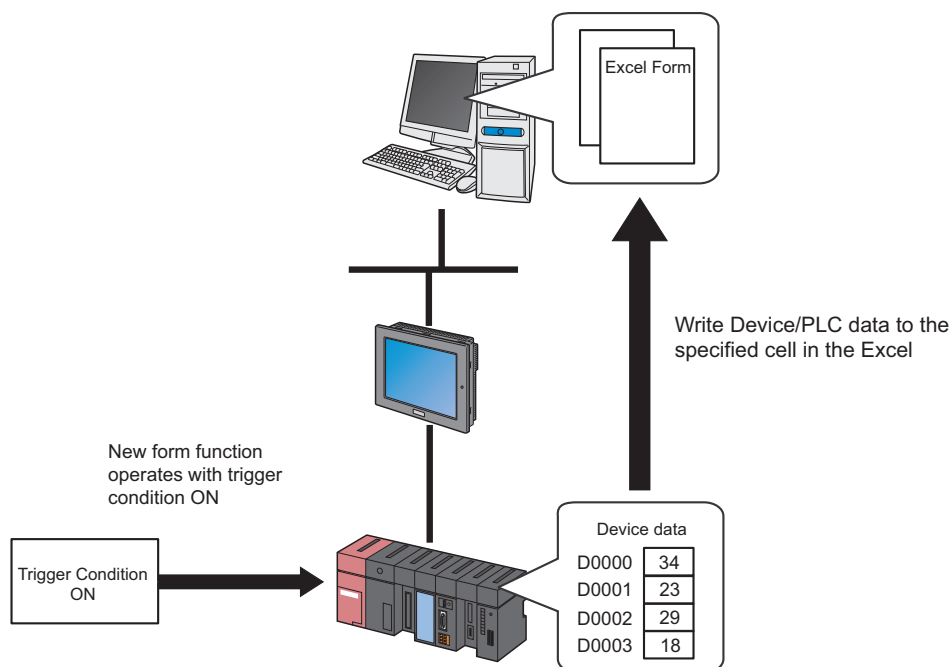


1.2 What You can Do with 'Pro-Server EX'

■ Form Creation

'Pro-Server EX' allows you to automatically create various forms such as control sheets and reports based on the data read from the display units or Device/PLCs. 'Pro-Server EX' prepares a wide variety of templates that are applicable to the formats frequently used in production sites.

☞ "5 Creating a Form Using Excel"



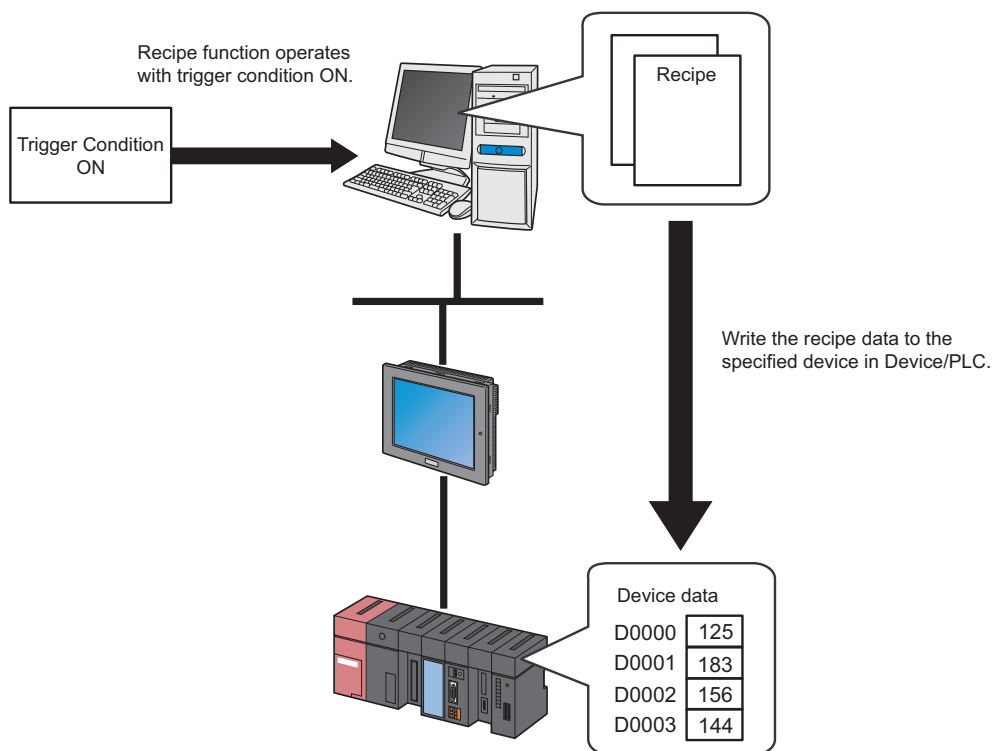
■ Data Input to Device/PLC

'Pro-Server EX' allows you to write plural data to the Device/PLCs at an arbitrary timing. This enables you to input working instructions, various parameters, etc. in the office without going out to the production site.

☞ "12 Writing Excel Data in Device/PLC"

☞ "13 Writing CSV File Data in Device/PLC"

☞ "14 Reading Device/PLC from Database"

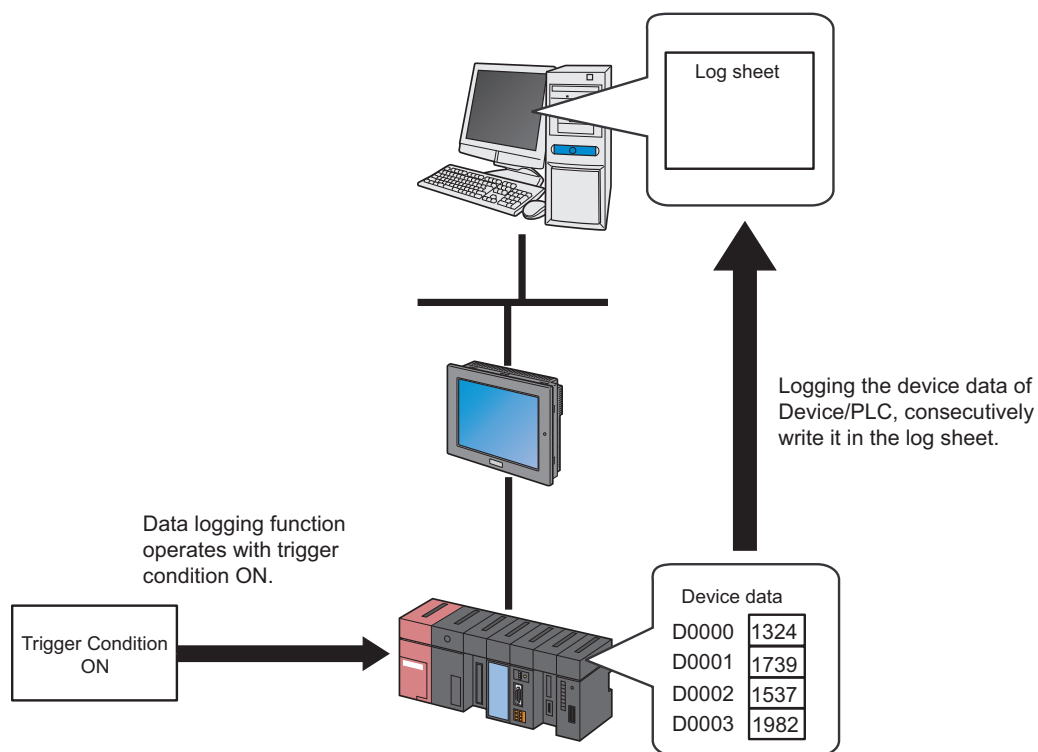


■ Logging of Device/PLC Data

'Pro-Server EX' allows periodic logging (continuous read) of plural data at an arbitrary interval. The logged data is written in application software such as 'Excel'. This feature enables you to easily edit or process the data.

☞ "6 Writing Device/PLC Data in Excel File"

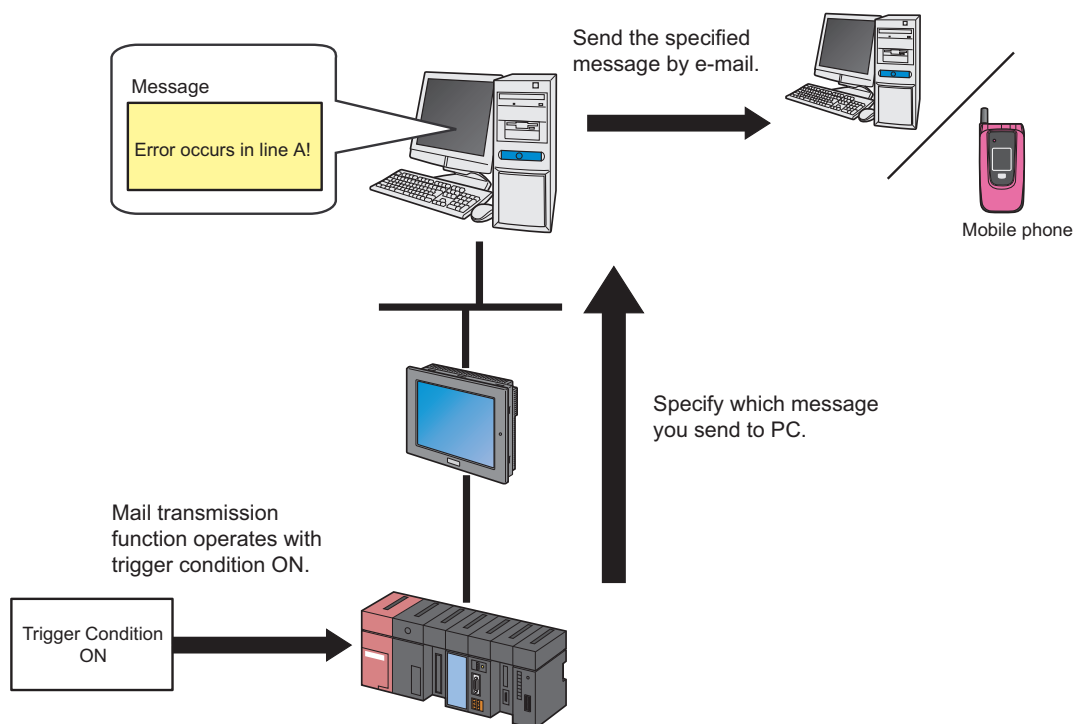
☞ "7 Writing Device/PLC Data in CSV File"



■ Sending Message via E-Mail

'Pro-Server EX' allows e-mailing preset messages when a preset event has occurred such as change in data or occurrence of trouble. This feature enables you to report to the manager immediately after a trouble occurred.

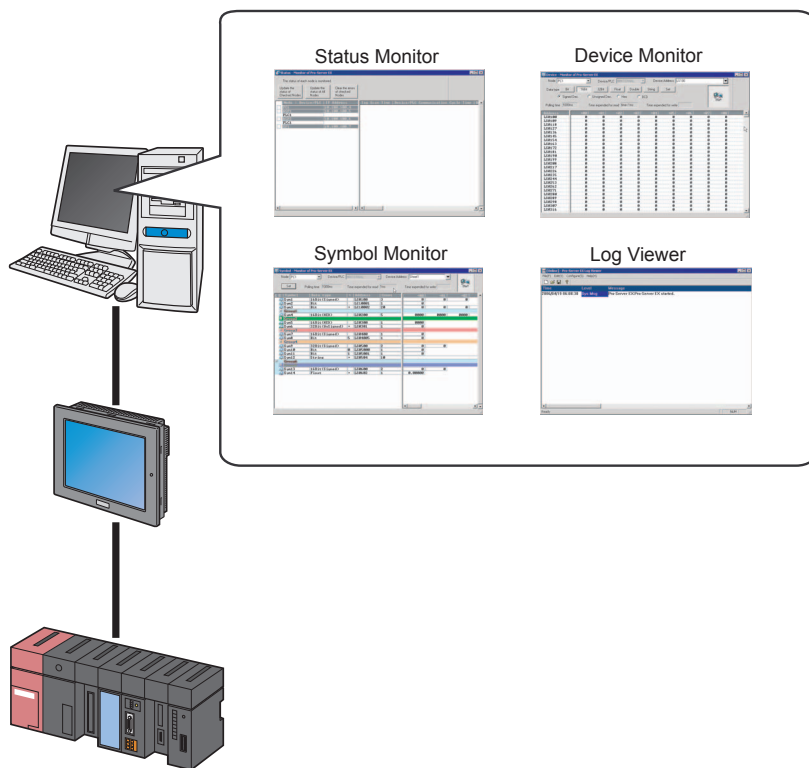
☞ "15 Reporting Alarm by E-mail"



■ Monitoring of Device/PLC Data

'Pro-Server EX' allows you to monitor device data of the display units and Device/PLCs with simple operation. It also allows you to write the data to an arbitrary device address from the PC.

☞ "28 Simply Confirming On-site Status"

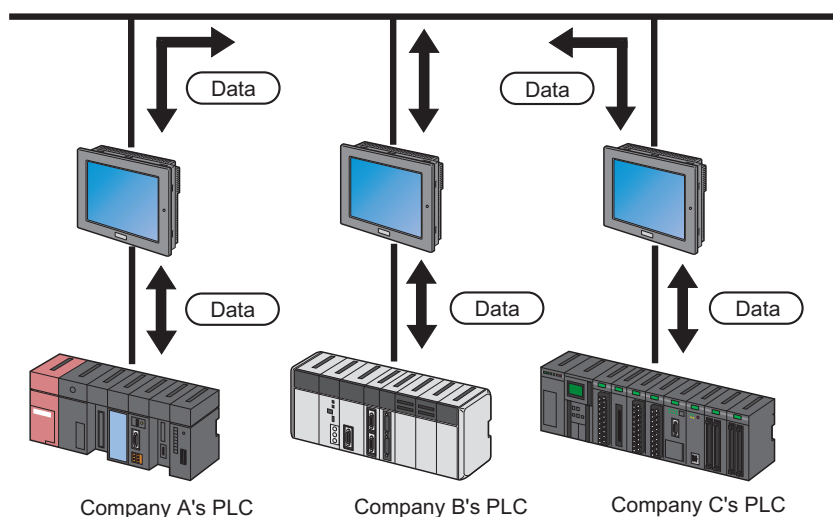


The 'Pro-Server EX' has other features as follows.

■ Data Transfer between Device/PLCs

'Pro-Server EX' allows data transfer among the display units and Device/PLCs without a PC. This feature enables data sharing even when the Device/PLCs are of different manufacturer.

☞ "19 Sending Data between Devices"



■ Data Processing using a User Application Program

'Pro-Server EX' allows access to the data of Device/PLCs using a user application program created in VB ('Visual Basic'), VC ('Visual C++'), VB .NET, or C# format. This feature enables a variety of data processing depending on the contents of the program.

☞ "27 Designing Your Own Program"

The above features are only a part of the various features of 'Pro-Server EX'. Refer to each chapter of this manual for the other features of 'Pro-Server EX'.

1.3 How the Data Management System Operates

This section describes how the data management system using 'Pro-Server EX' operates.

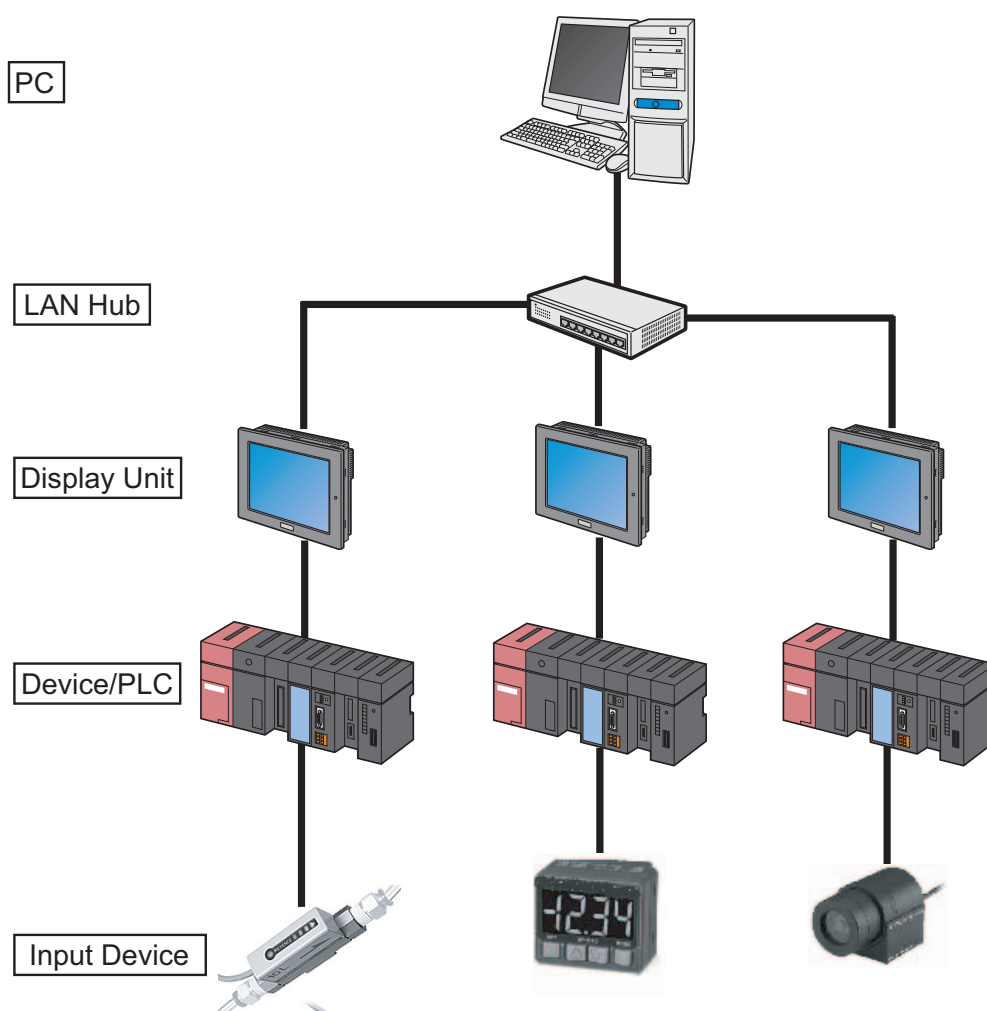
1.3.1 Devices to be Used

The data management system using Pro-Server EX needs the following devices.

You must prepare an appropriate system configuration as follows before actual use.

☞ "2 Preparation"

*The following shows an example of the system. You can use other devices depending on the working environments.



■ PC (PC/AT compatible machine)/Display Unit

Used to read/write the data of display units and Device/PLCs via a network (Ethernet) after 'Pro-Server EX' and 'Pro-Studio EX' are installed therein.

■ LAN Hub

Used to connect all the devices together via Ethernet.

■ Display Unit

A combination of operation panels and display units that have been provided separately for machines and equipment.

The display unit has features of displaying characters information, graphics information, etc. and entering data from touch keys.

■ Device/PLC

Used to capture data and perform control. The Device/PLC includes a PLC, thermostat, inverter, etc. The Device/PLC performs control based on the data from the input devices and outputs the result to the display units.

■ Input Device

An externally connected device such as a sensor and a switch that performs measurement, counting, etc. The data is captured via the Device/PLC.

1.3.2 Software to be Used

The data management system using 'Pro-Server EX' includes following software. This section describes the overview and features of the software.

■ 'Pro-Studio EX'

System designing software to be used when developing a data management system.

'Pro-Studio EX' allows various settings such as those of information about the devices being connected to the network and conditions for receiving/sending data and then creating a network project file containing those settings.

After the created network project file is transferred to the display units, the data management system can operate effectively according to the settings in the network project file.

■ 'Pro-Server EX'

A data relay driver for operating data management system.

'Pro-Server EX' allows data communication between the PC and the display units in accordance with the content of the network project file created using Pro-Studio EX, and to read/write of the collected data to the application software of the PC and the devices.

Network Project File

The data management system using 'Pro-Server EX' creates a file in the display unit's screen data (screen project file), which contains information about the devices being connected and features to be used. This file is called "Network project file", and is affixed with an extension of ".npx". The same network project file is basically used for all the devices being connected via a network, and the data is processed based on the settings.

Screen Project File

Created using screen editing software such as GP-Pro EX or GP-Pro/PBIII for Windows, a screen project file is a collection of information that includes screen data, display unit, and Device/PLCs, as well as configuration of fonts and features. To run the data management system, first you need to transfer the screen project file to the display unit.

■ '2-Way Driver'

Built-in software in a display unit, which serves as an interactive communication driver to translate communication protocols of various Device/PLCs and to perform communication between the PC and the Device/PLCs via the display units.

The 2-way driver acts according to the content of the network project file transferred from the PC.

IMPORTANT

- The GP77R Series, GP2501 Series, and GP2601 Series have no built-in '2-way driver'. Be sure to download a '2-way driver' from 'GP-Pro PB III'. For help with downloading, refer to the 'GP-Pro PB III Operation Manual'.
-

1.3.3 How to Transfer the Data

The data management system using 'Pro-Server EX' uses the following features to read/write data from/to application software such as 'Excel'.

Depending on the ACTION to be executed, an appropriate feature is used.

■ DDE(Dynamic Data Exchange)

A system to support exchange of data between two applications running simultaneously on Windows.

For example, in the case when reading the data of the Device/PLCs using 'Excel', 'Excel' requests data and 'Pro-Server EX' sends the data. That is how the data is automatically exchanged.

Application software such as 'Pro-Server EX', 'Excel' and 'Access' has this DDE function preinstalled, making it possible to read/write data without any special settings.

■ API(Application Programming Interface)

A series of functions used for relaying 'Pro-Server EX' and application programs. Using API can exchange data via user application programs created in VB ('Visual Basic'), VC ('Visual C++'), VB .NET, or C# format.

Access of an application program to the 'Pro-Server EX' API used for exchanging data enables read/write of the data of the Device/PLCs.

■ ACTION

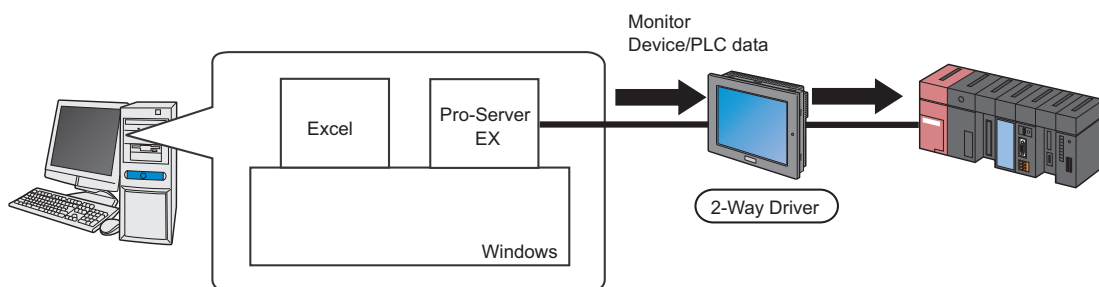
A system preinstalled in 'Pro-Server EX' to exchange data.

The ACTION includes data exchange with an application program, access to a transmission server when sending e-mails.

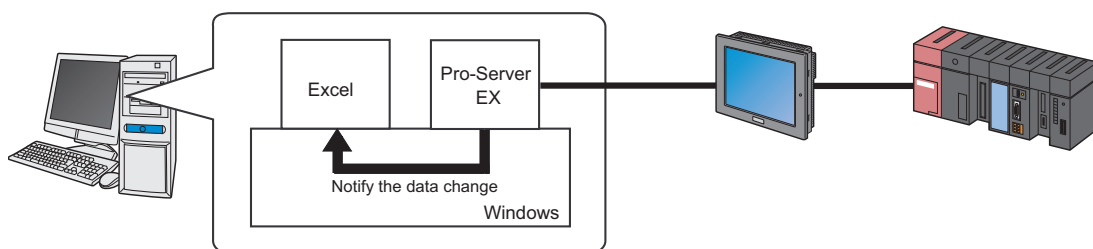
The following shows how the DDE function runs.

[Data Exchange by DDE]

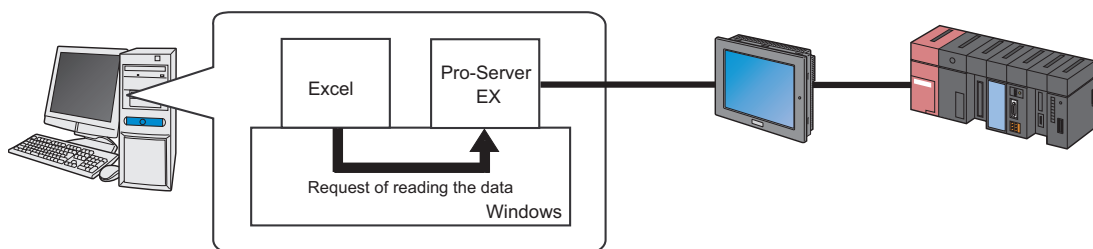
- (1) 'Pro-Server EX' on Windows always monitors the measurement data in the Device/PLC via the 2-way driver.



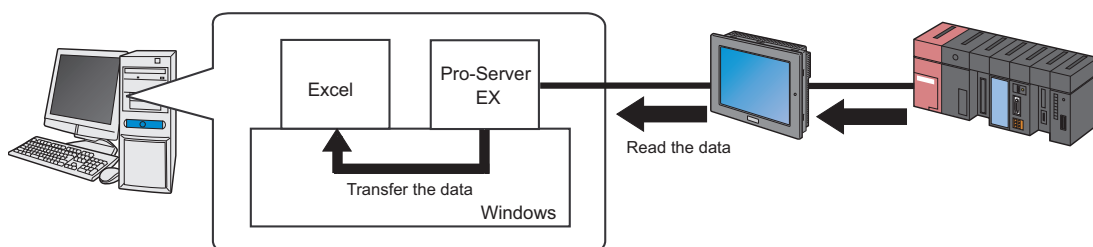
- (2) The 'Pro-Server EX' notifies 'Excel' of a change in the data in the Device/PLC, if any.



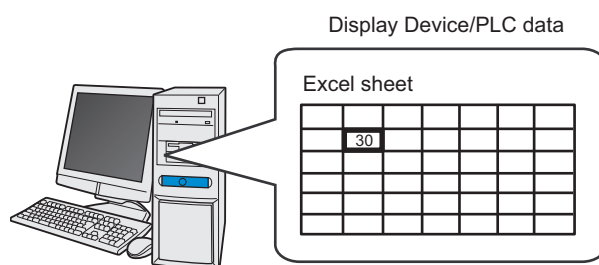
- (3) 'Excel' requests read of the data to 'Pro-Server EX'.



- (4) 'Pro-Server EX' reads the Device/PLC data and transfers the read data to 'Excel'.



(5) 'Excel' displays the transferred data on the specified cell.



1.4 Necessary Operation

This chapter describes necessary operation for executing data management using 'Pro-Server EX' and the flow of the procedures.

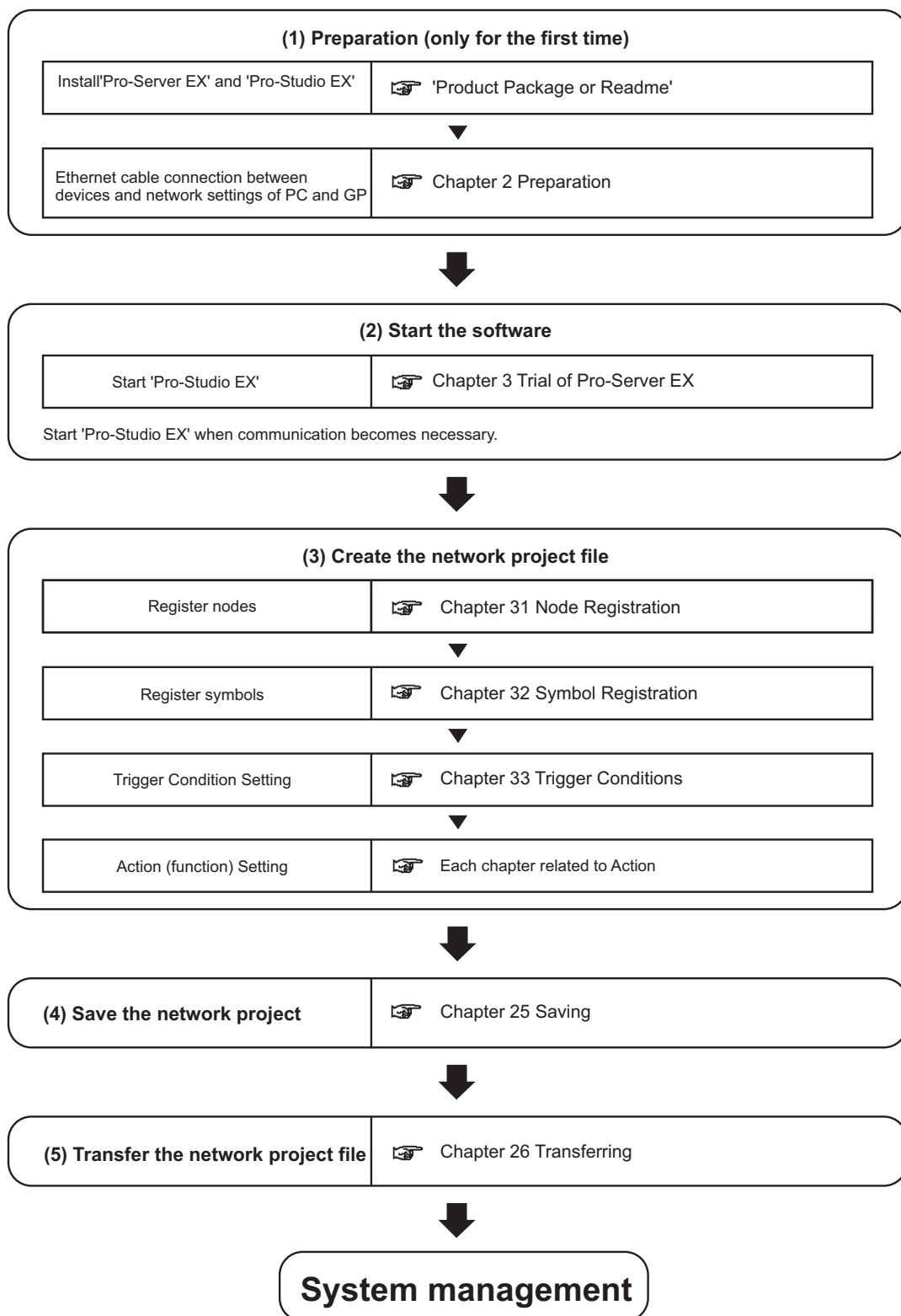
Refer to each chapter in this manual for more details.

IMPORTANT

- The following procedures assume the screen project file is already transferred to the display unit and that the connection between the display unit and Device/PLC is complete. Incomplete connection or settings may result in failure to read/write the data using the PC. Be sure to complete the correct connection and settings by referring to the user documentation for both the display unit and the screen creation software ('GP-Pro EX' or 'GP-PRO/PB III for Windows').
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NOTE

- When you are using Windows Embedded machines, you can set the write filter (write protection) on drives installed with the operating system. If the write filter settings are enabled, disable the write filter settings (EWF Manager) before installing Pro-Server EX. Additionally, to install this product on the SP5000 series Open Box (SP-5B40), run the installation from the Explorer Shell. For details, refer to the user manual for your unit
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1.5 About the Trial Version

Even without a license, you can try out the functions available in "Pro-Server EX" and "Pro-Studio EX". The trial version does not require a serial number or key code.

To check if your application is a product version or trial version, from the menu click [Version Information]. If you are using the trial version, it will show "Trial Version".

In the trial version:

- You can use all the functions except transfer
- The application ends after about 3 hours of operation
- Network projects created using the trial version cannot be loaded into a product version of Pro-Server EX

NOTE

- You can load network project files created in the trial version to a product version of Pro-Server EX by converting the files in a product version of Pro-Studio EX.
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1.5.1 Changing to the Full Version

After purchasing a license, from the menu click [Enter key code] and enter the serial number and key code.