Pro-face by Schneider Electric

Easy! Smooth! GP2000H→GP4000H (by GP-Pro EX) Replacement Guidebook

*Products may be changed or discontinued without notice.
Please check our website for the latest information.

3rd Edition Nov 2024

Agenda

Introduction

Replacement / Model Code

Equipment in use		Recommended substitute model
GP-2401HT *1 Model code:PFXGP2401HTD**	⇒	**GP-4311HT** Model code:PFXGP4311HTAD***
GP-2301HS *1 Model code:PFXGP2301HSD**		
GP-2301HL *1 Model code:PFXGP2301HLD**		

*1 Sales terminate as of March 2014

P F X G P 4 3 1 1 H T ∗ ∗ ∗ ∗

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Digit Position	Code	Detail
7	3	GP-4300 Series（5.7”）
8..9	11	Resolution VGA
10	H	Handy
11	T	TFT color LCD
12	A	Analog touch panel
13	D	DC power supply
14..15	Non	without any Stop Switch and Key Switch
	ER	with Emergency Stop Switch (Red), without Key Switch
	ERK	with Emergency Stop Switch (Red) and Key Switch
	EYK	with Stop Switch (Yellow) and Key Switch
	EGK	with Stop Switch (Gray) and Key Switch

Safety Information

HAZARD OF OPERATOR INJURY, OR UNINTENDED EQUIPMENT DAMAGE
Before operating any of these products, be sure to read all related manuals thoroughly.
Failure to follow these instructions can result in death, serious injury or unintended equipment
damage.

Chapter 1. Specification Comparison

1.1. Specifications of GP-2401HT and GP-4311HT

		GP-2401HT	GP-4311HT
			
Display Type		TFT color LCD	
Display Colors		256 colors (Blink)	65,536 colors (No blink) / 16,384 colors (Blink)
Display Resolution		VGA (640×480 pixels)	
External Dimensions (Unit: mm [in.])		W253[9.96]×H185[7.28]×D58[2.28] (When including the Emergency Switch: D76[2.99])	W224[8.82]×H174[6.85]×D87.1[3.43] (When including the Emergency Switch: D107[4.21])
Touch Panel Type		Matrix	Resistive Film (Analog)
Memory	**Application**	2 MB	**UP!** 32 MB
	SRAM	128 KB	320 KB
Rated Input Voltage		24Vdc	
Serial Interface		RS-232C/422	RS-232C/422/485
Ethernet Interface		No	10BASE-T/100BASE-TX
Vibration		Yes	No
Function Switch		15 switches	11 switches
3-Position Enable Switch Output Interface		Rear panel switch 3-position output	
Emergency Switch Output Interface		Push-lock switch	
Key Switch Output Interface		No	Yes
External Output Interface		Yes	
CF Card Interface		Yes	No
SD Card Interface		No	**NEW!** Yes
USB Host Interface	**Type A**	Yes(USB1.1)	Yes(USB2.0)
	Type mini B	No	Yes(USB2.0)
Printer Interface		No	USB

Chapter 1. Specification Comparison

1.2. Specifications of GP-2301HS/GP-2301HL and GP-4311HT

		GP-2301HS/GP-2301HL		GP-4311HT
				
Display Type		STN color LCD	Monochrome LCD	TFT color LCD
Display Colors		64 colors (Blink)	2 levels/8 levels (Blink)	**UP!** 65,536 colors (No blink) / 16,384 colors (Blink)
Display Resolution		QVGA (320×240pixels)		**UP!** VGA (640×480 pixels)
External Dimensions (Unit: mm [in.])		W253[9.96]×H185[7.28]×D58[2.28] (When including the Emergency Switch: D76[2.99])		W224[8.82]×H174[6.85]×D87.1[3.43] (When including the Emergency Switch: D107[4.21])
Touch Panel Type		Matrix		Resistive Film (Analog)
Memory	**Application**	6 MB		**UP!** 32 MB
	SRAM	128 KB		320 KB
Rated Input Voltage		24Vdc		
Serial Interface		RS-232C/422		RS-232C/422/485
Ethernet Interface		No		10BASE-T/100BASE-TX
Vibration		Yes		No
Function Switch		11 switches		
3-Position Enable Switch Output Interface		Rear panel switch 3-position output		
Emergency Switch Output Interface		Push-lock switch		
Key Switch Output Interface		No		Yes
External Output Interface		Yes		
CF Card Interface		Yes		No
SD Card Interface		No		**NEW!** Yes
USB Host Interface	**Type A**	Yes(USB1.1)		Yes(USB2.0)
	Type mini B	No		Yes(USB2.0)
Printer Interface		No		USB

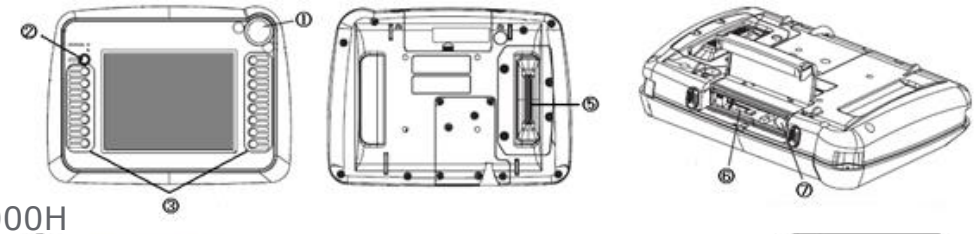
Chapter 2. Compatibility of Hardware

2.1. Locations of interfaces/ 2.2. Optional products

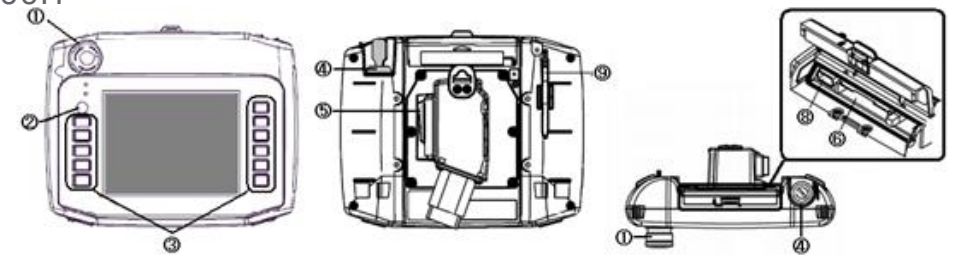
2.1 Locations of interfaces

Locations of connectors and switches on the GP2000H series and the GP4000H series are as follows:

GP2000H



GP4000H



Interface names

	GP2000H Series	GP4000H Series
1	Emergency Switch *1	
2	Operation Switch	
3	Function Switches	
4	-	Key Switch
5	3-Position Enable Switch	
6	CF Card Interface	
7	Tool Connector	-
8	-	USB Host Interface
9	-	Touch Pen

*1: Emergency Switch is an option.

2.2. Optional products

Optional products for the GP4000H series are different from those for the GP2000H series, other than the neck strap (model: GP2000H-STRAP11).
Then, the option article is the same about the GP4000H series and the GP3000H series.
For the GP4000H series, prepare the followings as necessary:

- Screen Protection Sheet : PFXZCBDS61
 Disposable, dirt-resistant sheet for the GP unit's screen (5 sheets/set)
- Wall Adapter Attachment : GP3000H-WMA-01
 Bracket for mounting the GP3000H series unit to a commercially available arm or panel.
- Touch Pen : CA7-TPPEN/ALL-01
 Pen for screen operation (5 pens/set, 1 pen is provided in the package.)
- Hand Strap : GP3000H-HS-01
 Strap for hanging GP3000H by hand
 (1 strap is provided in the package.)
- Emergency Switch Guard : GP3000H-EMGD01
 Guard for preventing accidental operation. Includes 3 mounting screws.
 (1 guard is provided in the package.)
- Function Switch Sheet : GP3000H-DUPS-01
 (1 set is provided in the package.)

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2.3. Screen size

The screen size of GP-4311HT, which is 5.7 inches, is smaller than that of GP-2401HT (6.5 inches). However, its display resolution is same. Displays of texts, parts, etc. become smaller after conversion. If they are too small to touch with your finger, please use the provided touch pen.

2.4. Touch panel specifications

The GP4000H series units are analog resistive. An analog resistive touch panel does not recognize the touch input when you touch two points at the same time. If you applied the two-point touch input on the GP2000H unit, we recommend you change to the one-point touch input using the switch delay function.

2.5. Vibration function

The GP4000H series doesn’t have the vibration function. Please aware of it when converting project data. If you use the vibration function in the GP2000H series, change it to another function as necessary.

2.6. Function switch

The GP-2401HT has 15 function switches. However, the GP-4311HT has only 11 switches, as the GP4000H series is designed lightweight. Please aware of it when converting project data.

2.7. GP-H70 Compatibility Mode

The GP4000H series doesn't have the GP-H70 Compatibility Mode. The operation switch and the 3-Position Operation Switch on the rear operate in the GP2000H Mode.
For the details of the GP2000H Mode and the GP-H70 Compatibility Mode, refer to GP2000H Series User Manual "3.3.3 2000H Mode / GP-H70 Compatibility Mode."

2.8. Key switch

In case of setting up an external circuit (an emergency stop circuit) using the Key switch, the GP4000H series allows you to remove it from the conversion adapter without stopping the system.
However, to use the Key switch, the GP3000H conversion adapter (AGP3000H-ADPCOM-01) and the GP3000H cable with a connector (GP3000H-CBL*D-＊M) are required. The Key switch is disabled when the GP2000H conversion adapter (GP2000H-AP***) is used.

2.9. External output interface

To use the DOUT, Operation Switch Output, or External Buzzer Output, the GP3000H Conversion Adapter (AGP3000H-ADPCOM-01) is required. These interfaces are disabled when the GP2000H conversion adapter (GP2000H-AP***) is used.

2.10. Barcode reader connection

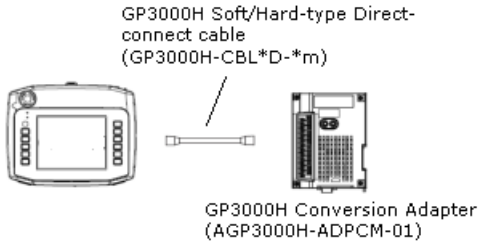
The GP4000H units are not equipped with a tool port. A barcode reader connected from the tool port on the GP2000H unit cannot be used with the GP4000H. However, the GP4000H series allows you to connect a barcode reader on its USB interface.

2.11. Overseas standards

The GP2000H series and GP4000H series conform to the following standards:

	UL	c-UL (CSA)	CE
GP2000H Series	UL60950 Third edition (Safety Standard for Information Technology Equipment)	CAN/CSA-C22.2 No. 60950-00 (Standard for Safety of Information Technology Equipment)	EN55011 Class A and EN61000-6-2
GP4000H Series	UL61010-2-201 (Industrial Control Equipment)	CAN/CSA-C22.2 NO.61010-2-201 (c-UL approval) (Industrial Control Equipment)	EN61131-2-2007

	Note
GP4000H Series	The following system design is UL approved. If UL approval is necessary for different system design, the application shall be made at your end.



2.12. Screen data transfer

To transfer screen data to the GP4000H unit, use a USB or Ethernet cable to transfer screen data.

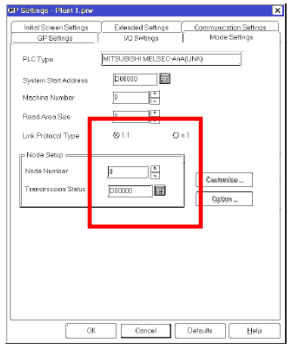
For USB(Type A) transfer, use a transfer cable for the GP3000 series (model: CA3-USBCB-01).

And then, For USB(Type B) transfer, use a transfer cable for the GP4000 series (model: ZC9USCBMB1) or any commercial USB cable(USB Type A/mini-B).

Transfer cables (GPW-CB02, GPW-CB03, GP430-CU02-M) that are used via the tool port cannot be used with the GP4000H series.

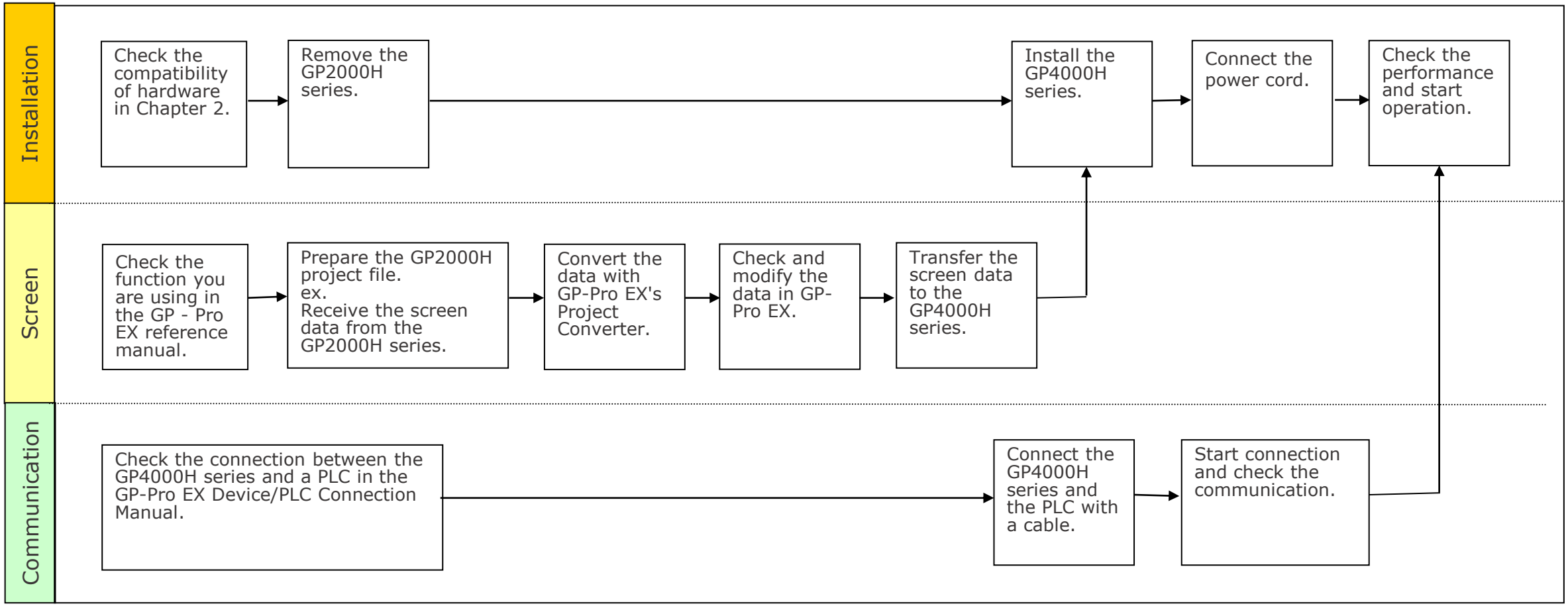
2.13. Multilink Connection

There are some communication drivers that do not support multi-link connection (n:1) with RS-422 in GP4000 Series. When converting the project file with the communication driver that multi-link connection (n:1) with RS-422 is not supported, it will be automatically converted to (1:1) connection.



Chapter 3. Replacement of system structures

3.1. Work Flow

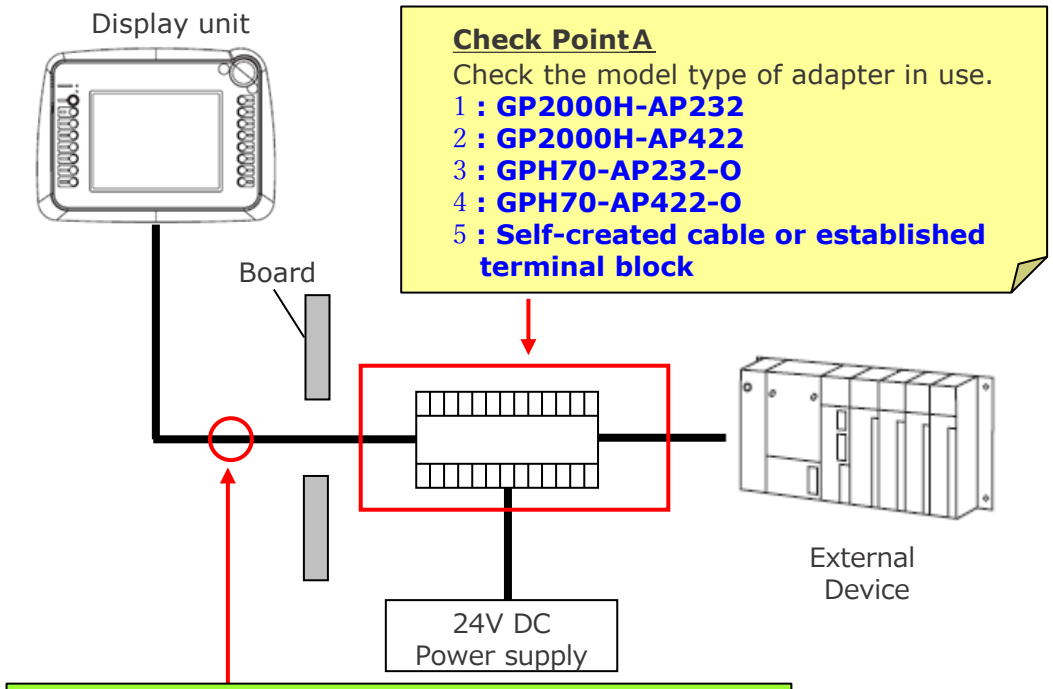


Chapter 3. Replacement of system structures

3.2. Checkpoint when replacing

3.2.1. Check Point

The following system structure is one of the typical structures for the connection of the GP2000H series:



Check Point A

Check the model type of adapter in use.

1 : **GP2000H-AP232**
2 : **GP2000H-AP422**
3 : **GPH70-AP232-O**
4 : **GPH70-AP422-O**
5 : **Self-created cable or established terminal block**

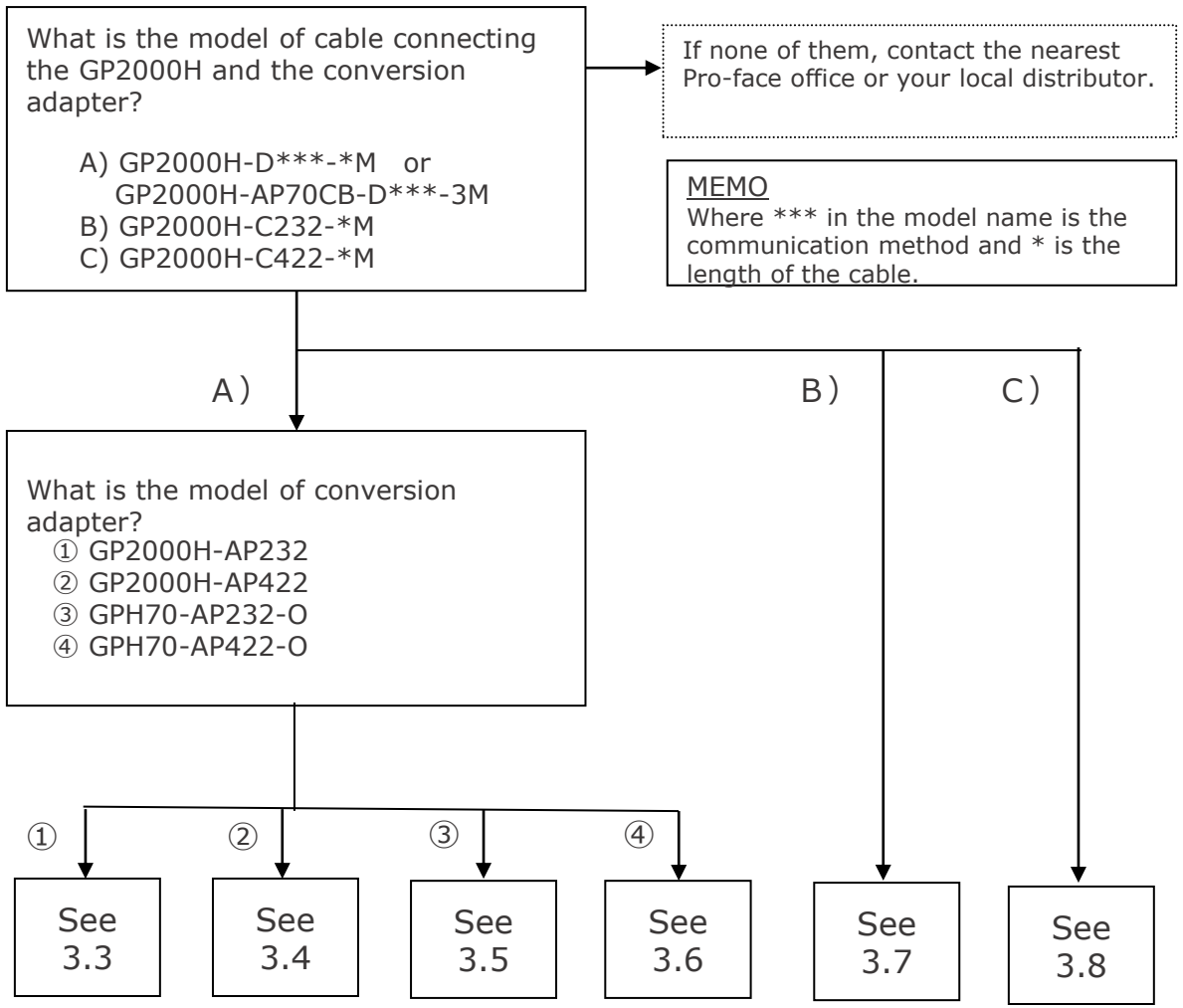
Check Point B

Check the model type of Pro-face cable connecting with the GP2000H series.

- **GP2000H-D232-*M** (D-sub type)
- **GP2000H-D422-*M (**D-sub type)
- **GP2000H-AP70CB-D232-3M**
- **GP2000H-AP70CB-D422-3M**
- **GP2000H-C232-*M** (Breakout type)
- **GP2000H-C422-*M** (Breakout type)

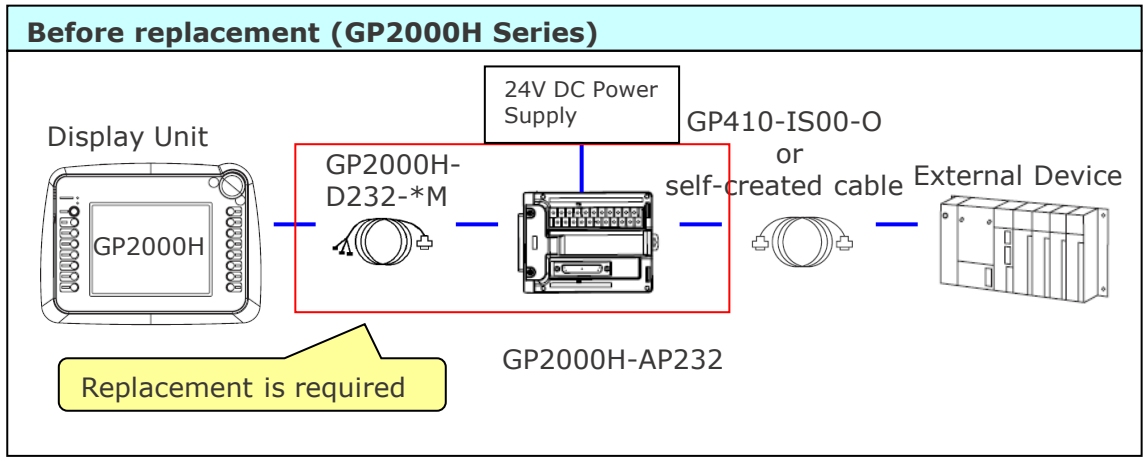
Where *is the length (m) of cable

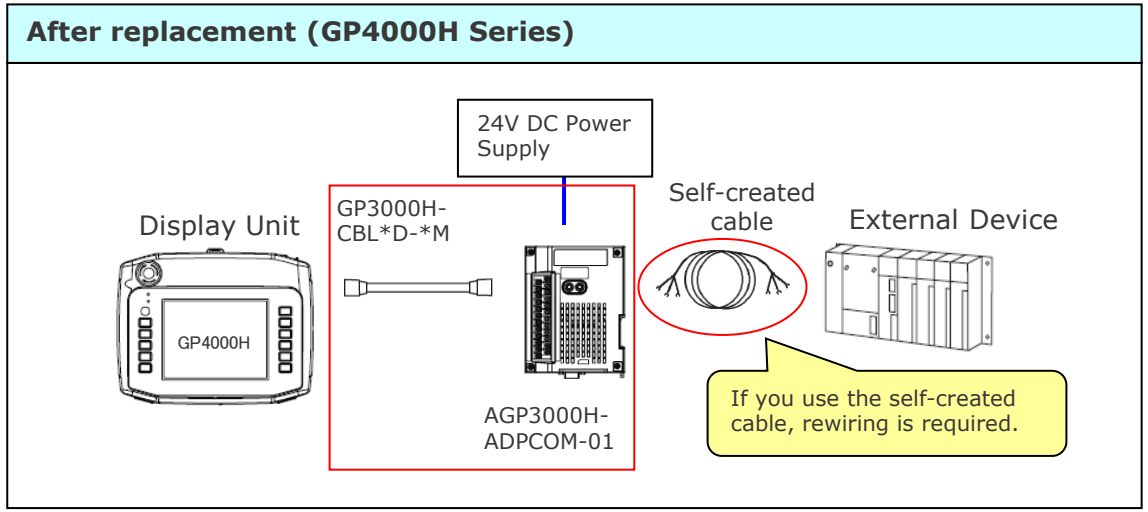
3.2.2. Work flow of replacement of GP2000H with GP4000H



Chapter 3. Replacement of system structures

3.3. Structure A) - ①





About replacement

When you replace the GP2000H unit with the GP4000H unit, you need to replace the GP2000H cable (GP2000H-D232-*M) with the GP3000H cable (GP3000H-CBL*D-*M) and replace the GP2000H conversion adapter (GP2000H-AP232) with the GP3000H conversion adapter (AGP3000H-ADPCOM-01).

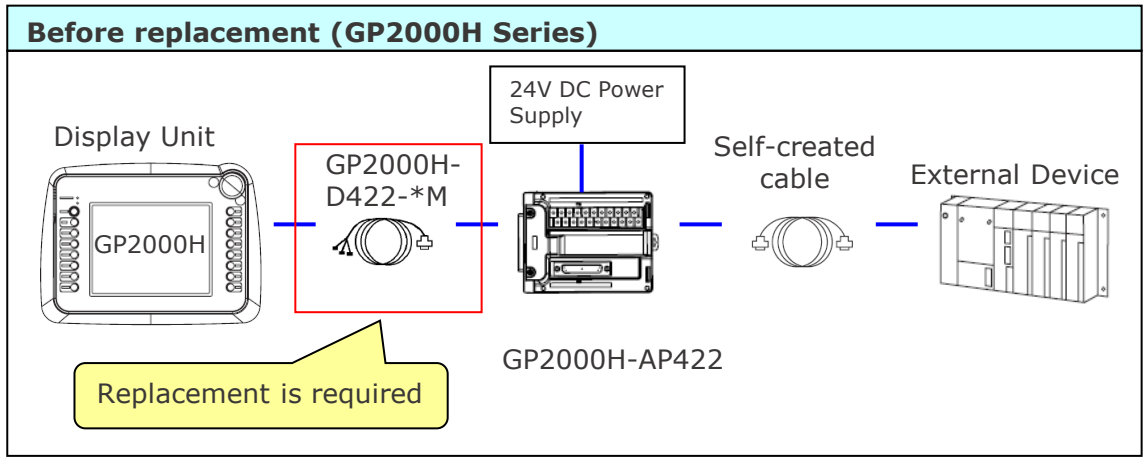
The shape of the serial interface on AGP3000H-ADPCOM-01 is the same as COM1 port of the GP4000H series.
For the details of wiring AGP3000H-ADPCOM-01 to the connection device, check the cable diagram for GP3000(COM1) in the GP-Pro EX Device/PLC Connection Manual. The cable-wiring diagram is different depending on the connection device to use.

Display (Connection Port)	Cable	
GP3000*1 (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000*2 (COM2) LT3000 (COM1) IPC*3	2A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable
	2B	User-created cable

Example of cable diagram in Device/PLC Connection Manual

Chapter 3. Replacement of system structures

3.4. Structure A) - ②



About replacement

When you replace the GP2000H unit with the GP4000H unit, you need to replace the GP2000H cable (GP2000H-D422-*M) with the GP3000H cable (GP3000H-CBL*D-*M) and replace the GP2000H conversion adapter (GP2000H-AP422) with the GP3000H conversion adapter (AGP3000H-ADPCOM-01).

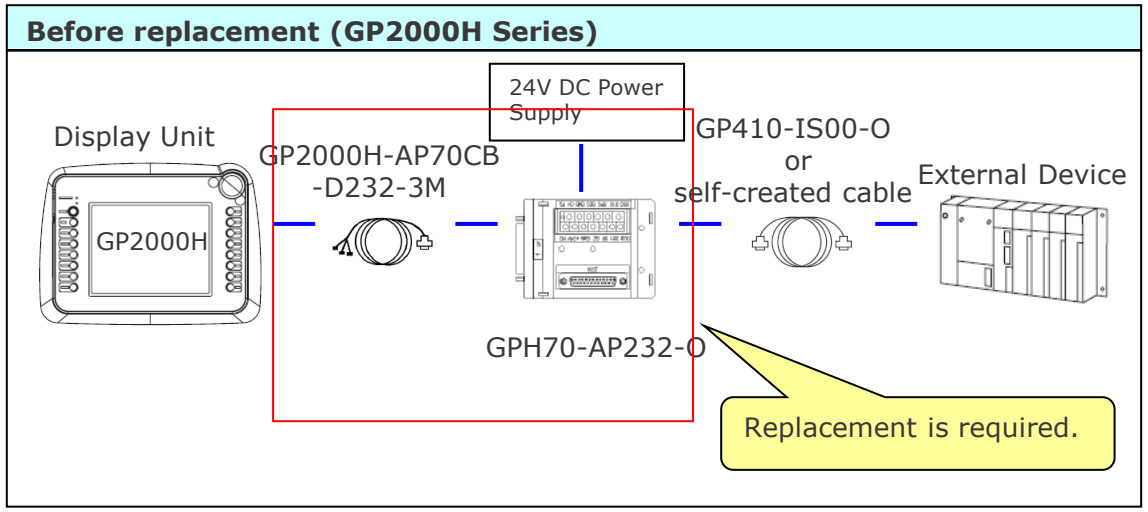
The shape of the serial interface on AGP3000H-ADPCOM-01 is the same as COM1 port of the GP4000H series.
For the details of wiring AGP3000H-ADPCOM-01 to the connection device, check the cable diagram for GP3000(COM1) in the GP-Pro EX Device/PLC Connection Manual. The cable-wiring diagram is different depending on the connection device to use.

Display (Connection Port)	Cable	
GP3000*1 (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000*2 (COM2) LT3000 (COM1) IPC*3	2A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable
	2B	User-created cable

Example of cable diagram in Device/PLC Connection Manual

Chapter 3. Replacement of system structures

3.5. Structure A) - ③



About replacement

When you replace the GP2000H unit with the GP4000H unit, you need to replace the GP2000H cable (GP2000H-AP70CB-D232-3M) with the GP3000H cable (GP3000H-CBL*D-*M) and replace the GP2000H conversion adapter (GPH70-AP232-O) with the GP3000H conversion adapter (AGP3000H-ADPCOM-01).

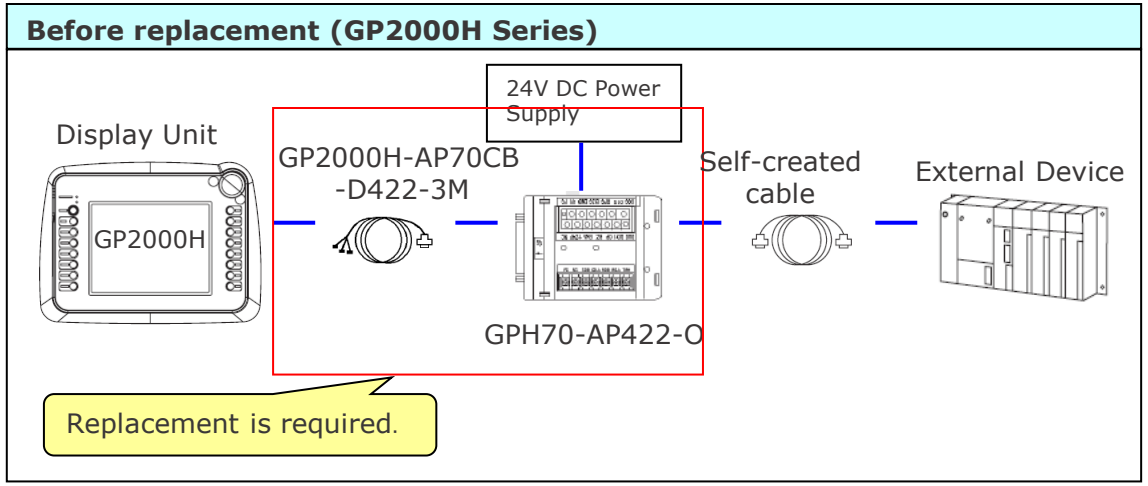
The shape of the serial interface on AGP3000H-ADPCOM-01 is the same as COM1 port of the GP4000H series.
For the details of wiring AGP3000H-ADPCOM-01 to the connection device, check the cable diagram for GP3000(COM1) in the GP-Pro EX Device/PLC Connection Manual. The cable-wiring diagram is different depending on the connection device to use.

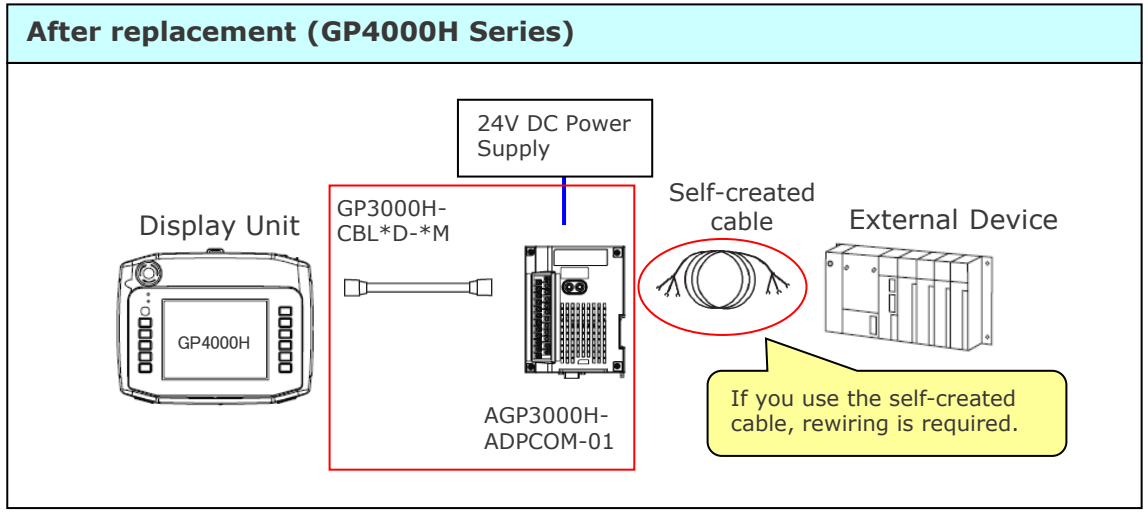
Display (Connection Port)	Cable	
GP3000*1 (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000*2 (COM2) LT3000 (COM1) IPC*3	2A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable
	2B	User-created cable

Example of cable diagram in Device/PLC Connection Manual

Chapter 3. Replacement of system structures

3.6. Structure A) - ④





About replacement

When you replace the GP2000H unit with the GP4000H unit, you need to replace the GP2000H cable (GP2000H-AP70CB-D422-3M) with the GP3000H cable (GP3000H-CBL*D-*M) and replace the GP2000H conversion adapter (GPH70-AP422-O) with the GP3000H conversion adapter (AGP3000H-ADPCOM-01).

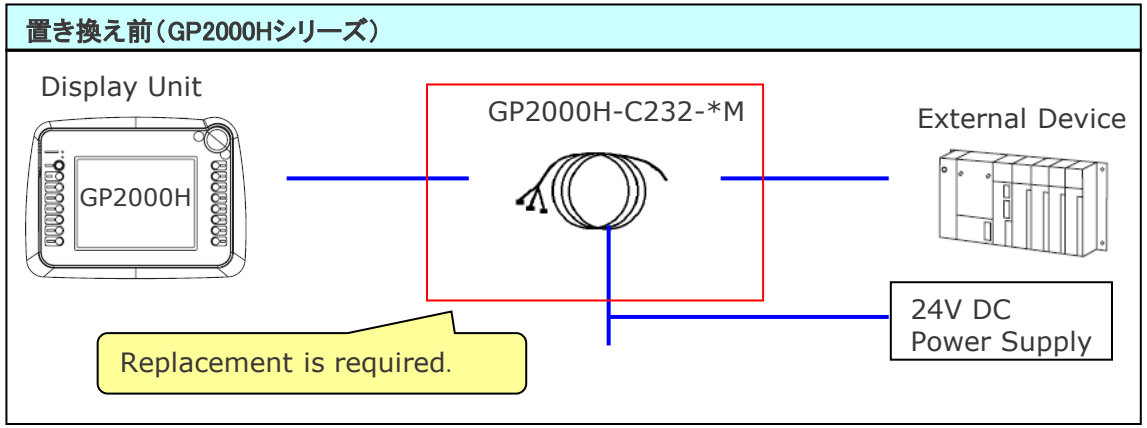
The shape of the serial interface on AGP3000H-ADPCOM-01 is the same as COM1 port of the GP4000H series.
For the details of wiring AGP3000H-ADPCOM-01 to the connection device, check the cable diagram for GP3000(COM1) in the GP-Pro EX Device/PLC Connection Manual. The cable-wiring diagram is different depending on the connection device to use.

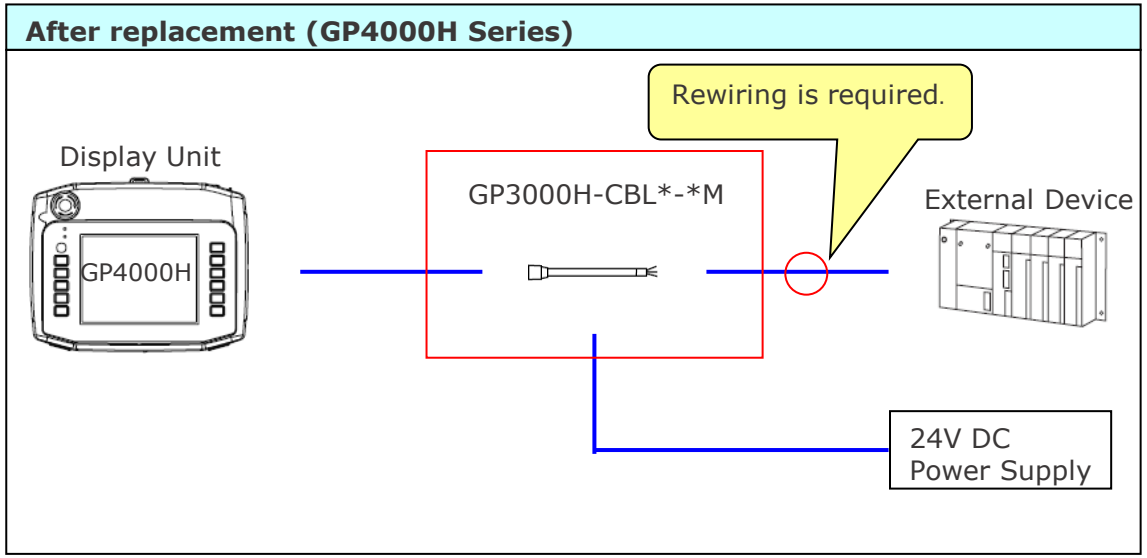
Display (Connection Port)	Cable	
GP3000*1 (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000*2 (COM2) LT3000 (COM1) IPC*3	2A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable
	2B	User-created cable

Example of cable diagram in Device/PLC Connection Manual

Chapter 3. Replacement of system structures

3.7. Structure B)





About replacement

When you replace the GP2000H unit with the GP4000H unit, you also need to replace the GP2000H cable (without connector) (GP2000H-C232-*M) with the GP3000H cable (without connector) (GP3000H-CBL*-*M).

For the details of wiring to the connection device, check the cable diagram for connection using your self-created cable (your own cable) in the GP-Pro EX Device/PLC Connection Manual. The cable-wiring diagram is different depending on the connection device to use.

Display (Connection Port)	Cable	
GP3000*1 (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000*2 (COM2) LT3000 (COM1) IPC*3	2A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable
	2B	User-created cable

Example of cable diagram in Device/PLC Connection Manual

Chapter 3. Replacement of system structures

3.7. Structure B)

About cable color and identification mark

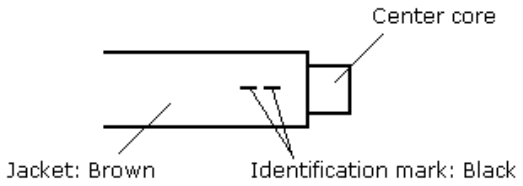
The wire jacket colors of the GP2000H cable are different from those of the GP3000H cable as follows:

GP2000H-C232-*M ⇨ GP3000H-CBL*-*M

Jacket color		Jacket color	Identification mark	Signal
Purple	⇨	Brown	White 1	CD
Orange	⇨	Brown	Black 1	RD (RXD)
Blue	⇨	Brown	White 2	SD (TXD)
Gray	⇨	Brown	White 4	ER (DTR)
White	⇨	Brown	-	SG
-		Brown	Black 3	DR (DSR)
Red	⇨	Brown	Black 2	RS (RTS)
Brown	⇨	Brown	White 3	CS (CTS)
-		Brown	Black 4	CI (RI)
Black/Green	⇨	Red	-	Power input 24V DC
Red/Green	⇨	Black	-	Power input 0V
Shield	⇨	Green	-	FG

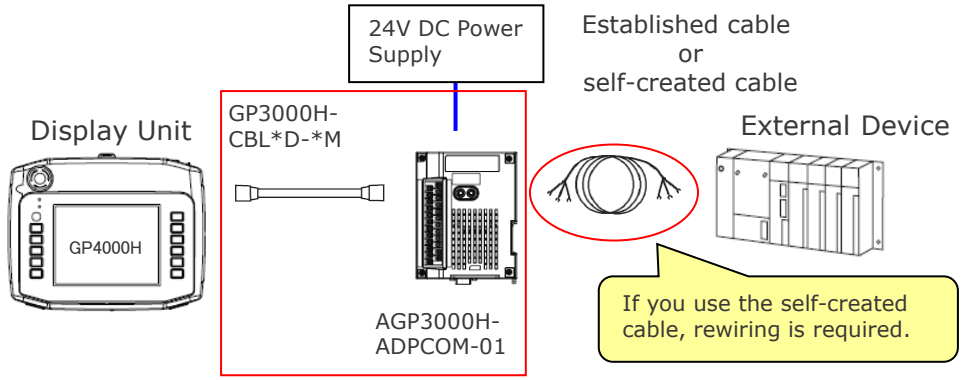
Example of GP3000H-CBL*-*M

In the right figure, the jacket color of the wire is brown and two black marks are on it. Therefore, this wire can be identified as RS (RTS)



NOTE

System structure using the GP3000H conversion adapter (AGP3000H-ADPCOM-01)



About replacement

You can also replace the GP2000H cable (without connector) (GP2000H-C232-*M) with the combination of the GP3000H cable (with connector) (GP3000H-CBL*D-*M) and the GP3000H conversion adapter (AGP3000H-ADPCOM-01).

The shape of the serial interface on AGP3000H-ADPCOM-01 is same as that of the COM1 port of the GP4000H series.

For the details of wiring AGP3000H-ADPCOM-01 to the connection device, check the cable diagram in the GP-Pro EX Device/PLC Connection Manual.

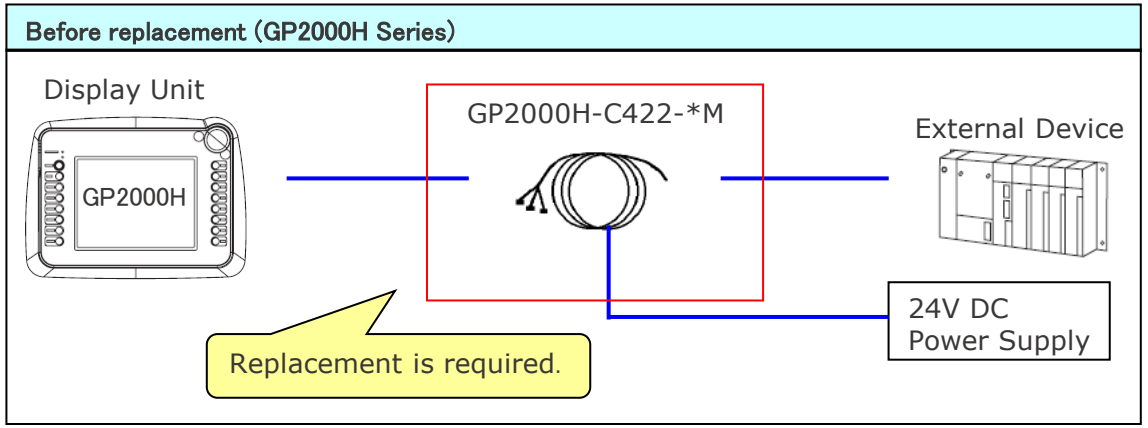
The cable-wiring diagram is different depending on the connection device to use.

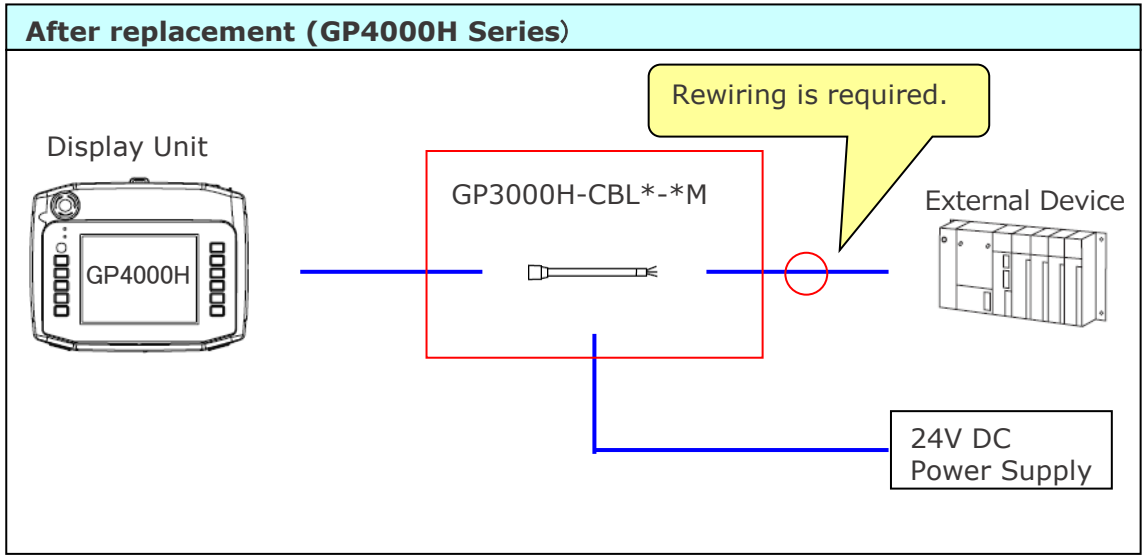
Display (Connection Port)	Cable	
GP3000*1 (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000*2 (COM2) LT3000 (COM1) IPC*3	2A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable
	2B	User-created cable

Example of cable diagram in Device/PLC Connection Manual

Chapter 3. Replacement of system structures

3.8. Structure C)





About replacement

When you replace the GP2000H unit with the GP4000H unit, you also need to replace the GP2000H cable (without connector) (GP2000H-C422-*M) with the GP3000H cable (without connector) (GP3000H-CBL*-*M).

For the details of wiring to the connection device, check the cable diagram for connection using your self-created cable (your own cable) in the GP-Pro EX Device/PLC Connection Manual. The cable-wiring diagram is different depending on the connection device to use.

Display (Connection Port)	Cable	
GP3000*1 (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000*2 (COM2) LT3000 (COM1) IPC*3	2A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable
	2B	User-created cable

Example of cable diagram in Device/PLC Connection Manual

Chapter 3. Replacement of system structures

3.7. Structure C)

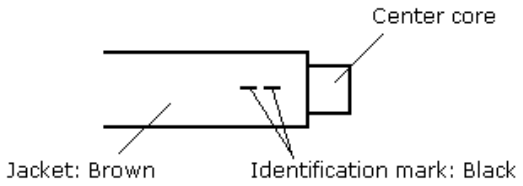
About cable color and identification mark

The wire jacket colors of the GP2000H cable are different from those of the GP3000H cable as follows:

GP2000H-C422-*M		GP3000H-CBL*-*M		
Jacket color		Jacket color	Identification mark	Signal
White	⇨	Brown	White 1	RDA
Black	⇨	Brown	Black 1	RDB
Yellow	⇨	Brown	White 2	SDA
Green	⇨	Brown	Black 2	SDB
Gray	⇨	Brown	-	SG
Brown		Brown	White 4	ERA
Red/Green	⇨	Brown	White 3	CSA
Orange	⇨	Brown	Black 4	ERB
Blue		Brown	Black 3	CSB
Black/Green	⇨	Red	-	Power input 24V DC
Red/Green	⇨	Black	-	Power input 0V
Shield	⇨	Green	-	FG

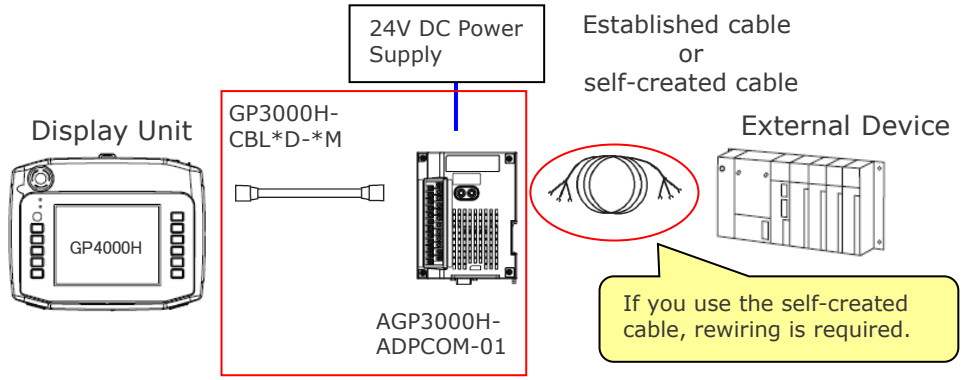
Example of GP3000H-CBL*-*M

In the right figure, the jacket color of the wire is brown and two black marks are on it. Therefore, this wire can be identified as SDB.



NOTE

System structure using the GP3000H conversion adapter (AGP3000H-ADPCOM-01)



About replacement

You can also replace the GP2000H cable (without connector) (GP2000H-C422-*M) with the combination of the GP3000H cable (with connector) (GP3000H-CBL*D-*M) and the GP3000H conversion adapter (AGP3000H-ADPCOM-01).

The shape of the serial interface on AGP3000H-ADPCOM-01 is same as that of the COM1 port of the GP4000H series.

For the details of wiring AGP3000H-ADPCOM-01 to the connection device, check the cable diagram in the GP-Pro EX Device/PLC Connection Manual.

The cable-wiring diagram is different depending on the connection device to use.

Display (Connection Port)		Cable
GP3000[*1] (COM1) AGP-3302B (COM2) GP-4*01TM (COM1) GP-Rear Module (COM1) ST3000[*2] (COM2) LT3000 (COM1) IPC[*3]	2A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable
	2B	User-created cable

Example of cable diagram in Device/PLC Connection Manual

Appendix 1 Accessories

Product Name	Model Number/ Global Code	SAP Code	Description
USB Transfer Cable (2 m)	CA3-USBCB-01	PFX069774E	Downloads project data created with the screen editing software via the display unit's USB I/F.
USB Cable (5 m)*1	FP-US00	PFX055008F	Connects a USB printer. (TYPE-B)
USB Transfer Cable (USB Type A/mini-B) (1.8 m)	ZC9USCBMB1	PFX105159H	Cable for transferring screen data from a PC (USB Type A) to this product (USB mini-B).
GP3000H Hard-type 10m Direct-connect Cable	GP3000H-CBLH-10M	PFX101641E	Heavy-duty type interface cable for communication between this product and external equipment (e.g. host controller), equipped with common mode filter.
GP3000H Soft-type 3/5/10 m Direct-connect Cable	GP3000H-CBLS-3M GP3000H-CBLS-5M GP3000H-CBLS-10M	PFX101637G PFX101639C PFX101643A	Standard type interface cable for communication between this product and external equipment (e.g. host controller), equipped with common mode filter.
GP3000H Hard-type 10m Direct-connect Cable (with connector)	GP3000H-CBLHD-10M	PFX101642C	Heavy-duty type cable between the GP3000H Conversion Adapter and this product.
GP3000H Soft-type 3/5/10 m Direct-connect Cable (with connector)	GP3000H-CBLSD-3M GP3000H-CBLSD-5M GP3000H-CBLSD-10M	PFX101638E PFX101640G PFX101644K	Standard type cable between the GP3000H Conversion Adapter and this product.
GP3000H Conversion Adapter	AGP3000H-ADPCOM-01	PFX101700D	Conversion Adapter for interfacing with a Cable Connector and External Output I/F output the following connectors Serial: D-Sub 9 pin (plug), Ethernet: modular jack (RJ-45), Others: terminal block.

*Products may be changed or discontinued without notice.
Please check our website for the latest information.

Product Name	Model Number/ Global Code	SAP Code	Description
SD Memory Card	PFXZCBSD4GC41	PFX124916J	SD Memory Card (4 GB, CLASS4)
Screen Protection Sheet	PFXZCBDS61	PFX124920G	Disposable, dirt-resistant sheet for the display (5 sheets/set)
UV Protection Sheet	PFXZCFUV61	PFX138592E	Sheet to protect the display from dirt and ultraviolet light.
Neck Strap	GP2000H-STRAP11	PFX056780J	Strap for wearing over the neck.
Wall Hanging Adapter	GP3000H-WMA-01	PFX101646F	Bracket for mounting this product to a commercially available arm or panel.
Touch Pen	CA7-TPPEN/ALL-01	PFX101647D	Touch pens for screen operation (5 peace).
Hand Strap	GP3000H-HS-01	PFX101657A	Strap for hand-held operation.
Stop Switch Guard	GP3000H-EMGD-01	PFX103796K	For preventing accidental operation.
Function Switch Sheet	GP3000H-DUPS-01	PFX101706C	For changing image of the function switches. 5 sheets/set (x 5)
RS-232C Isolation Unit	CA3-ISO232-01	PFX069391K	Connects a host controller to this adapter with provides isolation. (RS-232C and RS-422 are switchable.)
Installation Gasket	GP3000H-WPGADP-01	PFX103743J	Provides dust and moisture resistance when GP3000H Conversion Adapter is installed into a solid panel.

Product Name	Model Number/ Global Code	SAP Code	Description
GP2000H Series RS-232C/RS-422 Conversion Adapter *End of Sale	GP2000H-AP232 GP2000H-AP422	PFXZGPADR22H PFXZGPADR42H	Conversion adapter to connect GP operation data to RS-232C/422 D-Sub and power/DIO terminals.
GP3000H Soft-type Cable for GP2000H Conversion Adapter (with connector) *End of Sale	GP3000H-CBLSD232-3M GP3000H-CBLSD232-10M GP3000H-CBLSD422-3M GP3000H-CBLSD422-10M	PFXZGPCBSDR2311 PFXZGPCBSDR2101 PFXZGPCBSDR431 PFXZGPCBSDR4101	The cable between the GP2000H Series Conversion Adapter and the GP3000H, equipped with D-Sub connector.

* Be sure to read the restrictions of GP3000H to use the accessories.

Appendix 2 Signals of Cables (to Host, no connector)

A.2.1. GP2000H Series Special Purpose RS-232C Cable (GP2000H-C232-3M/10M)

I/F	No.	Signal Name	Description	Wire Color	Wire Type	Non-GP2000H SIO Pin No.
External Device I/F	1	RESERVE	Reserved*1	Black/Gray	AWG22	
	2	DOUT0.C	DOUT 0(ZERO) Output	Black/White	AWG22	
	3	RESERVE	Reserved*1	Red/White	AWG22	
	4	DOUT1.C	DOUT 1(ONE) Output	Green/Brown	AWG22	
	5	OP.GND	OP Ground	Red/Yellow	AWG22	
	6	OP.C	OP Output	Red/Blue	AWG22	
	7	DOUT.GND	DOUT Ground*2	Red/Pink	AWG22	
	8	BUZZ OUT	External Buzzer Output	Black/Orange	AWG22	
	9	EMG0B	Push-Lock Switch 0B (Operates like A contact)	Red/Gray	AWG22	
	10	EMG0A	Push-Lock Switch 0A (Operates like A contact)	White/Orange	AWG22	
	11	EMG1B	Push-Lock Switch 1B (B contact)	Black/Yellow	AWG22	
	12	EMG1A	Push-Lock Switch 1A (B contact)	Green/White	AWG22	
	13	EMG2B	Push-Lock Switch 2B (B contact)	White/Blue	AWG22	
	14	EMG2A	Push-Lock Switch 2A (B contact)	Black/Blue	AWG22	
	15	ENB0B	Enable Switch 0B (A contact)	Black/Pink	AWG22	
	16	ENB0A	Enable Switch 0A (A contact)	LightGreen	AWG22	
	17	ENB1B	Enable Switch 1B (A contact)*3	Pink	AWG22	
	18	ENB1A	Enable Switch 1A (A contact)*3	SkyBlue	AWG22	
DC24V I/F	1	+24V	Power Input +24V (to GP2000H)	Black/Green	AWG22	
	2	0V	Power Input 0V (to GP2000H)	Red/Green	AWG22	
	3	FG	Frame Ground	shield		1
Serial I/F	1	RS	Request to Send	Red	AWG28	4
	2	SD	Send Data	Blue	AWG28	2
	3	CS	Clear to Send	Brown	AWG28	5
	4	RD	Receive Data	Orange	AWG28	3
	5	CD	Carrier Detect	Purple	AWG28	8
	6	ER	Enable to Receive	Gray	AWG28	20
	7	+5V	DC +5V±5% Output 0.25A (from GP2000H)*4	Yellow	AWG28	14
	8	SG	Signal Ground	White	AWG28	7

*1: External Device I/F lines #1 and #3 are reserved. Be sure not to connect anything to these lines.
*2: The DOUT Ground is used in common with External Buzzer Output (BUZZ OUT), DOUT 0 (zero) Output (DOUT0.C), and DOUT 1 (one) Output (DOUT1.C).
*3: Disabled when the GP-H70 Compatible Mode (set via GP2000H) is used.
*4: When connected to the GP2000H, the power used should be a maximum of 0.25A. Be sure not to exceed this level.

A.2.2. GP2000H Series Special Purpose RS-422 Cable (GP2000H-C422-3M/10M)

I/F	No.	Signal Name	Description	Wire Color	Wire Size	Non-GP2000H SIO Pin No.
External Device I/F	1	RESERVE	Reserved*1	Black/Gray	AWG22	
	2	DOUT0.C	DOUT 0(ZERO) Output	Black/White	AWG22	
	3	RESERVE	Reserved*1	Red/White	AWG22	
	4	DOUT1.C	DOUT 1(ONE) Output	Green/Brown	AWG22	
	5	OP.GND	OP Ground	Red/Yellow	AWG22	
	6	OP.C	OP Output	Red/Blue	AWG22	
	7	DOUT.GND	DOUT Ground*2	Red/Pink	AWG22	
	8	BUZZ OUT	External Buzzer Output	Black/Orange	AWG22	
	9	EMG0B	Push-Lock Switch 0B (Operates like A contact)	Red/Gray	AWG22	
	10	EMG0A	Push-Lock Switch 0A (Operates like A contact)	White/Orange	AWG22	
	11	EMG1B	Push-Lock Switch 1B (B contact)	Black/Yellow	AWG22	
	12	EMG1A	Push-Lock Switch 1A (B contact)	Green/White	AWG22	
	13	EMG2B	Push-Lock Switch 2B (B contact)	White/Blue	AWG22	
	14	EMG2A	Push-Lock Switch 2A (B contact)	Black/Blue	AWG22	
	15	ENB0B	Enable Switch 0B (A contact)	Black/Pink	AWG22	
	16	ENB0A	Enable Switch 0A (A contact)	LightGreen	AWG22	
	17	ENB1B	Enable Switch 1B (A contact)*3	Pink	AWG22	
	18	ENB1A	Enable Switch 1A (A contact)*3	SkyBlue	AWG22	
DC24V I/F	1	+24V	Power Input +24V (to GP2000H)	Black/Green	AWG22	
	2	0V	Power Input 0V (to GP2000H)	Red/Green	AWG22	
	3	FG	Frame Ground	shield		1
Serial I/F	7	+5V	DC +5V±5% Output 0.25A (from GP2000H)*4	Purple	AWG28	14
	8	SG	Signal Ground	Gray	AWG28	7
	13	RDA	Receive Data A	White	AWG28	10
	14	RDB	Receive Data B	Black	AWG28	16
	15	SDA	Send Data A	Yellow	AWG28	11
	16	SDB	Send Data B	Green	AWG28	15
	17	CSA	Clear to Send A	Red	AWG28	21
	18	CSB	Clear to Send B	Blue	AWG28	18
	19	ERA	Enable Receive A	Brown	AWG28	22
	20	ERB	Enable Receive B	Orange	AWG28	19

*1: External Device I/F lines #1 and #3 are reserved. Be sure not to connect anything to these lines.
*2: The DOUT Ground is used in common with External Buzzer Output (BUZZ OUT), DOUT 0 (zero) Output (DOUT0.C), and DOUT 1 (one) Output (DOUT1.C).
*3: Disabled when the GP-H70 Compatible Mode (set via GP2000H) is used.
*4: When connected to the GP2000H, the power used should be a maximum of 0.25A. Be sure not to exceed this level.

Appendix 2 Signals of Cables (to Host, no connector)

A.2.3 GP3000H Hard/Soft-type Direct-connect Cable (GP3000H-CBLH-10M/GP3000H-CBLS-3M/5M/10M)

Serial Interface

Wire Color / Marking Color, Number	RS232C		RS422/RS485	
	Signal Name	Description	Signal Name	Description
Brown / White 1	CD	Carrier Detect	RDA	Receive Data A (+)
Brown / Black 1	RD (RXD)	Receive Data	RDB	Receive Data B (-)
Brown / White 2	SD (TXD)	Send Data	SDA	Send Data A (+)
Brown / White 4	ER (DTR)	Data Terminal Ready	ERA	Data Terminal Ready A (+)
Brown / None	SG	Signal Ground	SG	Signal Ground
Brown / Black 3	DR (DSR)	Data Set Ready	CSB	Clear to Send B (-)
Brown / Black 2	RS (RTS)	Request to Send	SDB	Send Data B (-)
Brown / White 3	CS (CTS)	Clear to Send	CSA	Clear to Send A (+)
Brown / Black 4	CI (RI) / VCC	Called status display +5V ±5% Output 0.25A *1	ERB	Data Terminal Ready B (-)
Green / None	FG *2	Frame Ground (Common with SG)	FG *2	Frame Ground (Common with SG)

*1: The RI/VCC selection is switched via software. The VCC output is not protected against overcurrent. To prevent damage or unit malfunctions, use only the rated current.
*2: Select the AWG22 cable to use out of two green cables. Be sure to twist wires from a part close to the power supply.

Ethernet Interface
Ethernet (IEEE802.3u,10BASE-T/100BASE-TX)
with modular jack connector (RJ-45)

Wire Color	Signal	Direction	Description
Blue	TX +	Output	Ethernet Send (+)
White	TX −	Output	Ethernet Send (-)
Brown	RX +	Input	Ethernet Receive (+)
Gray	RX −	Input	Ethernet Receive (-)

DC24V Interface

Wire Color	Signal	Direction	Description
Red	DC24V	Input	Power Input 24V DC
Black	0V	Input	Power Input 0V
Green	FG *1	-	Frame Ground (Common with SG)

*1: Select the AWG16 cable to use out of two green cables. Be sure to twist wires from a part close to the power supply.

3-Position Enable Switch Output Interface

Wire Color / Marking Color, Number	Signal Name	Description
Blue / Black2	ENB0A	0A (a-contact) Rating: 30V DC, 700mA (min. applicable load: 3V DC, 5mA)
Blue / Black3	ENB0B	0B (a-contact)
Blue / None	ENB1A	1A (a-contact) Rating: 30V DC, 700mA (min. applicable load: 3V DC, 5mA)
Blue / Black1	ENB1B	1B (a-contact)

Appendix 2 Signals of Cables (to Host, no connector)

Emergency Switch Output Interface

Wire Color / Marking Color, Number	Signal Name	Description
Purple / Black 2	EMG0A	0A (a-contact) Rating: 30V DC, 1A (min. applicable load: 5V DC, 1mA)
Purple / White 3	EMG0B	0B (a-contact)
Purple / Black 1	EMG1A	1A (b-contact) Rating: 30V DC, 1A (min. applicable load: 5V DC, 1mA)
Purple / White 2	EMG1B	1B (b-contact)
Purple / None	EMG2A	2A (b-contact) Rating: 30V DC, 1A (min. applicable load: 5V DC, 1mA)
Purple / White 1	EMG2B	2B (b-contact)

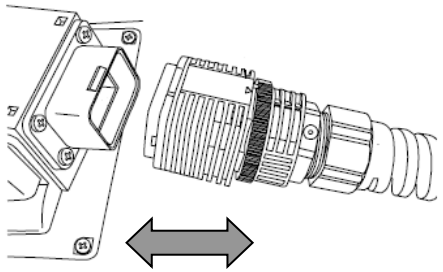
Key Switch Output Interface

Wire Color / Marking Color, Number	Signal Name	Description
Orange / None	KEY_NC	b-contact (normally closed) Rating: 24V DC, 300mA
Orange / Black 1	KEY_NO	a-contact (normally open) Rating: 24V DC, 300mA

IMPORTANT

External Output Interface
To use the DOUT, Operation Switch Output, or External Buzzer Output, the GP3000H Conversion Adapter (AGP3000H-ADPCOM-01) is required.

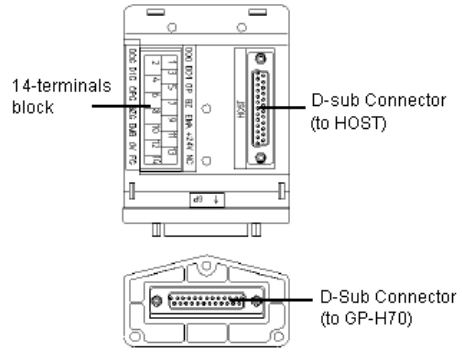
<Connection to GP3000H>
Insert the cable plug to the GP3000H series cable socket until it clicks.
To remove it, unlock.



Appendix 3 Interfaces of Conversion Adapters

A.3.1. GP-H70 RS-232C Conversion Adapter (GPH70-AP232-O)

External View



14-terminals Block (power, external outputs, etc.)

Pin No.	Signal Name(Drawing Name)	
1	DOUT0.C	(DO0)
2	DOUT0.GND	(D0G)
3	DOUT1.C	(DO1)
4	DOUT1.GND	(D1G)
5	OP.C	(OP)
6	OP.GND	(OPG)
7	BUZZ OUT	(BZ)
8	BUZZ GND	(BZG)
9	EMG A	(EMA)
10	EMG B	(EMB)
11	+24(in)	(+24V)
12	0V	(0V)
13	NC	(NC)
14	FG	(FG)

D-sub Connector (to GP)

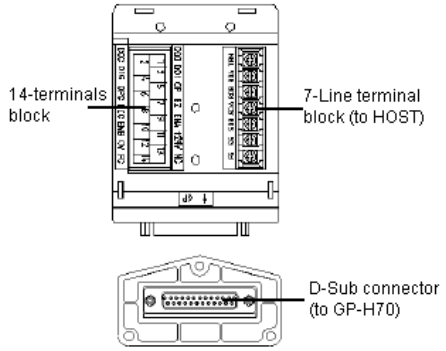
Pin No.	Signal Name	Description
1	FG	Frame Ground
2	ER	Enable to Receive (RS-232C)
3	RS	Request to Send (RS-232C)
4	SD	Send Data (RS-232C)
5	+5V	Output +5V (GP-H70)
6	NC	Not Connected
7	DOUT0. GND	DOUT 0 GND
8	DOUT1. GND	DOUT 1 GND
9	OP. GND	OP GND
10	BUZZ GND	External Buzzer Ground
11	EMG B	Push-Lock Switch B
12	0V	Power Input 0V
13	NC	Not Connected
14	SG	Signal Ground
15	CS	Clear to Send (RS-232C)
16	RD	Receive Data (RS-232C)
17	CD	Carrier Detect (RS-232C)
18	NC	Not Connected
19	NC	Not Connected
20	DOUT0. C	DOUT 0 Output
21	DOUT1. C	DOUT 1 Output
22	OP. C	OP Output
23	BUZZ OUT	External Buzzer Output
24	EMG A	Push-Lock Switch A
25	+24V	Power Input +24V

D-sub Connector (to Host)

Pin No.	Signal Name
1	FG
2	SG
3	RD
4	RS
5	CS
7	SG
8	CD
14	+5v(out)
20	ER

A.3.2. GP-H70 RS-422 Conversion Adapter (GPH70-AP422-O)

External View



14-terminals Block (power, external outputs, etc.)

Pin No.	Signal Name(Drawing Name)	
1	DOUT0.C	(DO0)
2	DOUT0.GND	(D0G)
3	DOUT1.C	(DO1)
4	DOUT1.GND	(D1G)
5	OP.C	(OP)
6	OP.GND	(OPG)
7	BUZZ OUT	(BZ)
8	BUZZ GND	(BZG)
9	EMG A	(EMA)
10	EMG B	(EMB)
11	+24(in)	(+24V)
12	0V	(0V)
13	NC	(NC)
14	FG	(FG)

D-sub Connector (to GP)

Pin No.	Signal Name	Description
1	FG	Frame Ground
2	SDB	Send Data B (RS-422)
3	RDB	Receive Data B (RS-422)
4	TRMX	Termination (RS-422)
5	CSA	Clear to Send A (RS-422)*1
6	NC	Not Connected
7	DOUT0. GND	DOUT 0 GND
8	DOUT1. GND	DOUT 1 GND
9	OP. GND	OP GND
10	BUZZ GND	External Buzzer Ground
11	EMG B	Push-Lock Switch B
12	0V	Power Input 0V
13	NC	Not Connected
14	SG	Signal Ground
15	SDA	Clear to Send (RS-422)
16	RDA	Receive Data (RS-422)
17	CSB	Carrier Detect (RS-422)*1
18	NC	Not Connected
19	+5V	Output +5V (GP-H70)
20	DOUT0. C	DOUT 0 Output
21	DOUT1. C	DOUT 1 Output
22	OP. C	OP Output
23	BUZZ OUT	External Buzzer Output
24	EMG A	Push-Lock Switch A
25	+24V	Power Input +24V

7-terminals Block (to Host)

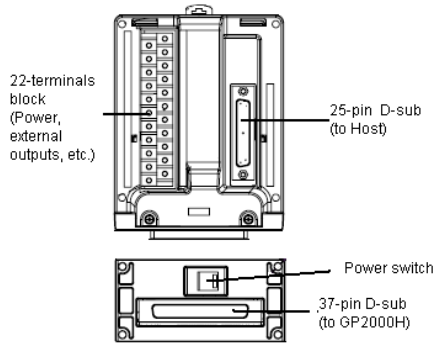
Pin No.	Signal Name
1	FG
2	SG
3	SDB
4	SDA
5	RDB
6	RDA
7	TRMX (TRM)

*1: In this adapter, pins #5,#14,#17, and #19 have been connected.

Appendix 3 Interfaces of Conversion Adapters

A.3.3 GP2000H Series RS-232C Conversion Adapter (GP2000H-AP232)

External View



25-pin D-sub (to Host)

Pin No.	Signal Name	Description
1	FG	Frame Ground
2	SD	Send Data
3	RD	Receive Data
4	RS	Request to Send
5	CS	Clear to Send
7	SG	Signal Ground
8	CD	Carrier Detect
14	+5V	DC +5V±5% Output 0.25A
20	ER	Enable to Receive

22-terminals Block (power, external outputs, etc.)

Pin No.	Signal Name (Drawing Name)		Description
1	DOUT0.C	(DO0)	DOUT 0 Output
2	RESERVE		Reserved
3	DOUT1.C	(DO1)	DOUT 1 Output
4	RESERVE		Reserved
5	OP.C	(OP)	OP Output
6	OP.GND	(OPG)	OP Ground
7	BUZZ OUT	(BZ)	External Buzzer Output
8	DOUT.GND	(DOG)	DOUT Ground
9	EMG0A	(EM0A)	Push-Lock Switch 0A (Operates like A contact)
10	EMG0B	(EM0B)	Push-Lock Switch 0B (Operates like A contact)
11	EMG1A	(EM1A)	Push-Lock Switch 1A (B contact)
12	EMG1B	(EM1B)	Push-Lock Switch 1B (B contact)
13	EMG2A	(EM2A)	Push-Lock Switch 2A (B contact)
14	EMG2B	(EM2B)	Push-Lock Switch 2B (B contact)
15	ENB0A	(EN0A)	Enable Swith 0A (A contact)
16	ENB0B	(EN0B)	Enable Swith 0B (A contact)
17	ENB1A	(EN1A)	Enable Swith 1A (A contact) *1
18	ENB1B	(EN1B)	Enable Swith 1B (A contact) *1
19	+24V	(+24V)	Power Input +24V
20	0V	(0V)	Power Input 0V
21	NC	(NC)	Not Connected
22	FG	(FG)	Frame Ground

*1: Disabled when the GP-H70 Compatible Mode (set via GP2000H) is used.

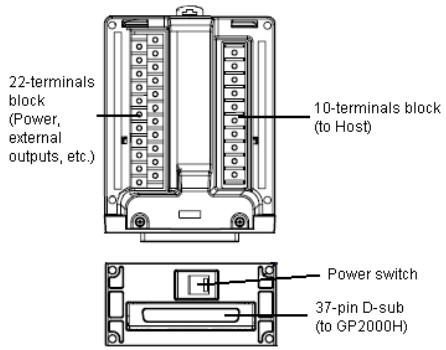
37-pin D-sub (to GP2000H)

Pin No.	Signal Name	Description
1	FG	Frame Ground
2	FG	Frame Ground
3	ER	Enable to Receive
4	NC	Not Connected
5	NC	Not Connected
6	+5V	DC +5V±5% Output 0.25A (from GP2000H)
7	CD	Carrier Detect
8	RD	Receive Data
9	NC	Not Connected
10	RESERVE	Reserved
11	RESERVE	Reserved
12	OP.GND	OP Ground
13	DOUT.GND	DOUT Ground
14	EMG0B	Push-Lock Switch 0B (Operates like A contact)
15	EMG1B	Push-Lock Switch 1B (B contact)
16	EMG2B	Push-Lock Switch 2B (B contact)
17	ENB0B	Enable Switch 0B (A contact)
18	ENB1B	Enable Switch 1B (A contact) *1
19	0V	Power Input 0V (to GP2000H)
20	FG	Frame Ground
21	SD	Send Data
22	RS	Request to Send
23	NC	Not Connected
24	NC	Not Connected
25	SG	Signal Ground
26	CS	Clear to Send
27	NC	Not Connected
28	DOUT0.C	DOUT 0 Output
29	DOUT1.C	DOUT 1 Output
30	OP.C	OP Output
31	BUZZ OUT	External Buzzer Output
32	EMG0A	Push-Lock Switch 0A (Operates like A contact)
33	EMG1A	Push-Lock Switch 1A (B contact)
34	EMG2A	Push-Lock Switch 2A (B contact)
35	ENB0A	Enable Switch 0A (A contact)
36	ENB1A	Enable Switch 1A (A contact) *1
37	+24V	Power Input +24V (to GP2000H)

*1: Disabled when the GP-H70 Compatible Mode (set via GP2000H) is used.

A.3.4 GP2000H Series RS-422 Conversion Adapter(GP2000H-AP422)

External View



10-terminals Block (to Host)

Pin No.	Signal Name	Description
1	FG	Frame Ground
2	SG	Signal Ground
3	SDB	Send Data B
4	SDA	Send Data A
5	RDB	Receive Data B
6	RDA	Receive Data A
7	CSA	Clear to Send A*1
8	ERA	Enable Receive A*1
9	CSB	Clear to Send B*1
10	ERB	Enable Receive B*1

*1: Pins #7(CSA),#8(ERA),#9(CSB),and #10(ERB) are shorted together with shorting clips at the factory.

22-terminals Block (power, external outputs, etc.)

Pin No.	Signal Name (Drawing Name)		Description
1	DOUT0.C	(DO0)	DOUT 0 Output
2	RESERVE		Reserved
3	DOUT1.C	(DO1)	DOUT 1 Output
4	RESERVE		Reserved
5	OP.C	(OP)	OP Output
6	OP.GND	(OPG)	OP Ground
7	BUZZ OUT	(BZ)	External Buzzer Output
8	DOUT.GND	(DOG)	DOUT Ground
9	EMG0A	(EM0A)	Push-Lock Switch 0A (Operates like A contact)
10	EMG0B	(EM0B)	Push-Lock Switch 0B (Operates like A contact)
11	EMG1A	(EM1A)	Push-Lock Switch 1A (B contact)
12	EMG1B	(EM1B)	Push-Lock Switch 1B (B contact)
13	EMG2A	(EM2A)	Push-Lock Switch 2A (B contact)
14	EMG2B	(EM2B)	Push-Lock Switch 2B (B contact)
15	ENB0A	(EN0A)	Enable Swith 0A (A contact)
16	ENB0B	(EN0B)	Enable Swith 0B (A contact)
17	ENB1A	(EN1A)	Enable Swith 1A (A contact) *1
18	ENB1B	(EN1B)	Enable Swith 1B (A contact) *1
19	+24V	(+24V)	Power Input +24V
20	0V	(0V)	Power Input 0V
21	NC	(NC)	Not Connected
22	FG	(FG)	Frame Ground

*1: Disabled when the GP-H70 Compatible Mode (set via GP2000H) is used.

37-pin D-sub (to GP2000H)

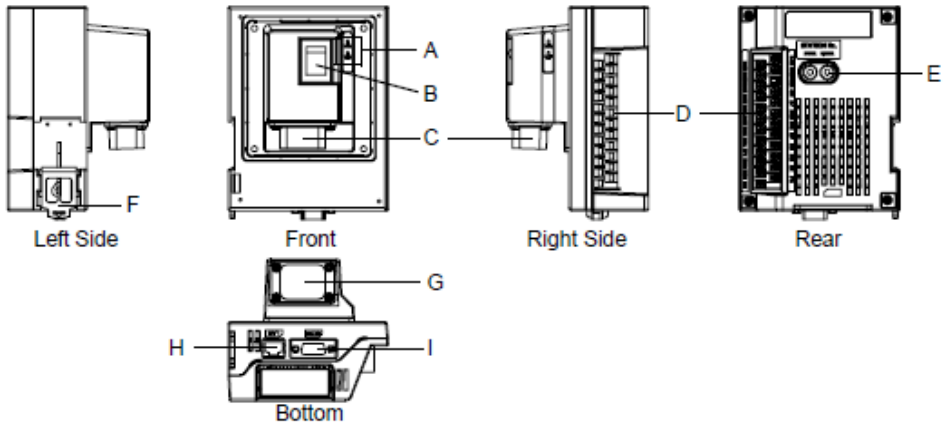
Pin No.	Signal Name	Description
1	FG	Frame Ground
2	FG	Frame Ground
3	NC	Not Connected
4	ERB	Enable Receive B
5	CSB	Clear to Send B
6	+5V	DC +5V±5% Output 0.25A (from GP2000H)
7	SDB	Send Data B
8	RDB	Receive Data B
9	NC	Not Connected
10	RESERVE	Reserved
11	RESERVE	Reserved
12	OP.GND	OP Ground
13	DOUT.GND	DOUT Ground
14	EMG0B	Push-Lock Switch 0B (Operates like A contact)
15	EMG1B	Push-Lock Switch 1B (B contact)
16	EMG2B	Push-Lock Switch 2B (B contact)
17	ENB0B	Enable Switch 0B (A contact)
18	ENB1B	Enable Switch 1B (A contact) *1
19	0V	Power Input 0V (to GP2000H)
20	FG	Frame Ground
21	NC	Not Connected
22	NC	Not Connected
23	ERA	Enable Receive A
24	CSA	Clear to Send A
25	SG	Signal Ground
26	SDA	Send Data A
27	RDA	Receive Data A
28	DOUT0.C	DOUT 0 Output
29	DOUT1.C	DOUT 1 Output
30	OP.C	OP Output
31	BUZZ OUT	External Buzzer Output
32	EMG0A	Push-Lock Switch 0A (Operates like A contact)
33	EMG1A	Push-Lock Switch 1A (B contact)
34	EMG2A	Push-Lock Switch 2A (B contact)
35	ENB0A	Enable Switch 0A (A contact)
36	ENB1A	Enable Switch 1A (A contact) *1
37	+24V	Power Input +24V (to GP2000H)

*1: Disabled when the GP-H70 Compatible Mode (set via GP2000H) is used.

Appendix 3 Interfaces of Conversion Adapters

A.3.5. GP3000H Conversion Adapter (AGP3000H-ADPCOM-01)

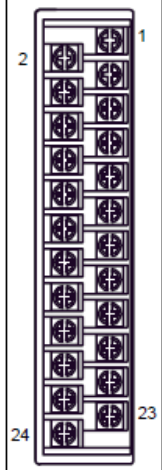
External View



A	LED	The color changes depending on the GP's status.
B	Power Switch	I: ON, O:OFF
C	External Interface	Connect the GP3000H Conversion Adapter Connection Cable to the GP unit.
D	24-terminals block	Connect DOUT signals and other external outputs, power supply lines, etc. Use a self-created cable.
E	Rotary Switch	Sets the ID number for this adapter. *1
F	DIN Rail Hook	For mounting to a DIN rail (35mm [1.38 inch])
G	Connector Cover	Remove when connecting the GP3000H Conversion Adapter Connection Cable.
H	Ethernet Interface	The Ethernet transmission interface (10BASE-T/100BASE-TX). An RJ-45 type modular jack connector (8-terminals) is used.
I	Serial Interface	RS232C/RS422/RS485 serial interface 9-pin D-sub plug type connecter The communication method is switched via software.

*1: The GP stores the ID number for the conversion adapter in the system variable [#H_MachineNo] at fixed intervals to make sure it recognizes the conversion adapter is connected to the GP correctly. For details on system variables, refer to the GP-Pro EX Reference Manual.

D: 24-terminals Block (power, external outputs, etc.)



Pin No.	Signal Name	Description
1	DC24V	Power Input DC24V
2	0V	Power Input 0V
3	FG	Frame Ground (Common with SG)
4	KEY_COM*1	Key Switch Common. When this adapter's power on, DC24V is output. Rating: DC24V±20%, 200mA
5	KEY_NO	Key Switch a-contact (normally open)
6	KEY_NC	Key Switch b-contact (normally closed)
7	ENB0A	3-position operation switch 0A (a-contact:normally open) Rating: DC30V, 700mA (Minimum applicable load: DC3V, 5mA)
8	ENB0B	3-position operation switch 0B (a-contact : normally open)
9	ENB1A	3-position operation switch 1A (a-contact : normally open) Rating: DC30V, 700mA (Minimum applicable load: DC3V, 5mA)
10	ENB1B	3-position operation switch 1B (a-contact : normally open)
11	EMG0A	Emergency switch 0A (a-contact : normally open) Rating: DC30V, 1A (Minimum applicable load: DC5V, 1mA)
12	EMG0B	Emergency switch 0B (a-contact : normally open)
13	EMG1A	Emergency switch 1A (b-contact : normally closed) Rating: DC30V, 1A (Minimum applicable load: DC5V, 1mA)
14	EMG1B	Emergency switch 1B (b-contact : normally closed)
15	EMG2A	Emergency switch 2A (b-contact : normally closed) Rating: DC30V, 1A (Minimum applicable load: DC5V, 1mA)
16	EMG2B	Emergency switch 2B (b-contact : normally closed)
17	OP	OP. Output Open collector: DC24V, 300mA
18	OP_GND	OP. GND
19	DOUT1	DOUT1 Output Open collector: DC24V, 300mA
20	DOUT1_GND	DOUT1 GND
21	DOUT0	DOUT0 Output Open collector: DC24V, 300mA
22	DOUT0_GND	DOUT0 GND
23	BUZZ	Buzzer Output Open collector: DC24V, 300mA
24	BUZZER_GND	BUZZER GND

Appendix 3 Interfaces of Conversion Adapters

I: Serial Interface

Communication method: RS232C/RS422/RS485
Asynchronous communication method
Data length: 7 bit / 8 bit
Parity: Odd / Even / None
Stop bit: 1 bit / 2 bit
Baud rate: 2400bps to 115.2kbps, 187.5kbps（MPI）
Max. communication distance:
15m (RS-232C), 1200m (RS-422, 115.2kbps)
(Includes length of the cable between the GP and this adapter)

Pin #	RS232C		RS422/RS485	
	Signal Name	Description	Signal Name	Description
1	CD	Carrier Detect	RDA	Receive Data A(+)
2	RD(RXD)	Receive Data	RDB	Receive Data B(-)
3	SD(TXD)	Send Data	SDA	Send Data A(+)
4	ER(DTR)	Data Terminal Ready	ERA	Data Terminal Ready A(+)
5	SG	Signal Ground	SG	Signal Ground
6	DR(DSR)	Data Set Ready	CSB	Clear to Send B(-)
7	RS(RTS)	Request to Send	SDB	Send Data B(-)
8	CS(CTS)	Clear to Send	CSA	Clear to Send A(+)
9	CI(RI)/VCC	Called status display/ +5V±5% Output 0.25A*1	ERB	Data Terminal Ready B(-)
Shell	FG	Frame Ground (Common with SG)	FG	Frame Ground (Common with SG)

*1: The RI/VCC selection for the pin #9 is switched via software.
The VCC output is not protected against overcurrent.
To prevent damage or unit malfunctions, use only the rated current.

Pro-face

by Schneider Electric