

Preface

This document provides information (including specifications and limitations) on the GP-4402 WW and GP-4502 WW (hereafter called GP-4*02WW) not described in either the GP-Pro EX Reference Manual or Device / PLC Connection Manual.

NOTE

- GP-4*02 WW is supported from GP-Pro EX Ver. 4.03.400 or later.
- Specifications and limitations that are not described in this document are the same as GP-4000 Series.
Please refer to the GP-Pro EX Reference Manual and Device / PLC Connection Manual for this information.

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Reference Manual

This section describes the specifications and limitations for GP-Pro EX operations.

[Supported Model List](#)

[Supported Features](#)

[Supported Colors](#)

[Special features and limitations](#)

Supported Model List

| Series Name | Model | Type |
|---------------|-----------|---------------|
| GP4000 Series | GP-4402WW | PFXGP4402WADW |
| | GP-4502WW | PFXGP4502WADW |

Supported Features

| | GP-4*02WW |
|---|-----------|
| Display Unit | |
| Screen Area (Unit: byte) | 32 M |
| Portrait Installation | ✓ |
| Function Expansion Memory | - |
| Installing the USB / RS-422 / 485 Conversion Adapters | ✓ |
| MAC Address Display | ✓ |
| External Storage | |
| CF Card | - |
| SD Card | - |
| CFast Card | - |
| USB storage | ✓ |
| FTP server | ✓ |
| System Settings | |
| Drawing in 256 colors | ✓ |
| Reverse Display | - |
| Faded Color Blink | - |
| Synchronize Text Display with Text Table | ✓ |
| Time Zone Settings | - |
| Detect Backlight Burnout | - |
| Dimmer settings | ✓ |
| Two-Point Touch | - |
| Display the SD / USB Removal Icon | ✓ |

| | |
|--|---|
| Screen Capture | ✓ |
| SRAM Auto Backup | - |
| Image Font | ✓ |
| Bitmap Font | ✓ |
| Standard Font | ✓ |
| Device / PLC Communication *1 | |
| Number of Devices / PLCs that can communicate simultaneously | 2 |
| Specify Indirect Device | ✓ |
| Import Device / PLC tags | ✓ |
| Ethernet Multilink | ✓ |
| Device Monitor | ✓ |
| Ladder Monitor | - |
| Transfer | |
| Network Transfer | ✓ |
| Modem Transfer | - |
| SIO Transfer (COM Connection) | ✓ |
| Memory loader feature | ✓ |
| CF / SD Card Connection | - |
| Connection Key | ✓ |
| Common Settings | |
| Change Backlight Color | - |
| Clock Update Settings | ✓ |
| Start Screen Settings | ✓ |
| Date format on CSV file output | ✓ |
| Divide destination folders by file numbers | ✓ |
| Increase Alarm Type [Extended] settings and Text Table index numbers | ✓ |
| Alarm Message Multiple Line Display | ✓ |
| Attach Data Value to Operation Log | ✓ |
| Changing passwords at run time (CSV file) | ✓ |
| Changing passwords at run time (password change screen) | ✓ |
| Append Date/Time to sampling CSV file name | ✓ |
| Transfer sampling CSV file to FTP | - |
| Transferring Sampled Data to the Cloud | ✓ |
| Indirectly specify Sampling Frequency and Alarm Settings | ✓ |
| Sampling data / Enhanced recipe data format co-exist | ✓ |
| Create a recipe (CSV data) index file at runtime | ✓ |

| | |
|--|---|
| Enhanced Recipes | ✓ |
| Extended Script copy file function | ✓ |
| Global Trigger | ✓ |
| Movie record / play feature | - |
| Use image unit | - |
| Sound Output Feature | - |
| AUX | - |
| Retentive Variables Function | - |
| Parts | |
| Selector List | ✓ |
| XY Graph | ✓ |
| Picture Display [CF Image Display] / [SD Image Display] for showing JPEG files | - |
| Indirectly specify a block of Alarm parts | ✓ |
| Special Data Display [File Manager] sort function and default path | ✓ |
| Special Data Display Part [File Manager] copy file to FTP | ✓ |
| Message Display's Bulletin Message | ✓ |
| Image Sensor Display | ✓ |
| Animation | ✓ |
| Alarm History Message Flow Display | ✓ |
| Alarm History / Sampling Data / Enhanced Recipe Data Refine Search / Sort Function | ✓ |
| Alarm Analysis Function | ✓ |
| Logic | |
| Logic Program Operation | ✓ |
| I / O Driver | - |
| Function Block | ✓ |
| Network | |
| RPA Function | - |
| GP-Viewer EX | ✓ |
| Web Server | - |
| Camera-Viewer EX | - |
| Pro-face Remote HMI | - |
| E-mail | - |
| GP Remote Printer Server | ✓ |
| Pro-face Connect (Models you can register as SiteManager) | - |
| Input Equipment | |

| | |
|-----------------------------------|---|
| USB Keyboard | ✓ |
| EZ Illuminated Switch | ✓ |
| EZ Tower Light *2 | ✓ |
| EZ Numpad | ✓ |
| EZ Fingerprint Recognition Unit | ✓ |
| EZ LAN Adapter | – |

*1 Depends on the type of connected PLC / Device.

*2 Cockpit parts are listed on our support site (<http://www.pro-face.com/trans/en/manual/1001.html>)

Supported Colors

- **Display Color**

65,536 Colors, No Blink

- **Colors when drawing**

256 Colors

Special features and limitations

GP-4*02WW has the following special features and limitations.

[Special Features](#)

[Unsupported Features](#)

[Limitations](#)

Special Features

SRAM

- Since GP-4*02WW is not equipped with backup memory (SRAM), part of the internal memory is used as the backup area. GP-Pro EX Reference Manual refers to this area as "virtual backup memory". Data in virtual backup memory, just like backup memory (SRAM), is preserved even when the display unit is turned off and on again. You can check the virtual memory capacity. From the [Project (F)] menu, point to [Information (I)], select [Project Information (I)], and then select [SRAM Information].
- The following data are saved to virtual backup memory.
 - Alarm history data

NOTICE

LOSS OF DATA

- Do not turn off the display unit while saving the History Data in the virtual backup memory.
It may cause the loss of data or damage to the virtual backup memory. Before turning the display unit off, turn ON the #H_Control_StopAlarmSave system variable and then save history data. The system variable #H_Status_AlarmSave turns ON after the history data save is completed. Confirm the

system variable #H_Status_AlarmSave is turned OFF and then turn off the display unit.

When you turn ON the system variable #H_Control_StopAlarmSave before turning off the display unit, the history data is saved. Thus, data will not be saved until the next time the bit is turned OFF even if the cycle set in the [Storage Frequency] elapses.

For more information about system variables, please see the "Bit Type - #H System Variables" in GP-Pro EX Reference Manual.

- Please save history data before going to offline mode. If you enter offline mode before saving, reset will cause the loss of all the latest history data.

Failure to follow these instructions can result in equipment damage.

- Filing Data (Recipe)

NOTICE

LOSS OF DATA

- Filing data is saved in the display unit's virtual backup memory instead of backup memory (SRAM). Do not turn off the display unit while saving filing data from the screen area in virtual backup memory. The latest data may not display correctly or virtual backup memory may become damaged such that it may no longer be useable. Do not change to offline mode while transferring data from a device / PLC to the display unit. It may go back to the previous data.

Failure to follow these instructions can result in equipment damage.

2-Point Touch

- GP-4*02WW do not support 2-Point Touch. Be careful when you simultaneously touch two points on the touch panel, as the touch coordinates are calculated at the center of the two touch points.

Memory Loader

- The backup file's default name that is created to external storage will be "MEM4X0XY.CML".

Unsupported Features

Parts

- Movie Player
- Image Unit Display
- Remote PC Access (RPA)

System Settings

- Video/Movie
- I/O Driver
- Modem
- Image Unit
- E-mail

Common Settings

- Sound
- Change Backlight Color
- Movie
- Image Unit Window

Others

- Ladder Monitor
- Remote PC Access (RPA)
- Web Server
- Pro-face Remote HMI
- WinGP

Limitations

Switch Lamp

- Cannot output to AUX port.
- You can use only the following Special Switches.
 - Window Display Switch
 - Alarm History Switch
 - Alarm History Switch (Block)
 - Text Alarm Switch
 - Historical Trend Graph Switch
 - Sampling Data Display Switch
 - Switch for Selector List
 - Operation Lock
 - Security
 - File Item Switch
 - File Manager Display Switch
 - Data Transfer Switch
 - CSV Display Switch
 - Switch for Enhanced Recipe Lists
 - Switch for Enhanced Recipe Data List
 - Start Monitor Switch
 - Reset
 - Offline
 - Transfer Device/PLC Data

Selector List

- You can use only the following Special Switches.
 - Window Display Switch

- Alarm History Switch
- Alarm History Switch (Block)
- Text Alarm Switch
- Historical Trend Graph Switch
- Sampling Data Display Switch
- Switch for Selector List
- Operation Lock
- Security
- File Item Switch
- File Manager Display Switch
- Data Transfer Switch
- CSV Display Switch
- Switch for Enhanced Recipe Lists
- Switch for Enhanced Recipe Data List
- Start Monitor Switch
- Reset
- Offline
- Transfer Device/PLC Data

Keypad / Key Parts

- You cannot use Key parts for the Front End Processor (FEP) or AUX output.

Alarms

- You cannot use the Sub Display's [Movie Player].

Special Data Display

- File Manager can only be used for [File Operation] on USB storage and FTP server.

Trigger Action

- Cannot use Special Actions.

D-script : Common Settings [Global D-Script] / Common Settings [Extended Script]

- When communicating with external equipment, even if you set the communication format to RS232C you cannot set up the 5V power supply.
- Cannot use the following programming functions.
 - [CF File Operation] and [SD File Operation]-Delete File, Output File List, Read File, Read CSV File, Change File Name, Write File, and Label Settings
 - [Others] - Start Application and Exit WinGP
 - [SIO Port Operation] Label Settings (CF_FILELIST_NUM / SD_FILELIST_NUM / CF_READ_NUM / SD_READ_NUM / CF_ERR_STAT / SD_ERR_STAT / PRN_CTRL / PRN_STAT)

Common Settings (Symbol Variables) Settings Guide

- [Retentive] setting of variables cannot be used.

Peripheral devices

- You can use USB-connected printers, bar code readers and two-dimensional code readers.

System Variable settings

- Among HMI system variables and logic system variables, you can use only variables associated with features supported by the display unit.

System Settings [Logic Program]

- Even if [Retentive Area Settings] is set in [Variable] of the Logic Program settings, all variables will operate as volatile. For this reason, all variables are initialized when the display unit is turned off and on again.

System Settings [Display Unit]

- Cannot select monochrome settings in [Display Settings] tab. Refer to [Supported Colors](#).
- Cannot use [Pro-face Remote HMI] settings in [Remote Viewer] tab.

GP-Viewer EX

- When using GP-Viewer EX on GP-4*02WW, in [System Settings] - [Display Unit] - [Display], set the [System Language] to [English]. If the [System Language] is set to [Chinese], you cannot use GP-Viewer EX.

Device/PLC Connection Manual

This section describes how to connect the display unit and the device / PLC.

Connecting GP-4402WW/GP-4502WW and Device/PLCs

Please refer to the Device/PLC Connection Manual for GP-4*02WW and device/PLC connection settings. For cable diagrams, see the following.

Cable Diagram

For cables you can use with the GP-4*02WW, in the Device/PLC Connection Manual refer to the GP4000 (COM1) or GP4000 (COM2) cable diagrams. It may require a small interpretation.

However, there are cable diagrams that are not supported since there is a difference in the COM ports between GP-4*02WW and the other GP4000 series. See the [Supported Drivers](#).

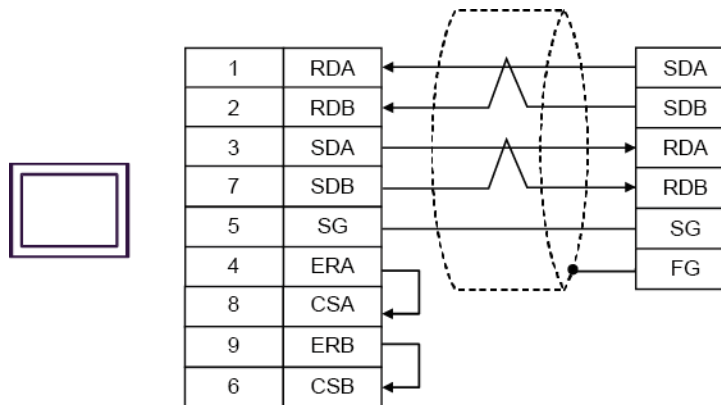
COM Port Differences

| | GP-4*02WW | GP4000 Series |
|------|--|---------------------------|
| COM1 | RI/VCC not supported | RI/VCC supported |
| COM2 | Control signals (ERA, ERB, CSA, CSB) not supported | Control signals supported |

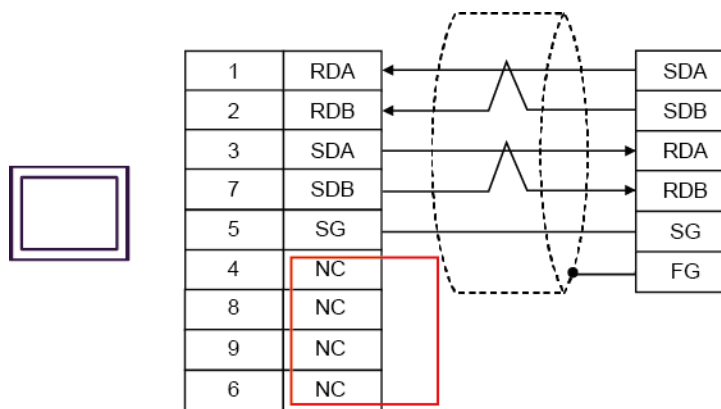
Because GP-4*02WW does not have a control signal for RS422/485 (2-wire) and RS422/485 (4-wire) communication, the wires (ERA-CSA, ERB-CSB) for short-circuiting the Display are not required.

Example on how to interpret:

- Device/PLC Connection Manual example



- Interpret the diagram as follows



NOTE

- Cable diagrams differ depending on the device/PLC. For details, refer to the Device/PLC Connection Manual.

Supported Drivers

For details on the supported CPU and Link I/F modules, refer to the corresponding Device/PLC Connection Manual.

| Manufacturer | Driver | GP-4*02WW |
|--------------------------------|------------------------------|-----------|
| Azbil Corporation | Controller (CPL) | ✓ |
| | MODBUS SIO Master | ✓ |
| | MODBUS TCP Master | ✓ |
| Beckhoff Automation GmbH | TwinCAT ADS/AMS | ✓ |
| CAN in Automation | CANopen Slave | - |
| CC-Link Partner Association | CC-Link Intelligent Device | - |
| CoDeSys Automation Alliance | CoDeSys V3 Ethernet | ✓ |
| | CoDeSys Ethernet | ✓ |
| | CoDeSys SIO | ✓ |
| Control Techniques | MODBUS SIO Master | ✓ |
| | MODBUS TCP Master | ✓ |
| CHINO Corporation | Temp. Controllers MODBUS SIO | - |
| Cognex Corporation | In-Sight Vision Systems | ✓ |
| Control Technology Corporation | CTC Binary Protocol | ✓ |
| Crouzet | Millenium 3 FBD | ✓ |
| Delta-TAU data system, inc. | PMAC Controller SIO | ✓ |

| Manufacturer | Driver | GP-4*02WW |
|---------------------------------|----------------------------------|-----------|
| DENSO WAVE INCORPORATED | b-CAP Protocol (TCP) | ✓ |
| Digital Electronics Corporation | General Ethernet | ✓ |
| | General SIO | ✓ |
| | Memory Link | ✓ |
| FANUC LTD. | Power Mate Series | - |
| Fatek Automation Corporation | FB Series SIO | ✓ |
| Fuji Electric Co., Ltd. | INVERTER SIO | - |
| | MICREX-F Series SIO | - |
| | MICREX-SX Series Ethernet | ✓ |
| | MICREX-SX Series SIO | ✓ |
| | Temp. Controller MODBUS SIO | - |
| GE Intelligent Platforms | Series 90 Ethernet | ✓ |
| | Series 90-30/70 SNP | ✓ |
| | Series 90-30/70 SNP-X | ✓ |
| Hitachi, Ltd. | S10 Series SIO | - |
| | S10V Series Ethernet | ✓ |
| Hitachi IES Co., Ltd. | H Series Ethernet | ✓ |
| | H Series SIO | ✓ |
| | Inverter ASCII SIO | ✓ |
| | Inverter Modbus RTU | ✓ |
| Hyundai Heavy Industries | Hi4 Robot | - |
| | Hi5 Robot | - |
| IAI Corporation | ROBO CYLINDER MODBUS SIO | - |
| | X-SEL Controller | - |
| IEC Standard | IEC 60870-5-101 | ✓ |
| JTEKT Corporation | TOYOPUC CMP-LINK Ethernet | ✓ |
| | TOYOPUC CMP-LINK SIO | ✓ |
| KEYENCE Corporation | KZ-10_80RW/TW CPU Direct | ✓ |
| | KV-700/1000/3000/5000 CPU Direct | ✓ |

| Manufacturer | Driver | GP-4*02WW |
|---------------------------------|--------------------------------|----------------------|
| | KV-700/1000/3000/5000 Ethernet | ✓ |
| | Visual KV Series CPU Direct | ✓ |
| | KV MODE (HOST LINK) SIO | ✓ |
| KOYO ELECTRONICS INDUSTRIES | KOSTAC/DL Series CCM SIO | ✓ |
| | KOSTAC/DL Series MODBUS TCP | ✓ |
| LS ELECTRIC Co., Ltd. | GLOFA Series Cnet | ✓ |
| | Master-K Series Cnet | ✓ |
| | XGK Series CPU Direct | - |
| | XGT/XGB Series Fenet | ✓ |
| | XGT/XGB Series Cnet | ✓ |
| MEIDENSHA Corporation | UNISEQUE SERIES Ethernet | ✓ |
| Mitsubishi Electric Corporation | A Series CPU Direct | ✓ *1 |
| | A Series Computer Link | ✓ |
| | A Series Ethernet | ✓ |
| | FREQROL Inverter | - |
| | FX Series Computer Link | ✓ |
| | FX Series CPU Direct | ✓ *2 |
| | FX Series Ethernet | ✓ |
| | Q Series CPU Direct | ✓ |
| | Q Series QnU CPU Ethernet | ✓ |
| | Q/QnA Serial Communication | ✓ |
| | Q/QnA Series Ethernet | ✓ |
| | QnA Series CPU Direct | ✓ *1 |
| | QUTE Series CPU Direct | ✓ |
| | iQ-R/F Ethernet (SLMP Client) | ✓ |
| Mitsubishi Heavy Industries | DIASYS Netmation MODBUS TCP | ✓ |
| | MHI STEP3 Ethernet | ✓ |
| Modbus-IDA | General MODBUS SIO Master | ✓ |
| | General MODBUS TCP Master | ✓ |

| Manufacturer | Driver | GP-4*02WW |
|--------------------------------------|----------------------------------|-----------|
| ODVA | DeviceNet Slave | - |
| | EtherNet/IP Explicit Messaging | ✓ |
| | EtherNet/IP Target | ✓ |
| OMRON Corporation | C/CV Series HOST Link | ✓ |
| | CS/CJ Series Ethernet | ✓ |
| | CS/CJ Series HOST Link | ✓ |
| | CS/CJ/NJ Series EtherNet/IP | ✓ |
| | Temp. Controller CompoWay/F | ✓ |
| Panasonic Industrial Devices SUNX | FP Series Computer Link SIO | ✓ |
| | MEWTOCOL-COM Ethernet | ✓ |
| PROFIBUS International | PROFIBUS DP Slave | - |
| RKC INSTRUMENT INC. | Temp. Controller MODBUS SIO | ✓ |
| | Temperature Controller | ✓ |
| Rockwell Automation | DF1 | ✓ |
| | DH-485 | ✓ |
| | EtherNet/IP | ✓ |
| Saia-Burgess Controls Ltd. | Saia Ether-S-Bus | ✓ |
| | Saia S-Bus SIO | - |
| Sanmei Electronics Co., Ltd. | Si/CutyAxis Series SIO | - |
| Schneider Electric SA | MODBUS SIO Master | ✓ |
| | MODBUS SLAVE | ✓ |
| | MODBUS TCP Master | ✓ |
| | Uni-Telway | ✓ |
| Seiko Epson Corporation | Remote Ethernet | ✓ |
| SHARP MS Corporation | JW Series Computer Link Ethernet | ✓ |
| | JW Series Computer Link SIO | - |
| Shenzhen Inovance technology | Modbus RTU Mode | ✓ |
| | HMI Monitor Protocol | ✓ |
| | Modbus TCP | ✓ |

| Manufacturer | Driver | GP-4*02WW |
|-------------------------------|---------------------------------------|----------------------|
| SHIBAURA MACHINE Co., Ltd. | TC Series (TCmini/TC200) | ✓ |
| | TC/TS Series Ethernet | ✓ |
| Shinko Technos Co., Ltd. | Indicating Controller SIO | - |
| SICK AG | Flexi Soft | - |
| Siemens AG | Ethernet Gateway SIMATIC MPI/PROFIBUS | ✓ |
| | SIMATIC S5 CPU Direct | ✓ |
| | SIMATIC S5 3964(R) | ✓ |
| | SIMATIC S7 Ethernet | ✓ |
| | SIMATIC S7 MPI Direct | ✓ |
| | SIMATIC S7 3964(R)/RK512 | ✓ |
| | TIA Portal Ethernet | ✓ |
| Siemens Building Technologies | SAPHIR SIO | - |
| TOSHIBA Corporation | Computer Link Ethernet | ✓ |
| | Computer Link SIO | ✓ |
| Yamaha Motor Co., Ltd. | Robot Positioner TS Series | ✓ |
| YASKAWA Electric Corporation | High Speed Ethernet Server | ✓ |
| | INVERTER/SERVO SIO | ✓ |
| | MEMOBUS Ethernet | ✓ |
| | MEMOBUS SIO | ✓ |
| | MP Ethernet/MECHATROLINK | ✓ |
| | MP Series SIO (Extension) | ✓ |
| YE Digital Corporation | MMCloud TCP Client | ✓ *3 |
| YOKOGAWA Electric Corporation | Personal Computer Link Ethernet | ✓ |
| | Personal Computer Link SIO | ✓ |

*1 Diagram 2 uses control signal. GP-4*02WW is not supported.

*2 Diagram 1 uses VCC. GP-4*02WW is not supported.

*3 Supported on GP-Pro EX Version 4.07.100 or later.