



Easy! Smooth!

# Replacement Guidebook (Hardware)

Pro-face IoT Gateway → STM6000 Edge Box HMI

The 1<sup>st</sup> Edition Sep 2022

# Update History

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Date	Edition	Updated Slide	Description
2022/09/08		-	Newly created

# Preface

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This guidebook introduces the procedures to replace a unit from “Pro-face IoT Gateway GP-4G01” to “STM6000 Edge Box HMI STM-6B00”. The recommended substitute models are as follows.

Model in use		Recommended substitutes	
Pro-face IoT Gateway GP-4G01	PFXGP4G01DNWLS	STM6000 Edge Box HMI STM-6B00	PFXSTM6B00DIOT

# Safety Information

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## HAZARD OF OPERATOR INJURY, OR UNINTENDED EQUIPMENT DAMAGE

- Before operating any of these products, be sure to read all related manuals thoroughly.
- Be sure to do installation, connection, and maintenance by a person who is familiar with the construction method of electrical equipment, related laws and regulations, and has appropriate technology.

We shall not be liable for any serious injury to human life, damage to equipment, or any other consequences if used without observing these.

# Agenda

0

[Summary](#)

1

[Specification Comparison](#)

1-1

Basic Information

1-2

Interface

2

[Standards compatibility](#)

3

[Hardware compatibility](#)

4

[Option compatibility](#)

5

[Software compatibility](#)

6

[Other important notes](#)

# Summary

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When not in use of Gateway mode, the replacement from Pro-face IoT Gateway to STM6000 Edge Box HMI generally keeps compatibility, but the following points are the main points to note.

If you are using Gateway mode with Pro-face IoT Gateway, there is no substitute model.

- Software is different. The project data used for Pro-face IoT Gateway (screen editor: GP-Pro EX) cannot be used for STM6000 Edge Box HMI. Create a new project with BLUE Open Studio. For details, please refer to Replacement Guidebook (Software)\_EN.pdf.
- External Dimensions are different. As all the dimensions of W x H x D are different, it is necessary to check the dimensions of the HMI installation location. Please refer to [3. Hardware Compatibility \(Page 10\)](#).
- Some interfaces are different (for example, no SD card slot on STM6000 Gateway). Please refer to [3. Hardware Compatibility \(Page 11\)](#).
- Both models adopt DIN Rail Mounting, but the installation procedures are different. Please refer to [3. Hardware Compatibility \(Page 12\)](#).

# 1. Pro-face IoT Gateway vs STM6000 Edge Box HMI Spec Comparison - 1. Basic information -

		Pro-face IoT Gateway GP-4G01	STM6000 Edge Box HMI STM-6B00	Compatibility
Input Voltage		24Vdc	24Vdc	✓
Ambient air temperature		0 to 60 ° C (Storage Temperature: -20 to 60 ° C)	0 to 60 ° C (Storage Temperature: -20 to 60 ° C)	✓
Display Colors		65,536 color	16 million color	UP!
Display Resolution		640 x 480 pixels (VGA) 800 x 480 pixels (WVGA) 800 x 600 pixels (SVGA)	Up to 3840 x 2400 (QUXGA)	UP!
Number of connected drivers		4 (when not in use of gateway mode)	No limitation	UP!
External Dimensions (mm)		W46 x H162 x D126	W150.49 x H109.97 x D63.3 (With DIN Rail Adapter)	-
Memory	Application	FLASH EPROM 32MB	FLASH EPROM 220MB	UP! <a href="#">Please refer to the FAQ</a> for the available capacity of each memory.
	Local Storage	-	FLASH EPROM 220MB	
	Backup Memory	SRAM 320KB	-	
Backup Battery		Replaceable battery / Primary battery for clock data backup	Unreplaceable battery / Primary battery for clock data backup	-
Structure		IP20	IP20	✓
Mounting		DIN Rail mount	DIN Rail mount	✓

# 1. Pro-face IoT Gateway vs STM6000 Edge Box HMI Spec Comparison - 2. Interface -

		Pro-face IoT Gateway GP-4G01	STM6000 Edge Box HMI STM-6B00	Compatibility
Serial I/F	COM1/PLC	RS-232C/RS-422/RS-485 (D-Sub 9pin Plug)	RS-232C/RS-422/RS-485 (D-Sub 9pin Plug) <a href="#">Isolation unit</a>	✓
	HMI	RS-232C/RS-422/RS-485 (D-Sub 9pin Socket)	-	-
Ethernet I/F		x1: IEEE802.3u, 10BASE-T/100BASE-TX (RJ-45)	x2: IEEE802.3i/IEEE802.3u, 10BASE-T/100BASE-TX (RJ-45)	UP!
CF card I/F		-	-	✓
SD card I/F		x1 SD Card Slot, SD/SDHC card of up to 32 GB	-	-
USB I/F	Type A	x1 USB 2.0 -USB Transfer Cable (CA3-USBCB-01)	x1 USB 2.0	✓
	Type mini-B	x1 USB 2.0 -USB Transfer Cable (ZC9USCBMB1) or commercial USB Type A/mini-B data transfer cable	-	- Please use micro-B instead.
	Type micro-B	-	x1 USB 2.0 -USB Transfer cable(PFXZUSCBMB2) or commercial USB Type A/micro-B data transfer cable	UP!
Auxiliary I/O I/F		-	-	✓
Sound Output I/F		-	-	✓
Field Bus / Expansion Unit I/F		-	-	✓

Hardware Manual: <https://www.proface.com/en/download/stm6000/manual/hardware>

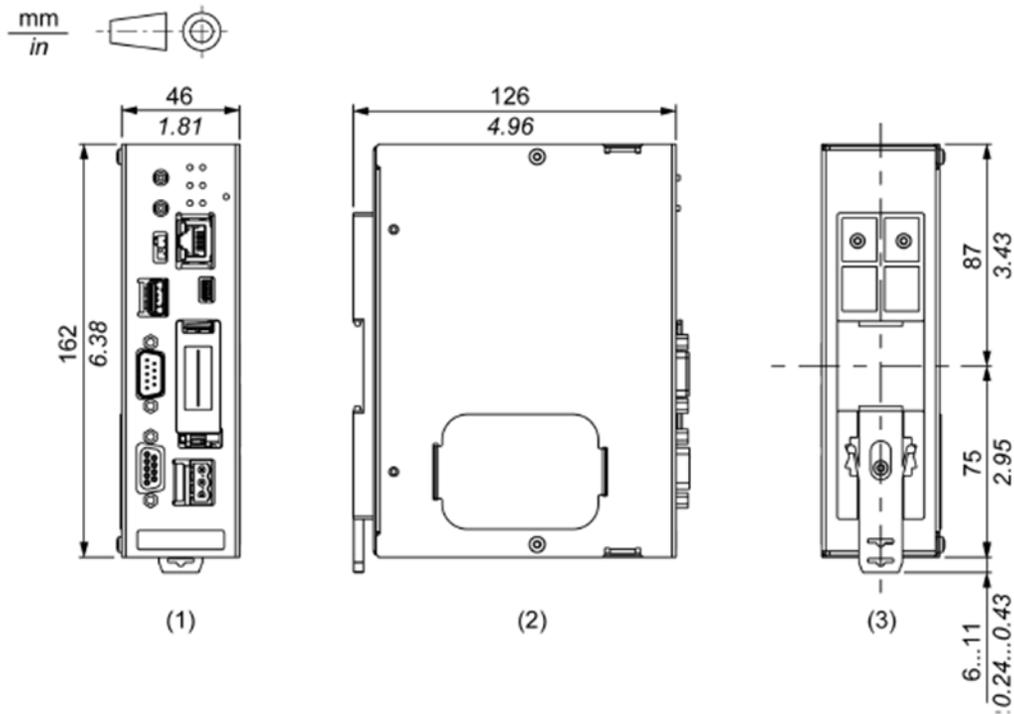
## 2. Standards compatibility

Certification	Pro-face IoT Gateway GP-4G01	STM6000 Edge Box HMI STM-6B00
CE (EN61000-6-4, EN61000-6-2, EN61131-2)	✓	✓
UKCA	-	✓
UL/cUL	✓ (UL61010-2-201) (CSA C22.2 No.61010-2-201)	✓ (UL61010-2-201) (CSA C22.2 No.61010-2-201)
UL/cUL Class 1, Div. 2	-	✓ (UL121201) (CSA C22.2 No213)
ATEX (Zones 2/22, equipment category 3 Gas Dust)	-	Planned *1
IECEX (Zones 2/22, equipment category 3 Gas Dust)	-	
KCs	-	-
NEPSI	-	-
RCM (C-Tick)	✓	✓
EAC (GOST-R)	✓	✓
RoHS for EU	✓	✓
RoHS for China	✓	✓
REACH	✓	✓
CCC *apply for CCC exemption	-	-
KC	✓	✓
Marine (DNV-GL, ABS, LR, BV, NK, RINA, CCS)	-	ABS, RINA: ✓ DNV-GL, BV: Planned *1
WEEE	✓	✓

\*1: Please contact our Customer Service for the latest information.

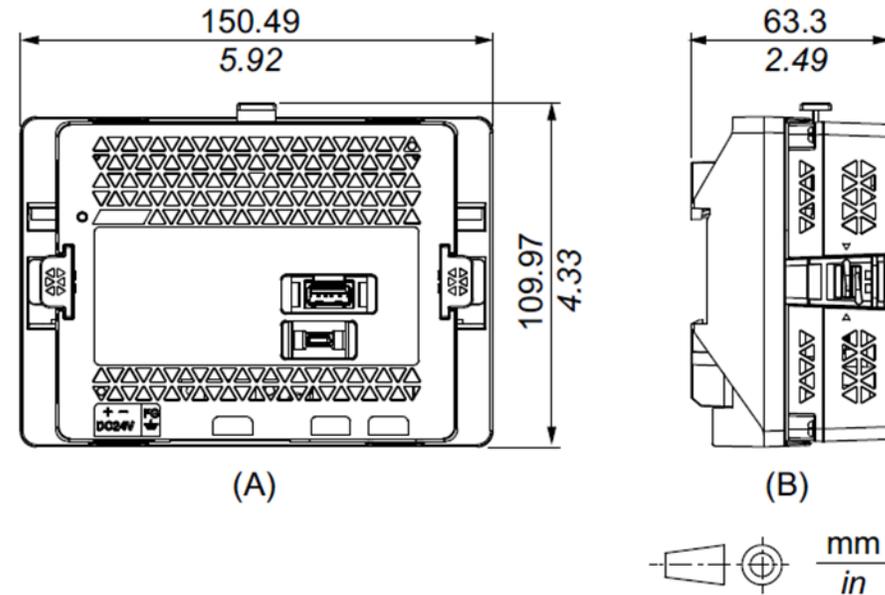
# 3. Hardware compatibility

## Pro-face IoT Gateway GP-4G01



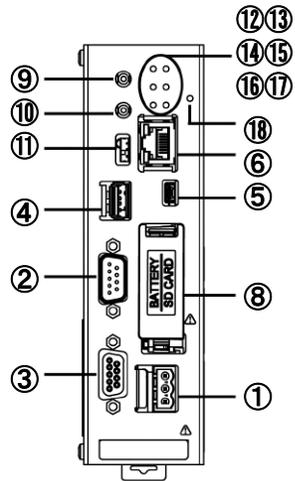
- 1 Front
- 2 Left
- 3 Rear

## STM6000 Edge Box HMI STM-6B00

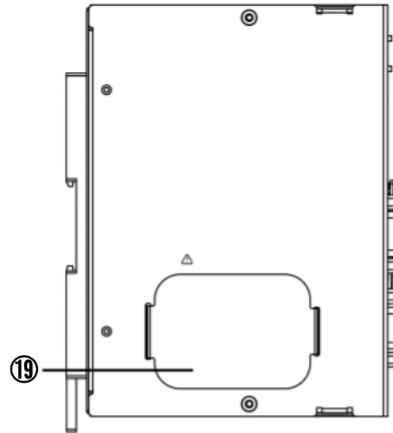


- A. Front
- B. Right

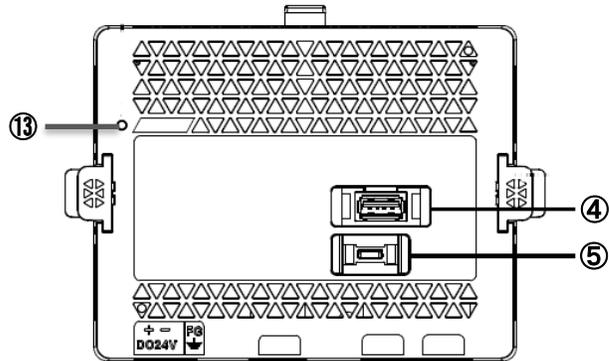
# 3. Hardware compatibility



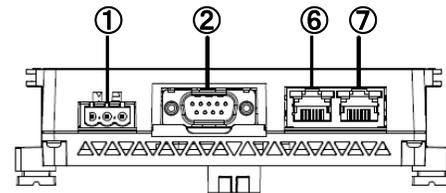
GP-4G01 Front



GP-4G01 Left



STM-6B00 Front



STM-6B00 Bottom

Status LED Indication – Edge Box HMI		
Color	Indicator	HMI Operation
Green	ON	In operation
Orange	Flashing	Software starting up
Red	ON	Power is ON
	Flashing	System Error Runtime Error
-	OFF	Power is OFF

	Pro-face IoT Gateway GP-4G01	STM6000 Edge Box HMI STM-6B00
①	Power Connector (DC)	Power Connector (DC)
②	Serial Interface (PLC/COM1)	Serial Interface (COM1)
③	Serial Interface (HMI)	-
④	USB (Type A) Interface	USB (Type A) Interface
⑤	USB (mini-B) Interface	USB (micro-B) Interface
⑥	Ethernet Interface	Ethernet Interface (ETH1)
⑦	-	Ethernet Interface (ETH2)
⑧	SD Card interface cover / Battery interface cover	-
⑨	USB storage eject switch	-
⑩	SD card eject switch	-
⑪	RS-232C/RS-422 change switch	-
⑫	USB1 storage access LED (USB1)	-
⑬	Status LED (STA)	Status LED *refer to the table on the left.
⑭	PLC access LED (PLC)	-
⑮	Error LED (ERR)	-
⑯	HMI access LED (HMI)	-
⑰	SD card access LED (SD)	-
⑱	Power LED (PWR)	-
⑲	Termination resistance cover	-

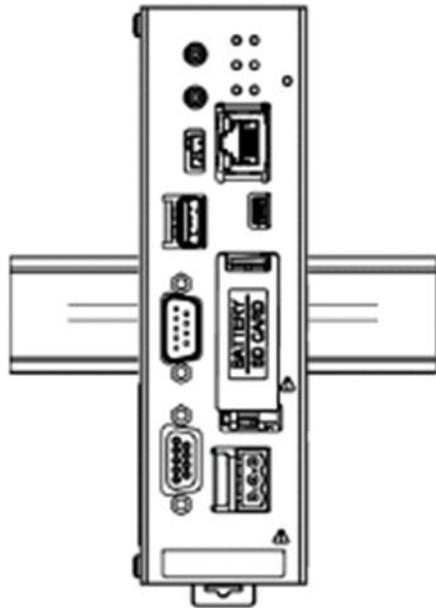
Please check the hardware manual for details such as interface specifications and pin assignments.  
 Hardware Manual: <https://www.proface.com/en/download/stm6000/manual/hardware>

# 3. Hardware compatibility

## Note about Installation

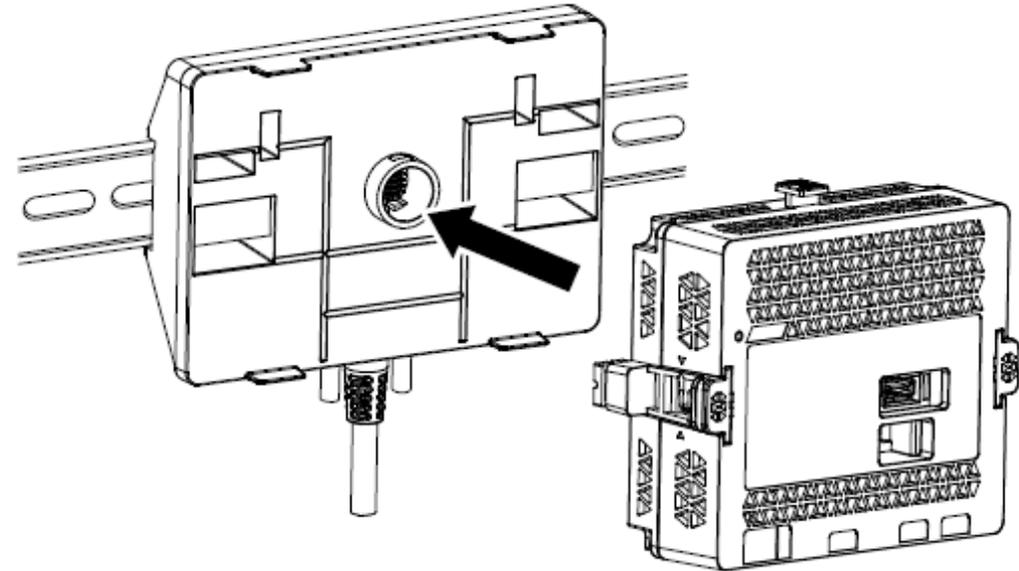
### Pro-face IoT Gateway GP-4G01

You can install this product directly to the DIN rail.  
Attach this product vertically.



### STM6000 Edge Box HMI STM-6B00

Use the rear module installation adapter (included in package) to install this product to the DIN rail.  
For installation procedure, refer to [STM6000 Series Hardware Manual](#).



## 4. Option compatibility

	Product Name	Pro-face IoT Gateway GP-4G01	STM6000 Edge Box HMI STM-6B00	Description	Compatibility
Serial Interface	RS-232C Cable (5m)	CA3-CBL232/5M-01	-	Cable for RS-232C connection between various hosts and Pro-face IoT Gateway	-
	RS-422 Cable (5m)	CA3-CBL422/5M-01	-	Cable for RS-422 connection between various hosts and the Pro-face IoT Gateway (Socket Type)	-
	RS-422 Cable (5m)	CA3-CBL422-01	-	Cable for RS-422 connection between various hosts and the Pro-face IoT Gateway (Plug Type)	-
	Mitsubishi PLC A-Series Connection Cable (5m)	CA3-CBLA-01	-	Cable for directly connecting an A Series CPU	-
	Mitsubishi PLC Q-Series Connection Cable (5m)	CA3-CBLQ-01	-	Cable for directly connecting a Q Series CPU	-
	Mitsubishi PLC Q-Series Link Cable (5m)	CA3-CBLLNKM-01	-	Cable for directly connecting a Q Series Link Unit	-
	Mitsubishi PLC FX-Series Connection Cable	CA3-CBLFX/1M-01 (1m) CA3-CBLFX/5M-01 (5m)	-	Cable for directly connecting an FX Series CPU	-
	Omron PLC SYSMAC Link Cable(5m)	CA3-CBLSYS-01	-	Cable for directly connecting a SYSMAC Link Unit	-
	Siemens TTY Converter Cable (5m)	CA6-CBLTTY/5M-01	-	Cable for connecting a PLC S5 series to Pro-face IoT Gateway	-
	MPI Cable (3.5m)	ST03-A2B-MPI21-PFE CA3-MPI-PG1-PFE CA3-MPI-PGN-PFE	-	Connects a host controller to Pro-face IoT Gateway for MPI communication.	-

## 4. Option compatibility

	Product Name	Pro-face IoT Gateway GP-4G01	STM6000 Edge Box HMI STM-6B00	Description	Compatibility
Serial Interface	Multi-Link Cable (5m)	CA3-CBLMLT-01	-	Connects a host controller to Pro-face IoT Gateway (D-sub 9 pin plug) for multi-link (n:1) communication.	-
		PFXZCBCBML1	-	Connects a host controller to Pro-face IoT Gateway (D-sub 9 pin plug) for multi-link (n:1) communication.	-
	9-pin-to-25-pin RS-232C Conversion Cable (0.2m)	CA3-CBLCBT232-01	-	Cable for converting a D-Sub 9-pin plug to a D-Sub 25-pin socket	-
	9-pin-to-25-pin RS422 Conversion Cable (0.2m)	PFXZCBCBCVR41	-	Cable for converting a D-Sub 9-pin plug to a D-Sub 25-pin socket	-
	2 Port Adapter Cable (5m)	CA3-MDCB11	-	Cable for connecting a 2-port adapter to Pro-face IoT Gateway	-
		PFXZCBCBMD1	-	Connects Mitsubishi PLC directly to Pro-face IoT Gateway (D-sub 9 pin plug) using 2 port adapter II (RS-422)	-
	Mitsubishi PLC A, QnA, FX Series 2 Port Adapter II	GP070-MD11	-	Interface unit required for simultaneous use of A/QnA/FX Series peripheral devices	-
	COM Port Conversion Adapter	CA3-ADPCOM-01	CA3-ADPCOM-01	Connects optional RS-422 communication items to serial interface.	✓
	RS-422 Terminal Block Conversion Adapter	PFXZCBADTM1	PFXZCBADTM1	Connects output from a serial interface (D-sub 9 pin plug) directly to an RS-422 terminal block.	✓
	Terminal Block Conversion Adapter	CA3-ADPTRM-01	-	Connects output from a Pro-face IoT Gateway's Serial Interface (D-sub 9 pin socket) directly with an RS-422 terminal block.	-
RS-232C Isolation Unit	CA3-ISO232-01	CA3-ISO232-01	Connects a host controller to this product and provides isolation (RS-232C and RS-422 are switchable).	✓	

# 4. Option compatibility

	Product Name	Pro-face IoT Gateway GP-4G01	STM6000 Edge Box HMI STM-6B00	Description	Compatibility
USB Interface	USB Transfer Cable (2m)	CA3-USBCB-01	-	Cable for transferring screen data between a PC (USB Type A) and Pro-face IoT Gateway (USB Type A).	-
	USB Transfer Cable	ZC9USCBMB1	-	Cable for transferring screen data between a PC (USB Type A) and Pro-face IoT Gateway (USB mini- B).	NEW! Use the option of STM6000.
	USB Transfer Cable	-	PFXZUSCBMB2	Cable for transferring screen data from a PC (USB Type A) to this product (USB micro-B).	NEW! Use the option of STM6000.
	USB Cable (5m)	FP-US00	-	Connects a USB printer. (TYPE-B)	-
	USB Front Cable (1m)	CA5-USBEXT-01	CA5-USBEXT-01	Extension cable that attaches USB interface to front panel.	✓
	USB Panel-mount Extension Cable (USB mini-B) (1 m)	ZC9USEXMB1	-	Extension cable that attaches to the USB (mini-B) interface on the front side of the operation panel.	NEW! Use the option of STM6000.
	USB (micro-B) Front Cable	-	PFXZCIEXMB2	Extension cable that attaches USB interface (micro-B) to front panel.	NEW! Use the option of STM6000.
	USB-Serial (RS-232C) Conversion Cable (0.5m) *	CA6-USB232-01	-	Cable for converting a Pro-face IoT Gateway's USB interface into a serial interface (RS-232C). Allows connection to modems or barcode readers that support RS-232C.	-
	USB/RS-422/485 Conversion Adapter *	PFXZCBCBCVUSR41	-	Cable for connecting a Pro-face IoT Gateway (USB Type A) with an external device (RS-422/RS-485)	-

\* Can be used except Gateway mode.

## 4. Option compatibility

	Product Name	Pro-face IoT Gateway GP-4G01	STM6000 Edge Box HMI STM-6B00	Description	Compatibility
USB Interface	EZ Tower Light tube mounting fixing plate	PFXZCETWHA1	-	USB Connection Type Monolithic EZ Tower Light tube mounting with fixing plate.	-
	EZ Tower Light with base mounting	PFXZCETWW1	-	USB Connection Type Monolithic EZ Tower with base mounting.	-
	EZ Illuminated Switch	PFXZCCEUSG1	-	USB Connection Type Monolithic EZ Tower with base mounting.	-
	EZ Numpad	PFXZCCEUKB1	-	A unit of ten-key pad easily connected with HMI via USB.	-
	EZ Fingerprint Recognition Unit	PFXZCCEUSS1	-	A unit of fingerprint identification easily connected with HMI via USB. (End of Sale: Dec. 27, 2019)	-
Others	SD Memory Card	PFXZCBSD4GC41	-	SD Memory Card (4GB, CLASS4)	-

	Product Name	Pro-face IoT Gateway GP-4G01	STM6000 Edge Box HMI STM-6B00	Description	Compatibility
Maintenance	USB Clamp Type A (1 port)	PFXZCBCLUSA1	PFXZCBCLUSA1	Clamp to prevent disconnection of USB cable (1 port, 5 pcs/set)	✓
	DC Power Supply Connector	PFXZCBCNDC1	-	Connector to connect DC power supply cables (Straight type, 5pcs/set)	NEW! Use the option of STM6000.
	DC Power Supply Connector	-	CA5-DCCNM-01	Connector to connect DC power supply cables (5 pcs/set)	
	Battery for Memory Backup	PFXZCBBT1	-	Primary battery for memory and time data backup (1 piece)	-

# 5. Software compatibility

Software	Pro-face IoT Gateway GP-4G01	STM6000 Edge Box HMI STM-6B00	Compatibility of Project data
GP-Pro EX	✓ Ver.4.07.000 or later <a href="https://www.proface.co.jp/otasuke/files/manual/soft/gpproex/new/refer/gpproex.htm">https://www.proface.co.jp/otasuke/files/manual/soft/gpproex/new/refer/gpproex.htm</a>	-	-
	-	✓ 2000 SP2 or later	-
BLUE Open Studio	-	-	-
	✓ Ver.1.36 or later *1 <a href="https://www.pro-face.com/otasuke/files/manual/soft/server_ex/v1_37/ref/SRContents.htm">https://www.pro-face.com/otasuke/files/manual/soft/server_ex/v1_37/ref/SRContents.htm</a>	-	- Note: Recommend to use data collection function of BLUE Open Studio software.
Pro-face Remote HMI (iOS/Android)	✓ Ver.1.30 or later *1 <a href="https://www.pro-face.com/otasuke/qa/remotehmi/faq.html">https://www.pro-face.com/otasuke/qa/remotehmi/faq.html</a>	-	-
	✓ Ver.1.40 or later *1	-	- Note: Recommend to use Mobile Access function of BLUE Open Studio software.
Pro-face Connect	-	✓ SiteManager version: v6141_621096032 (arm) or later	UP!

\*1: The supported GP-Pro EX version differs depending on the software used.

Software	Version	Supported GP-Pro EX Version
Pro-Server EX	1.32 or later	3.1 or later
Pro-face Remote HMI (iOS/Android)	1.3x	4.0 or later
	1.4x, 1.5x, 1.6x	4.03 or later
Pro-face Remote HMI Client for Win	1.4 or later	4.03 or later

If you would like to check the software replacement procedure, please check the following. Replacement Guidebook (Software)\_EN.pdf

## 6. Other Important notes

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- Do not expose the hardware to direct sunlight.
- Do not use the hardware outdoors.
- Do not turn on the hardware if condensation has occurred inside the device.
- The panel brightness may decrease when used for a long time in an environment continuously filled with inert gas. Please ventilate the control panel periodically.

