Preface

Thank you for using Pro-face programmable display units and the screen design software GP-Pro EX.

Please read this manual carefully in order to use this software properly, and be sure to keep this manual handy for future reference.

NOTICE

The information provided in this document contains general descriptions, technical characteristics and/or recommendations related to products/solutions.

This document is not intended as a substitute for a detailed study or operational and site-specific development or schematic plan. It is not to be used for determining suitability or reliability of the products/solutions for specific user applications. It is the duty of any such user to perform or have any professional expert of its choice (integrator, specifier or the like) perform the appropriate and comprehensive risk analysis, evaluation and testing of the products/ solutions with respect to the relevant specific application or use thereof.

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1 How to Use This Manual

■ Structure of the Manual

This "GP-Pro EX Device/PLC Connection Manual" discribes how to connect the External Device to the display. Please refer two other manuals shown below related to this manual.

Besides these manuals, data files of additional functions, information and modified information are attached depending on the situation.

To see these additional data files, click [Start] button in your Windows OS main screen and select the [Programs (P)] - [Pro-face] - [GP-Pro EX] menu. Then, click [Read Me] .

Please refer to "Hardware Manual" for details about the display.

Reference Manual	Describes GP-Pro EX's operation procedures and details on all features. It consist of CHM data.
Maintenance / Troubleshooting	Describes the solution when they have problems in the settings of GP-Pro EX and the use of Display on the spot. It consist of CHM data.
Device/PLC Connection Manual	Describes the methods for connecting the GP to supported devices/PLCs from other manufacturers. Provided as CHM and PDF data.

2   Manual Symbols and Terminology

This manual uses the following symbols and terminology.

■ Safety Symbols and Terms

This manual uses the following symbols and terms to identify important information related to the correct and safe operation of GP-Pro EX. The symbols and the descriptions are as follows.

⚡	The addition of this symbol to a "Danger" or "Warning" safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.
⚠	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ DANGER
DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING
WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION
CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE
NOTICE is used to address practices not related to physical injury.

■ General Information Symbols and Terms

This manual uses the following symbols and terms for general information.

| Symbol	Description
$\bigcirc$	Indicates instructions or procedures that must NOT be performed to ensure correct product use.
❶	Indicates instructions or procedures that MUST be performed to ensure correct product use.
IMPORTANT	Indicates a potentially damaging action or dangerous situation that could result in abnormal equipment operation or data loss.
NOTE	Provides hints on correct product use, or supplementary information.
✻	Indicates an item with an explanatory footnote.
☞	Indicates an item's related information.
1, 2	Indicates an operation procedure. Operate according to the numbers.

■ Terms

In this manual, the following terms are used to explain.

| Shown as	Descriptions
Display	General Name of GP, SP, ST, STM, GC, ET, LT, IPC, PC/AT
GP3000	GP3000 Series
GP4000	GP4000 Series, GP4000M Series, GP4100 Series, GP4000H Series, GP4000R Series
GP6000	GP6000 Series
SP5000	SP5000 Series, SP5000X Series
ST / ST3000	ST3000 Series
ST6000	ST6000 Series
STM6000	STM6000 Series
GC4000	GC4000 Series
ET6000	ET6000 Series
LT3000	LT-3300 Series

Shown as	Descriptions
IPC	PS-2000B Series PS-3450A, PS-3451A Series PS-3650A, PS-3651A Series PS-3700A(Pentium® 4-M)(REV.J or higher) PS-3710A, PS-3711A Series PS3000-BA, PS3001-BD PS4000 Series PL3000 Series PE-4000B Series PS5000 Series PS6000 Series
PC/AT	Personal Compter compatible Windows® XP (Service Pack 2 or later) or Windows Vista® (Service Pack 2 or later), Windows® 7 (Service Pack 1 or later), Windows® 8 / Windows® 8.1, Windows® 10 (Home, Pro, Enterprise).
PLC	Programmable Logic Controller

■ Supported Devices Symbol and Terms

The meaning of symbols used in the section titled "Supported Devices" are described below.

Symbol	Description
$\boxed{\text{OCT}8}$	Setup the address as Octal.
$\boxed{\text{***}0}$	Word address' bottom column bit can only be set to 0.
$\boxed{\div 16}$	Word address can only be set to multiples of 16.
$\boxed{\div 16+1}$	Word address can only be set to multiples of 16 + 1.
$\boxed{\div 2}$	Word address can only be set to even numbers.
$\boxed{\div 8}$	Word address can only be set to multiples of 8.
$\boxed{\text{Bit}15}$ [*1]	Bit setup possible. After the word address, set the bit position, from 0 to 15.
$\boxed{\text{Bit}F}$ [*1]	Bit setup possible. After the word address, set the bit position, from 0 to F.
$\boxed{\text{Bit}7}$ [*1]	Bit setup possible. After the word address, set the bit position, from 0 to 7.

Symbol	Description
$\boxed{\text{Bit } 31}$ *1	Bit setup possible. After the word address, set the bit position, from 0 to 31.
$\lceil \mathsf{L/H} \rfloor$	When using 2 words (32 bit data), the relationship between the top and bottom data is: 0 L(low pos.) 1 H(high pos.)
$\lceil \mathsf{H/L} \rfloor$	When using 2 words (32 bit data), the relationship between the top and bottom data is: 0 H(high pos.) 1 L(low pos.)

*1   When writing a value to the specified bit, all the other bits in the word are set to zero. However, when using invert bit, the value of the other bits in the word do not change.

The device ranges listed in the sections titled "Supported Devices" are the maximum setup ranges. The ranges may be smaller than illustrated, depending on your PLC type. For further details, refer to the corresponding PLC manual.

Setup the System Area in the devices that are shaded.

Cf.   GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"